

# KEPCO Investor Presentation

December 2018



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This presentation material contains certain estimated financial information, including without limitation, certain information relating to KEPCO and its six wholly-owned generation subsidiaries (“GENCOs”) that are presented on a combined basis based on a simple arithmetic sum by adding the non-consolidated information of the non-consolidated information of KEPCO and GENCOs after adjusting for major intercompany transactions among these entities. Such information represents preliminary internal estimates made by the Company based on IFRS. Such information has been neither audited nor reviewed by the Company’s independent accountants or any other independent public accountants, and may differ significantly from the actual results of operations of the Company on a consolidated basis and accordingly should not be relied upon for investment, including but not limited to the purchase of any securities, or for other purposes. By attending this presentation, you are agreeing to be bound by the foregoing limitations.

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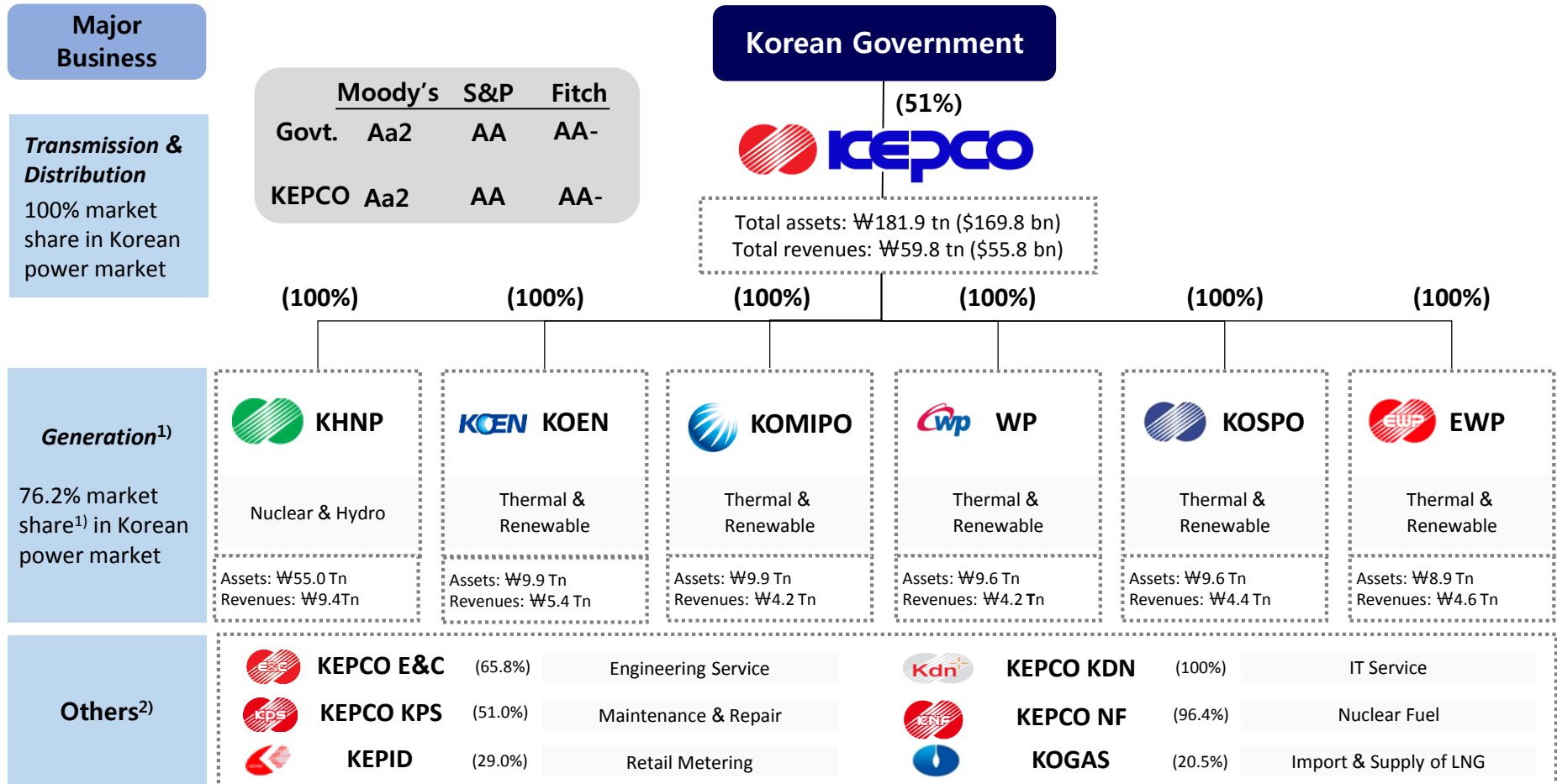
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# I. Company Profile

# Dominant Player in Korea

As of End of 2017 / KRW/USD = 1,071.4



1) Electric power trading volume for 2017: 76.2% or 404,546GWh by 6 GENCOs\*, and 23.8% or 126,386GWh by IPPs

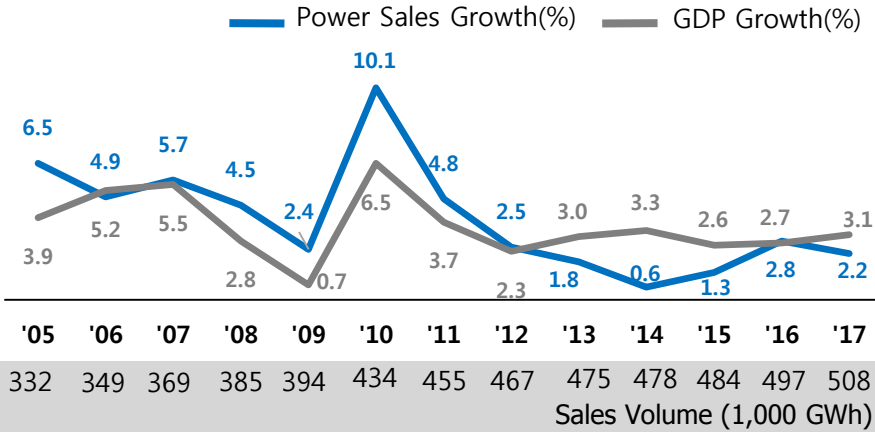
\* KEPCO group generation capacity: 82,132MW

2) Others include major subsidiaries and affiliates of KEPCO other than 6 GENCOs

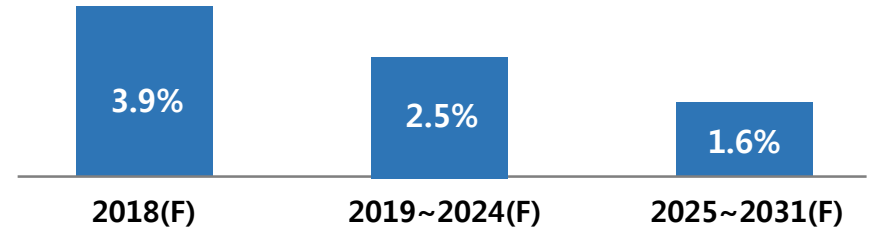
## II. Business & Operation

# Power Sales

## Historical Power Sales & GDP Growth

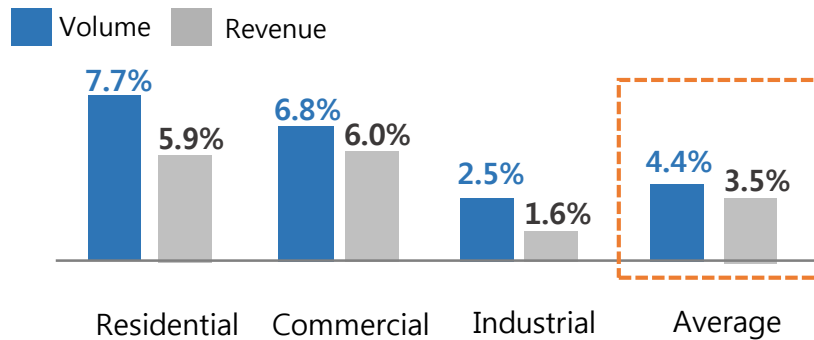


## Power Sales Growth Forecast



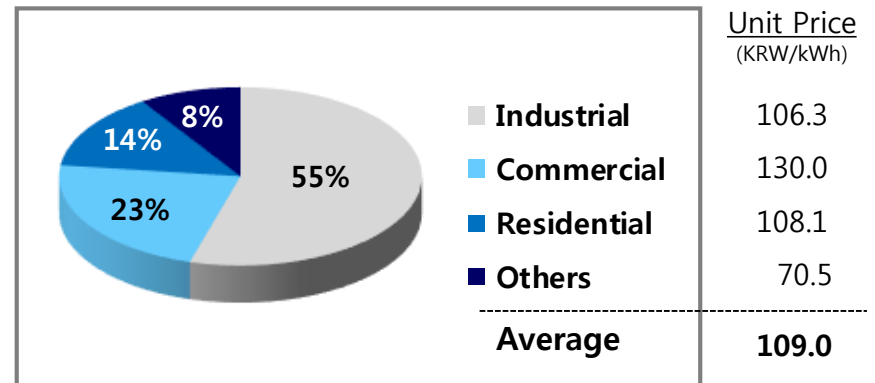
- Based on 2018 GDP growth assumption of 3.0%
- Forecast from 2019: Based on the 8<sup>th</sup> Basic Plan of Long-Term Electricity Supply & Demand by the MOTIE

## Power Sales Growth for 2018 3Q



(Figures based on metering-basis)

## Sales Breakdown for 2018 3Q

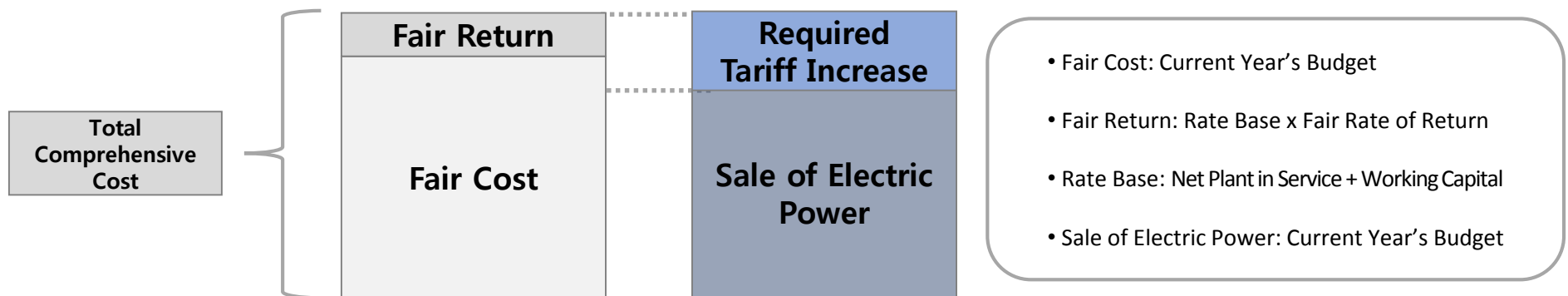


## Historical Tariff Adjustment

Effective	Jan 07	Jan 08	Nov 08	Jun 09	Aug 10	Aug 11	Dec 11	Aug 12	Jan 13	Nov 13	Dec 16
Avg. Change	2.1%	0.0%	4.5%	3.9%	3.5%	4.9%	4.5%	4.9%	4.0%	5.4%	-1.7%
Residential	0.0%	0.0%	0.0%	0.0%	2.0%	2.0%	0.0%	2.7%	2.0%	2.7%	-11.6%
Commercial	0.0%	-3.2%	3.0%	2.3%	0.0%	4.4%	4.5%	4.4%	4.6%	5.8%	0.0%
Industrial	4.2%	1.0%	8.1%	6.5%	5.8%	6.1%	6.5%	6.0%	4.4%	6.4%	0.0%

1. No tariff adjustment has been done since 2016
2. Temporary adjustment on progressive tariff rate was done on July and August 2018 (Eased by 100kWh on each tier)

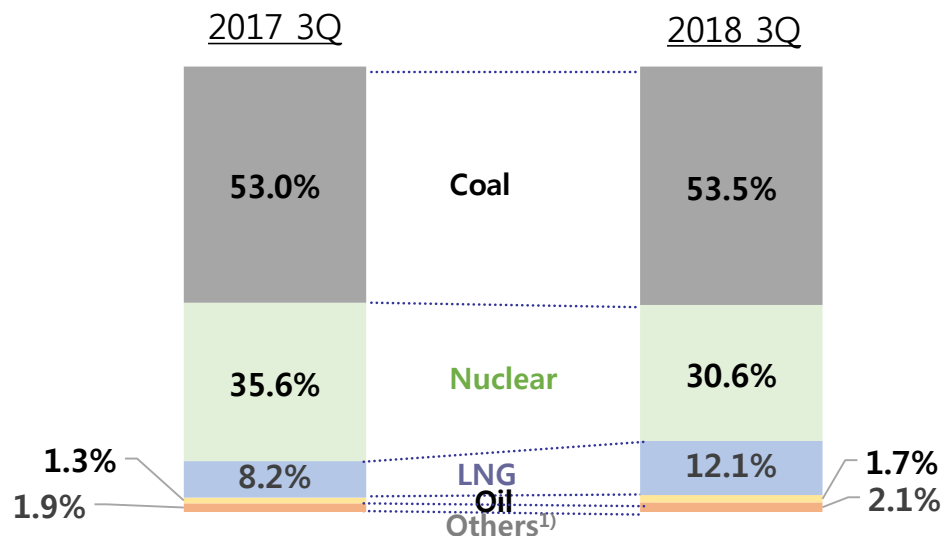
## Tariff Adjustment Formula



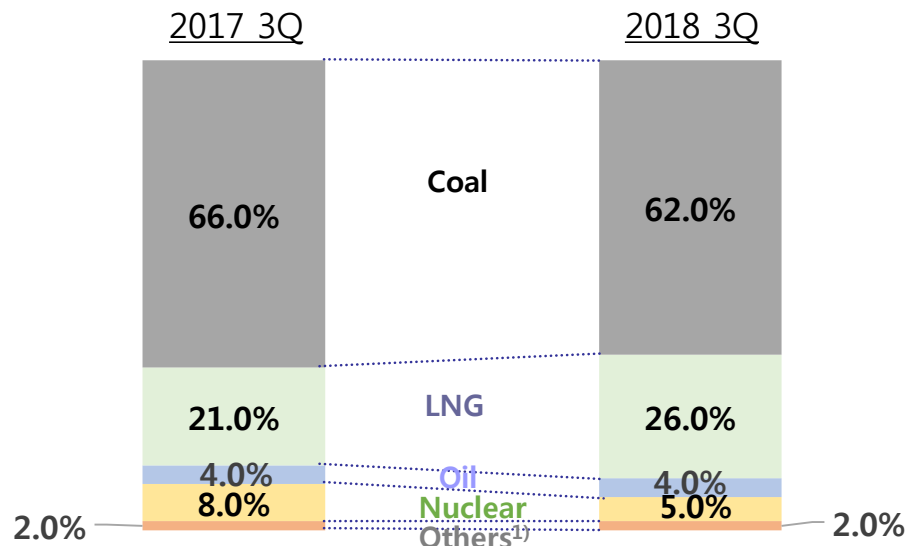


# Fuel Expense

## Generation Mix



## Fuel Cost Mix



## Fuel Expense

### Unit Price & FX Rate

	2017 3Q	2018 3Q	YoY
Coal (KRW 1,000 / Ton)	117.0	130.7	11.8%
LNG (KRW 1,000 / Ton)	656.1	741.1	13.0%
Oil (KRW 1 / Liter)	483.0	538.7	11.5%
Avg. Currency (KRW/USD)	1,146.70	1,112.70	-3.0%

### Fuel Expense

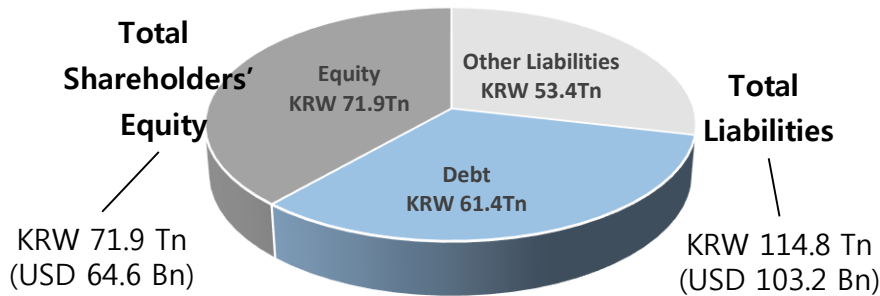
(KRW Bn)	2017 3Q	2018 3Q	YoY
Coal	7,915	9,367	18.3%
LNG	2,482	3,972	60.0%
Oil	468	649	38.7%
Nuclear	923	766	-17.0%
Others <sup>1)</sup>	206	294	42.7%
<b>Total</b>	<b>11,994</b>	<b>15,048</b>	<b>25.5%</b>

1) Hydro, Renewable Energy, etc.

# III. Financials

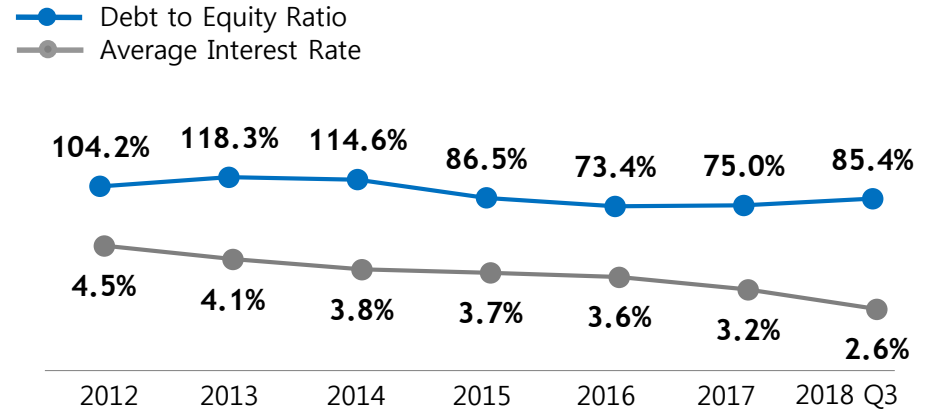
# Capital Structure

## Capital Structure



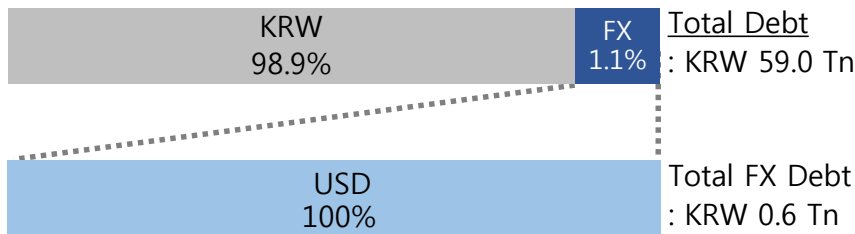
\* Debt: Before-Swap Basis

## Debt Ratio & Interest Rate



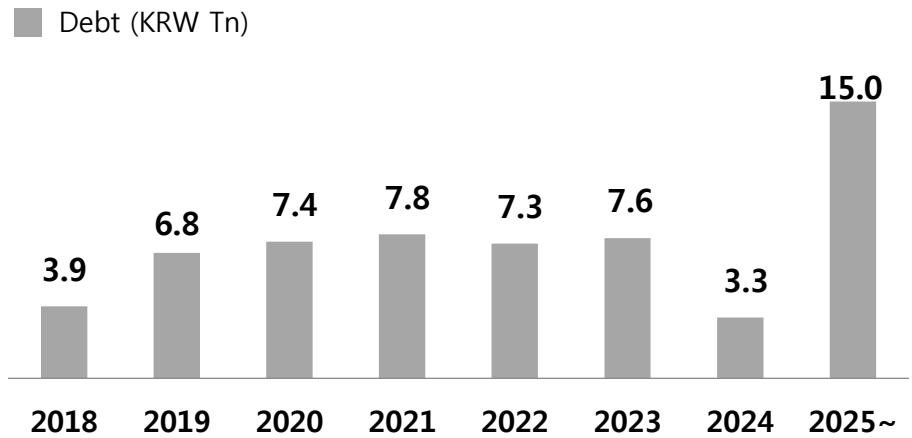
## Debt\*

(KRW Tn)



\* Debt: 1) Fixed : Floating = 99 : 1  
2) KEPCO + 6 GENCOs, After-Swap Basis

## Debt Repayment Schedule



Consolidated Basis, As of End of September 2018  
(KRW/USD=1,112.70)

# 2018 3Q Earnings Results

(KRW Bn)	2017 3Q Cum.	2018 3Q Cum.	YoY
<b>1. OPERATING REVENUE</b>	<b>44,260</b>	<b>45,453</b>	<b>2.7%</b>
Sale of electric power	40,770	42,637	4.6%
Revenues from Other Businesses	3,490	2,816	-19.3%
<b>2. COGS/SG&amp;A EXPENSES</b>	<b>39,177</b>	<b>44,873</b>	<b>14.5%</b>
Fuel	12,000	15,070	25.6%
Purchased Power	10,387	13,363	28.6%
Depreciation	6,446	6,858	6.4%
Maintenance	1,465	1,553	6.0%
Commissions	814	836	2.7%
Research & development	499	496	-0.6%
Other operating expenses	7,566	6,697	-11.5%
<b>3. OPERATING INCOME(LOSS)</b>	<b>5,083</b>	<b>581</b>	<b>-88.6%</b>
4. OTHER REVENUES	273	260	-4.8%
5. OTHER EXPENSES	83	118	42.1%
6. OTHER INCOME(LOSS)	151	-548	-462.3%
7. FINANCE INCOME(LOSS)	-1,171	-1,306	-11.5%
8. EQUITY INCOME(LOSS) OF AFFILIATES	-93	278	-400.0%
9. INCOME BEFORE INCOME TAX	4,160	-854	-120.5%
10. INCOME TAX EXPENSES	1,372	-422	-130.8%
<b>11. NET INCOME (LOSS)</b>	<b>2,788</b>	<b>-432</b>	<b>-115.5%</b>
12. CONTROLLING INTEREST	2,687	-518	-119.3%
13. NON CONTROLLING INTEREST	101	86	-14.8%

## Major Factors of YoY Change

- Operating revenue of W45.5 tn in 2018 3Q, a 2.7% increase from W44.3tn in 2017 3Q**
  - ✓ Power sales up by 4.6%, overseas revenues down by 19.3%
  - ✓ Revenues from UAE NPP business decreased
- Fuel cost and purchased power cost of W28.4 tn in 2018 3Q, a 26.8% rise from W22.4tn in 2018 Q3**
  - ✓ Average unit cost of fuel and purchased power went up 27.5%, and 28.6%, respectively, mainly affected by a decrease in utilization ratio of our nuclear power plants and international fuel price hike.
  - ✓ Capacity of nuclear power plant decreased as Wolsong#1 is decided to be scrapped.
- Operating income of W0.5tn in 2018 Q3, a 88.6% decrease from operating income of W5.1tn in 2018 Q3**
  - ✓ Decrease in operating income Yoy mainly resulted from increases in fuel cost & purchased power.
  - ✓ Increase in power sales due to heatwave in summer.
- Net loss of W0.4tn in 2018 3Q, a 115.5% decrease from net income of W2.8tn in 2018 3Q**

# 2017 Earnings Results

Financials

(KRW Bn)	2016	2017	YoY
<b>1. OPERATING REVENUE</b>	<b>60,190</b>	<b>59,815</b>	<b>-0.6%</b>
Sale of electric power	54,305	54,650	0.6%
Revenues from Other Businesses	5,886	5,165	-12.2%
<b>2. COGS/SG&amp;A EXPENSES</b>	<b>48,189</b>	<b>54,862</b>	<b>13.8%</b>
Fuel	14,067	16,525	17.5%
Purchased Power	10,756	14,264	32.6%
Depreciation	7,869	8,697	10.5%
Maintenance	1,972	2,111	7.1%
Commissions	1,029	1,143	11.1%
Research & development	706	722	2.3%
Other operating expenses	11,791	11,400	-3.3%
<b>3. OPERATING INCOME(LOSS)</b>	<b>12,002</b>	<b>4,953</b>	<b>-58.7%</b>
4. OTHER REVENUES	413	390	-5.5%
5. OTHER EXPENSES	189	180	-4.5%
6. OTHER INCOME(LOSS)	71	156	122.1%
7. FINANCE INCOME(LOSS)	-1,646	-1,597	3.0%
8. EQUITY INCOME(LOSS) OF AFFILIATES	-137	-108	21.0%
9. INCOME BEFORE INCOME TAX	10,513	3,614	-66.0%
10. INCOME TAX EXPENSES	3,365	2,173	-35.4%
<b>11. NET INCOME (LOSS)</b>	<b>7,148</b>	<b>1,441</b>	<b>-79.8%</b>
12. CONTROLLING INTEREST	7,081	1,299	-81.7%
13. NON CONTROLLING INTEREST	67	143	43.1%

## Major Factors of YoY Change

- **Operating revenue of W59.8 tn in 2017, a 0.6% decrease from W60.2 tn in 2016**

- ✓ Despite a 2.2% increase in power sales volume, average unit sales price decreased 1.5% mainly due to the adjustment of a progressive rate structure for the residential use.

- **Fuel cost and purchased power cost of W30.8 tn in 2017, a 24.8% rise from W24.8 tn in 2016**

- ✓ Average unit cost of fuel and purchased power went up 19.7%, and 9.1%, respectively, mainly affected by a decrease in utilization ratio of our nuclear power plants and international fuel price hike.

- **Operating income of W5.0 tn in 2017, a 58.7% decrease from W12.0 tn in 2016**

- ✓ Mainly resulting from increases in sale of electric power by W0.35 tn, fuel cost & purchased power by W5.97 tn, and depreciation & other operating costs by W1.55 tn, etc.

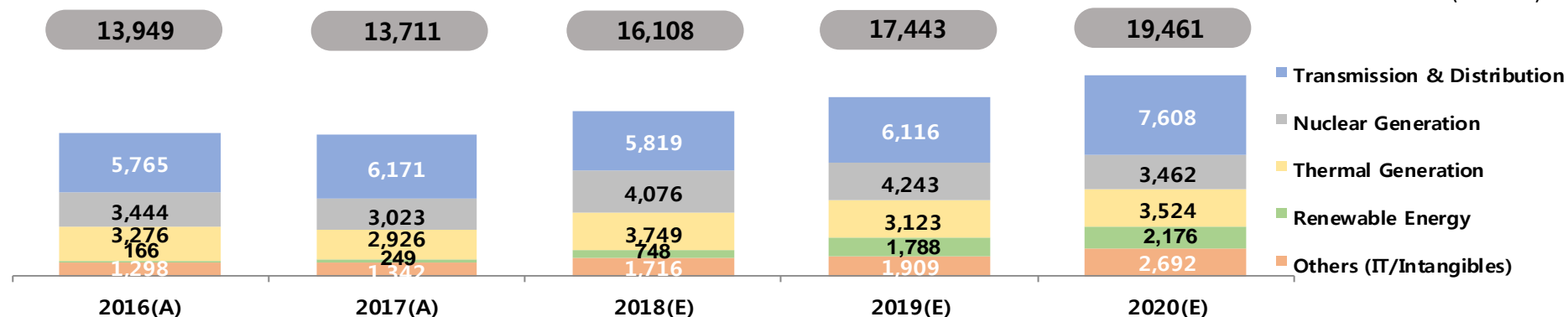
- **Net income of W1.4 tn in 2017, a 79.8% decrease from W7.1 tn in 2016**

# Investment Plan

Financials

## Capital Expenditure Projection (KEPCO + 6 GENCOs)

(KRW Bn)



## Capacity Addition Plan

(Unit : MW)		Current Capacity		Net Increase <sup>2)</sup>							Future Capacity	
		End of 2017	%	2018	2019	2020	2021	2022	2023-2030	Total	End of 2030	%
KEPCO Group	Nuclear <sup>1)</sup>	22,529(24)	19%	2,121	1,400	-	-	1,400	-7,050	-2,129(-6)	20,400(18)	12%
	Coal	34,125	29%	186	-320	1,000	-500	-1,000	-2,120	-2,754	31,371	20%
	L N G	16,018	14%	240	905	125	-	-	320	1,590	17,608	10%
	Oil	3,289	3%	-	-160	-	-	-1,200	-1,400	-2,760	529	1%
	Renewable <sup>3)</sup>	6,171	5%				TBD				-	-
	Sub-total	82,132	70%	2,547	1,825	1,125	-500	-800	-10,250	-6,053	69,908	43%
IPP	Thermal	25,270	22%	121	1,466	2,085	3,130	3,130	5,090	15,022	40,292	22%
	Renewable <sup>3)</sup>	9,505	8%				TBD				-	-
Sub-total		116,907	100%	2,668	3,291	3,675	2,630	2,330	-5,160	8,969	110,200	65%
Renewable		16,016		1,695	2,350	2,400	2,690	2,890	35,120	47,145	63,161	35%
Total											173,361	100%

1) ( ): Number of Nuclear Units

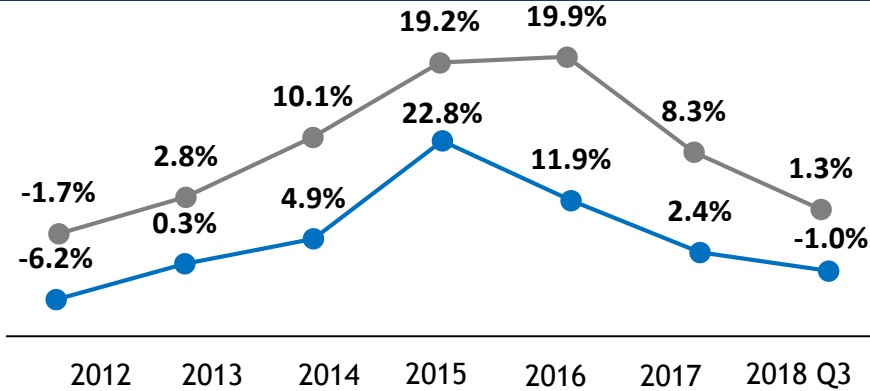
2) Based on the 8<sup>th</sup> Basic Plan for Long-Term Electricity Supply and Demand announced in Dec 2017.

3) LNG Addition Assumption: IPP 100

4) Capacity of Renewable is in Nominal

# Major Financial Ratios

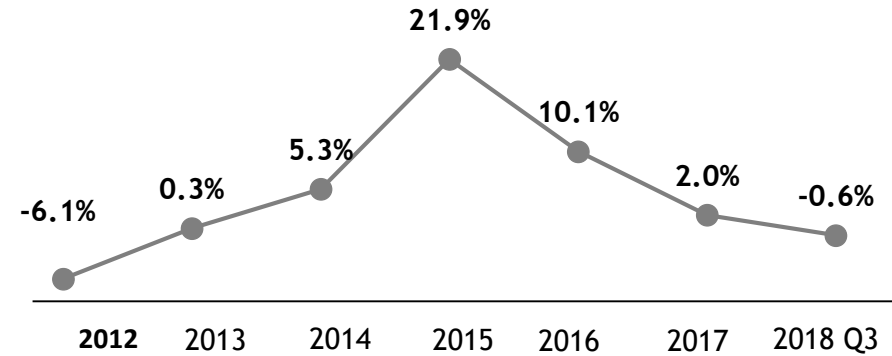
## Operating Profit Margin<sup>1)</sup> & Net Profit Margin<sup>2)</sup>



1) Operating Profit Margin: Operating Income / Sales Revenue

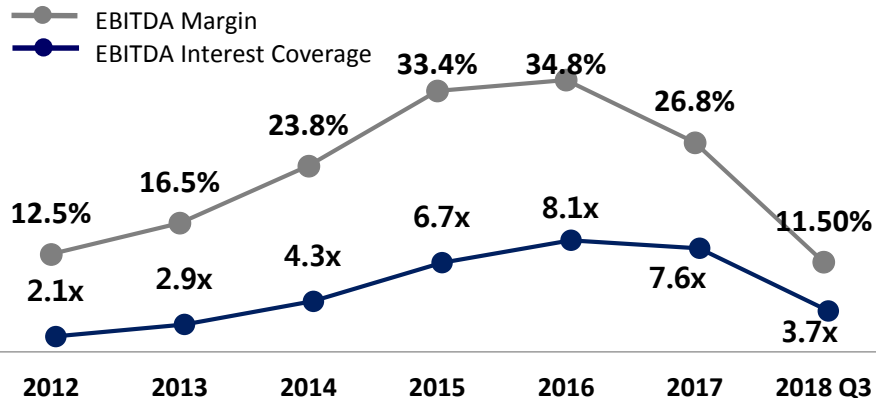
2) Net Profit Margin: Net Income / Sales Revenue

## Return on Equity (ROE)<sup>5)</sup>



5) ROE: Net Income(excluding NCI) / Average Equity(excluding NCI)

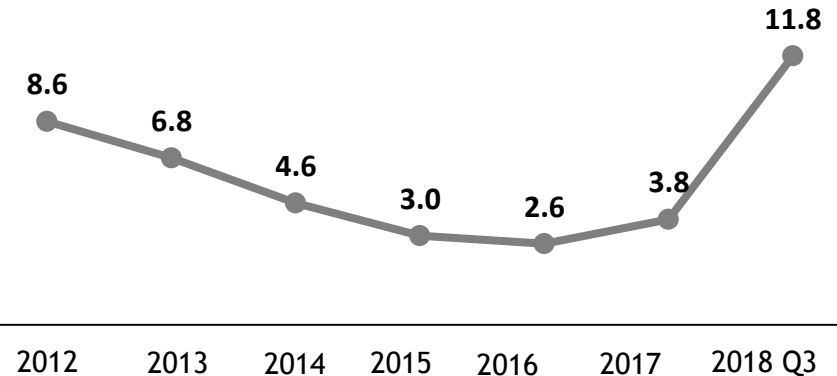
## EBITDA Margin<sup>3)</sup> & Interest Coverage Ratio<sup>4)</sup>



3) EBITDA Margin: EBITDA / Sales Revenue

4) Interest Coverage Ratio: EBITDA / Interest Expense

## DEBT/EBITDA



(Ratios: Consolidated Basis)

# IV. Overseas Business



# Overseas Business – 24 Countries 39 Projects

Overseas Business



# Overseas Business – 24Countries 39Projects

Overseas Business

## Generation (21Projects)

Projects in Operation				Total Capacity(MW)	KEPCO Capacity(MW)	Period
Philippines	Ilijan	BOT	Combined-cycle plant	1,200	612	Jun-02 ~ Jun-22
Philippines	Cebu	BOO	Coal-fired plant	200	120	Jun-11 ~ Jun-36
Philippines	SPC(Naga)	M&A	Coal-fired/Diesel plant	277	111	Feb-06 ~
China	Wind Project	BOO	Wind power plant	1,314	526	Dec-06 ~ Jun-26
China	Shanxi	BOO	Coal-fired plant	9,135	3,106	Apr-07 ~ Apr-57
China	Liaoning	BOO	Photovoltaic power	7	3	-
Jordan	Al Qatrana	BOO	Gas-fired plant	373	298	Jan-11 ~ Jan-36
Jordan	Amman	BOO	Diesel-fired plant	573	344	Aug-14 ~ Aug-39
Saudi Arabia	Rabigh	BOO	Oil-fired plant	1,204	482	Apr-13 ~ Apr-33
Mexico	Norte 2	BOO	Gas-fired plant	433	242	Dec-13 ~ Dec-38
Nigeria	Egbin	O&M	Gas-fired plant	-	-	Nov-13 ~ Nov-18
USA	Colorado	M&Q/BOO	Photovoltaic power	30	15	Apr-17 ~ Mar-31
USA	California	M&Q/BOO	Photovoltaic power	235	117.5	Mar-18 ~ Aug-52
UAE	Shuweihat S3	BOO	Gas-fired plant	1,600	314	Jul-14 ~ Jul-39
UAE	Barakah Nuclear	EPC/O&M	Nuclear power plant	5,600	1,008	Dec-09 ~ May-77
Japan	Chitose	BOO	Photovoltaic power	28	22	Jul-17 ~ Jul-42
Jordan	Fujeij	BOO	Wind power plant	89	89	-
Vietnam	Nghi Son	BOT	Coal-fired plant	1,200	600	Jul-22 ~ Jul-47
				<b>23,201</b>	<b>7,891</b>	
South Africa	Thabametsi	BOO	Coal-fired plant	630	154	On-Going
USA	Guam	BOO	Photovoltaic power	60	42	
Malaysia	Pulau Indah	BOO	Gas-fired plant	1,200	300	

**E&P (1Project) : Australia Bylong Coal Project**

**T&D (22Projects) : T&D and Smart Grid Consulting in Nigeria, Dominica, etc.**

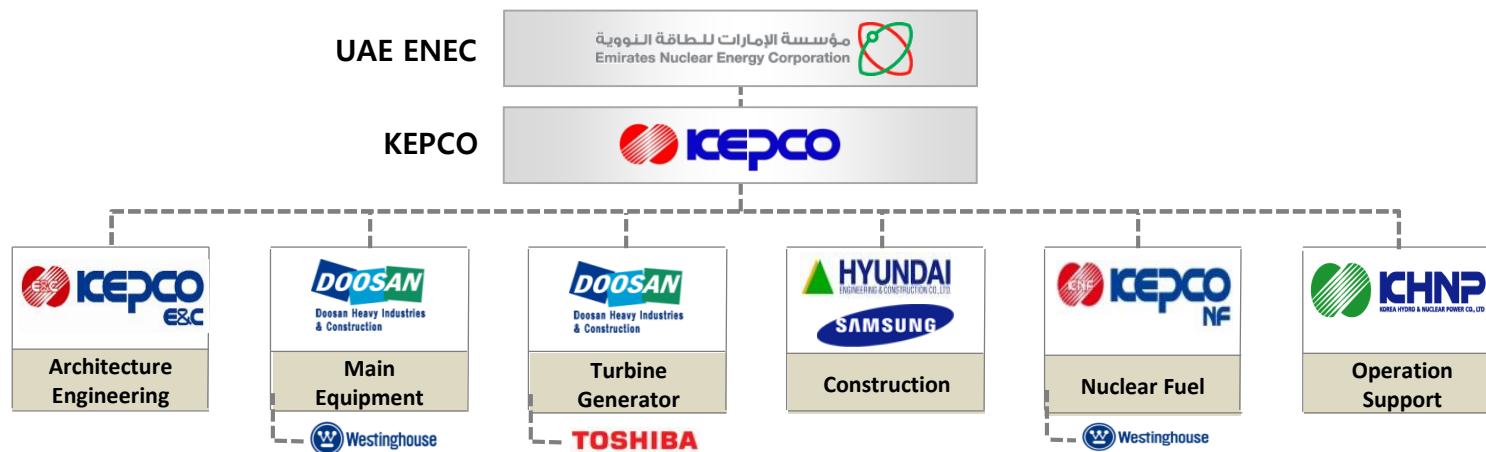
(As of End of Sep. 2018)

# Overseas Business – UAE Nuclear Project

## Project Overview

- **Project Capacity:** 5,600MW (APR\* 1400 4 units)
- **Contract Amount:** USD19.1 Bn (Subject to change based on price escalation provisions)
- **Contract Term:** Dec. 2009 to Dec. 2020
- **Scope of Major Services:** Design and construction of 4 nuclear units, supply of nuclear fuel, technical support, training and education

## Key Contract Parties and Functions



\* APR(Advanced Power Reactor)

# Appendix

## General Information

(As of End of Sep. 2018)

<b>Incorporation:</b> January 26, 1898
<b>Contributed Capital:</b> KRW 4.1 trillion (USD 3.4 billion)
<b>Major Business:</b> Supply of Electric Power (Generation, Transmission & Distribution)
<b>Fiscal Year:</b> From January 1 to December 31
<b>Number of Employees:</b> 47,351 (KEPCO + 6 GENCOs)
<b>Head Office:</b> 55 Jeollyeok-ro, Naju-si, Jeollanam-do, South Korea
<b>Homepage:</b> www.kepco.co.kr

## Shareholders & Listing Status

(As of Jun.4th 2018)

<b>Korean Government</b> 51%	<b>KDB</b>	<b>33%</b>	<b>Underlying Shares</b>  Korea Stock Exchange Listing: August 1989 Ticker: 015760 KS
	<b>Korean Government</b>	<b>18%</b>	
<b>Others</b>		<b>20%</b>	
<b>Foreigners</b> 29%	<b>Underlying</b>	<b>24%</b>	
	<b>ADR</b>	<b>5%</b>	
<b>Shares Listed: 641,964,077</b>		<b>100%</b>	<b>ADR</b>  New York Stock Exchange Listing: October 1994 Ticker: KEP US

\* Underlying Shares: ADR = 1:2

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