

# FY2018 2<sup>nd</sup> Quarter Financial Results (April 1 – September 30, 2018)

Tokyo Electric Power Company Holdings, Inc.

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## **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 FY2018 2<sup>nd</sup> Quarter Financial Results

(Released on October 30, 2018)

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## < FY2018 2<sup>nd</sup> Quarter Financial Results >

- Although electricity sales volume from TEPCO group companies decreased due to a decline in electricity sales volume caused by intensifying competition, operating revenue increased due to an increase in fuel cost adjustments and transmission revenue from non-TEPCO group companies.
- Ordinary income decreased due to the rise of fuel price and other areas despite implementation of the group-wide cost reduction efforts.
- Ordinary income and net income are both in the black for six consecutive years.

## < FY2018 Full-year Financial Forecasts >

- There are no revisions to the projections released on July 30, 2018.

# 1. Consolidated Financial Results

(Unit: Billion kWh)

	FY2018 Apr-Sep (A)	FY2017 Apr-Sep (B)	Comparison	
			(A)-(B)	(A)/(B) (%)
Electricity Sales Volume	116.1	118.1	-2.1	98.3

(Unit: Billion yen)

	FY2018 Apr-Sep (A)	FY2017 Apr-Sep (B)	Comparison	
			(A)-(B)	(A)/(B) (%)
Operating Revenue	3,055.5	2,831.6	223.9	107.9
Operating Income/ Loss	219.6	237.7	-18.0	92.4
Ordinary Income/ Loss	210.6	215.9	-5.3	97.5
Extraordinary Income	—	128.6	-128.6	—
Extraordinary Loss	84.6	110.2	-25.5	—
Net Income attributable to owners of parent	89.6	211.2	-121.5	42.5

## 2. Key Points of Each Company

### < TEPCO Holdings >

- Ordinary income increased due to an increase in dividend income and other areas.

### < TEPCO Fuel & Power >

- Although fixed costs decreased from cost reduction efforts and other areas, ordinary income decreased due to an increase in fuel costs.

### < TEPCO Power Grid >

- Ordinary income increased due to an increase in transmission revenue and a decrease in outsourcing and maintenance expenses, etc.

### < TEPCO Energy Partner >

- Although electricity sales volume from outside service area of TEPCO Power Grid increased, ordinary income decreased due to a decline in electricity sales volume of TEPCO group caused by intensifying competition, etc.

### 3. Overview of Each Company

(Unit: Billion kWh, yen/dollar)

	FY2018 Apr-Sep	FY2017 Apr-Sep	Comparison
Area Demand	137.8	134.9	2.9
Foreign Exchange Rate (TTM)	110.3	111.1	- 0.8

(Unit: Billion yen)

	FY2018 Apr-Sep (A)	FY2017 Apr-Sep (B)	Comparison (A)-(B)	(A)/(B) (%)
<b>Operating Revenue</b>	3,055.5	2,831.6	223.9	107.9
TEPCO Holdings	391.5	409.1	-17.6	95.7
TEPCO Fuel & Power	951.9	827.5	124.4	115.0
TEPCO Power Grid	875.2	835.6	39.5	104.7
TEPCO Energy Partner	2,855.9	2,703.2	152.6	105.6
Adjustments	-2,018.9	-1,943.9	-75.0	-
<b>Ordinary Income /Loss</b>	210.6	215.9	-5.3	97.5
TEPCO Holdings	173.4	162.7	10.7	106.6
TEPCO Fuel & Power	5.2	7.7	-2.5	67.1
TEPCO Power Grid	117.0	81.6	35.4	143.4
TEPCO Energy Partner	54.1	90.3	-36.1	60.0
Adjustments	-139.3	-126.4	-12.8	-

• Decrease in other electricity revenue -11.6

• Increase in sold power to other suppliers + 111.3

• Increase in transmission revenue + 27.3

• Increase in fuel cost adjustments + 115.0

• Increase in dividend income + 14.5

• Increase in fuel costs -139.2

• Decrease in outsourcing and maintenance expenses + 15.3

• Decrease in electricity sales volume -2.1 billion kWh

## 4. Consolidated Extraordinary Income/ Loss

(Unit: Billion yen)

	FY2018 Apr-Sep	FY2017 Apr-Sep	Comparison
Extraordinary Income/ Loss	<b>-84.6</b>	<b>18.3</b>	<b>-103.0</b>
Extraordinary Income	—	<b>128.6</b>	<b>-128.6</b>
Grants-in-aid from NDF*	—	128.6	-128.6
Extraordinary Loss	<b>84.6</b>	<b>110.2</b>	<b>-25.5</b>
Expenses for Nuclear Damage Compensation	84.6	110.2	-25.5

\* Nuclear Damage Compensation and Decommissioning Facilitation Corporation

### <Extraordinary Loss>

#### Expenses for Nuclear Damage Compensation

- Increase in the estimated amount of compensation for damages due to the restriction on shipment and damages due to groundless rumor etc., and other factors



## 5. Consolidated Financial Position

- Total assets decreased 111.9 billion yen primarily due to decreases in grants-in-aid receivable from NDF.
- Total liabilities decreased 203.3 billion yen primarily due to decreases in current liabilities such as accounts payable-other.
- Total net assets increased 91.3 billion yen primarily due to a record net income attributable to owners of parent.
- Equity ratio improved by 0.9 points.

Balance Sheets as of Mar. 31, 2018

<b>Total Assets</b> <b>12,591.8</b> <b>billion yen</b>	<b>Liabilities</b> <b>9,934.5</b> <b>billion yen</b>
	<b>Net Assets</b> <b>2,657.2</b> <b>billion yen</b>

**Equity Ratio: 21.1%**

Balance Sheets as of Sep. 30, 2018

<b>Total Assets</b> <b>12,479.8</b> <b>billion yen</b> <b>(Decrease in Assets</b> <b>-111.9 billion yen</b> • Grants-in-aid receivable from NDF -138.6 billion yen	<b>Liabilities</b> <b>9,731.2</b> <b>billion yen</b>
	<b>Net Assets</b> <b>2,748.6</b> <b>billion yen</b>

**Equity Ratio: 22.0%**

**Decrease in Liabilities**  
**- 203.3 billion yen**  
 • decreases in current liabilities such as accounts payable-other  
 -225.2 billion yen  
**Increase in Net Assets**  
**+91.3 billion yen**  
 • Record net income attributable to owners of parent  
 +89.6 billion yen

**Improved by 0.9 points**

## 6. FY2018 Full-Year Financial Forecasts

(Unit: Billion Yen)

	<b>FY2018 Projections</b> (released on Oct. 30, 2018)	<b>FY2018 Projections</b> (released on Jul. 30, 2018)	<b>FY2017 Results</b>
Operating Revenue	6,099	6,099	5,850.9
Ordinary Income/ Loss	285	285	254.8
Extraordinary Income/ Loss	—	—	73.8
Net Income attributable to owners of parent	252	252	318.0

\* FY2018 Projections released on October 30, 2018 have no change from those released on July 30, 2018.

\* 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.

## Area Demand

(Unit: Billion kWh)

	FY2018 Apr-Sep (A)	FY2017 Apr-Sep (B)	Comparison	
			(A)-(B)	(A)/(B) (%)
Area Demand	137.8	134.9	2.9	102.2

## Foreign Exchange Rate / CIF

	FY2018 Apr-Sep (A)	FY2017 Apr-Sep (B)	(A)-(B)
Foreign Exchange Rate (Interbank, yen/dollar)	110.3	111.1	-0.8
Crude Oil Prices (All Japan CIF, dollar/barrel)	73.8	51.4	22.4
LNG Prices (All Japan CIF, dollar/barrel)	57.5	47.9	9.6

# <Reference> Key Factors Affecting Performance (Financial Forecasts)

## Key Factors Affecting Performance

	FY2018 Projections (released on Oct. 30, 2018)	FY2018 Projections (released on Jul. 30, 2018)
Electricity Sales Volume (Billion kWh)	232.3	232.4
Crude Oil Prices (All Japan CIF; dollars per barrel)	Approx. 77	Approx. 74
Foreign Exchange Rate (Interbank; yen per dollar)	Approx. 112	Approx. 113
Nuclear Power Plant Capacity Utilization Ratio (%)	—	—

## Financial Impact (Sensitivity)

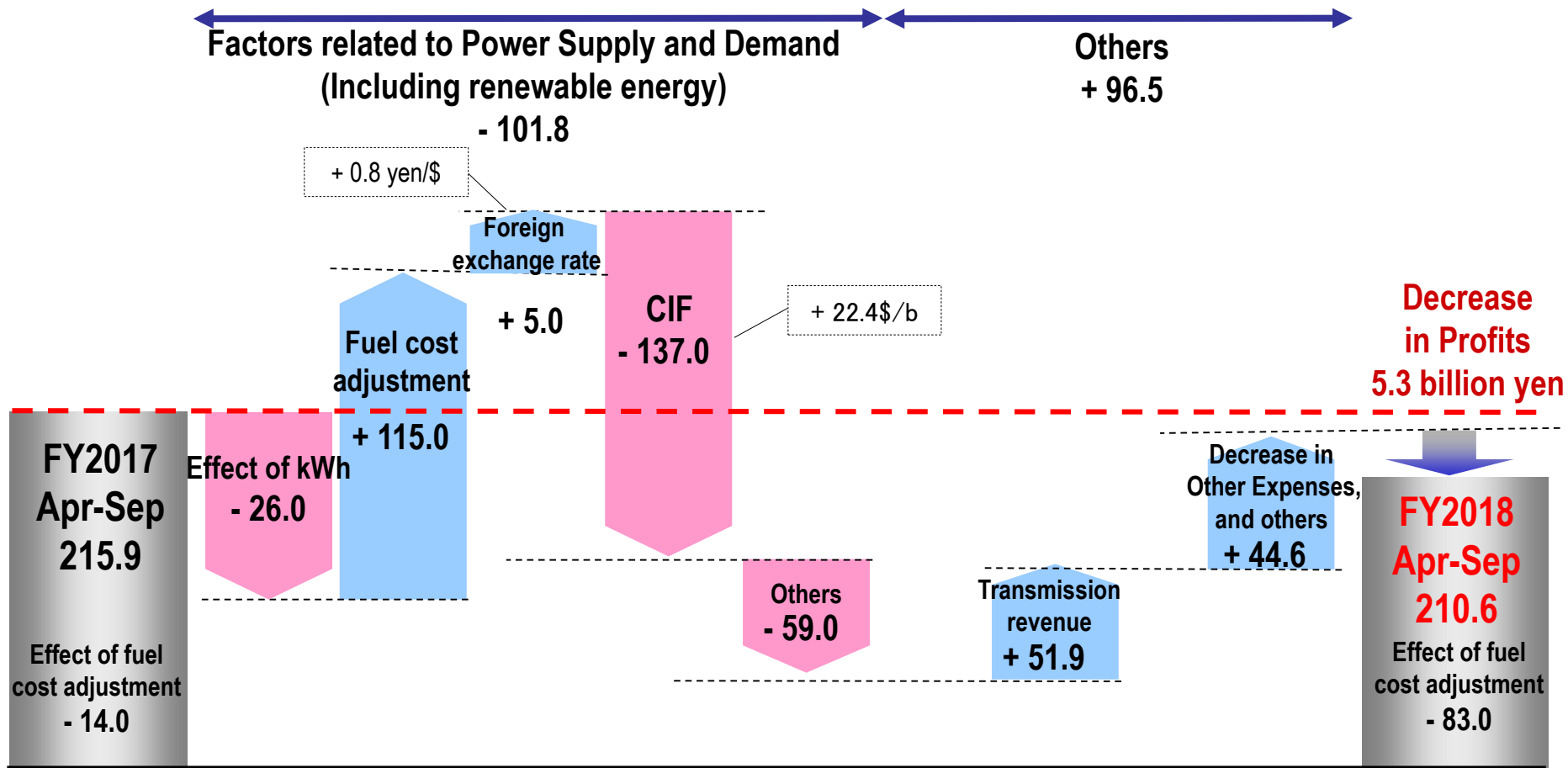
(Unit: Billion Yen)

	FY2018 Projections (released on Oct. 30, 2018)	FY2018 Projections (released on Jul. 30, 2018)
<Fuel Expenses>		
Crude Oil Prices (All Japan CIF; 1 dollar per barrel)	Approx. 18	Approx. 18
Foreign Exchange Rate (Interbank; 1 yen per dollar)	Approx. 12	Approx. 12
Nuclear Power Plant Capacity Utilization Ratio (1%)	—	—
<Interest Paid>		
Interest Rate 1% (Long-term / Short-term)	Approx. 28	Approx. 28

# <Reference> Consolidated Ordinary Income/ Loss –Year on Year Comparison

## Ordinary Income / Loss

(Unit: Billion Yen)



# <Reference> Consolidated Ordinary Revenue

(Unit: Billion Yen)

	FY2018 Apr-Sep (A)	FY2017 Apr-Sep (B)	Comparison	
			(A)-(B)	(A)/(B) (%)
<b>(Operating Revenue)</b>	<b>3,055.5</b>	<b>2,831.6</b>	<b>223.9</b>	<b>107.9</b>
Electricity Sales Revenue	2,350.2	2,292.2	58.0	102.5
Power Sold to Other Utilities and Suppliers	178.5	125.5	52.9	142.2
Other Revenue	478.1	388.0	90.1	123.2
(Reprinted) Grant under Act on Procurement of Renewable Electric Energy	219.0	192.4	26.6	113.9
(Reprinted) Transmission Revenue	154.5	102.6	51.9	150.6
Subsidiaries/ Affiliated Companies	75.9	48.6	27.3	156.2
Ordinary Revenue	3,083.0	2,854.4	228.5	108.0

# <Reference> Consolidated Ordinary Expenses

(Unit: Billion Yen)

	FY2018 Apr-Sep (A)	FY2017 Apr-Sep (B)	Comparison	
			(A)-(B)	(A)/(B) (%)
Personnel Expenses	149.7	163.9	-14.2	91.3
Fuel Expenses	748.7	609.2	139.5	122.9
Maintenance Expenses	122.0	135.3	-13.3	90.2
Depreciation	264.0	273.4	-9.4	96.6
Power Purchasing Costs	679.0	604.4	74.6	112.4
Interest Paid	27.2	33.5	-6.3	81.0
Taxes, etc.	155.1	154.7	0.4	100.3
Nuclear Back-end Costs	33.2	24.5	8.7	135.8
Other Expenses	639.6	608.0	31.6	105.2
(Reprinted) Payment under Act on Procurement of Renewable Electric Energy	296.3	271.0	25.2	109.3
Subsidiaries/ Affiliated Companies	53.4	31.3	22.1	170.6
Ordinary Expenses	2,872.4	2,638.5	233.9	108.9
<b>(Operating Income)</b>	<b>(219.6)</b>	<b>(237.7)</b>	<b>(-18.0)</b>	<b>92.4</b>
<b>Ordinary Income / Loss</b>	<b>210.6</b>	<b>215.9</b>	<b>-5.3</b>	<b>97.5</b>

# Supplemental Material

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# FY2018 2<sup>nd</sup> Quarter Financial Results

## Detailed Information

# Consolidated Statements of Income

	(Unit: Billion Yen)			
	FY2018	FY2017	Comparison	
	Apr-Sep (A)	Apr-Sep (B)	(A)-(B)	(A)/(B) (%)
Operating Revenue	3,055.5	2,831.6	223.9	107.9
Operating Expenses	2,835.9	2,593.9	242.0	109.3
<b>Operating Income / Loss</b>	<b>219.6</b>	<b>237.7</b>	<b>-18.0</b>	<b>92.4</b>
Non-operating Revenue	27.4	22.8	4.6	120.1
Investment Gain under the Equity Method	22.1	16.9	5.1	130.6
Non-operating Expenses	36.5	44.6	-8.0	81.9
<b>Ordinary Income / Loss</b>	<b>210.6</b>	<b>215.9</b>	<b>-5.3</b>	<b>97.5</b>
Provision or Reversal of Reserve for Fluctuation in Water Levels	-0.4	—	-0.4	—
Provision or Reversal of Reserve for Preparation of Depreciation of Nuclear Power Construction	0.1	0.1	0.0	102.3
Extraordinary Income	—	128.6	-128.6	—
Extraordinary Loss	84.6	110.2	-25.5	—
Income Tax, etc.	36.5	22.8	13.7	160.5
Net Income Attributable to Non-controlling Interests	-0.0	0.1	-0.1	—
<b>Net Income Attributable to Owners of Parent</b>	<b>89.6</b>	<b>211.2</b>	<b>-121.5</b>	<b>42.5</b>

# Financial Impact of the Great East Japan Earthquake

(Unit Billion Yen)

Item	FY2010 to FY2017	FY2018 Apr-Sep	Cumulative Amount
<b>◇Grants-in-aid from Nuclear Damage Compensation and Decommissioning Facilitation Corporation</b>			
○Grants-in-aid based on Nuclear Damage Compensation and Decommissioning Facilitation Corporation Act	* 7,033.3	—	* 7,033.3

Note: Journal Entry: Grants-in-aid receivable from Nuclear Damage Compensation and Decommissioning Facilitation Corporation is debited on the balance sheet.

\* Numbers above are those after deduction of a governmental indemnity of 188.9 billion yen, and Grants-in-aid corresponding to decontamination expenses of 3,167.2 billion yen respectively.

## ◆Loss on Disaster

●Expenses and/ or losses for Fukushima Daiichi Nuclear Power Station Units 1 through 4	1,047.2	1.7	1,049.0
●Other expenses and/ or losses	386.9	-0.0	386.8
<b>◆Loss on Disaster Sub Total: (A)</b>	<b>1,434.1</b>	<b>1.7</b>	<b>1,435.9</b>
<b>◇Gain on reversal of provision for loss on disaster (Extraordinary Income): (B)</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	—	32.0
<b>Total: (A)-(B)</b>	<b>1,402.1</b>	<b>1.7</b>	<b>1,403.8</b>

## ◆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
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## ◆Expenses for Nuclear Damage Compensation

●Compensation for individual damages - Expenses for radiation inspection, Mental distress, Damages caused by voluntary evacuations, and Opportunity losses on salary of workers etc.	2,059.8	7.2	2,067.1
●Compensation for business damages - Opportunity losses on businesses, Damages due to the restriction on shipment, Damages due to groundless rumor, Package compensation and Indirect business damages etc.	2,968.3	38.0	3,006.4
●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.	5,363.9	39.4	5,403.3
● Amount of indemnity for nuclear accidents from the Government	-188.9	—	-188.9
●Grants-in-aid corresponding to decontamination expenses	-3,167.2	—	-3,167.2
<b>Total</b>	<b>7,036.0</b>	<b>84.6</b>	<b>7,120.6</b>

# Consolidated Balance Sheets

(Unit: Billion Yen)

	Sep. 30 2018 (A)	Mar. 31 2018 (B)	Comparison	
			(A)-(B)	(A)/(B) (%)
<b>Total Assets</b>	<b>12,479.8</b>	<b>12,591.8</b>	<b>-111.9</b>	<b>99.1</b>
Fixed Assets	10,276.4	10,369.6	-93.2	99.1
Current Assets	2,203.4	2,222.1	-18.7	99.2
<b>Liabilities</b>	<b>9,731.2</b>	<b>9,934.5</b>	<b>-203.3</b>	<b>98.0</b>
Long-term Liability	5,296.5	5,274.3	22.2	100.4
Current Liability	4,427.5	4,652.7	-225.2	95.2
Reserve for Fluctuation in Water Levels	0.1	0.5	-0.4	20.5
Reserve for Preparation of the Depreciation of Nuclear Plants Construction	7.0	6.8	0.1	101.5
<b>Net Assets</b>	<b>2,748.6</b>	<b>2,657.2</b>	<b>91.3</b>	<b>103.4</b>
Shareholders' Equity	2,733.9	2,644.2	89.7	103.4
Accumulated Other Comprehensive Income	7.6	7.1	0.4	106.5
Share Acquisition Rights	—	0.0	-0.0	—
Non-controlling Interests	7.0	5.8	1.1	119.5

<Interest-bearing debt outstanding>

(Unit: Billion Yen)

	Sep. 30 2018 (A)	Mar. 31 2018 (B)	(A)-(B)
Bonds	2,174.2	2,230.8	-56.6
Long-term Debt	2,087.2	2,210.8	-123.5
Short-term Debt	1,698.9	1,581.2	117.7
Total	5,960.4	6,022.9	-62.4

<Reference>

	FY2018 Apr-Sep (A)	FY2017 Apr-Sep (B)	(A)-(B)
ROA(%)	1.8	2.0	-0.2
ROE(%)	3.3	8.7	-5.4
EPS(Yen)	55.98	131.86	-75.88

ROA: Operating Income / Average Total Assets

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

# Consolidated Statements of Cash Flows

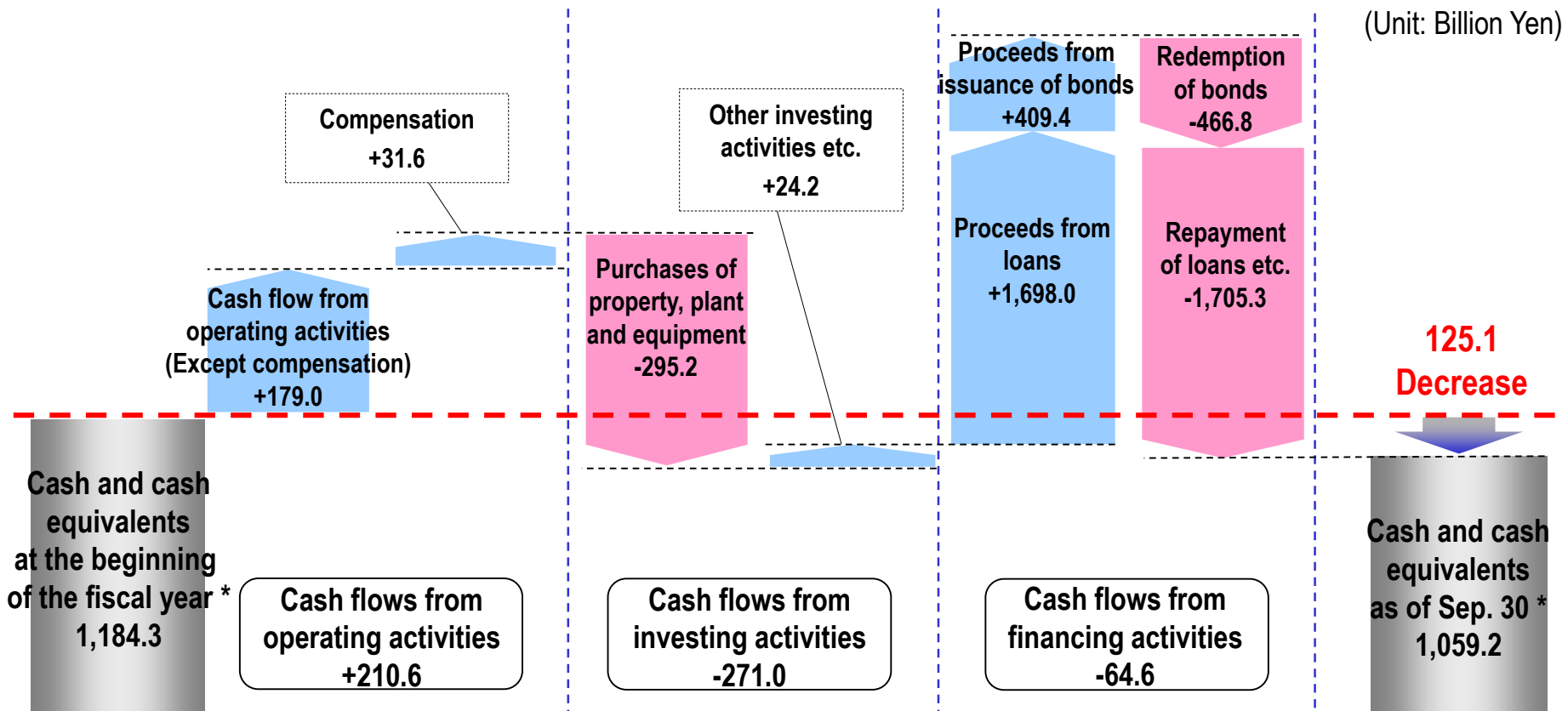
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(Unit: Billion Yen)

	FY2018 Apr-Sep (A)	FY2017 Apr-Sep (B)	Comparison (A)-(B)
<b>Cash flow from operating activities</b>	<b>210.6</b>	<b>291.2</b>	<b>-80.5</b>
Income / loss before income taxes and minority interests	126.2	234.2	-107.9
Depreciation and amortization	269.7	278.8	-9.1
Interest expenses	27.5	33.5	-5.9
Grants-in-aid from Nuclear Damage Compensation and Decommissioning Facilitation Corporation	-	-128.6	128.6
Expenses for nuclear damage compensation	84.6	110.2	-25.5
Decrease (increase) in notes and accounts receivable trade*	-101.6	-93.4	-8.2
Increase (decrease) in notes and accounts payable trade**	14.7	-9.6	24.3
Interest expenses paid	-29.0	-33.7	4.6
Payments for extraordinary loss on disaster due to the Great East Japan Earthquake	-11.7	-10.6	-1.1
Grants-in-aid from Nuclear Damage Compensation and Decommissioning Facilitation Corporation received	433.9	385.5	48.4
Payments for nuclear damage compensation	-402.2	-396.1	-6.0
Others	-201.4	-78.9	-122.5
<b>Cash flows from investing activities</b>	<b>-271.0</b>	<b>-251.6</b>	<b>-19.4</b>
Purchases of property, plant and equipment	-295.2	-269.1	-26.1
Others	24.2	17.5	6.6
<b>Cash flows from financing activities</b>	<b>-64.6</b>	<b>-122.9</b>	<b>58.2</b>
Proceeds from issuance of bonds	409.4	290.9	118.5
Redemption of bonds	-466.8	-1,124.0	657.1
Proceeds from long-term loans	-	4.8	-4.8
Repayment of long-term loans	-123.5	-162.8	39.2
Proceeds from short-term loans	1,698.0	1,729.1	-31.0
Repayment of short-term loans	-1,580.2	-859.1	-721.0
Others	-1.5	-1.8	0.2
Effect of exchange rate changes on cash and cash equivalents	-0.0	-0.0	-0.0
Net increase (decrease) in cash and cash equivalents**	-125.1	-83.3	-41.8
Cash and cash equivalents at the beginning of the year	1,184.3	940.2	244.1
Cash and cash equivalents at the end of the quarter	1,059.2	856.9	202.3

\* Minus denotes an increase. \*\* Minus denotes a decrease.

- Cash and cash equivalents as of September 30, 2018 decreased 125.1 billion yen to 1,059.2 billion yen.
  - Cash flow from operating activities increased 210.6 billion yen mainly due to income before income taxes and minority interests
  - Cash flow from investing activities decreased 271.0 billion yen mainly due to purchases of property, plant and equipment
  - Cash flow from financing activities decreased 64.6 billion yen mainly because redemption of bonds and repayment of loans exceeded proceeds from issuance of bonds and those from loans



\* Including expenses for compensation 37.6 billion yen

\* Including expenses for compensation 5.9 billion yen

# Key Factors Affecting Performance and Financial Impact

## Key Factors Affecting Performance

	FY2018			【Reference】 FY2017 Actual Performance	
	Apr-Sep Results	Full-year Projections		Apr-Sep	Full-year
		(As of Oct. 30)	(As of Jul. 30)		
Electricity Sales Volume (billion kWh)	116.1	232.3	232.4	118.1	240.3
Crude Oil Prices (All Japan CIF; dollars per barrel)	73.8	Approx. 77	Approx. 74	51.4	57.0
Foreign Exchange Rate (Interbank; yen per dollar)	110.3	Approx. 112	Approx. 113	111.1	110.9
Nuclear Power Plant Capacity Utilization Ratio (%)	-	-	-	-	-

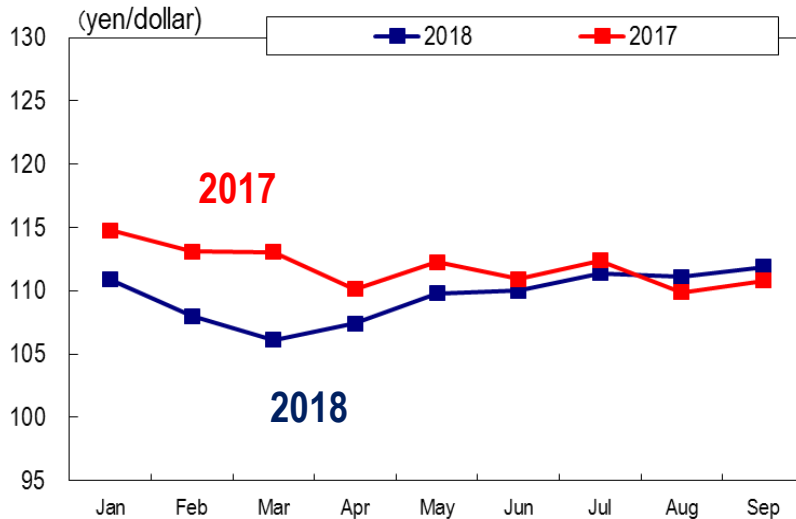
## Financial Impact (Sensitivity)

(Unit Billion Yen)

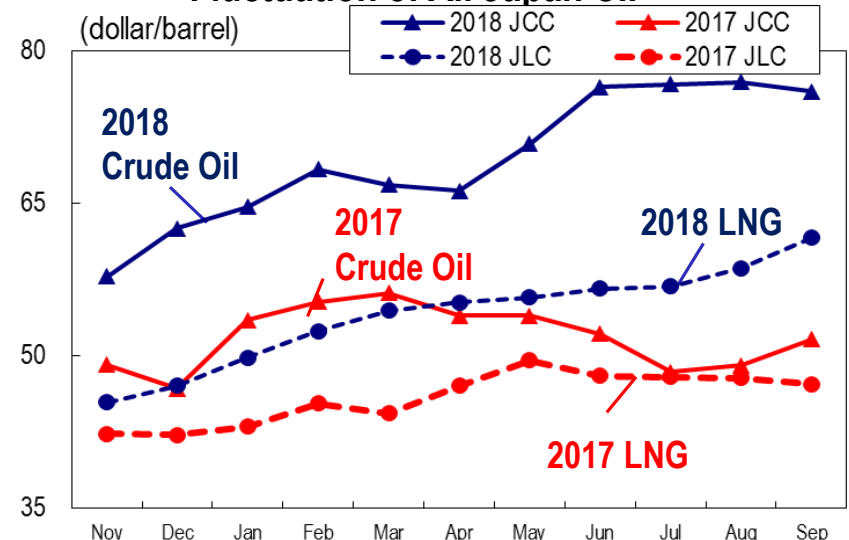
	FY2018		【Reference】 FY2017 Full-year Actual Performance
	Full-year Projections		FY2017 Full-year Actual Performance
	(As of Oct. 30)	(As of Jul. 30)	
Crude Oil Prices (All Japan CIF; 1 dollar per barrel)	Approx. 18	Approx. 18	Approx. 15
Foreign Exchange Rate (Interbank; 1 yen per dollar)	Approx. 12	Approx. 12	Approx. 11
Nuclear Power Plant Capacity Utilization Ratio (1%)	-	-	-
Interest Rate (1%)	Approx. 28	Approx. 28	Approx. 28

Note: Crude Oil Prices, Foreign Exchange 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.

### <Fluctuation of Foreign Exchange Rate>



### <Fluctuation of All Japan CIF>





# Seasonal Breakdown of Electricity Sales Volume and Total Power Generated

## Electricity Sales Volume

Unit: Billion kWh

	FY2018						[Ref.] Year-on-year Comparison	
	Apr-Jun	Jul	Aug	Sep	Jul-Sep	Apr-Sep	Jul-Sep	Apr-Sep
Lighting	15.60	6.04	7.37	6.33	19.74	35.34	99.9%	94.0%
Power	37.01	14.75	15.10	13.87	43.73	80.74	102.0%	100.3%
<b>Total</b>	<b>52.60</b>	<b>20.79</b>	<b>22.48</b>	<b>20.20</b>	<b>63.47</b>	<b>116.07</b>	<b>101.3%</b>	<b>98.3%</b>

	FY2017						[Ref.] Year-on-year Comparison	
	Apr-Jun	Jul	Aug	Sep	Jul-Sep	Apr-Sep	Jul-Sep	Apr-Sep
Lighting	17.83	6.41	6.97	6.39	19.77	37.60	99.9%	94.0%
Power	37.67	14.39	14.61	13.86	42.86	80.53	102.0%	100.3%
<b>Total</b>	<b>55.50</b>	<b>20.80</b>	<b>21.58</b>	<b>20.25</b>	<b>62.63</b>	<b>118.13</b>	<b>101.3%</b>	<b>98.3%</b>

## Total Power Generated

Unit: Billion kWh

	FY2018						[Ref.] Year-on-year Comparison	
	Apr-Jun	Jul	Aug	Sep	Jul-Sep	Apr-Sep	Jul-Sep	Apr-Sep
Hydroelectric	3.37	1.21	1.13	1.03	3.37	6.73	95.3%	99.3%
Thermal	39.12	18.54	17.61	13.55	49.71	88.82	107.6%	103.7%
Nuclear	-	-	-	-	-	-	-	-
Renewable etc.	0.02	0.01	0.01	0.01	0.02	0.04	117.4%	131.7%
<b>Total</b>	<b>42.50</b>	<b>19.76</b>	<b>18.75</b>	<b>14.58</b>	<b>53.10</b>	<b>95.60</b>	<b>106.8%</b>	<b>103.4%</b>

	FY2017						[Ref.] Year-on-year Comparison	
	Apr-Jun	Jul	Aug	Sep	Jul-Sep	Apr-Sep	Jul-Sep	Apr-Sep
Hydroelectric	3.25	1.20	1.24	1.10	3.53	6.78	95.3%	99.3%
Thermal	39.47	16.69	15.79	13.70	46.18	85.65	107.6%	103.7%
Nuclear	-	-	-	-	-	-	-	-
Renewable etc.	0.02	0.01	0.01	0.01	0.02	0.03	117.4%	131.7%
<b>Total</b>	<b>42.73</b>	<b>17.90</b>	<b>17.03</b>	<b>14.80</b>	<b>49.73</b>	<b>92.46</b>	<b>106.8%</b>	<b>103.4%</b>

## Fuel Consumption

	FY2015 Actual	FY2016 Actual	FY2017 Actual	FY2018 Apr-Sep	【Reference】 FY2017 Apr-Sep
<b>LNG</b> (million t)	21.55	21.06	20.80	10.18	9.57
<b>Oil</b> (million kl)	2.48	2.05	0.91	0.38	0.33
<b>Coal</b> (million t)	8.34	8.14	8.31	4.13	4.19

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

## Fuel Procurement

### Oil

**Crude Oil** (Unit: thousand kl)

	FY2015	FY2016	FY2017
Indonesia	464	49	-
Brunei	-	-	-
Vietnam	-	-	-
Australia	-	-	-
Sudan	41	-	-
Gabon	-	-	-
Chad	111	-	-
Other	0	0	156
<b>Total imports</b>	<b>616</b>	<b>49</b>	<b>156</b>

**Heavy Oil** (Unit: thousand kl)

	FY2015	FY2016	FY2017
<b>Total imports</b>	<b>1,540</b>	<b>1,578</b>	<b>700</b>

### LNG

(Unit: thousand t)

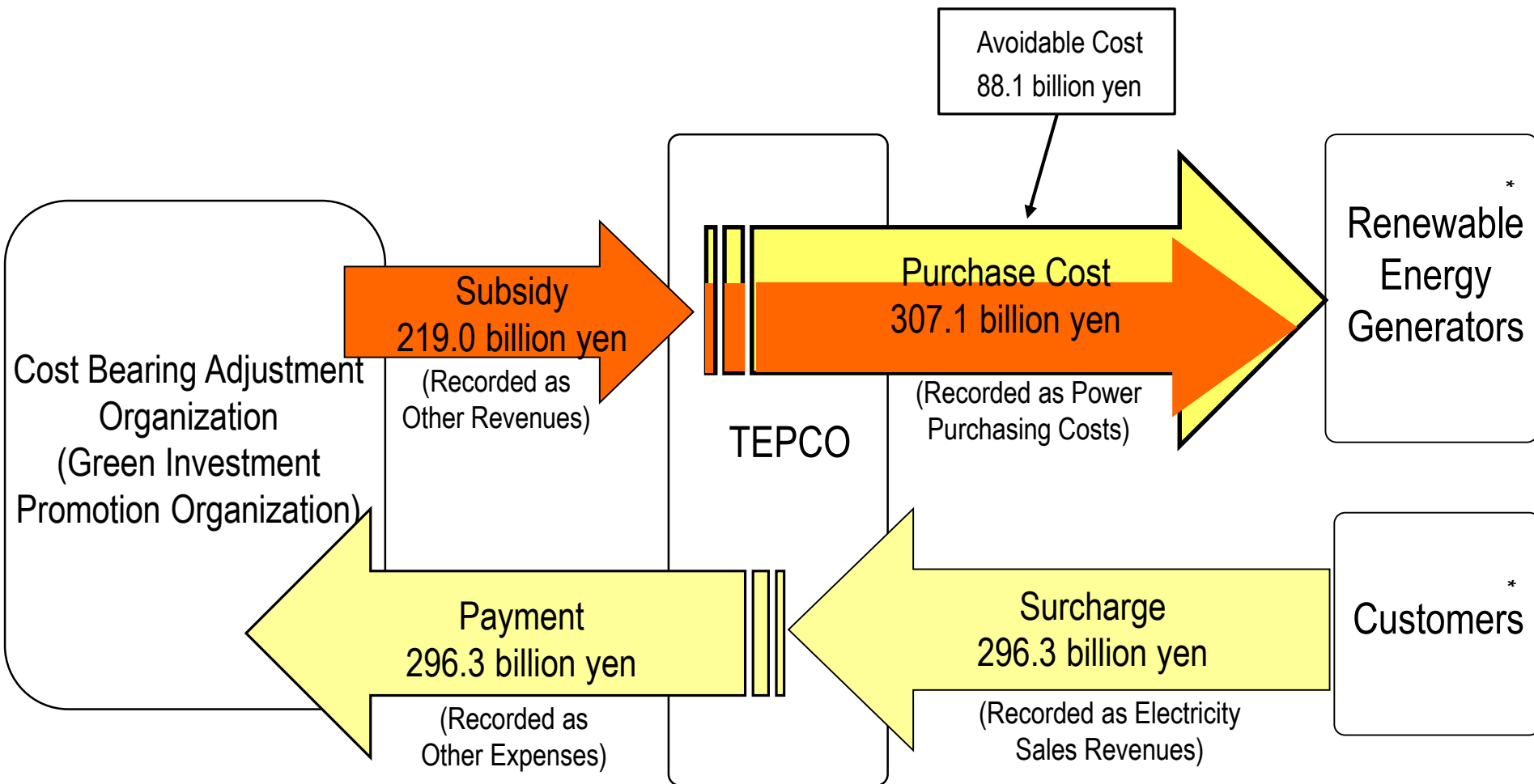
	FY2015	FY2016	FY2017
Brunei	1,940	2,095	2,097
Das	4,986	4,683	4,613
Malaysia	3,220	3,086	2,960
Papua New Guinea	1,604	1,558	1,416
Australia	305	300	302
Qatar	1,156	1,275	1,184
Darwin	2,304	2,356	2,058
Qalhat	428	500	563
Sakhalin	2,010	1,491	1,546
Indonesia	-	57	-
Wheatstone	-	-	1,075
Other	-	-	527
Spot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

### Coal

(Unit: thousand t)

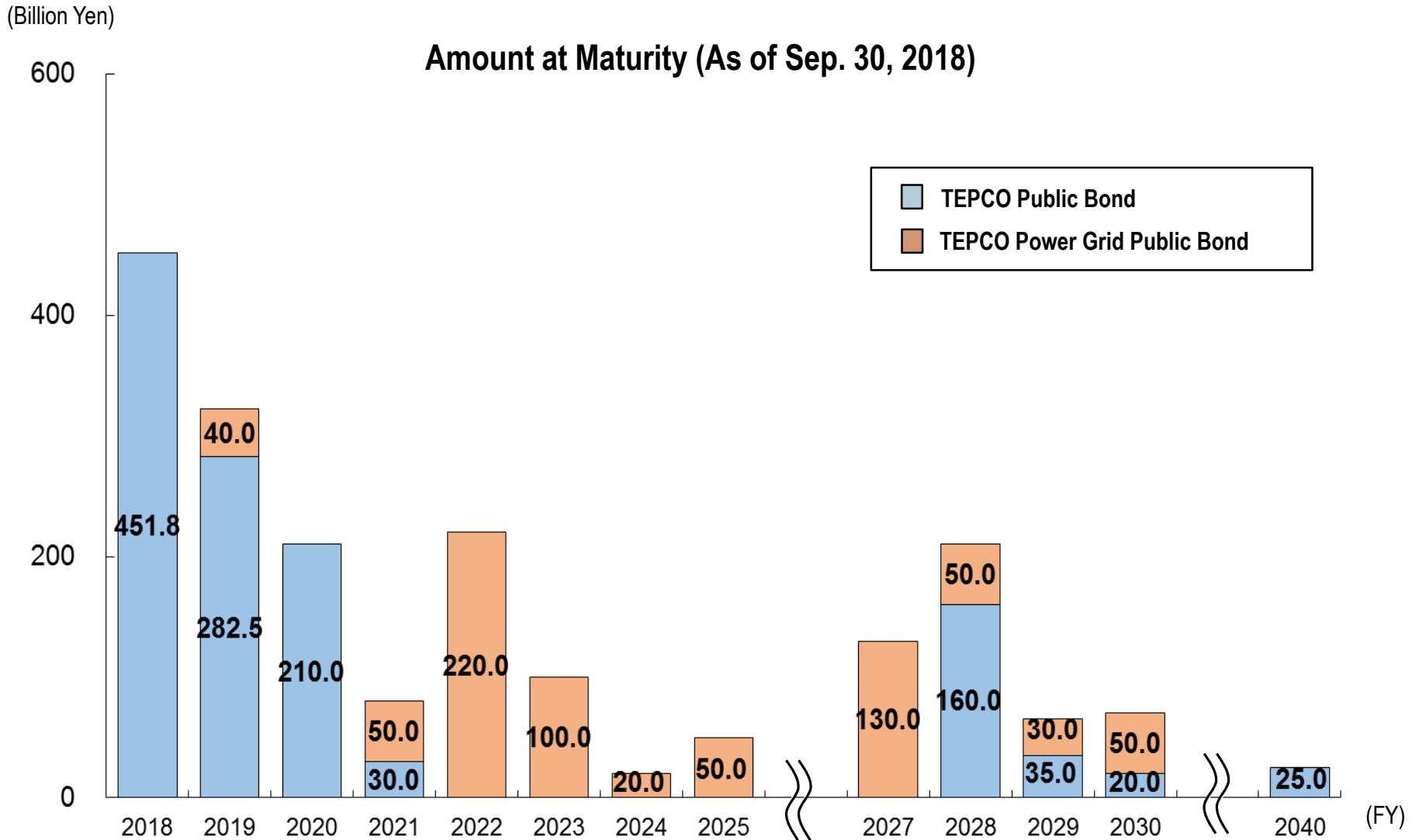
	FY2015	FY2016	FY2017
Australia	6,745	5,667	4,931
Indonesia	1,402	1,920	2,372
Colombia	-	178	554
USA	191	136	444
Russia	210	-	74
Kazakhstan	-	-	83
Canada	-	-	-
<b>Total imports</b>	<b>8,548</b>	<b>7,901</b>	<b>8,457</b>

(FY2018 Apr.- Sep.)



\* Including TEPCO Group Companies

# Schedules for Public Bond Redemption



Note: The amount redeemed for Apr.- Sep. of FY2018 totaled 257.3 billion yen.

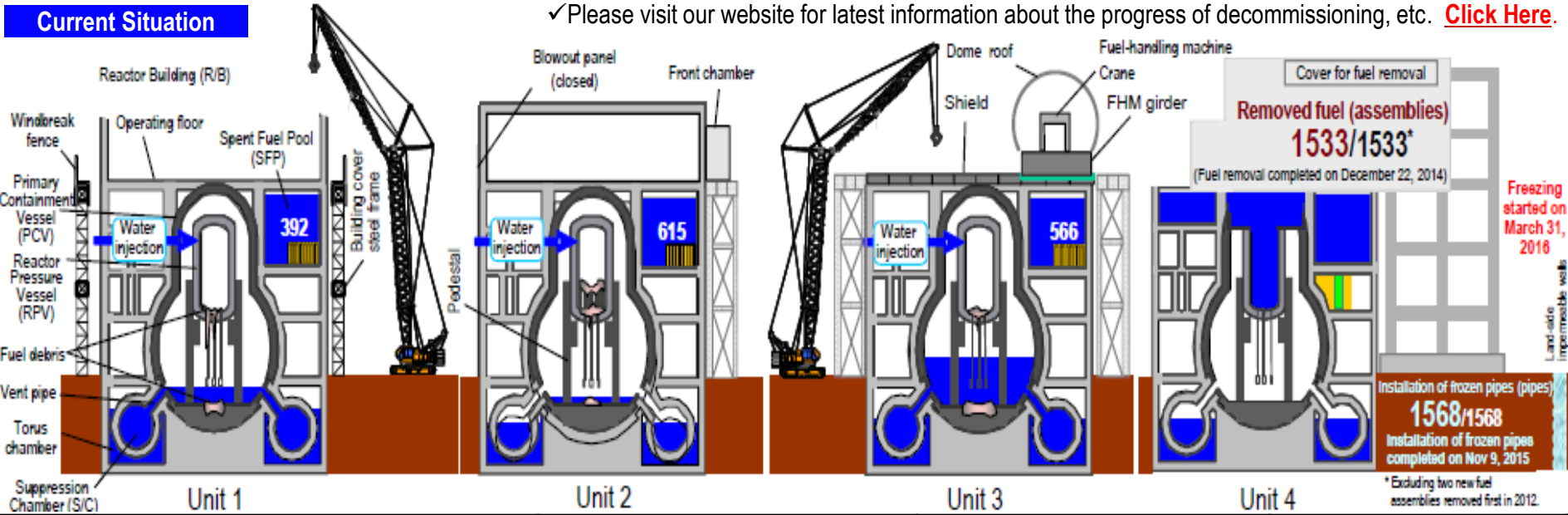
# The Current Status of Fukushima Daiichi Nuclear Power Station and Future Initiatives

# 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.

## Current Situation

✓ Please visit our website for latest information about the progress of decommissioning, etc. [Click Here](#).



<p>Works towards removal of spent fuel and fuel debris</p>	<p>[Spent fuel removal]</p> <ul style="list-style-type: none"> <li>- In order to secure the access route for carrying out preparatory work such as protecting the spent fuel pool, etc., from September 2018 the work of removing the X braces was started and the work of removing the X braces from 1 surface on the west was completed in the same month. The work of removing the X braces from the remaining 3 surfaces (1 surface in the south and 2 surfaces in the east) will continue to be carried out giving highest priority to safety.</li> </ul> <p>[Fuel debris removal]</p> <ul style="list-style-type: none"> <li>- 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.</li> </ul>	<p>[Spent fuel removal]</p> <ul style="list-style-type: none"> <li>- The work of moving and clearing up the objects left over on the operating floor started from August 2018 will be completed in the beginning of November. When it is completed, the survey including up the well of the situation of contamination and facilities on the throughout operating floor will be started on November .</li> </ul> <p>[Fuel debris removal]</p> <ul style="list-style-type: none"> <li>- Since the internal survey of the reactor containment vessel 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.</li> </ul>	<p>[Spent fuel removal]</p> <ul style="list-style-type: none"> <li>- Based on matters of quality control in the procurement collected from malfunction of fuel handling system and crane, the consideration of countermeasures and safety inspection for facilities (operation and facilities check) is conducted.</li> </ul> <p>[Fuel debris removal]</p> <ul style="list-style-type: none"> <li>- 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.</li> </ul>	<p>[Spent fuel removal]</p> <ul style="list-style-type: none"> <li>- Fuel removal from the SFP was completed in December, 2014.</li> </ul>
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● 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 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)

### (2) Fuel removal from pools

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



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

### (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



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 reduce quantity of contaminated water generated. Steadfastly maintain the current policy for handling liquid waste.

### (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”



Based on recommendations, consolidate the “basic approach.”

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

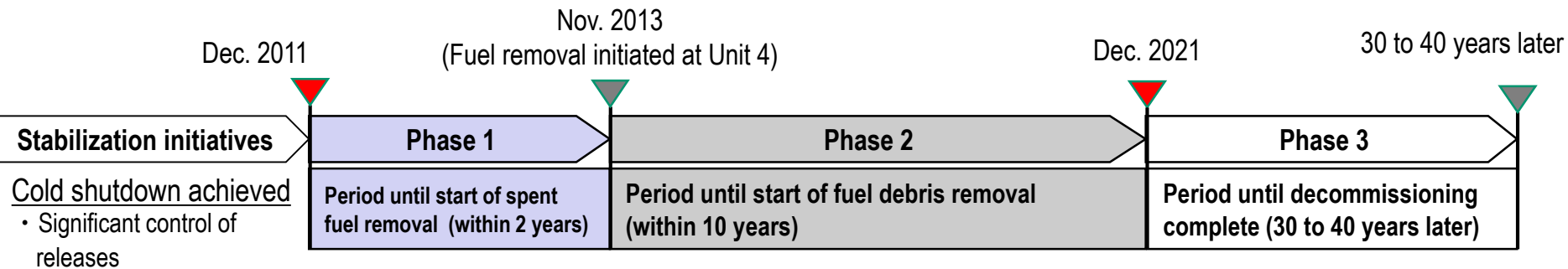
### (5) Communication

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



Further strengthen communication. In addition to meticulous transmission of information, enhance interactive communication.

## Maintain Overall Framework of Decommissioning Schedule



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

<b>Contaminated water countermeasures</b>	Hold quantity of contaminated water generated to 150 m <sup>3</sup> /day	End of 2020
	Store all water cleaned through treatment systems, etc. in welded tanks	FY 2018
<b>Stagnant water treatment</b>	① Cut off all throughholes between Units 1 and 2 as well as Units 3 and 4	End of 2018
	② Reduce 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
<b>Fuel removal</b>	① Start retrieving fuel at Unit 1	Goal of FY 2023
	② Start retrieving fuel at Unit 2	Goal of FY 2023
	③ Start retrieving fuel at Unit 3	Around mid-FY2018
<b>Fuel debris removal</b>	① Finalize method for retrieving fuel debris for first unit	FY 2019
	② Start retrieving fuel debris at first unit	End of 2021
<b>Waste countermeasures</b>	Treatment and disposal policy, and technical prospects pertaining to such safety	Around FY 2021



- 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.

## <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

- The work to circulate and purify stagnant water inside the buildings started on the Units 3/4 side in February 2018 and on the Units 1/2 side in April 2018.

## < Major Progress >

✓ Please visit our website for the latest information. [Click Here.](#)

### Subdrain operation

- Groundwater pumped up through wells near reactor building (Subdrain system) are discharged after purification by dedicated facilities and quality test. (A cumulative total of 618,556 tons of groundwater has been discharged as of 15:00 on October 18, 2018).
- Ground improvement work started in order to control tritium of subdrains. Management of water level is conducted as operational measures. Ground improvement work was started on October, 2018 as facility measures. It will be completed on March, 2019.

### Land-side frozen impermeable walls

- In March 2018, the land-side impermeable walls were considered completed as the underground temperature had declined below 0°C in almost all areas.
- 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.

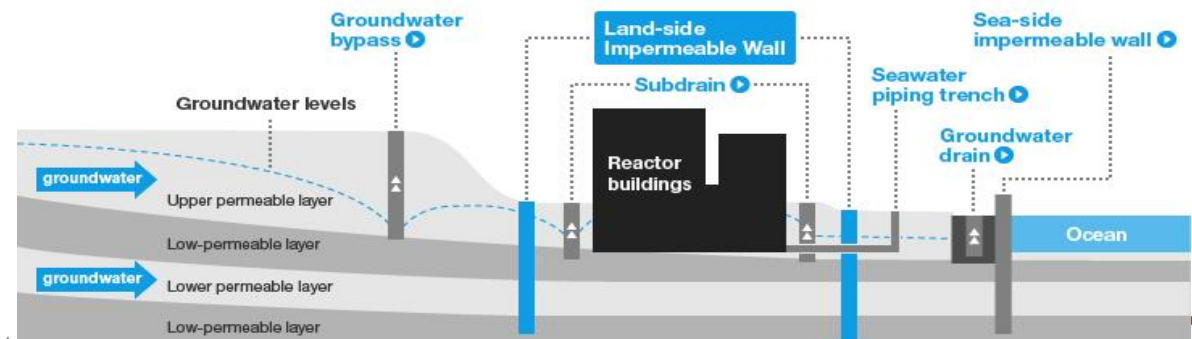
- Investigations and countermeasures will be conducted to further reduce the generated contaminated water.

### Sea-side impermeable walls

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

### Removal of contaminated water in trenches

- The work to remove approx. 10,000 tons of contaminated water from seawater pipe trenches and fill the trenches at Units 2-4 has been completed (December 2015).



# 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.

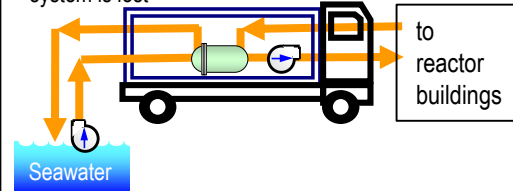
## I. Installation of flooding embankment [banks]

- Install flooding embankment (banks) to prevent Tsunami from invading the site and to protect light oil tanks, buildings and other facilities in the power station



## 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

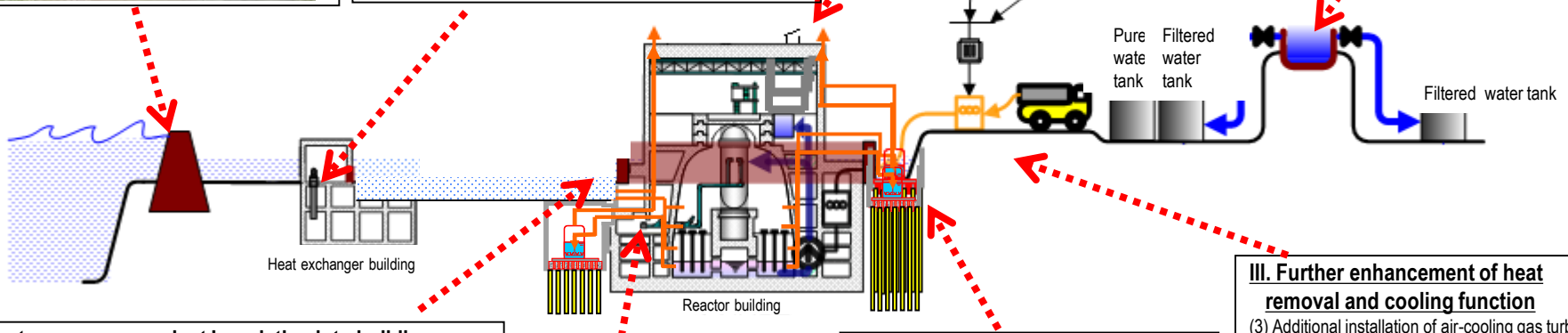


## III. Further enhancement of heat removal and cooling function

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

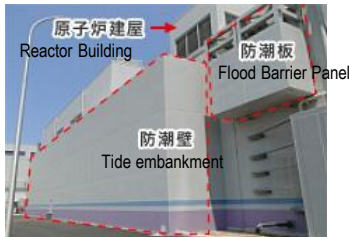
## III. Further enhancement of heat removal and cooling function

- (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



## II. Countermeasures against inundation into buildings

- (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 emergency diesel generators and to secure safety of the power plant



## 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
- 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

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

As of October 10, 2018

Item	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7
I . Installation of flooding embankment [banks]	Completed *2				Completed		
II . Countermeasures against inundation into buildings							
(1) Installation of tide embankments (flood barrier panel included)	Completed	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	Completed						
(4)-2 Installation of permanent cables for reactor buildings	Completed	Completed	Completed	Completed	Completed	Completed	Completed
(5) Installation of alternative submerged pumps and seawater heat exchanging system	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	Under construction	Under construction
(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	Under construction						
(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 Corium Shield	Under consideration	Under consideration	Under consideration	Under consideration	Under consideration	Completed	Completed

\*1 TEPCO's voluntary safety measures \*2 Additional measures are under consideration

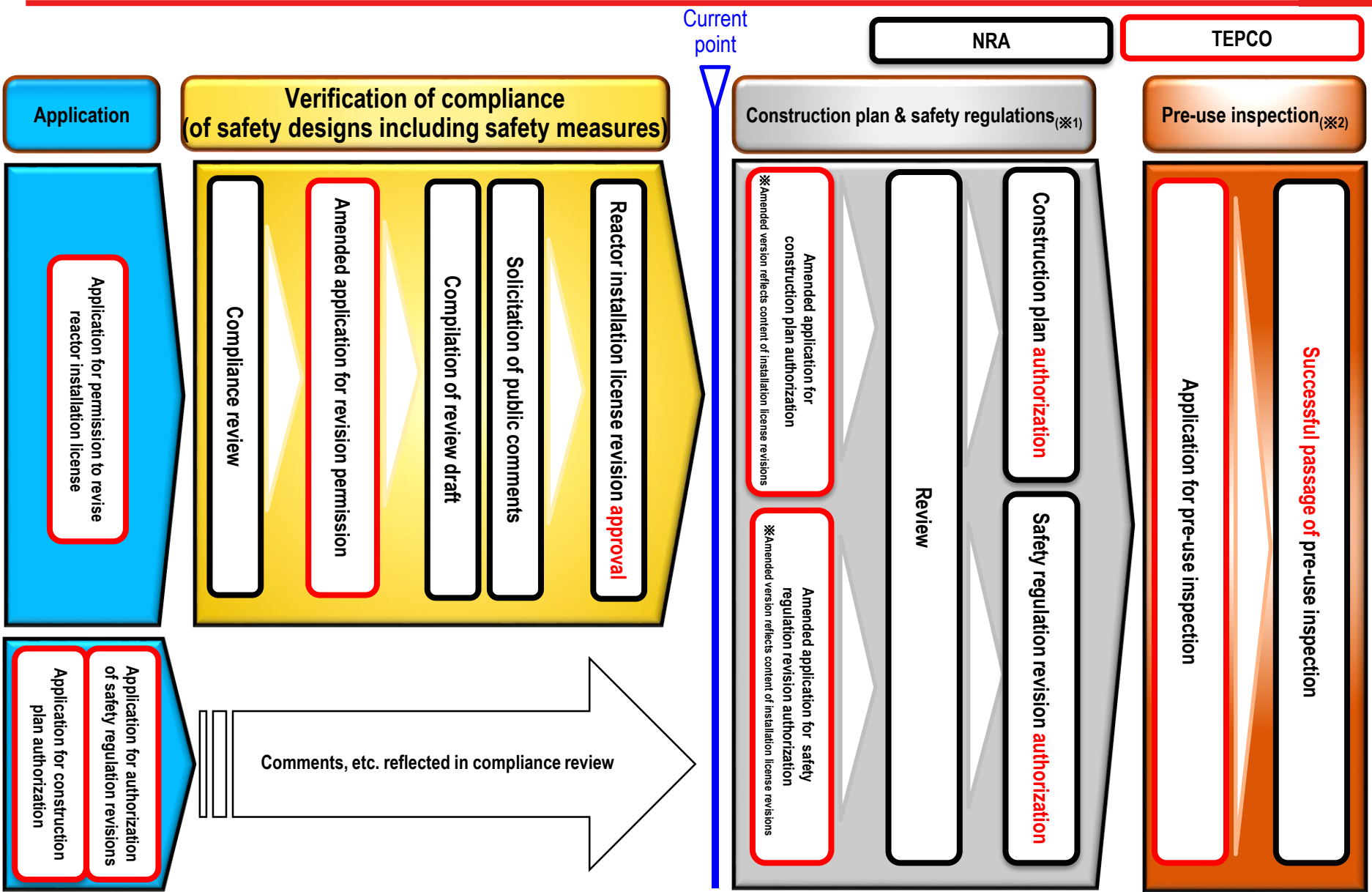
## Latest Review Status

- On September 27, 2013, the applications for permission changes in reactor installation were presented to receive the regulatory standard compliance examination for Units 6 and 7.
- After the application for permission changes in reactor installation 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



※1: Basic matters for safety of a nuclear power plant are stated, which an operator must observe.

※2: Inspection conducted by the central government to verify that construction has been carried out in the manner determined by the construction plan.

# 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.
- Our entire group is working on together toward the achieving the FY2018 cost reduction targets of 809.1 billion yen at TEPCO\*1 and 69.6 billion yen at our subsidiaries and affiliates so as to achieve the set goal.

## <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>

	FY2017 Actual	FY2018	
		Plan	Projections
TEPCO*1	843.6 billion yen	809.1 billion yen	—
Subsidiaries & Affiliated Companies	73.0 billion yen	69.6 billion yen	—

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

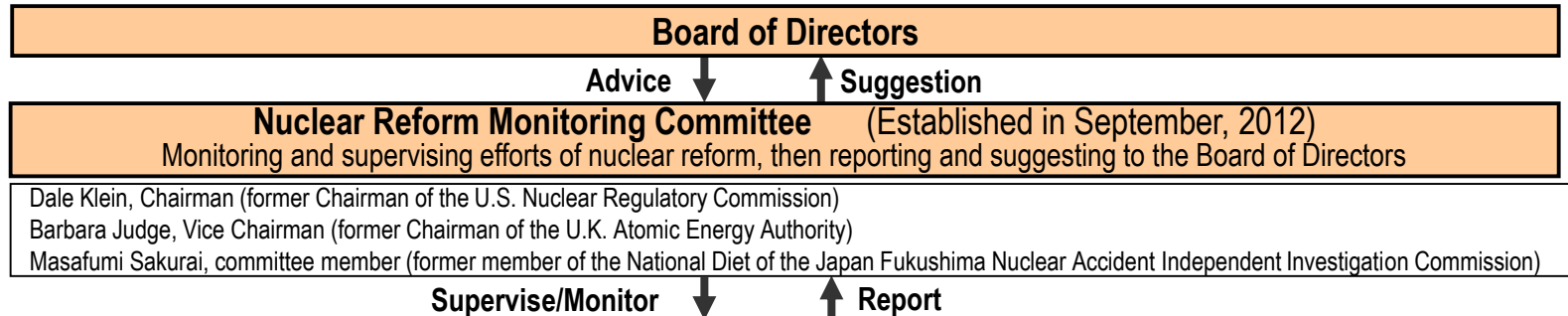
\*2 Cost reductions given in the table were calculated using the pre-earthquake cost plan as the basis.



## - 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>



**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)  
Implementing nuclear reform under the supervision of the Committee.

**Public Communications Office**  
(risk communicators)  
Risk communicators coordinate with power plants' PR officers to provide advice and recommendations to senior management and the Nuclear Power Division from social perspectives. (The Social Communication Office, which served the abovementioned function, became amalgamated with the Public Communications Office in July 2018.)

**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

- ✓ With respect to the Nuclear Safety Reform Plan, in addition to measures to make up for the inadequacies in "safety awareness", "interaction capabilities", "technical capabilities" that were the underlying factors of the accident, and to enhance these factors, initiatives for strengthening the governance across the organization are being undertaken as well.
- ✓ In order to contribute to safety enhancement not only within our company but across the nuclear power industry, we are pro-actively participating in external initiatives aimed at enhancing nuclear safety.

### Recent main initiatives, etc. ※

Initiatives for strengthening governance	<ul style="list-style-type: none"> <li>- Briefings were held jointly by the Head-Office, power stations and the Niigata Headquarters in order to reinforce the understanding and contribution of the staff members with respect to this year's work plan. Each nuclear power leader including the Managing Executive Officer and the Plant Superintendent directly explained the key challenges included in the work plan formulated based on the management model or the business environment surrounding the Nuclear Power Division, and the initiatives to be undertaken by their respective organizations in response to those challenges; and indulged in exchange of opinions.</li> <li>- The managers provided coaching to their subordinates on the management observation technique of accurately understanding challenges by observing the conditions on site, since this technique identifies on-site risks, contributes in taking measures and is effective in on-site engineering work management as well.</li> </ul>
Initiatives for enhancing safety awareness	<ul style="list-style-type: none"> <li>- In order to enhance safety awareness throughout the organization, the nuclear power leaders from the headquarters continued to visit the power stations and interact directly with the site leadership. Discussions were carried out on internal communication and further promotion of work based on the management model.</li> <li>- Mr. Crofts, Director of the Nuclear Safety Oversight Office stepped down from his position of Executive Manager of Nuclear Safety Oversight and will continue to support nuclear safety as an advisor. With the enthusiasm, values and methodology developed under the guidance of Mr. Crofts, the Nuclear Safety Oversight Office will continue to carry out the work of oversight.</li> <li>- The "Competition for reinforcing the ability to make proposals for safety enhancement" was held with the purpose of acquiring technological capability to carry out multi-directional examination from the perspective of defense in-depth, propose largely cost-effective safety measures and implement them quickly.</li> </ul>
Initiatives for enhancing interaction capabilities	<ul style="list-style-type: none"> <li>- The scope of distribution of the magazine "Hairo Michi" that provides information on decommissioning at Fukushima Daiichi is being expanded sequentially by distributing it to all houses in the municipalities in the periphery of Fukushima Daiichi, from where approvals have been gained. We have received comments such as "This has information from the local perspective.", etc.</li> <li>- Virtual Reality Software and devices have been renewed so that the safety measures carried out by the power station can be conveyed in an easy-to-understand manner to those who are unable to directly observe the Kashiwazaki-Kariwa Nuclear Power Station. Contents for presenting a complete picture of the safety measures at the power stations such as videos with CG or 360-degree panoramic videos, animation, etc. are included. We have received good reviews such as "I felt like actually visiting the power station" or "It makes you feel like you are actually there" from those who were able to use these contents.</li> </ul>
Initiatives for enhancing technical capabilities	<ul style="list-style-type: none"> <li>- Efforts will be made to improve the operations such as assigning full-time personnel for information sharing, etc. so that the circumstances during an emergency can be shared between the power station, head-office and the NRA in a timely manner.</li> <li>- At the Nuclear Power Human Resources Development Center, in support of the Chief Reactor Engineer Test, lectures in special domains are held, those who want can organize group study sessions at each site, etc. and activities to support the staff in clearing the test are reinforced. As a result, 8 staff members cleared the written part of the 60th Chief Engineer of Reactors Test conducted in March.</li> </ul>

## <TEPCO Holdings>

- July 26, 2018 "Eruboshi certification" based on the Act on Promotion of Women's Participation and Advancement in the Workplace obtained.
- July 27, 2018 Establishment of the "TEPCO Decommissioning Archive Center", and the center planned to be opened towards the end of November 2018.
- August 21, 2018 As an initiative related to recovering of vegetation at Oze Oshimizu Shitsugen, the financial resources required for planting skunk cabbage are being collected through crowdfunding.
- September 11, 2018 A "Let's discover Fukushima" campaign is being implemented to convey the charm and deliciousness of Fukushima products so as to dispel rumor damage. (period: September 12, 2018 - February 28, 2019)

## <TEPCO Fuel & Power>

- July 17, 2018 The work of replacing the 3rd shaft of the Unit 1 series in Futtsu Thermal Power Station with the purpose of enhancing the power generation efficiency was completed. Power generation efficiency is expected to increase from 47.2% to 51.4%, the annual fuel expenses are expected to decrease by about 0.9 billion JPY and the amount of CO<sub>2</sub> emissions are expected to reduce by about 40,000 t.
- July 26, 2018 "Eruboshi certification" based on the Act on Promotion of Women's Participation and Advancement in the Workplace obtained.
- August 1, 2018 A merger agreement to merge JFE Engineering Corporation, JFE Kankyo Corporation, which is a subsidiary of JFE Engineering Corporation, Tokyo Waterfront Recycle Power, which is a subsidiary of TEPCO Fuel & Power on April 1, 2019 was signed.
- August 3, 2018 The work of replacing the 4th shaft of the Unit 2 series in Futtsu Thermal Power Station with the purpose of enhancing the power generation efficiency was completed. Power generation efficiency is expected to increase from 47.2% to 54.3%, the annual fuel expenses are expected to decrease by about 1.3 billion JPY and the amount of CO<sub>2</sub> emissions are expected to reduce by about 60,000 t.
- September 6, 2018 The Memorandum of Understanding related to joint development and review of the Goi Thermal Power Station Renovation Plan was signed with JERA Co., Inc. and JXTG Nippon Oil & Energy Corporation.
- October 1, 2018 Equis Bioenergy KK has accepted the contract for the operation and maintenance work after start of operation at the biomass power plant developed in Toyama Prefecture and the work of owners engineering support at its design and construction stage.

## <TEPCO Power Grid>

- July 26, 2018 "Eruboshi certification" based on the Act on Promotion of Women's Participation and Advancement in the Workplace obtained.
- August 1, 2018 A Value Engineering proposal related to optimization of the business operations at the Fuji city public sewage works was presented in collaboration with Water Agency Inc., it was chosen by the Fuji city and we entered the sewage business for the first time.
- August 1, 2018 The process of providing a single point of contact for customers regardless of the type of equipment has been started in collaboration with TEPCO Town Planning Co., Ltd. for work that is related to leasing of facilities such as transmission towers, telecommunication towers, utility poles, building rooftops, etc.
- August 20, 2018 An "Agreement related to comprehensive cooperation" was signed with the Shinjuku Ward so as to contribute to the development of the local community by revitalizing the region or resolving regional problems.

## <TEPCO Energy Partner>

- July 26, 2018 "Eruboshi certification" based on the Act on Promotion of Women's Participation and Advancement in the Workplace obtained.
- September 6, 2018 Along with the iOS version, the Android version of the AI based cutting-edge pet monitoring service "Pet Mirun" has started being provided.
- September 19, 2018 As a new option "Secom powered service" has been added to the "Ouchino Anshin Plan", of TEPCO Smart Home, that enables you to monitor your child or your house while you are away.