# FY2017 Financial Results (April 1, 2017 – March 31, 2018)

Tokyo Electric Power Company Holdings, Inc.



#### Regarding Forward-Looking Statements

Certain statements in the following presentation regarding TEPCO Group's business operations may constitute "forward-looking statements." As such, these statements are not historical facts but rather predictions about the future, which inherently involve risks and uncertainties, and these risks and uncertainties could cause TEPCO Group's actual results to differ materially from the forward-looking statements herein.

(Note)

Please note that the following is an accurate and complete translation of the original Japanese version prepared for the convenience of our English-speaking investors. In case of any discrepancy between the translation and the Japanese original, the latter shall prevail.



## Overview of FY2017 Financial Results

(Released on April 26, 2018)



#### **Key Points of FY2017 Financial Results**

#### < FY2017 Financial Results >

- Ordinary revenue increased due to an increase in electricity sales revenue caused by a rise in fuel cost adjustments etc., even though electricity sales volume decreased.
- Ordinary expenses increased due to increases in fuel expenses and power purchasing costs, etc.
- Ordinary income and net income were in the black for the fifth consecutive year. Despite of a rise in expenses such as fuel expenses etc., ordinary income and net income increased due to an increase in electricity sales revenue and continued group-wide cost reduction efforts.

#### < Dividends >

- > TEPCO decided not to pay out for fiscal 2017 year-end dividends.
- No interim and year-end dividends are planned for fiscal 2018.



#### 1. Consolidated Financial Results

(Unit Billion Yen)

				,
	FY2017 (A)	FY2017 (A) FY2016 (B) —,,	Com	parison
	1 12017 (A)	1 12010 (b)	(A)-(B)	(A)/(B) (%)
Operating Revenue	5,850.9	5,357.7	493.2	109.2
Operating Income/ Loss	288.4	258.6	29.7	111.5
Ordinary Income/ Loss	254.8	227.6	27.2	112.0
Extraordinary Income	381.9	330.6	51.2	-
Extraordinary Loss	308.1	411.3	-103.1	_
Net Income attributable to owners of parent	318.0	132.8	185.2	239.5



## 2. Electricity Sales Volume/ Key Factors Affecting Performance

#### **Electricity Sales Volume (Consolidated)**

(Unit: Billion kWh)

	EV2047 (A)	EV2046 (D)	Comparison		
	FY2017 (A)	FY2016 (B)	(A)-(B)	(A)/(B) (%)	
Lighting	82.7	86.4	-3.7	95.7	
Power	157.6	157.4	0.2	100.1	
Total	240.3	243.8	-3.5	98.6	

<sup>\*</sup> Electricity Sales Volume by TEPCO Energy Partner

FY2017: 233.1 billion kWh (Lighting: 82.7 billion kWh, Power: 150.4 billion kWh)

FY2016: 241.5 billion kWh (Lighting: 86.4 billion kWh, Power: 155.1 billion kWh)

#### **Key Factors Affecting Performance**

	FY2017 (A)	FY2016 (B)	(A)-(B)
Foreign Exchange Rate (Interbank, yen/dollar)	110.9	108.4	2.5
Crude Oil Prices (All Japan CIF, dollar/barrel)	57.0	47.5	9.5
LNG Prices (All Japan CIF, dollar/barrel)	48.7	40.2	8.5



## 3. Ordinary Revenue (Consolidated)

			(U	nit: Billion Yen)
	FY2017 (A)	FY2016 (B) —	Compa	rison
	1 12017 (11)	1 12010 (B)	(A)-(B)	(A)/(B) (%)
(Operating Revenue)	5,850.9	5,357.7	493.2	109.2
Electricity Sales Revenue	4,574.0	4,426.2	147.7	103.3
Lighting	2,030.9	1,990.9	39.9	102.0
Power	2,543.0	2,435.3	107.7	104.4
Power Sold to Other Utilities and Suppliers	282.6	164.5	118.1	171.8
Other Revenue	772.4	674.0	98.4	114.6
(Reprinted) Grant under Act on Procurement of Renewable Electric Energy	337.4	294.0	43.3	114.8
(Reprinted) Transmission Revenue	235.9	151.4	84.5	155.8
Subsidiaries/ Affiliated Companies	270.4	155.1	115.2	174.3
Ordinary Revenue	5,899.5	5,420.0	479.5	108.8

Decrease in electricity sales volume: - 170.0

Rise in fuel cost

adjustments:+287.0 • Renewable energy surcharge: +69.7

Total of TEPCO
Holdings and three Core
Operating Companies
(TEPCO Fuel & Power,
TEPCO Power Grid and
TEPCO Energy Partner)
(after eliminating
offsets)

Total of subsidiaries and affiliated companies excluding three Core Operating Companies (after eliminating offsets)



## 4. Ordinary Expenses (Consolidated)

(Unit: Billion Yen)

			<u>(Ur</u>	iit. Billion Yen)	
	FY2017 (A)	FY2016 (B) —	Compa	rison	• Effect of price fluctuations:
	1 12017 (13)	1 12010 (D)	(A)-(B)	(A)/(B) (%)	+ 213.0
Personnel Expenses	324.5	332.9	-8.4	97.5	(Exchange rate: + 28.0 Fuel prices (CIF): + 181.0)
Fuel Expenses	1,339.4	1,162.4	177.0	115.2	<ul> <li>Decrease in thermal power</li> </ul>
Maintenance Expenses	318.7	319.9	-1.2	99.6	generation: - 36.0
Depreciation	550.2	551.3	-1.0	99.8	• Increase of purchase
Power Purchasing Costs	1,095.9	935.1	160.8	117.2	from solar power generation, etc.
Interest Paid	63.3	75.7	-12.4	83.6	
Taxes, etc.	304.8	300.4	4.3	101.4	Total of TEPCO Holdings
Nuclear Back-end Costs	47.4	49.0	-1.5	96.8	and three Core Operating Companies (after
Other Expenses	1,386.0	1,316.1	69.9	105.3	eliminating offsets)
(Reprinted) Payment under Act on Procurement of Renewable Electric Energy	541.8	472.0	69.7	114.8	Total of subsidiaries and
Subsidiaries/ Affiliated Companies	214.0	149.1	64.8	143.5 -	affiliated companies
Ordinary Expenses	5,644.7	5,192.4	452.3	108.7	excluding three Core Operating Companies
(Operating Income)	(288.4)	(258.6)	(29.7)	111.5	(after eliminating offsets)
Ordinary Income	254.8	227.6	(27.2)	112.0	

## 5. Extraordinary Income/ Loss (Consolidated)

(Unit: Billion Yen)

	FY2017	FY2016	Comparison
Extraordinary Income	381.9	330.6	51.2
Grants-in-aid from NDF*	381.9	294.2	87.7
Gain on change in equity	-	36.4	-36.4
Extraordinary Loss	308.1	411.3	-103.1
Extraordinary loss on disaster	21.3	19.3	1.9
Expenses for Nuclear Damage Compensation	286.8	392.0	-105.1
Extraordinary Income/ Loss	73.8	-80.6	154.4

<sup>\*</sup> Nuclear Damage Compensation and Decommissioning Facilitation Corporation

<Extraordinary Income>
Grants-in-aid from NDF

 Application for financial support from NDF in May and June 2017 and March 2018 <Extraordinary Loss>

Extraordinary loss on disaster

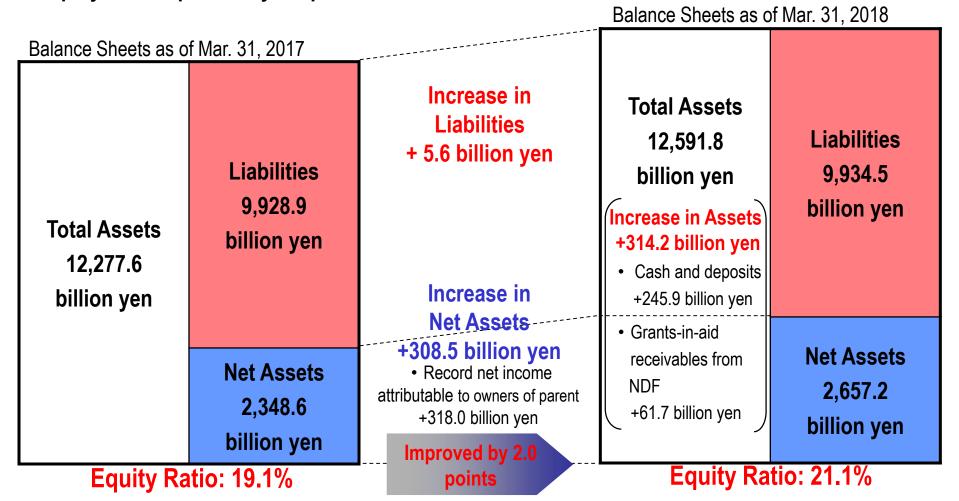
 Increase in the estimated amount of expenses for decommissioning Fukushima Daiichi NPS etc.

Expenses for Nuclear Damage Compensation

 Increase in the estimated amount of compensation for damage to reputation etc., and other factors

#### 6. Consolidated Financial Position

- ➤ Total assets increased 314.2 billion yen primarily due to increases in cash and deposits.
- ➤ Total net assets increased 308.5 billion yen primarily due to a record net income attributable to owners of parent.
- **≻** Equity ratio improved by 2.0 points.



#### 7. FY2018 Full-Year Financial Forecasts

- Operating revenue will increase to approx. 6,099 billion yen, an increase of 249 billion yen year-on-year due to a rise in fuel cost adjustments, etc.
- Ordinary income will increase to approx.285 billion yen due to an increase in operating revenue despite rising fuel expenses. Net income will be approx. 252 billion yen.

·	FY2018 Projections (released on Apr. 26, 2018) (A)	FY2017 Results (B)	(Unit: Billion Yen) Comparison (A)-(B)
Operating Revenue	6,099	5,850.9	249
Ordinary Income/ Loss	285	254.8	31
Extraordinary Income/ Loss	-	73.8	-74
Net Income attributable to owners of parent	252	318.0	-66

<sup>\*</sup> Projections for Ordinary Income and Net Income attributable to owners of parent reflect a provisional special contribution of 50 billion yen to the NDF for compensation.



#### 8. FY2018 Full-Year Financial Forecasts

(Key Factors Affecting Performance/ Financial Impact)

#### **Key Factors Affecting Performance**

	FY2018 Projections (released on Apr. 26, 2018)	FY2017 Results
Electricity Sales Volume (billion kWh) [consolidated]	233.4	240.3
Crude Oil Prices (All Japan CIF; dollars per barrel)	Approx. 65	57.0
Foreign Exchange Rate (Interbank; yen per dollar)	Approx. 115	110.9
Nuclear Power Plant Capacity Utilization Ratio (%)	_	_

#### **Financial Impact (Sensitivity)**

(Unit: Billion Yen)

		,
	FY2018 Projections (released on Apr. 26, 2018)	FY2017 Results
<fuel expenses=""></fuel>		
Crude Oil Prices (All Japan CIF; 1 dollar per barrel)	Approx. 18	Approx. 15
Foreign Exchange Rate (Interbank; 1 yen per dollar)	Approx. 12	Approx. 11
Nuclear Power Plant Capacity Utilization Ratio (1%)	_	_
<interest paid=""></interest>		
Interest Rate 1% (Long-term / Short-term)	Approx. 28	Approx. 28



## Supplemental Material



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# FY2017 Financial Results Detailed Information



## **Consolidated Statements of Income**

			(Unit:	Billion Yen)
	EV2047 (A)	EV2046 (D)	Comp	arison
	FY2017 (A)	FY2016 (B)	(A)-(B)	(A)/(B) (%)
Operating Revenue	5,850.9	5,357.7	493.2	109.2
Operating Expenses	5,562.4	5,099.0	463.4	109.1
Operating Income	288.4	258.6	29.7	111.5
Non-operating Revenue	48.6	62.2	-13.6	78.1
Investment Gain under the Equity Method	38.0	26.1	11.8	145.3
Non-operating Expenses	82.2	93.3	-11.1	88.1
Ordinary Income	254.8	227.6	27.2	112.0
Reserve for Fluctuation in Water Levels	0.5	_	0.5	_
Reserve for preparation of depreciation of nuclear power construction	0.2	0.5	-0.2	56.9
Extraordinary Income	381.9	330.6	51.2	_
Extraordinary Loss	308.1	411.3	-103.1	_
Income Tax, etc.	9.5	13.3	-3.7	71.6
Net Income attributable to non-controlling interests	0.1	0.3	-0.1	60.6
Net Income attributable to owners of parent	318.0	132.8	185.2	239.5



(Unit: Billion Yen)

Comparison

114.1

128.2

32.9

-13.6

205.1

125.2

140.5

78.1

108.6

509.9

81.4

62.2

## **Breakdown of Consolidated Ordinary Revenue**

	FY2017 (A)	FY2016 (B)	Compa	arison
	F12017 (A)	Г12010 (Б)	(A)-(B)	(A)/(B) (%)
Ordinary Revenue	5,899.5	5,420.0	479.5	108.8
Operating Revenue	5,850.9	5,357.7	493.2	109.2
Operating Revenue from Electric Power Business	5,494.8	5,100.7	394.1	107.7
Electricity Sales Revenue	4,574.0	4,426.2	147.7	103.3
Lighting	2,030.9	1,990.9	39.9	102.0
Power	2,543.0	2,435.3	107.7	104.4
Power Sold to Other Utilities	59.8	55.9	3.9	107.0

222.8

638.2

114.4

48.6

(Note) Total of TEPCO Holdings and three Core Operating Companies (after eliminating offsets)

(Note)



Power Sold to Other Suppliers

**Operating Revenue from Incidental Business** 

Other Revenue

**Non-operating Revenue** 

## **Breakdown of Consolidated Ordinary Expenses**

				Jnit: Billion Yen)
	EV2047 (A)	EV2046 (D)	Compa	arison
	FY2017 (A)	FY2016 (B)	(A)-(B)	(A)/(B) (%)
Ordinary Expenses	5,644.7	5,192.4	452.3	108.7
Operating Expenses	5,562.4	5,099.0	463.4	109.1
Operating Expenses for Electric Power Business	5,238.2	4,878.7	359.5	107.4
Personnel	324.5	332.9	-8.4	97.5
Fuel	1,339.4	1,162.4	177.0	115.2
Maintenance	318.7	319.9	-1.2	99.6
Depreciation	550.2	551.3	-1.0	99.8
Power Purchasing	1,095.9	935.1	160.8	117.2
Taxes, etc.	304.8	300.4	4.3	101.4
Nuclear Power Back-end	47.4	49.0	-1.5	96.8
Others	1,257.0	1,227.4	29.6	102.4
Operating Expenses for Incidental Business	111.0	71.8	39.1	154.5
Non-operating Expenses	82.2	93.3	-11.1	88.1
Interest Paid	63.2	75.5	-12.3	83.7
Other Expenses	18.9	17.7	1.2	107.0

(Note) Total of TEPCO Holdings and three Core Operating Companies (after eliminating offsets)



#### **Year-on-Year Comparison of Consolidated Ordinary Expenses - 1**

#### Personnel expenses (¥332.9 billion to ¥324.5 billion)

- ¥8.4 billion

Salary and benefits (¥254.5 billion to ¥242.5 billion)

- ¥11.9 billion

Retirement benefits (¥14.5 billion to ¥22.8 billion)

+¥8.2 billion

Amortization of actuarial difference + ¥9.1 billion (-¥6.7 billion to ¥2.3 billion)

#### <Amortization of Actuarial Difference>

(Unit Billion Yen)

	Expenses	Amount Unaharaad		
	Expenses FY2016 FY2017		Amount Uncharged as of Mar. 31, 2018	
	incurred	Charged	Charged	ao o mar. o 1, 2010
FY2014	-38.1	-12.7	<del>-</del>	-
FY2015	26.6	8.8	8.8	-
FY2016	-8.9	-2.9	-2.9	-2.9
FY2017	-10.8	<del>-</del>	-3.6	-7.2
Total		-6.7	2.3	-10.1

Note: Actuarial gain and loss are amortized by the straight-line method over three years.

#### Fuel expenses (¥1,162.4 billion to ¥1,339.4 billion)

+¥177.0 billion

1 del expenses (+1,102.+ billion to +1,005.+ billion)	• +117:0 5111011
Consumption volume	Approx¥ 36.0 billion
Decrease in thermal power generation	Approx¥36.0 billion
Price	Approx. +¥213.0 billion
Increase due to fluctuations of foreign exchanges	Approx. +¥28.0 billion
Increase due to fluctuations of CIF crude oil price, and others	Approx. +¥185.0 billion



## **Year-on-Year Comparison of Consolidated Ordinary Expenses - 2**

laintenance expenses (¥31	9.9 billion to ¥	318.7 I	billion)			- ¥1.2 billior
Generation facilities (¥118.8 billion t	to ¥137.6 billion)		•			+¥18.7 billion
Hydroelectric power (¥8.0 billion t	to ¥8.0 billion)				+¥0.0 billion	
Thermal power (¥66.8 billion to ¥	69.7 billion)		Main F	actors for Increase/ Decrease	+¥2.8 billion	
Nuclear power (¥43.7 billion to ¥5	59.6 billion)			al: Increase in repair cost of turbine facilities, and others	+¥15.8 billion	
Renewable energy (¥0.2 billion to	¥0.2 billion)		inuciea	r: Increase in inspection expenses for construction work related to nuclear power facilities	- ¥0.0 billion	
Distribution facilities (¥197.5 billion t	to ¥177.8 billion)			·		- ¥19.7 billion
Transmission (¥24.9 billion to ¥19	9.9 billion)		Main E	actors for Increase/ Decrease	- ¥5.0 billion	
Transformation (¥12.8 billion to ¥	10.7 billion)			tion: Decrease in expenses for replacement of conventional	- ¥2.1 billion	
Distribution (¥159.7 billion to ¥147	7.1 billion)			meters with smart meters, and others	- ¥12.6 billion	
Others (¥3.4 billion to ¥3.2 billion)						- ¥0.2 billion
epreciation expenses (¥55		550.2 k	oillion)			- ¥1.0 billion
Generation facilities (¥243.3 billion t						+¥6.7 billion
Hydroelectric power (¥22.6 billion	,				- ¥0.5 billion	
Thermal power (¥132.9 billion to	,				- ¥4.6 billion	
Nuclear power (¥86.5 billion to ¥9	,				+¥12.0 billion	
Renewable energy (¥1.2 billion to	,				- ¥0.1 billion	
Distribution facilities (¥298.7 billion t						- ¥6.6 billion
Transmission (¥139.1 billion to ¥	,				- ¥5.8 billion	
Transformation (¥54.1 billion to ¥	•				- ¥1.4 billion	
Distribution (¥105.5 billion to ¥106	6.1 billion)				+¥0.5 billion	
Others (¥9.2 billion to ¥8.0 billion)						- ¥1.1billion
<pre><depreciation breakdown=""></depreciation></pre>	T) (20.10		=1.00.1=	<u> </u>		
D 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	FY2016	<b>→</b>	FY2017	<u> </u>		
Regular depreciation	¥549.9 billion		¥550.0 billio			
Trial operations depreciation	¥1.3 billion		¥0.2 billio	<u>on</u>		
ower purchasing costs (¥9	35.1 billion to	¥1,09	5.9 billion)			+¥160.8 billior
Power purchased from other utilities Power purchased from other supplie	(¥54.1 billion to ¥6	1.5 billio	n) <u>N</u>	Main Factors for Increase/ Decrease  Power purchased from other suppliers : Increase in purchasing sola and others	ar power generation,	+¥7.3 billion +¥153.4 billion

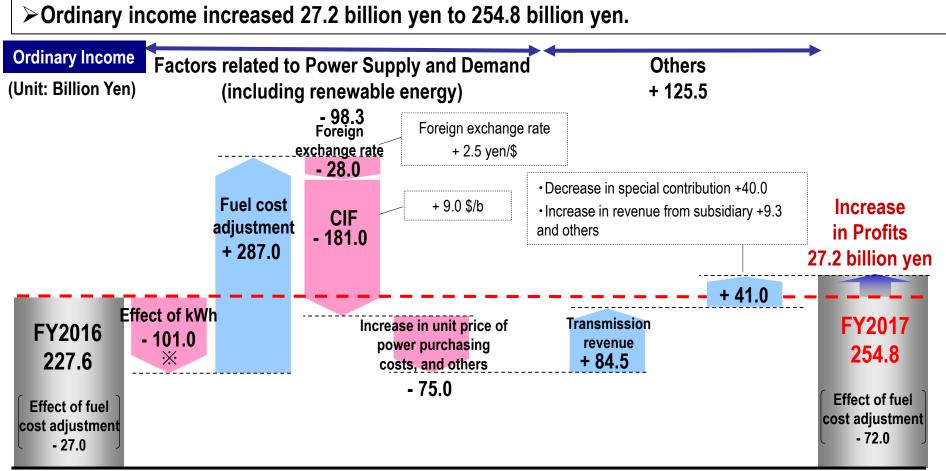
## **Year-on-Year Comparison of Consolidated Ordinary Expenses - 3**

Taxes and other public charges (¥300.4 billion to ¥304.8 billion	n)	+¥4.3 billion	
Tax for promotion of power-resources development (¥102.3 billion to ¥104.3 billion	n)	+¥1.9 billion	
Enterprise tax (¥52.0 billion to ¥54.2 billion)		+¥2.2 billion	
Nuclear power back-end costs (¥49.0 billion to ¥47.4 billion)		- ¥1.5 billion	
Expenses for contribution of reprocessing of irradiated nuclear fuel (¥31.2 billion to	¥30.5 billion)	- ¥0.6 billion	
Decommissioning costs of nuclear power units (¥17.8 billion to ¥16.9 billion)		- ¥0.9 billion	
Other expenses (¥1,227.4 billion to ¥1,257.0 billion)		+¥29.6 billion	
Payment on Act of Renewable Electric Energy (¥472.0 billion to ¥541.8 billion)	Main Factors for Increase/ Decrease	+¥69.7 billion	
Contribution (¥0.1 billion to ¥5.8 billion)  Payment on Act of Renewable Electric Energy:			
Rental expenses (excluding charge for occupancy of roads) (¥98.8 billion to ¥95.1	billion) Increase in unit price of renewable power promotion surcharge Commission expenses: Decrease in commission expenses for software,	- ¥3.6 billion	
Commission expenses (¥260.6 billion to ¥229.8 billion)	and others	-¥30.8 billion	
Contribution to Nuclear Damage Liability Facilitation Fund (¥166.7 billion to ¥126.7	7 billion Contribution to Nuclear Damage Liability Facilitation Fund:  Decrease in special contribution	- ¥40.0 billion	
Incidental business operating expenses (¥71.8 billion to ¥111.	.0 billion)	+¥39.1 billion	
Gas supply business (¥66.6 billion to ¥104.2 billion)  Main Factors	s for Increase/ Decrease	+¥37.5 billion	
Interest paid (¥75.5 billion to ¥63.2 billion)  Gas supply business: Increase in costs of raw materials due to increase of LNG sales, and others			
Decrease in average rate during the period (1.20% to 1.04%) [Total of four companies]			
Decrease in the amount of pubic bond (¥1,930.2 billion to ¥1,704.3 billion) [Total of	of four companies]	- ¥6.6 billion	



## Increase/ Decrease of Consolidated Business Performance

- Year on Year Comparison



※ TEPCO Energy Partner

➤ Net Income attributable to owners of parent increased 185.2 billion yen to 318.0 billion yen

Ordinary Income/ Loss +27.2, Extraordinary Income/ Loss +154.4, and others



## **Financial Impact of the Great East Japan Earthquake**

			(Unit Billion Yer
ltem	FY2010 to FY2016	FY2017	Cumulative Amount
Grants-in-aid from Nuclear Damage Compensation and Decommissioning Faci	litation Corporatio	n	
OGrants-in-aid based on Nuclear Damage Compensation and Decommissioning Facilitation Corporation Act	*16,651.3	381.9	*2 7,033.3
te: Journal Entry: Grants-in-aid receivable from Nuclear Damage Compensation and Decommissioning Facilitation Corporation Numbers above are those after deduction of a governmental indemnity of 188.9 billion yen, and Grants-in-aid corresponding to Numbers above are those after deduction of a governmental indemnity of 188.9 billion yen, and Grants-in-aid corresponding to	o decontamination expenses	s of 1,526.0 billion yen re	
Loss on Disaster			
● Expenses and/ or losses for Fukushima Daiichi Nuclear Power Station Units 1 through 4	1,025.9	21.2	1,047.2
● Other expenses and/ or losses	387.0	-0.1	386.9
Loss on Disaster Sub Total: (A)	1,412.9	21.1	1,434.
Gain on reversal of provision for loss on disaster (Extraordinary Income): (B)			
• Difference of the restoration cost caused by re-estimation due to decommissioning of Fukushima Daiichi Nuclear Power Station Units 5 and 6	32.0	_	32.
Total: (A)-(B)	1,380.9	21.1	1,402.
Loss on Decommissioning of Fukushima Daiichi Nuclear Power Station Units 5	and 6		
●Expenses and/ or losses for decommissioning of Fukushima Daiichi Nuclear Power Station Units 5 and 6	39.8	_	39.8
Expenses for Nuclear Damage Compensation			
● Compensation for individual damages			
<ul> <li>Expenses for radiation inspection, Mental distress, Damages caused by voluntary evacuations, and Opportunity losses on salary of workers etc.</li> </ul>	2,141.8	-81.9	2,059.8
●Compensation for business damages			
<ul> <li>Opportunity losses on businesses, Damages due to the restriction on shipment, Damages due to groundless rumor, Package compensation and Indirect business damages etc.</li> </ul>	2,847.5	120.8	2,968.3
● Other expenses			
• Damages due to decline in value of properties, Housing assurance damages, Decontamination costs and Contribution to the Fukushima Pref. Nuclear Accident Affected People and Child Health Fund etc.	3,474.8	1,889.1	5,363.9
Amount of indemnity for nuclear accidents from the Government	-188.9		-188.
● Grants-in-aid corresponding to decontamination expenses	-1,526.0	-1,641.1	-3,167.
Total	6,749.1	286.8	7,036.



#### **Consolidated Balance Sheets**

	Mar. 31 Mar. 31		Compa	rison	
	2018 (A)	2017 (B)	(A)-(B)	(A)/(B) (%)	
<b>Total Assets</b>	12,591.8	12,277.6	314.2	102.6	В
Fixed Assets	10,365.6	10,293.8	71.8	100.7	L
Current Assets	2,226.1	1,983.7	242.4	112.2	S
Liabilities	9,934.5	9,928.9	5.6	100.1	Ľ
Long-term Liability	5,274.3	6,117.9	-843.6	86.2	<
Current Liability	4,652.7	3,804.3	848.4	122.3	
Reserves for Fluctuation in Water Level	0.5	_	0.5	_	R
Reserves for Preparation of the Depreciation of Nuclear Plants Construction	6.8	6.6	0.2	104.4	Ε
Net Assets	2,657.2	2,348.6	308.5	113.1	
Shareholders' Equity	2,644.2	2,329.0	315.1	113.5	
Accumulated Other Comprehensive Income	7.1	14.3	-7.2	49.8	
Share acquisition rights	0.0	<del></del>	0.0		
Non-controlling Interests	5.8	5.2	0.6	112.1	

<pre><interest-bearing< pre=""></interest-bearing<></pre>	debt outstanding	g> (	Unit: Billion Yen)

	Mar. 31 2018 (A)	Mar. 31 2017 (B)	(A)-(B)
Bonds	2,230.8	3,205.9	-975.0
Long-term Debt	2,210.8	1,938.8	271.9
Short-term Debt	1,581.2	860.1	721.1
- Total	6,022.9	6,004.9	17.9

<Reference>

(Unit: Billion Yen)

	FY2017 (A)	FY2016 (B)	(A)-(B)
ROA(%)	2.3	2.0	0.3
ROE(%)	12.7	5.9	6.8
EPS(Yen)	198.52	82.89	115.63

ROA: Operating Income / Average Total Assets

ROE: Net Income attributable to owners of parent / Average Equity Capital



## **Consolidated Statements of Cash Flows**

			(Unit: Billion Yen)	
	FY2017 (A)	FY2016 (B)	Comparison	
	1 12017 (A)	1 12010 (b)	(A)-(B)	
Cash flow from operating activities	752.1	783.0	-30.8	
Income / loss before income taxes and minority interests	327.8	146.4	181.3	
Depreciation and amortization	561.2	564.2	-3.0	
Interest expenses	63.2	75.5	-12.3	
Grants-in-aid from Nuclear Damage Compensation and Decommissioning Facilitation Corporation	-381.9	-294.2	-87.7	
Expenses for nuclear damage compensation	286.8	392.0	-105.1	
Decrease (increase) in notes and accounts receivable trade*	-76.1	-26.1	-50.0	
Increase (decrease) in notes and accounts payable trade**	33.9	-52.7	86.7	
Interest expenses paid	-64.8	-62.6	-2.1	
Payments for extraordinary loss on disaster due to the Great East Japan Earthquake	-32.9	-29.9	-2.9	
Grants-in-aid from Nuclear Damage Compensation and Decommissioning Facilitation Corporation received	893.9	1,141.8	-247.9	
Payments for nuclear damage compensation	-957.8	-1,161.7	203.9	
Others	98.8	90.4	8.4	
Cash flows from investing activities	-520.5	-478.4	-42.1	
Purchases of property, plant and equipment	-562.0	-562.2	0.2	
Others	41.4	83.7	-42.3	
Cash flows from financing activities	12.5	-603.9	616.4	
Proceeds from issuance of bonds	523.6	492.1	31.4	
Redemption of bonds	-1,499.8	-766.8	-732.9	
Proceeds from long-term loans	498.2	34.9	463.3	
Repayment of long-term loans	-226.3	-727.4	501.1	
Proceeds from short-term loans	3,939.0	1,976.5	1,962.4	
Repayment of short-term loans	-3,217.9	-1,609.6	-1,608.3	
Others	-4.3	-3.7	-0.5	
Effect of exchange rate changes on cash and cash equivalents	0.0	-3.6	3.6	
Net increase (decrease) in cash and cash equivalents**	244.1	-303.0	547.2	
Cash and cash equivalents at the beginning of the year	940.2	1,339.9	-399.6	
Decrease in cash and cash equivalents due to change in scope of consolidation	_	-96.5	96.5	
Cash and cash equivalents at the end of the guarter	1,184.3	940.2	244.1	

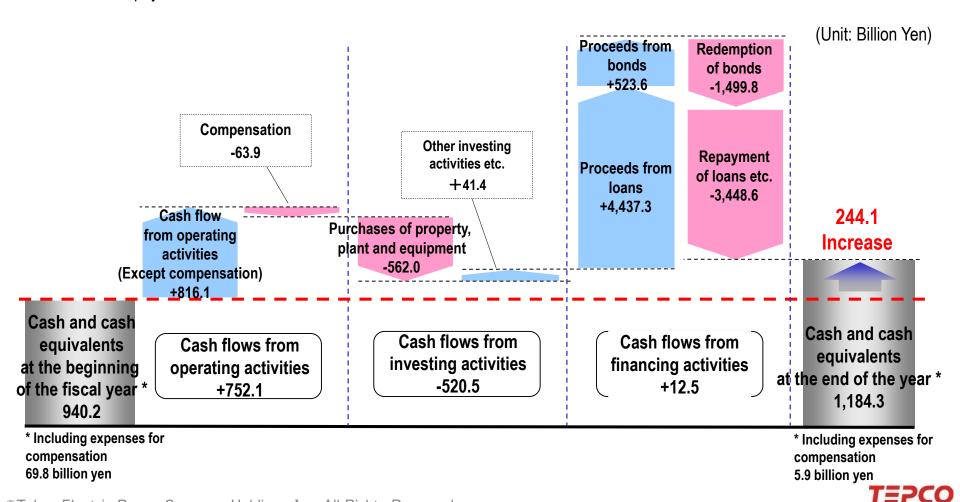
<sup>\*</sup> Minus denotes an increase. \*\* Minus denotes a decrease.



#### **Overview of Consolidated Cash Flows**

#### - Year on Year Comparison

- Cash and cash equivalents as of March 31, 2018 increased 244.1 billion yen to 1,184.3 billion yen.
  - Cash flow from operating activities increased 752.1 billion yen mainly due to income before income taxes and minority interests
  - Cash flow from investing activities decreased 520.5 billion yen mainly due to purchases of property, plant and equipment
  - Cash flow from financing activities increased 12.5 billion yen mainly because proceeds from bonds/ loans exceeded redemption of bonds/ repayment of loans



## **Segment Information**

			(Unit: Billion Yen)		
	FY2017 (A)	FY2016 (B)	Compa	rison	
	1 12017 (A)	1 12010 (D)	(A)-(B)	(A)/(B) (%)	
Operating Revenue	5,850.9	5,357.7	493.2	109.2	
Holdings	957.7	918.0	39.6	104.3	
Holdings	61.5	68.1	-6.5	90.3	
Fuel & Power	1,828.4	1,634.9	193.5	111.8	
ruei & rowei	26.0	27.1	-1.0	96.0	
Power Crid	1,742.0	1,691.9	50.1	103.0	
Power Grid	388.2	293.8	94.3	132.1	
Energy Portner	5,532.4	5,135.3	397.1	107.7	
Energy Partner	5,375.0	4,968.5	406.5	108.2	
Adjustments	-4,209.7	-4,022.5	-187.2	_	
Ordinary Income	254.8	227.6	27.2	112.0	
Holdings	142.2	-20.8	163.1	_	
Fuel & Power	51.9	53.2	-1.2	97.6	
Power Grid	79.0	111.6	-32.5	70.8	
Energy Partner	115.9	74.7	41.2	155.1	
Adjustments	-134.4	8.9	-143.3	_	

			(Ur	nit: Billion Yen)
	FY2017 (A)	FY2016 (B)	Compa (A)-(B)	arison (A)/(B) (%)
Assets	12,591.8	12,277.6	314.2	102.6
Holdings	9,421.5	11,230.3	-1,808.8	83.9
Fuel & Power	2,002.9	1,950.4	52.5	102.7
Power Grid	5,460.1	5,274.2	185.9	103.5
Energy Partner	1,277.2	1,138.2	138.9	112.2
Adjustments	-5,570.0	-7,315.7	1,745.6	_

Note1: The lower row in Operating Revenue section represents revenue from external customers.

Note2: We set four segments; "Holdings" "Fuel & Power" "Power Grid" and "Energy Partner," according to its business operations.



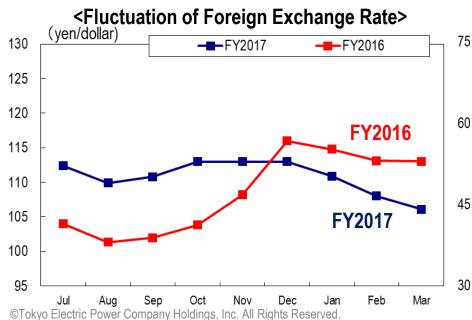
## [Reference] Key Factors Affecting Performance and Financial Impact

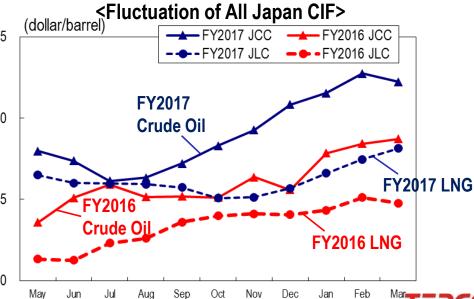
<b>Key Factors Affecting Performance</b>
--

	FY2018 Full-year Projection	FY2017 Actual Performance	[Ref.] FY2016 Actual Performance
Electricity Sales Volume (billion kWh) [consolidated]	233.4	240.3	241.5
Crude Oil Prices (All Japan CIF; dollars per barrel)	Approx. 65	57.0	47.5
Foreign Exchange Rate (Interbank; yen per dollar)	Approx. 115	110.9	108.4
Flow Rate (%)	-	102.3	94.2
Nuclear Power Plant Capacity Utilization Ratio (%)	-	-	-

Financial Impact (Sensitivity) (Unit Billion Yem)					
	FY2018 Full-year Projection	[Ref.] FY2016 Actual Performance			
Crude Oil Prices (All Japan CIF; 1 dollar per barrel)	Approx. 18	Approx. 15	Approx. 17		
Foreign Exchange Rate (Interbank; 1 yen per dollar)	Approx. 12	Approx. 11	Approx. 10		
Flow Rate (1%)	-	Approx. 1	Approx. 1		
Nuclear Power Plant Capacity Utilization Ratio (1%)	-	-	-		
Interest Rate (1%)	Approx. 28	Approx. 28	Approx. 21		

Note: Crude oil prices, foreign exchange rate, flow rate and nuclear power plant capacity utilization ratio of financial impact reflect the impact on annual fuel expenses. Interest rate reflects the incremental amount of interest.





# [Reference] Seasonal Breakdown of Electricity Sales Volume and Total Power Generated

Electri	city Sales V	/olume*	*TEPCO Ene	ergy Partner			Unit Billion kWh		
				FY2017					
	Apr-Sep	Oct-Dec	Jan	Feb	Mar	Jan-Mar	Full year		
Lighting	37.60	19.05	9.32	9.17	7.55	26.04	82.69		
Power	77.45	36.02	12.31	12.64	12.03	36.97	150.44		
Total	115.05	55.07	21.63	21.81	19.57	63.01	233.12		
				FY2016				[Ref.] Year-on-ye	ear Comparison
	Apr-Sep	Oct-Dec	Jan	Feb	Mar	Jan-Mar	Full year	Jan-Mar	Full year
Lighting	39.90	19.98	9.36	8.99	8.16	26.50	86.38	98.2%	95.7%
Power	79.68	37.56	12.61	12.80	12.49	37.90	155.15	97.5%	97.0%
Total	119.58	57.55	21.97	21.79	20.64	64.40	241.52	97.8%	96.5%
Total	Power Gen	erated					Unit Billion kWh		
				FY2017					
	Apr-	Sep Oct-D	ec Jan	Feb	Mar	Jan-Mar	Full year		

0.74

17.69

0.01

0.94

15.19

0.01

0.95

18.96

0.01

12.21

184.38

0.07

2.62

51.84

0.02

Total	92.46	49.72	19.92	18.44	16.13	54.49	196.67		
				FY2016				[Ref.] Year-on-ye	ear Comparison
	Apr-Sep	Oct-Dec	Jan	Feb	Mar	Jan-Mar	Full year	Jan-Mar	Full year
Hydroelectric	5.71	2.11	0.78	0.69	0.74	2.21	10.03	118.8%	121.7%
Thermal	91.00	46.85	18.19	16.38	17.85	52.43	190.28	98.9%	96.9%
Nuclear	-	-	-	-	-	-	-	-	-
Renewable etc.	0.04	0.01	0.01	0.01	0.01	0.02	0.07	123.3%	106.2%
Total	96.75	48.98	18.98	17.08	18.60	54.65	200.38	99.7%	98.1%



6.78

85.65

0.03

Hydroelectric

Thermal

Nuclear Renewable etc. 2.81

46.90

0.02

## [Reference] Fuel Consumption

#### **Fuel Consumption Data**

	FY2015 Actual	FY2016 Actual	FY2017 Actual
LNG(million tons)	21.55	21.06	20.80
Oil (million kl)	2.48	2.05	0.91
Coal (million tons)	8.34	8.14	8.31

Note: The oil data is total of crude oil and heavy oil, not including gas oil.

#### **Fuel Procurement**

OII	
Crude Oil	(Unitthousand kI)

Clude Oil	(Unitaliousand ki)				
	FY2015	FY2016	FY2017		
Indonesia	464	49	-		
Brunei	-	-	-		
Vietnam	-	-	-		
Australia	-	-	-		
Sudan	41	-	-		
Gabon	-	-	-		
Chad	111	-	-		
Other	0	0	156		
Total imports	616	49	156		

Heavy Oil	ry Oil (Unit thousand kl)				
	FY2015	FY2016	FY2017		
Total imports	1,540	1,578	700		

#### LNG

(Unitthousand t)

	FY2015	FY2016	FY2017
Brunei	1,940	2,095	2,097
Das	4,986	4,683	4,613
Malaysia	3,220	3,086	2,960
Papua New Guinea	1,604	1,558	1,416
Australia	305	300	302
Qatar	1,156	1,275	1,184
Darwin	2,304	2,356	2,058
Qalhat	428	500	563
Sakhalin	2,010	1,491	1,546
Indonesia	-	57	-
Wheatstone	-	-	1,075
Other	-	-	527
Spot and short term contract	4,934	4,965	4,477
Total imports	22,887	22,366	22,818

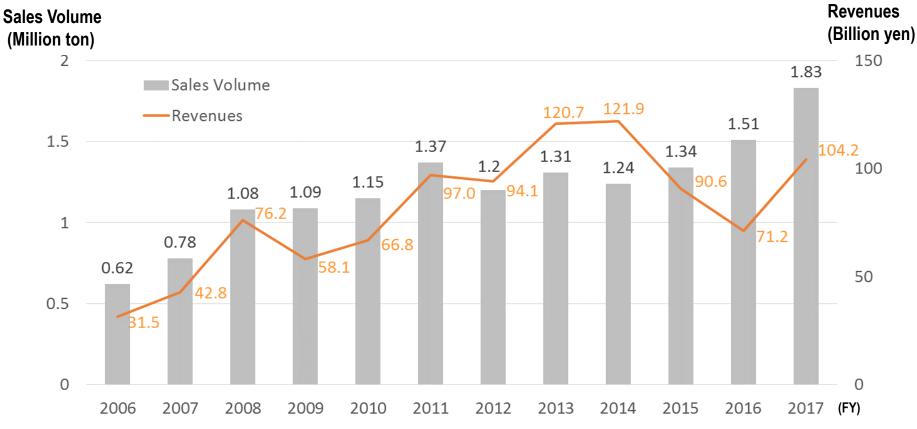
#### Coal

(Unitthousand t)

	FY2015	FY2016	FY2017
Australia	6,745	5,667	4,931
Indonesia	1,402	1,920	2,372
Colombia	-	178	554
USA	191	136	444
Russia	210	-	74
Kazakhstan	-	-	83
Canada	-	-	-
Total imports	8,548	7,901	8,457



## [Reference] Gas Supply Business



\* April 2017~ Full liberalization of gas market

#### <FY2017 Actual Performance>

**Revenues:** Increased 33.0 billion yen to 104.2 billion yen due to increased sales volume.

Operating expenses: Increased 34.4 billion yen to 99.5 billion yen due to an increase in costs of raw materials and others

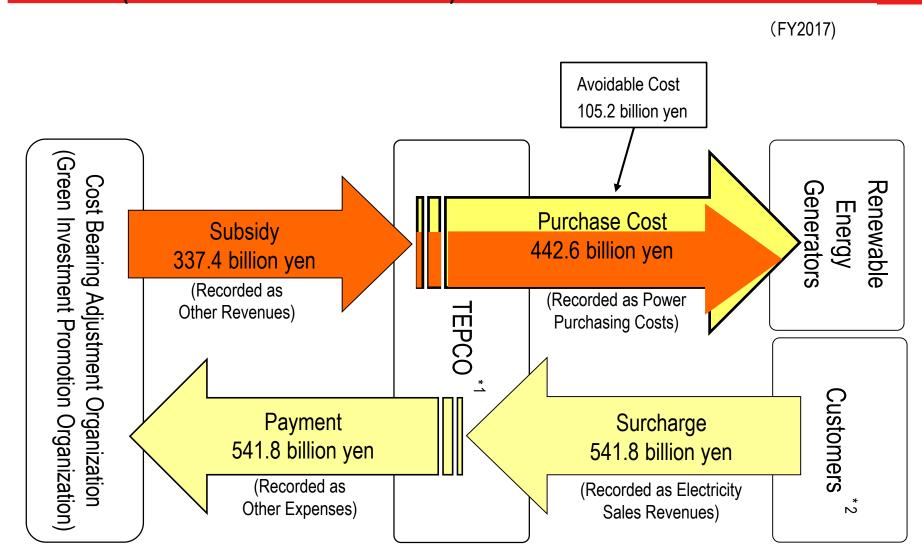
in addition to increased sales volume.

**Operating Income:** Recorded 4.7 billion yen.



<sup>\*~</sup>FY2015: former TEPCO (Non-consolidated), FY2016~: TEPCO Energy Partner

## [Reference] Feed-in Tariff Scheme for Renewable Energy (Purchase Cost Collection Flow)

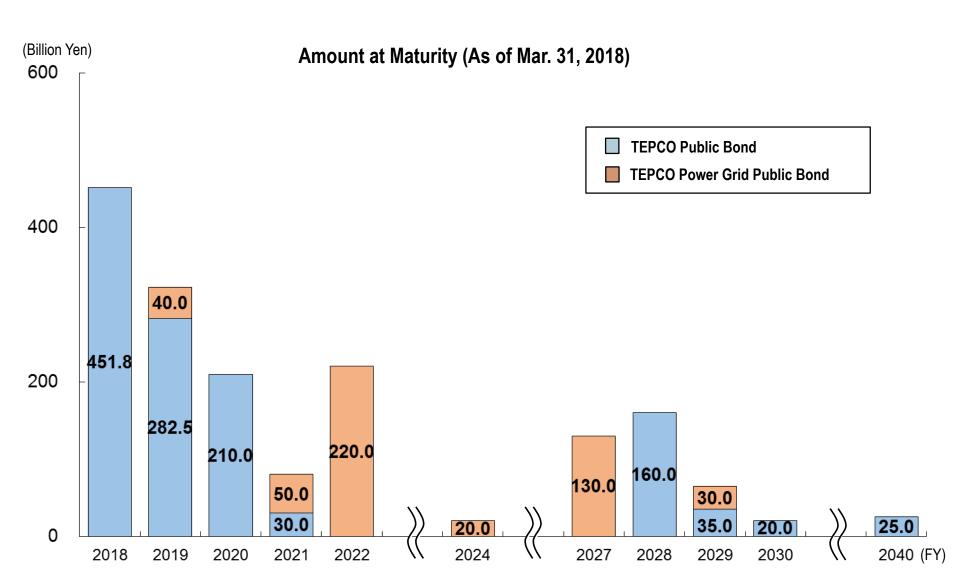


<sup>\*1</sup> TEPCO Power Grid, TEPCO Energy Partner



<sup>\*2</sup> Including TEPCO Group Companies

## [Reference] Schedules for Public Bond Redemption



Note: The amount redeemed for fiscal 2017 totaled 625.9 billion yen.

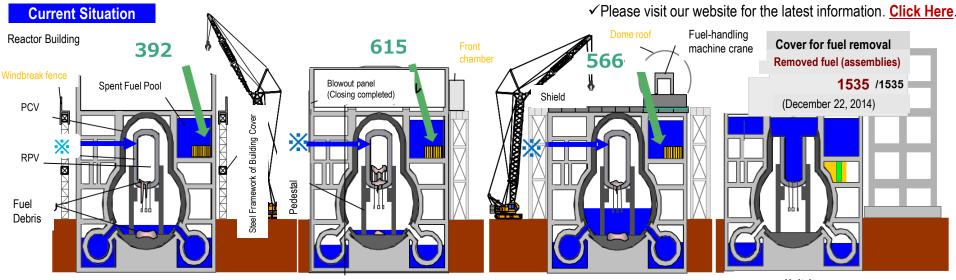


# The Current Status of Fukushima Daiichi Nuclear Power Station and Future Initiatives



## **Current Situation and Status of Units 1 through 4**

- At Units 1, 2 and 3, it was evaluated that the comprehensive cold shutdown condition had been maintained, judging from the temperatures of the reactors and spent fuel pools as well as the density of radioactive materials. To facilitate the removal of spent fuel, preparation works are underway.
- To formulate the removal of fuel debris, investigation of the inside of Primary Containment Vessel was planned and is underway.



Water Injection Unit 1 Unit 2 Unit 3 Unit 3 Unit 4

[Spent fuel removal]

- In December 2017, installation of wind break fence was completed which is useful in reducing the risk of scattering of dust at the time of removal of debris on the refueling floor.

Works towards removal of spent fuel and fuel debris - The work of removal of debris using a suction device at the north side of the refueling floor was started from January 2018.

[Fuel debris removal]

- The status of fuel debris inside the PCV was inspected by a self-propelled investigation device injected into the Unit 1 PCV in March 2017. The status of the inside of PCV has been examined based on the collected image and dose data.

[Spent fuel removal]

- There is a plan to conduct a survey for measuring the dose and dust concentration inside the refueling floor to review the measures taken to prevent impact on the surrounding environment. To access the refueling floor, work has been started to establish an opening on the west side of the building.

[Fuel debris removal]

- Since the internal survey of the PCV in January 2018 confirmed that part of the fuel assembly has fallen, the deposits found in its surroundings are assumed to be fuel debris. Hereafter, the plan is to analyze the images that are acquired.

[Spent fuel removal]

- Dome roof was installed to remove the fuel.
- Trial operation of the fuel handling equipment and removal of debris will be carried out giving top priority to safety while extracting the fuel in the mid of FY2018.

[Fuel debris removal]

 Analyzing the image data obtained from the pedestal internal survey of July 2017, damage of multiple structures and the structures assumed as core internals, is confirmed. The review of fuel extraction will be continued based on the obtained information. [Spent fuel removal]

- Fuel removal from the SFP was completed in December, 2014.

#### **Key Points from the 4th Revision of the Mid-and-Long-Term Roadmap (Sep. 2017)**

■The revised version of the Mid-and-Long-Term Roadmap is available here (TEPCO website)

#### 1. Basic Approach toward Revision

- (1) Maintain approach that prioritizes safety and emphasizes risk reduction
- (2) Optimize overall decommissioning so new revelations about field conditions which come to light as the decommissioning work progresses are taken into account
- (3) Emphasize and further enhance communication with the community and society

#### 2. Key Revision Points

#### (1) Fuel debris removal

NDF compared and reviewed several removal methods, as well as drafted and announced technical recommendations which was submitted to the government at the end of August



Based on work progress, newly required work was clarified from the standpoint of ensuring safety

#### (3) Contaminated water countermeasures

Preventive and multilayered countermeasures have been advanced, including sub-drains, sea-side impermeable walls, frozen-soil walls, etc. and the quantity of water flowing into buildings has been significantly reduced

#### (4) Waste countermeasures

At the end of August, the NDF drafted and announced technical recommendations which was submitted to the government regarding the "basic approach"

#### (5) Communication

As people return home and areas are rehabilitated, more conscientious information transmission and communication is necessary

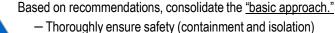
Based on the recommendations, a fuel debris removal policy was decided on

- Shift to atmospheric and cross-dyke methods, and move ahead on lower PCV work
- Proceed step-by-step (starting small, advancing in phases)

Proceed with work prudently by <u>addressing field conditions</u> as they are identified as well as <u>implementing measures</u> to thoroughly ensure safety while adding additional measures as <u>necessary</u>. Optimize overall decommissioning work and make improvements that keep pace with the environment around buildings.



Appropriately maintain and manage preventive and multilayered countermeasures, and reliably implement such measures. Thoroughly integrate operation of the frozen-soil wall and sub-drains, and <u>reduce quantity of contaminated water generated</u>. Steadfastly maintain the current policy for handling liquid waste.



- Thoroughly ensure salety (containment and isolation)
- Along with ascertaining properties and conditions, select methods for advanced processing

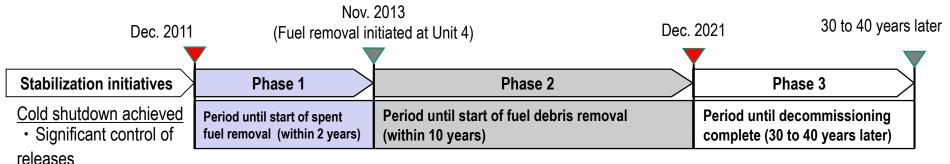


<u>Further strengthen communication</u>. In addition to meticulous transmission of information, enhance interactive communication.

[Source] Cabinet and other meetings concerning decommissioning and contaminated water countermeasures (September 26, 2017)

# Revised Mid-and-Long-Term Roadmap Milestones

# Maintain Overall Framework of Decommissioning Schedule



## Milestones indicate progress on countermeasures in an easy-to-understand manner

Contaminated water countermeasures	Hold quantity of contaminated water generated to 150 m³/day Store all water cleaned through treatment systems, etc. in welded tanks	End of 2020 FY 2018	
	①Cut off all throughholes between Units 1 and 2 as well as Units 3 and 4	End of 2018	
Stagnant water treatment	②Reduce quantity of radioactive materials in stagnant water inside of buildings to 1/10 the level it was at the end of FY2014	FY 2018	
	3 Complete treatment of stagnant water inside buildings	End of 2020	
Fuel removal	①Start retrieving fuel at Unit 1	Goal of FY 2023	
	②Start retrieving fuel at Unit 2	Goal of FY 2023	
	③Start retrieving fuel at Unit 3	Around mid-FY2018	
Fuel debris removal	①Finalize method for retrieving fuel debris for first unit	FY 2019	
	②Start retrieving fuel debris at first unit	End of 2021	
Waste	Treatment and disposal policy, and technical prospects pertaining to such	Around FY 2021	
countermeasures	safety		



# **Contaminated Water Management**

- In December 2013, the government's Nuclear Disaster Response Headquarters arranged a set of preventative and multi-tiered measures based on the three basic policies for addressing contaminated water issues.
- The generated contaminated water, including transfer to the buildings as part of decommissioning work, declined below the target during average rainfall to be achieved by 2020 (150 m³/day), though the region was in the dry season. The Committee on Countermeasures for Contaminated Water Treatment recognized the effect of the land-side impermeable walls to shield groundwater.

<Main countermeasures>

### **Eliminate contamination sources**

- Multi-nuclide removal equipment, etc.
- Remove contaminated water from the trench

### Isolate water from contamination

- Pump up groundwater by groundwater bypass
- Pump up groundwater near buildings
- Land-side frozen impermeable walls
- Waterproof pavement

### Prevent leakage of contaminated water

- Enhance soil by adding sodium silicate
- Sea-side impermeable walls
- Increase the number of (welded-joint) tanks

## Treatment of stagnant water in buildings

• Circulating purification of stagnant water inside the buildings started on the Unit 3 and 4 sides in February 2018. It was estimated that the operation could reduce the density of radioactive materials in stagnant water inside the buildings by up to approx. 40%. < Major Progress>
Subdrain operation

✓ Please visit our website for the latest information. Click Here.

➤ Groundwater pumped up through wells near reactor building (Subdrain system) are discharged after purification by dedicated facilities and quality test. (As of April 19, 2018, 3:00pm, the total volume of groundwater discharged is 520,257t).

### Land-side frozen impermeable walls

➤ In March 2018, the land-side impermeable walls were considered completed except for a portion of the depths based on a monitoring result showing that the underground temperature had declined below 0°C in almost all areas and on the mountain side, the difference between the inside and outside increased to approx. 4-5m.

The Committee on Countermeasures for Contaminated Water Treatment clearly recognized the effect of the land-side impermeable walls to shield groundwater and confirmed that a water-level management system, including the functions of subdrains, etc., to stably control groundwater and isolate the buildings from groundwater had been established.

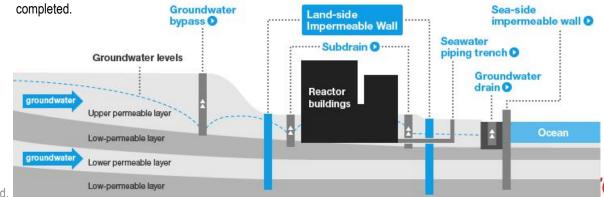
➤ Investigations and countermeasures will be conducted to further reduce the generated contaminated water.

### Sea-side impermeable walls

➤ On October 26, 2015, the seaside impermeable walls were completed to be closed.

### Removal of contaminated water in trenches

>On December 21, 2015, the removal of contaminated water in seawater piping trench of Unit 4 and filling up of trench were completed. As a consequence, the removal of about 10,000t of contaminated water in trenches of Unit 2-4 was



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The Current Status of Kashiwazaki-Kariwa Nuclear Power Station and Future Initiatives



# **Main Measures to Secure Safety – 1 [Outline]**

We promote the following measures to secure further safety after the Great East Japan Earthquake.

To reactor buildings

### I. Installation of flooding embankment [banks] Install flooding embankment (banks) to prevent Tsunami from invading the site and to



### III. Further enhancement of heat removal and cooling function

- (5) Installation of alternative submerged pumps and seawater heat exchanging system
- Install alternative submerged pumps and other equipments to continue to operate residual heat removal system even if cooling function of sea water system is lost

### III. Further enhancement of heat removal and cooling function

- (8) Installation of top venting on reactor buildings
- Install top venting system to prevent hydrogen from piling up in a reactor buildings

Transmission line

Spare line

Pure Filtered wate

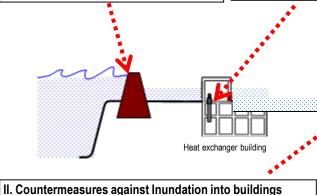
tank tank

water

### III. Further enhancement of heat removal and cooling function

- (1) Installation of water source
- Install a freshwater reservoir in the power station to secure stable supply of coolant water for reactors and spent fuel pools





## Reactor building II. Countermeasures against Inundation into buildings

- (2) Installation of water tight doors
- Install water tight doors at reactor buildings and turbine buildings to protect equipments from water

### III. Further enhancement of heat removal and cooling function

- (12) Installation of warehouses for emergency on high ground
- Install a warehouse for equipments and materials for emergency in case of Tsunami

### III. Further enhancement of heat removal and cooling function

- (7) Installation of filtered vent
- Control of radioactive pollution emitted upon containment vessel venting
- Installation of underground filtered vent for backfitting

### III. Further enhancement of heat removal and cooling function

- (11) Additional environment monitoring equipments and monitoring cars
- Prepare additional monitoring cars to continuously measure radiation dose at the site

### III. Further enhancement of heat removal and cooling function

(3) Additional installation of air-cooling gas turbine power generation cars

Filtered water tank

- Install large capacity gas turbine power generation cars to supply electricity to residual heat removal system in case of outage of all AC power
- (4) Installation of high voltage power distribution board for emergency and permanent cables for reactor buildings
- Install high voltage power distribution board for emergency and permanent cables for reactor buildings to secure power supply in case of station black out (losing all AC power), and to secure stable supply of power to residual heat removal system



(1) Installation of tide embankments (flood barrier panel included)

- Install tide embankments around reactor buildings containing critical

equipments in order to prevent Tsunami from damaging power facilities and

## TEPCO

# Main Measures to Secure Safety - 2 [Implementation Status]

				As of April 23, 2018			
ltem	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7
I . Installation of flooding embankment [banks]	Completed			Completed			
II . Countermeasures against inundation into buildings							
(1) Installation of tide embankments (flood barrier panel included)	Completed	ted Completed Completed Completed			All closed under 15 meters above sea level		
(2) Installation of water tight doors on reactor buildings, etc.	Completed	Under consideration	Under construction	Under consideration	Completed	Completed	Completed
(3) Countermeasures against inundation into heat exchanger buildings	Completed	Completed	Completed	Completed	Completed	-	_
(4) Installation of tide barriers for switching stations*1	Completed						
(5) Reliability improvement of inundation countermeasures (countermeasures against flooding inside buildings)	Under construction	Under consideration	Under construction	Under consideration	Under construction	Under construction	Under construction
Ⅲ. Further enhancement of heat removal and cooling function							
(1) Installation of water source	Completed						
(2) Installation of storage water barrier	Completed	Under consideration	Under consideration	Under consideration	Completed	Completed	Completed
(3) Additional installation of air-cooling gas turbine power generation cars	Completed				Under construction		
(4)-1 Installation of high voltage power distribution board for emergency	rgency Completed						
(4)-2 Installation of permanent cables for reactor buildings	Completed	Completed	Completed	Completed	Completed	Completed	Completed
<ul><li>(5) Installation of alternative submerged pumps and seawater heat exchanging system</li></ul>	Completed	Completed	Completed	Completed	Completed	Completed	Completed
(6) Installation of alternative high pressure water injection system	Under construction	Under consideration	Under consideration	Under consideration	Under construction	Under construction	Under construction
(7) Installation of aboveground filter vent	Under construction	Under consideration	Under consideration	Under consideration	Under construction	Termination of performance test*2	Termination of performance test*2
(8) Installation of top venting on reactor buildings*1	Completed	Completed	Completed	Completed	Completed	Completed	Completed
(9) Installation of hydrogen treatment system in reactor buildings	Completed	Under consideration	Under consideration	Under consideration	Completed	Completed	Completed
(10) Installation of facilities to fill water up to the top of containment vessels	Completed	Under consideration	Under consideration	Under consideration	Completed	Completed	Completed
(11) Additional environment monitoring equipment and monitoring cars	Completed						
(12) Installation of warehouses for emergency on high ground*1	Completed						
(13) Improvement of earthquake resistance of pure water tanks on the Ominato side*1	_					Completed	
(14) Installation of large-capacity water cannons, etc.	Completed						
(15) Multiplexing and reinforcing access roads	Completed				Under construction		
(16) Environmental improvement of the seismic isolated building							
(17) Reinforcement of the bases of transmission towers*1 and earthquake resistance of the switchboards*1  Completed							
(18) Installation of tsunami monitoring cameras	Under construction			Completed			
(19) Installation of Coriumu Shield	Under consideration	Under consideration	Under consideration	Under consideration	Under consideration	Completed	Completed

<sup>\*1</sup> TEPCO's voluntary safety measures \*2 Peripheral works are ongoing



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# Compliance Review under the New Regulatory Requirements

## Latest Review Status

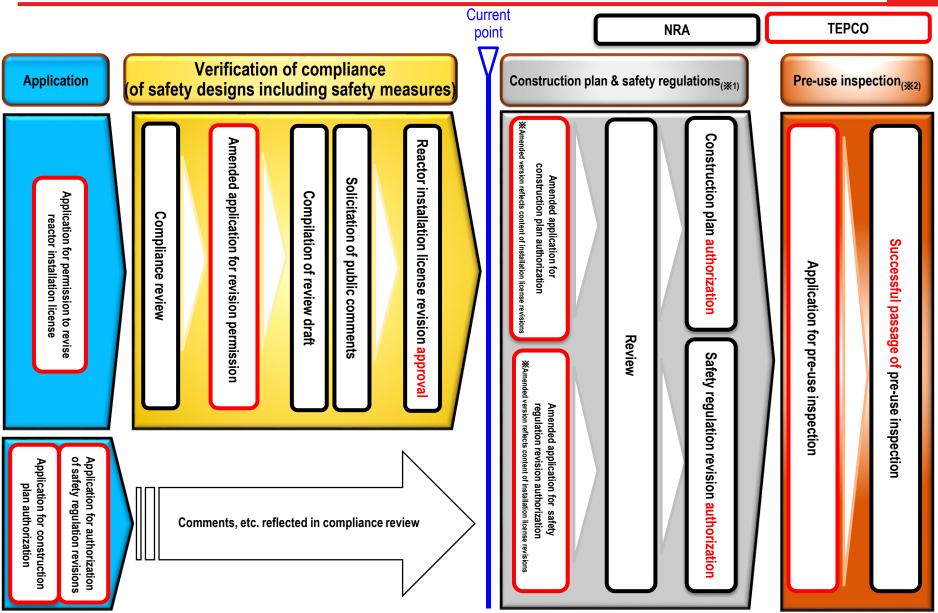
- On September 27, 2013, an application was presented requesting verification of compliance with new regulatory requirements for Units 6 and 7.
- After the compliance verification application was presented, amended applications for revision of the reactor installation license, which reflect changes sought as discussed review meetings held, were submitted to the Nuclear Regulation Authority (NRA) on June 16, August 15, September 1 and December 18, in 2017.
- On December 27, 2017, the NRA approved TEPCO's application for revision of its reactor installation license.

# **Upcoming Reviews**

• TEPCO will submit amended applications for authorization of a construction plan and safety regulation revisions based upon the results of the examination which approved revision of the reactor installation license. (Currently, the timing of these filings is pending.)



# Key License/Permit Steps in Enforcement of New Regulatory Requirements



<sup>\*1:</sup> Basic matters for safety of a nuclear power plant are stated, which an operator must observe.



<sup>※2:</sup> Inspection conducted by the central government to verify that construction has been carried out in the manner determined by the construction plan.
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# Other Initiatives



# Implementation of the Streamlining Policy

### <Cost reduction>

- In addition to the cost reductions that has been made under the New Comprehensive Special Business Plan (TEPCO \*1 : 4.8 trillion yen/10 years), TEPCO has been executing, under the Revised New Comprehensive Special Business Plan, unprecedented and recurrent streamlining of operations that includes "kaizen-centered doubling of productivity" and "use of digitalized technologies for bold technological and operational innovation" to be sure to achieve 1 trillion yen in even deeper cost reductions of over 10 years.
- FY2017 results of TEPCO and its subsidiaries & affiliated companies were 843.6 billion yen and 73.0 billion yen, respectively, and targets were achieved.

### <Asset disposal>

Accumulated grand total of FY2011 to FY2013 regarding disposal of real estate, securities and subsidiaries & affiliated companies, which was the target set in the previous Comprehensive Special Business Plan, was achieved. Maximum efforts will continue to be made aiming most efficient business operation.

## <Streamlining Policy (Cost Reduction)\*2>

	FY20	FY2018	
	Plan	Actual	Projections
TEPCO*1	702.1 billion yen	843.6 billion yen	809.1 billion yen
Subsidiaries & Affiliated Companies	61.9 billion yen	73.0 billion yen	69.6 billion yen

<sup>\*1</sup> TEPCO means Tokyo Electric Power Company Holdings, Inc., TEPCO Fuel & Power, Inc., TEPCO Power Grid, Inc. and TEPCO Energy Partner, Inc.



<sup>\*2</sup> Cost reductions given in the table were calculated using the pre-earthquake cost plan as the basis.

## **Efforts towards Nuclear Reform - 1**

### - Framework for Nuclear Reform

- Since April 2013, TEPCO has advanced the Nuclear Safety Reform Plan so that it may realize its determination that "the Fukushima nuclear accident will never be forgotten and we will be a nuclear operator which continues to create unparalleled safety and increase the level of that safety to be greater today than yesterday and still greater tomorrow than today."
- The Mid-and-Long-Term Roadmap for decommissioning Fukushima Daiichi NPS was revised in September 2017 and permission received to revise the reactor installation license for Kashiwazaki-Kariwa NPS Units 6 & 7. TEPCO will now reassess its plans to take into account items pointed out and suggested by the Nuclear Reform Monitoring Committee and faithfully implement these items.

### <Framework for Nuclear Reform>

### **Board of Directors**

Advice Suggestion **Nuclear Reform Monitoring Committee** 

(Established in September, 2012) Monitoring and supervising efforts of nuclear reform, then reporting and suggesting to the Board of Directors

Dale Klein, Chairman (former Chairman of the U.S. Nuclear Regulatory Commission)

Barbara Judge, Vice Chairman (former Chairman of the U.K. Atomic Energy Authority)

Masafumi Sakurai, committee member (former member of the National Diet of the Japan Fukushima Nuclear Accident Independent Investigation Commission)

Supervise/Monitor



Nuclear Safety Oversight Office (Established in May, 2013)

On April 1,2015, the Nuclear Safety Oversight Office, which reports to the Board of Directors, was reorganized so that it now reports directly to the President.

Dealing with nuclear safety through supervising and consulting activities, but from a much closer position to the front line of nuclear plants, and also involving more directly with the decision-making process on nuclear safety.

### **Nuclear Reform Special Task Force**

(Established in September, 2012)

supervision of the Committee.

### **Social Communication Office**

(Established in April, 2013)

Instilling corporate behaviors sensitive to social Implementing nuclear reform under the standards throughout TEPCO and promoting prompt and appropriate information disclosure through routinely collecting and analyzing information on potential risks.

### **Nuclear Power & Plant Siting Division**

### Fukushima Daiichi Decontamination & Decommissioning Engineering Company (Established in April, 2014)

An internal entity established for the purpose of clarifying the responsibilities allocation and focusing solely on handling of decommissioning and contaminated water.

Positioning "Chief Decommissioning Officer (CDO)" as Company President.

Assigning three experienced executives invited from nuclear power manufacturers to the Vice President. In addition, as of June 30, 2015, Yoshikazu Murabe, a managing director at the Japan Atomic Power Company, was brought in to serve as Senior Vice President (as of October 1, 2017, Naoto Moroo, a managing director at the same company, succeeded the post) and his responsibilities will focus on waste measures, maintaining safety at Units 5 & 6, radiation & chemical management among other duties.

# Efforts towards Nuclear Reform – 2

# - Report on Status of the Nuclear Safety Reform Plan

- The Nuclear Safety Reform Plan consists of 6 measures that compensate for the lack of "safety awareness", "technological capability" and "dialogue-promoting capability" which are the underlying contributors for accidents and aim for improving them. In addition, we have been implementing initiatives to strengthen the governance for the organization as a whole.
- In order to better align the entire organization in regards to nuclear safety reform/ improvement activities, we are engaged in efforts to promote understanding of the management model, which is a common basis for these activities, as well as the ideal behaviors for each field of operation ("Fundamentals").

Countermeasures	Recent Principal Activities ([Resource] Nuclear Safety Reform Plan Progress Report released on February 9, 2018)
Strengthening the Governance	- Corporate Functional Area Managers (CFAM; Headquarters leaders of activities aimed at achieving the world's highest standards in each functional area) and Site Functional Area Managers (SFAM; CFAM counterparts at power stations) are spearheading action to formulate objectives that should be achieved by each field noted in the management model and identifying important factors for success. CFAM/SFAM are receiving support and guidance from overseas experts knowledgeable about the world's excellence in an effort to improve their skills, and promoting improvements with midterm plans and work plans.  - Meetings (to convey issues about the day's tasks that workers should be aware of) in the operations and maintenance departments at Kashiwazaki-Kariwa are broadcast on the company's internal television network to provide an example of how the fundamentals are to be leveraged.
Reform from Top Management	- At the 10th Safety Steering Council meeting, comprised of the President, Nuclear Power & Plant Siting Division General Manager, FDEC President, and the head of the Nuclear Safety Oversight Office, it was confirmed that leadership needs to be displayed in order to accelerate improvements refarding emergency response training-related issues.
Enhancement of Oversight and Support for Management	- At the 2nd Nuclear Safety Advisory Board (NSAB) meeting, the progress of improvements made in response to issues identified during the 1st NSAB meeting was reviewed and Board members conducted interviews and observed field work pertaining to each area, such as operations, maintenance, human resource cultivation, radiological protection, project management and performance improvements.  - The Nuclear Safety Oversight Office (NSOO) has confirmed that the power stations and Headquarters have started putting efforts into resolving issues with emergency response procedures and general training that the NSOO has pointed out. At the same time, the Nuclear Safety Oversight Office has requested that issues coordinating between the emergency response headquarters and the field/off-site parties, which were observed by the NSOO during general training, be improved.
Enhancement of Ability to Propose Defense-in-Depth	- Regarding proposals that were deemed as effective countermeasures out of approx. 900 unselected proposals in the past Safety Improvement Proposal Competitions, 20 excellent proposals were selected after votes were cast by Nuclear Power Division personnel and recommendations were made by the secretariat.
Enhancement of Risk Communication Activities	- Virtual reality (VR) goggles are being used at communication booths in Niigata Prefecture to enable visitors to see with their own eyes the safety measures that have been introduced at Kashiwazaki-Kariwa, such as the seawall.
Enhancement of the Emergency Response Capability of Power Stations and the Head Office	- At Kashiwazaki-Kariwa, all onsite personnel (approx. 4,000 people) took part in large-scale evacuation training (November 22) during which congestion during exit and the effectiveness of evacuation announcements were examined. It was discovered that in certain locations it is difficult to hear the evacuation announcement, so the installation of outdoor speakers is being considered.
Development of Personnel for Enhancing Nuclear Safety	- Efforts are underway to improve the emergency response of site personnel so as to enable them to solely engage in an initial response in the event of a severe accident. Four in-house response teams (debris removal/road repair, motor replacement, temporary cable connection, cooling water pump repair) have been created at Fukushima Daini. Repetitive training will continue and the members of the teams are moved around every quarter to provide them with new skills.

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# Main Efforts to Increase Corporate Value -1

## <TEPCO Holdings>

February 7, 2018: Strategic alliance with Curtiss-Wright Corporation including software exclusive sales (Support thermal efficiency management of thermal power plants in Japan and Asia).

March 29, 2018: Launched a power retail venture company "TRENDE (Inc.)" (Started sales of a new electric retail service "Ashita-Denki" for home use).

April 18, 2018: Reached an agreement on business partnership with NTT (Nippon Telegraph and Telephone

Corporation) to resolve social issues, create new lines of business, and expand the current business in accordance with the changes in the market and society, and established a joint

ownership company "TN Cross (Ltd.)" to promote these agendas.

### <TEPCO Fuel & Power>

February 7, 2018: Started support service for thermal power plant operation utilizing IoT (achieved O&M optimization by starting full-scale operation of remote monitoring center).

February 15, 2018: Established "Oil Stockpile Operation Center" (Expand business area by utilizing know-how acquired through oil thermal power management).

March 13, 2018: Futtsu Thermal Power Station Group 2 Unit 2 was made highly efficient (Replacement work on gas turbines etc. for reducing fuel cost and CO<sub>2</sub> emissions completed).

April 19, 2018: Opening of a Strawberry Theme Park "Tokyo Strawberry Park" (The first ever facility in the

Metropolitan region where strawberry picking can be enjoyed year around was opened during the

consecutive holidays in May).

# Main Efforts to Increase Corporate Value -2

### <TEPCO Power Grid>

February 15, 2018:Established "Energy Gateway Co., Ltd.", a new company that provides IoT platform capable of collecting, storing, analyzing and processing information such as electricity usage inside houses etc.

March 6, 2018: Rakuten Inc. and Tokyo Electric Power Company Holdings, Inc., agreed to utilize facilities

to set up base stations for mobile carrier business (utilizing power transmission tower, distribution pillar, communication tower, and power equipment on building rooftops held by Tokyo Electric

Power Company group and efficient use of capital investment).

March 29, 2018: Began proof-of-concept on smart rental houses achieving the industry's first "Smart Life Service"

by using an IoT platform with Daito Trust Construction Co., Ltd. and Giga Prize Co., Ltd.

### <TEPCO Energy Partner>

February 21, 2018:Agreed to jointly advance the "Next-generation Smart Town Project" that utilizes energy and IoT technology at new building lots developed by Toyota Woodyou Home with said company.

March 22, 2018: Conclusion of agreement concerning acquisition of issued shares of Nippon Gas Co., Ltd. and recommendation of directors to the company.

March 26, 2018: Began to provide city gas charges plan "Business Toku-Toku Gas Plans" for corporate and individual business owners.

April 24, 2018: Established "PinT, Inc.," a new company that provides nation-wide electricity and gas sales utilizing

integration of IT technology and energy with Panair, Inc.

# Comprehensive Alliance/ Step3 Progress toward Business Succession

- Both TEPCO Fuel & Power Inc. and Chubu Electric Power Co., Inc. agreed on the scope of the subject assets and liabilities and schedule for the integration of existing thermal power projects etc. with JERA on February 27, 2018 and concluded Step 3 related agreements.
- Both companies will proceed with necessary steps such as concluding an absorption-type company split agreement with JERA for the integration of Step 3 business with JERA.

#### «Overview of Step3 business succession» ≪Road map≫ **TEPCO Fuel & Power Chubu Electric Power Company Fuel transportation business** Main target assets to be integrated Main target assets to be integrated Step1 **Fuel trading business** Fuel upstream/ procurement business ■ Existing thermal power plants: 15 sites Existing thermal power plants: 10 sites ■ LNG base power plants: 2 TEPCO Fuel & ■ LNG base power plants: 3 Chubu Electric Overseas IPP business Step2 **Power sites Power Company sites** ■ LNG base power plants: 2 joint stations ■ LNG base power plants: 1 joint stations Affiliated companies etc. Affiliated companies etc. Replace/ construction business 5 million shares (each) Succession **Succession** Gas/ LNG distributor business Step3 Fuel receipt/ storage, **JERA** gas conducting and

existing thermal power generation business



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