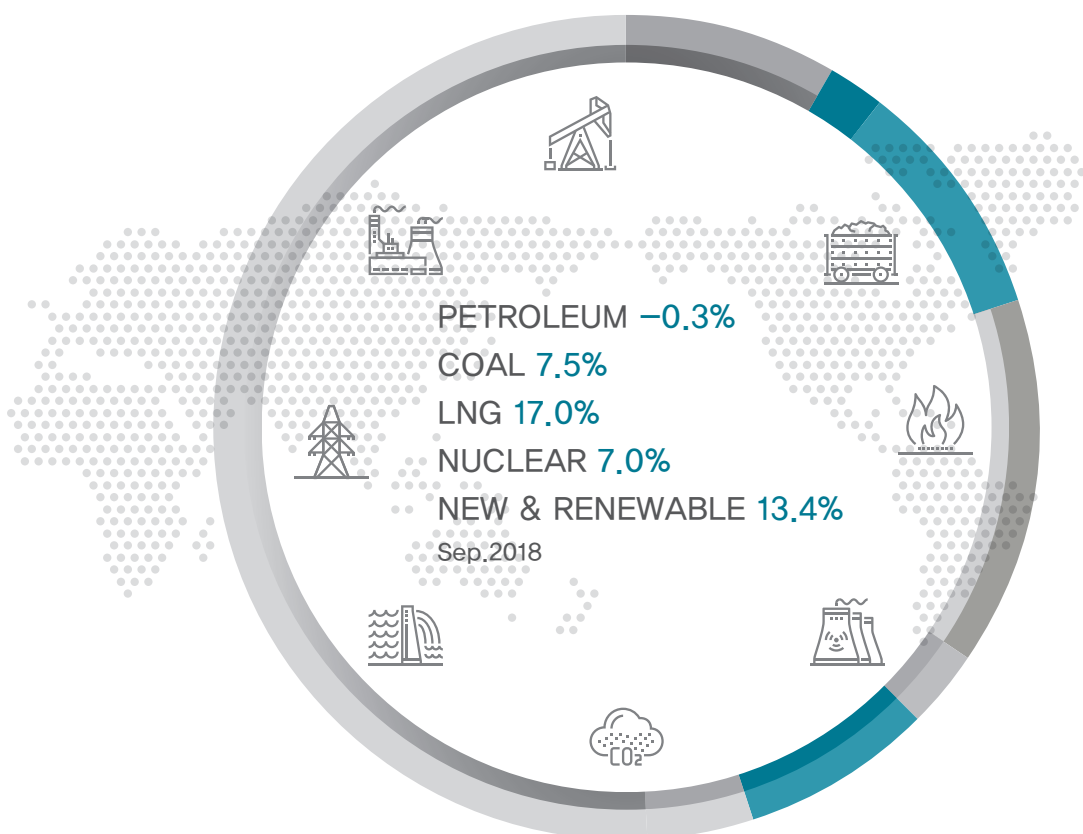


# KEEI

## MONTHLY KOREA ENERGY TRENDS



# Table of Contents

1. The Economy and the Industry .....	4
2. Energy Prices.....	5
3. Energy Supply .....	9
4. Energy Consumption .....	10
5. Coal .....	12
6. Petroleum .....	13
7. Gas.....	14
8. Electricity .....	15
9. Nuclear.....	16
10. Heat and Renewable energy .....	17
11. Industry .....	18
12. Transport.....	19
13. Buildings.....	20
14. Transformation.....	21
<Appendix> Major Indicators & Statistics of Energy Supply and Demand.....	22

# 1. The Economy and the Industry

- **Gross Domestic Product(“GDP”) was up 2.0% year-on-year in 3Q despite faster decline in investment, as private spending increased moderately.**
  - The private spending went up by 2.5% in 3Q from the same quarter last year due to the increased retail sales. The construction investment fell by 8.9% year-on-year, owing to a drop in total value of orders, and the facility investment fell more sharply (-7.4%).
- **The total export value declined by 8.1% year-on-year in September due to the base effect of a surge during the same month last year and fewer work days.**
  - The total export value fell for the first time in three months due to the base effect of an all-time high record (34.9%) during the same month last year as a result of strong performance of the semi-conductor, automobile, petroleum & petrochemical sectors. In addition, fewer work days with Chuseok (-4.0), Korean Thanksgiving, also caused a drop in the export value.
- **The production index of manufacturing industry was down 8.9%, partly because of the reduced production of major export goods. The service production index also dropped by 1.5%.**
  - The manufacturing production index decreased after a three-month increase, because of reduced outputs of all major export items except semi-conductors, which includes iron & steel products (-7.2%), automobiles (-15.2%), basic chemical materials (-0.2%) as well as decreased cement production (-22.9%) amid a weak construction market.
  - The service production index declined for the first time in 11 months despite steady growth in the health & social welfare sector (8.2%), as the production started to decline in the wholesale & retail sector (-4.7%) and declined even faster in the restaurant & accommodation sector (-3.9%).

## ► Trend in major economic and industrial indicators

	2016 년		2017 년			2018 년		
			7 월	8 월	9 월	7 월	8 월	9 월
GDP (trillion won)	1 509.8 (2.9)	1 556.0 (3.1)	- -	- -	392.6 (3.8)	- -	- -	400.3 (2.0)
Total export (\$billion, customs clearance basis)	495.4 (-5.9)	573.7 (15.8)	48.8 (19.4)	47.1 (17.4)	55.1 (34.9)	51.8 (6.1)	51.2 (8.7)	50.6 (-8.1)
Petroleum products	62.2 (-1.1)	97.9 (57.4)	7.9 (57.7)	8.8 (56.7)	9.7 (69.9)	10.4 (31.6)	11.5 (31.5)	12.4 (28.3)
steel	28.5 (-5.5)	34.2 (19.9)	2.6 (10.5)	2.6 (13.3)	4.7 (106.7)	3.5 (33.7)	3.2 (20.6)	2.6 (-43.7)
Mining and manufacturing production index (2015=100)	102.3 (2.3)	104.2 (1.8)	104.8 (1.6)	100.8 (2.3)	108.9 (10.0)	105.9 (1.1)	103.3 (2.5)	99.7 (-8.4)
Service production index (2015=100))	102.6 (2.6)	104.5 (1.8)	103.5 (1.4)	103.9 (1.5)	107.5 (4.8)	105.8 (2.2)	105.6 (1.6)	105.9 (-1.5)

Note: Figures are based on the real price of 2010, P means provisional, ( ) is year-on-year growth rates (%)  
Source: Korea International Trade Association, Korea Statistical Information Service

## 2. Energy Prices

### Global energy prices

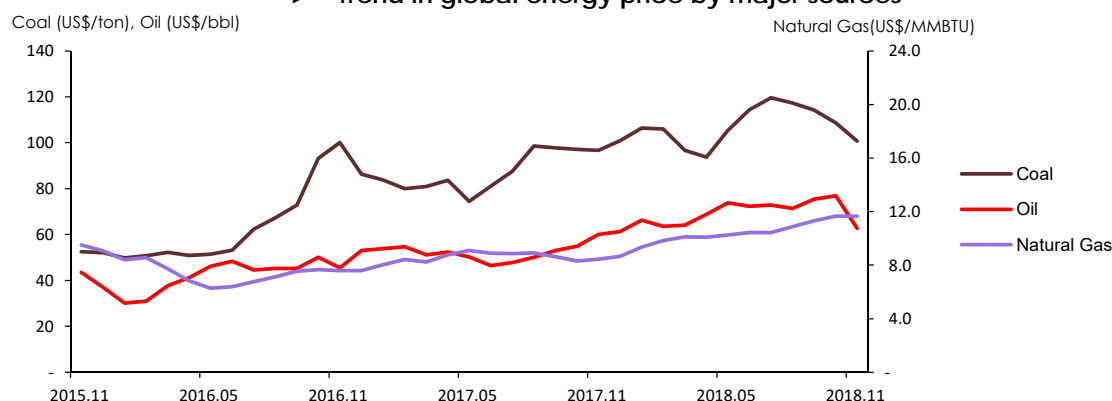
- **Global oil price fell by around 20% in November from the previous month, following the U.S. announcement that some Iranian oil importers will be exempted from its sanctions.**
  - The U.S. government resumed the economic sanctions on Iran from November 5<sup>th</sup>, however, eight countries that steadily cut down on the import of Iranian oil were granted an exemption for six-month period.
  - Growing concerns over a global economic slowdown triggered by the U.S.-China trade disputes along with increased crude inventory in the U.S. have also caused the oil price decrease.
- **Coal price has declined for four consecutive months until November, while natural gas price stayed at the same level as the previous month.**
  - Coal price has been continuously falling, as China, which takes about half of global coal demand, has been expanding domestic production while limiting coal import.

► Trend in global energy prices

	2016	2017				2018		
			M9	M10	M11		M9	M10
Crude oil (US\$/bbl)	43.3	53.0	53.0	54.9	60.1	75.5	76.9	62.7
	(-15.2)	(22.4)	(17.1)	(9.6)	(31.9)	(42.4)	(40.1)	(4.4)
Natural gas (US\$/MMBTU)	7.4	8.6	8.6	8.3	8.5	11.3	11.7	11.7
	(-32.5)	(16.8)	(14.6)	(8.6)	(11.3)	(30.8)	(40.3)	(38.0)
Coal (US\$/ton)	65.9	88.5	97.8	97.1	96.6	114.2	108.7	100.7
	(14.7)	(34.3)	(34.2)	(4.2)	(-3.4)	(16.7)	(12.0)	(4.2)

Note: Global oil price is the average of the three benchmarks; Brent, Dubai, WTI. Natural gas and coal prices are based on Japan's LNG importing price from Indonesia (CIF) and the price of Australian coal. ( ) is year-on-year growth rates (%)  
Source: www.petronet.co.kr, World Bank(Commodity Markets)

► Trend in global energy price by major sources



## Domestic energy prices

- **The prices of gasoline and diesel fell by 6.0% and 4.1% year-on-year in November partly because of the government's fuel tax cut.**
  - The government announced 15% tax cut on fuel products for six months from Nov 6<sup>th</sup> in order to alleviate the impact of oil price hikes on the economy and to stabilize peoples' livelihood.
  - The global oil price fluctuation in November was also another contributing factor to the domestic gasoline and diesel price decline.
- **The price of propane was unchanged from the previous month in November, while that of butane dropped by 2.5% owing to the fuel tax cut.**
  - The price of butane for transport is forecast to decrease by 30won/liter following the governments fuel tax cut.

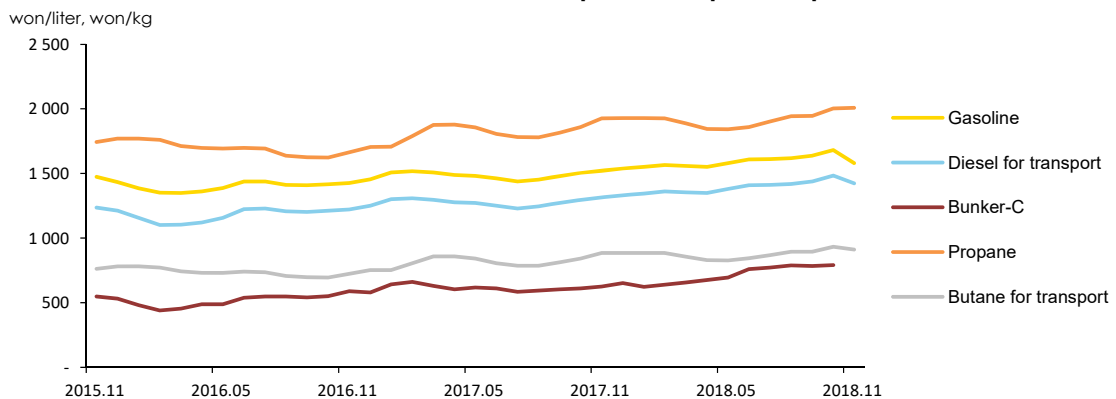
### ► Trend in domestic energy prices

	2016	2017				2018		
			M9	M10	M11	M9	M10	M11
Gasoline (won/liter)	1 402.9 (-7.1)	1 491.4 (6.3)	1 479.7 (5.1)	1 504.5 (6.2)	1 521.1 (6.6)	1 637.6 (10.7)	1 681.1 (11.7)	1 580.9 (3.9)
Diesel for transport (won/liter)	1 182.9 (-9.0)	1 282.6 (8.4)	1 271.0 (5.7)	1 295.6 (7.0)	1 313.0 (7.4)	1 438.9 (13.2)	1 485.0 (14.6)	1 424.7 (8.5)
Bunker-C (won/liter)	521.1 (-14.9)	619.4 (18.9)	603.1 (11.4)	610.5 (10.7)	624.3 (5.9)	784.4 (30.1)	790.3 (29.5)	-
Propane (won/kg)	1 689.7 (-6.2)	1 833.7 (8.5)	1 815.8 (11.7)	1 857.9 (14.4)	1 926.7 (15.8)	1 945.2 (7.1)	2 002.4 (7.8)	2 008.6 (4.3)
Butane for transport (won/liter)	733.9 (-9.0)	826.4 (12.6)	813.4 (16.8)	841.2 (21.2)	884.6 (22.0)	895.4 (10.1)	934.2 (11.1)	910.5 (2.9)

Note: Gasoline, diesel and butane prices are based on charging station prices, Bunker-C price is based on dealership prices, propane price is based on sales shop prices. ( ) is year-on-year growth rates (%)

Source: [www.opinet.co.kr](http://www.opinet.co.kr)

### ► Trend in domestic petroleum product prices



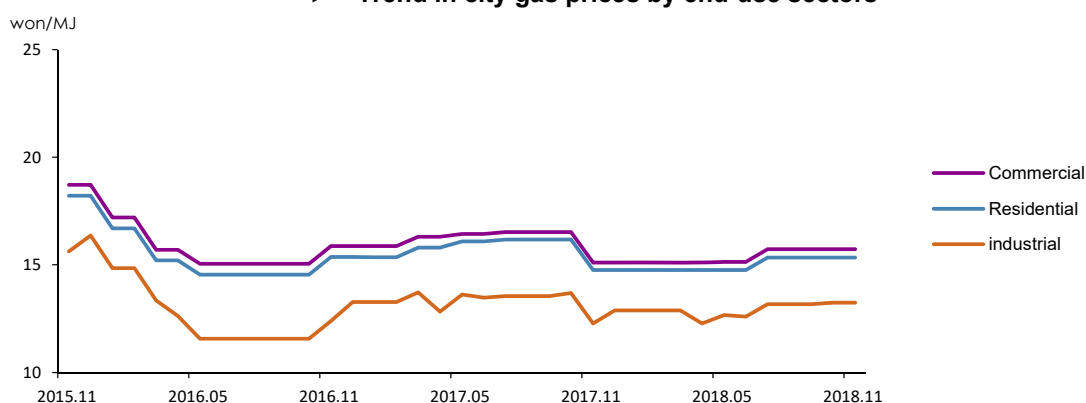
☐ **City gas price was fixed despite increased LNG price, which was aimed at stabilizing prices.**

- The global LNG price has continued to increase in line with the recent oil price hike. The price of city gas, however, was fixed in November as was the case in September in order to stabilize prices and reduce the economic burden on people.

☐ **Heat energy price was unchanged, as city gas price remained at the same level as the previous month.**

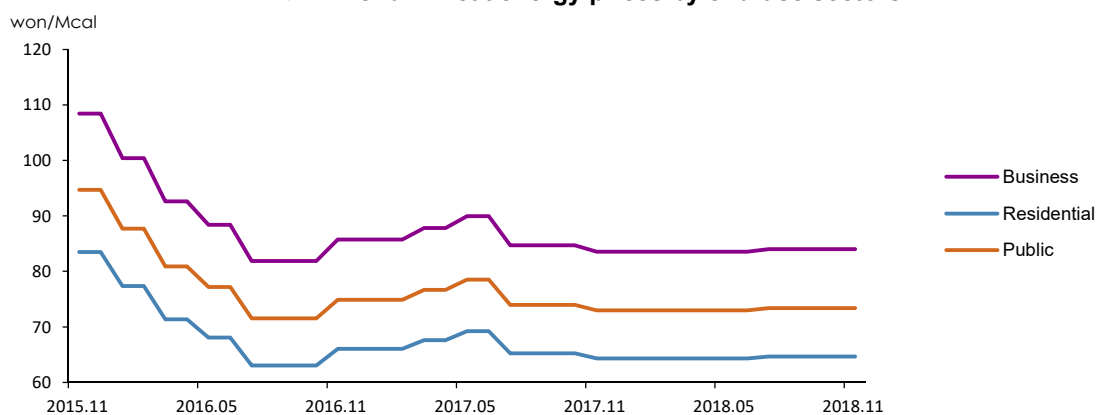
- Korea District Heating Corporation's heat energy price is linked to city gas price according to the fuel cost pass-through scheme, and the actual fuel cost is reflected in the heat energy price once a year (LNG for over 100MW, city gas for under 100MW).

► **Trend in city gas prices by end-use sectors**



Note: Instead of volume(M<sup>3</sup>), calorie (MJ) has been used as the unit of measurement in the city gas rate system since July 2012. Figures before that are converted based on standard calorie (additional tax, base charge excluded)

► **Trend in heat energy prices by end-use sectors**



Note: The rates are based on flat rate for heating (additional tax, base charge excluded)  
Source: Korea District Heating Corporation.

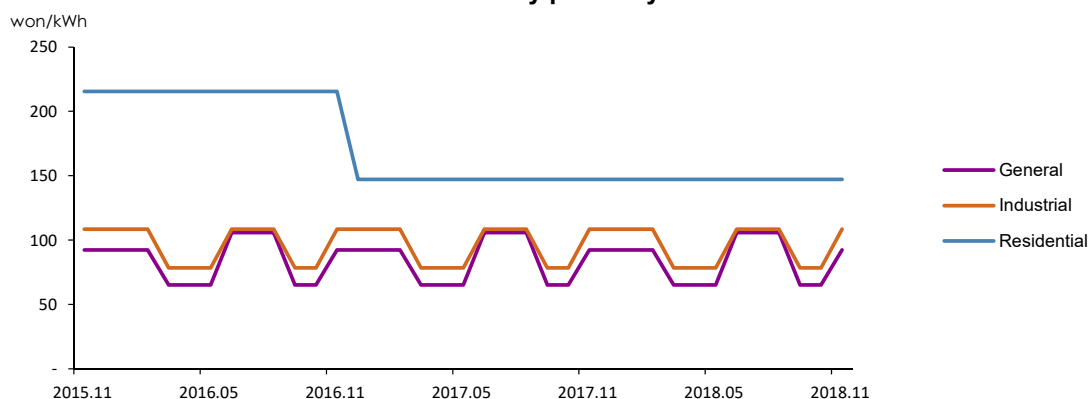
□ **Electricity prices<sup>1</sup> rose dramatically in November, as the winter season prices were applied for the industrial and general consumers.**

- Electricity prices for industrial and general consumers rose by 38.2% and 41.6% respectively from the previous month, according to the seasonal pricing from spring/autumn (Mar-May, Sept-Oct) to winter (Nov-Feb).
- Residential electricity is subject to the progressive pricing scheme, and the price has been flat since the reform of the scheme in December 2016.

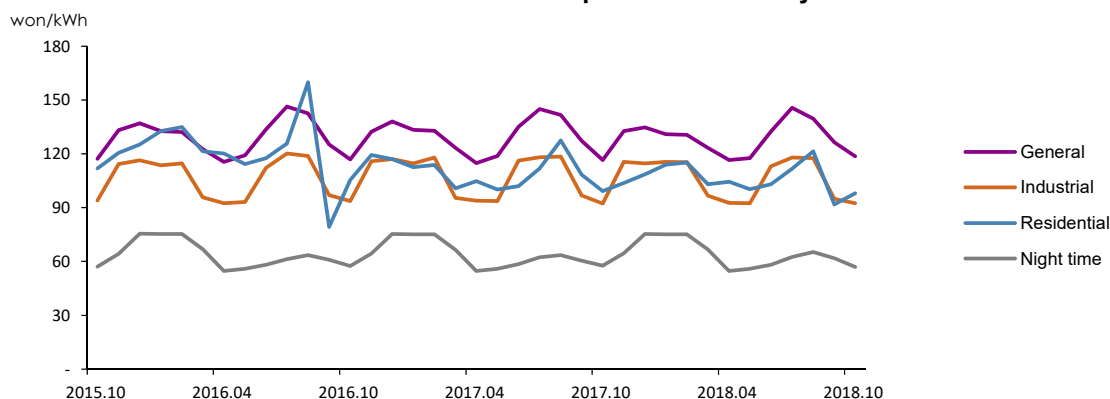
□ **The unit price of electricity for residential use went up in October than a month earlier, while that for industrial and general use went down.**

- The unit price of electricity for residential use was up 6.8% from the previous month, and the prices for general and industrial use were down 6.1% and 2.6% respectively.

#### ► Trend in electricity prices by end-use sectors



#### ► Trend in unit prices of electricity



<sup>1</sup> The electricity prices by end-use sectors refer to the prices for residential use ([high voltage], the 2<sup>nd</sup> stage electricity rates), general use ([A], low voltage) and Industrial use ([B], high voltage B middle load).

### 3. Energy Supply

- **The total energy import volume posted a 4.5% year-on-year growth in September, despite a drop in bituminous coal import, as the import of petroleum products and LNG increased.**
  - The import volume of crude oil increased on a year-on-year basis owing to the growth in crude oil input to refineries and decreased inventory level which had dramatically increased in the previous month.
  - The import volume of petroleum products rose by 6.1% despite decreased naphtha import, as the import of bunker-C surged.
  - The foreign energy dependence including nuclear energy stood at 92.8%, representing a year-on-year decrease of 0.7%p, due to the increased renewable generation.

#### ► Trend in energy trade and domestic production

	2016	2017p	2018p				
			M1~9	M9	M1~9	M8	M9
Import volume							
Crude oil (Mbbbl)	1 078.1 (5.1)	1 118.2 (3.7)	830.8 (3.6)	93.1 (-1.1)	830.2 (-0.1)	95.0 (-6.4)	81.1 (-12.9)
Petroleum product (Mbbbl)	334.6 (8.7)	314.5 (-6.0)	237.4 (-5.2)	27.4 (-5.4)	252.8 (6.5)	27.0 (8.1)	29.1 (6.1)
Bituminous coal (Mton)	118.5 (-0.8)	131.5 (11.0)	100.7 (16.3)	13.2 (19.2)	99.4 (-1.3)	11.0 (-3.0)	11.6 (-11.7)
Anthracite (Mton)	9.4 (5.4)	7.0 (-25.7)	5.5 (-20.3)	0.5 (-44.7)	5.8 (5.7)	0.8 (61.5)	0.3 (-31.3)
LNG (Mton)	33.5 (0.3)	37.5 (12.2)	27.3 (19.9)	2.4 (5.8)	31.6 (15.9)	2.9 (11.5)	3.3 (40.9)
Import volume (Mtoe)	321.9 (2.7)	338.6 (5.2)	252.3 (6.8)	28.2 (7.0)	263.4 (4.4)	28.4 (1.8)	29.4 (4.5)
Import value (billion US\$, CIF)	80.9 (-21.2)	109.5 (35.2)	79.9 (41.7)	9.0 (30.5)	106.1 (32.8)	12.5 (46.7)	11.8 (31.2)
Domestic production							
Hydropower (TWh)	6.6 (14.5)	7.0 (5.5)	5.5 (5.1)	0.7 (7.7)	5.6 (2.2)	0.7 (-28.0)	0.7 (5.3)
Anthracite (Mton)	1.7 (-2.2)	1.5 (-14.0)	1.1 (-9.7)	0.1 (-11.7)	0.9 (-18.0)	0.1 (-18.3)	0.1 (-36.4)
Natural gas (Mton)	0.1 (-18.0)	0.3 (120.5)	0.2 (244.2)	0.0 n.a	0.2 (-6.6)	0.0 (2.6)	0.0 (-7.2)
Renewable energy (Mtoe)	13.6 (5.7)	15.8 (16.7)	11.9 (16.9)	1.3 (21.5)	16.4 (37.6)	2.0 (41.9)	1.9 (38.3)

Note: p means provisional, ( ) is year-on-year growth rates (%)

Source: Monthly Energy Statistics



## 4. Energy Consumption

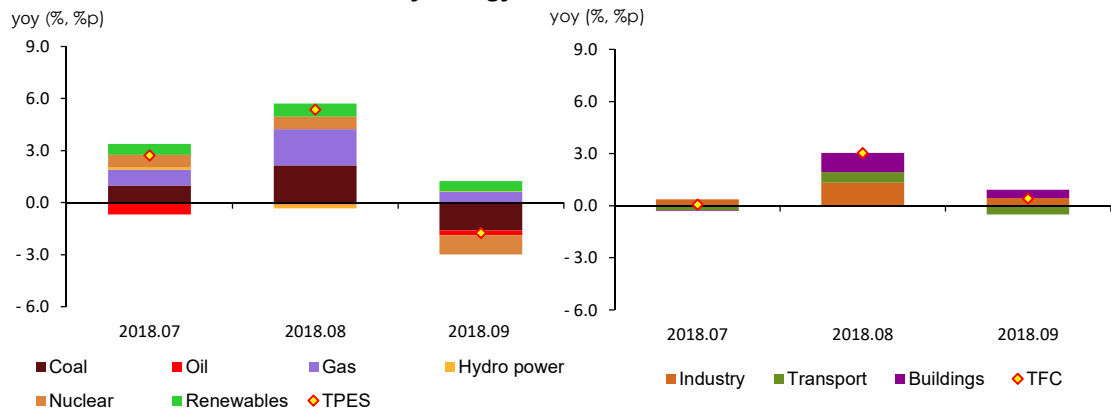
- **Total Primary Energy Supply (“TPES”) fell by 1.8% year-on-year in September, even though gas consumption increased, as coal, petroleum and nuclear energy consumption all decreased.**
  - Industrial coal consumption declined, especially bituminous coal for cement production and anthracite, and the power generation sector also consumed less coal amid much increased preventive maintenance on daily average, and consequently, the total coal use fell by 5.7%, bringing down TPES.
  - Petroleum consumption has been down for three consecutive months, as increased petroleum product prices caused a drop in consumption in the transport, buildings and transformation sectors, although its industrial use increased, particularly in the petrochemical sector.
  - Gas consumption went up by 5.5%, as the power generation and gas production sectors consumed more gas amid decreased baseload generation and growing industrial demand.
  - The total nuclear generation started a downward slide after the previous month’s growth, due to the increased preventive maintenance (0.3GW, 5.8%), the shutdown of Wolsong-1 reactor unit and unscheduled shutdown of Shinkori-3 and Hanul-3.
- **Total Final Consumption (“TFC”) increased by 0.4% year-on-year in September despite a drop in the transport sector, as the industrial and buildings sectors posted consumption growth.**
  - Industrial energy use grew at slower pace, as the primary metals sector consumed less electricity partly because of the sluggish iron & steel business, and as the consumption remained flat in the fabricated metals sector, although it grew faster in the petrochemical sector, especially naphtha and LPG.
  - Final energy use in the transport sector was down 2.5%, especially in the road transport and domestic navigation sectors, even though the aviation sector consumed more energy.
  - Final energy use in buildings went up for two months in a row, as electricity use increased (7.6%) because of the increased number of cooling degree days and base effect.
  - The total electricity use rose by 3.3%, led by the buildings sector (7.6%), influenced by increased cooling degree days and base effect, while industrial electricity use slightly declined (-0.2%) despite the consumption growth in the petrochemical industry, because the primary metals industry consumed less electricity.

### ► Energy consumption trend

	2016	2017p			2018p		
			M1~9	M9	M1~9	M8	M9
<b>Total energy (Mtoe)</b>	<b>293.4</b> (2.4)	<b>302.0</b> (2.9)	<b>222.7</b> (2.5)	<b>24.1</b> (5.9)	<b>229.2</b> (2.9)	<b>26.1</b> (5.4)	<b>23.7</b> (-1.8)
<b>Final energy (Mtoe)</b>	<b>225.1</b> (3.3)	<b>233.9</b> (3.9)	<b>172.8</b> (3.9)	<b>18.5</b> (4.4)	<b>177.5</b> (2.7)	<b>19.3</b> (3.0)	<b>18.5</b> (0.4)

Note: p means provisional, ( ) is year-on-year growth rates  
Source: Monthly Energy Statistics (KEEI)

► The growth rates of total and final energy consumption & energy consumption trend by energy source and end-use sectors



## 5. Coal

### □ Coal consumption decreased in all end-use sectors in September, representing the first decline in 21 months

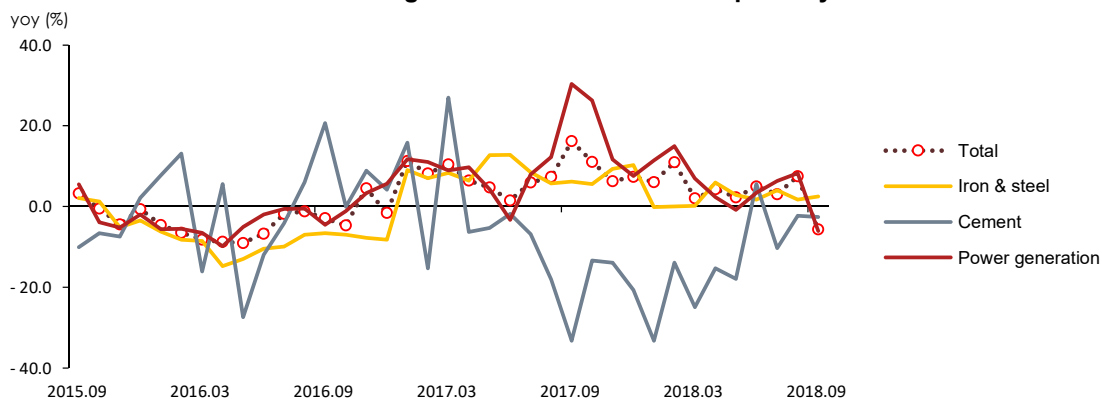
- The transformation sector posted a 6.1% decline in coal use amid dramatically increased preventive maintenance and decreased capacity factors at coal-fired power plants.
- Industrial coal consumption decreased, despite increased bituminous coal use for steelmaking, as the use of anthracite and coal for cement production declined.

#### ► Coal consumption trend

	2016	2017p			2018p		
			M1~9	M9	M1~9	M8	M9
<b>Coal (Mton)</b>	<b>129.3</b>	<b>139.8</b>	<b>103.5</b>	<b>12.2</b>	<b>107.5</b>	<b>13.4</b>	<b>11.5</b>
	(-4.3)	(8.1)	(8.0)	(16.2)	(3.9)	(7.5)	(-5.7)
Industry	47.8	49.3	36.9	4.0	37.5	4.3	3.8
	(-6.6)	(3.2)	(4.6)	(-4.9)	(1.5)	(5.9)	(-4.1)
Buildings	1.3	1.1	0.5	0.1	0.4	0.0	0.1
	(-14.8)	(-14.0)	(-15.8)	(12.9)	(-15.5)	(-11.1)	(-38.1)
Power generation	80.3	89.4	66.1	8.1	69.6	9.1	7.7
	(-2.7)	(11.3)	(10.3)	(30.4)	(5.3)	(8.3)	(-6.1)

Note: p means provisional, ( ) is year-on-year growth rates (%)  
Source: Monthly Energy Statistics

#### ► The growth rate of coal consumption by use



## 6. Petroleum

□ **Petroleum consumption fell by 0.4% year-on-year in September despite increased industrial consumption, because the transport and buildings sectors consumed less.**

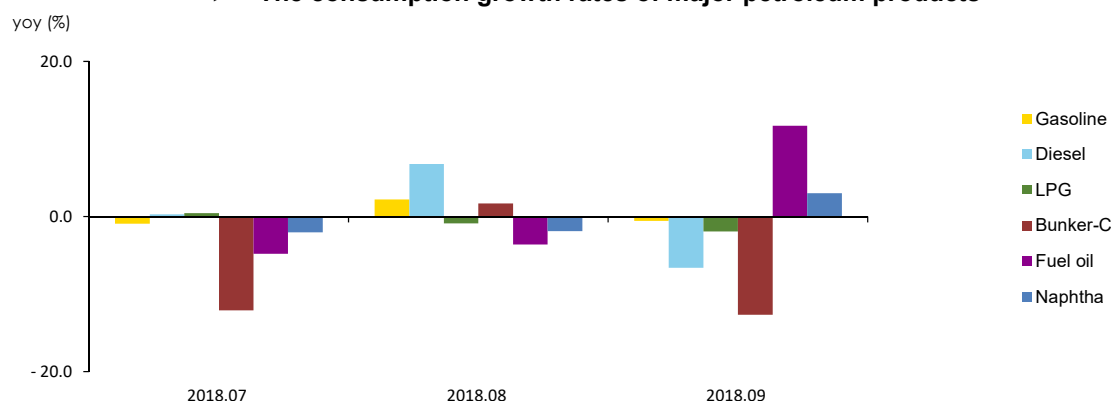
- Industrial petroleum use rose by 1.4% after the previous month's decline, backed by growing naphtha and LPG use.
- Petroleum use was down 3.4% in the transport sector due to falling demand in the road transport and domestic navigation sectors, though the aviation sector consumed more petroleum.
- Petroleum use in buildings fell for four straight months, especially LPG, which is partly attributable to increased petroleum product prices, and in the case of the transformation sector, it also declined after three consecutive months of growth as a result of the decreased oil-fired generation (-18.2%).

### ► Trend in petroleum product consumption by end-use sectors

	2016	2017p			2018p		
			M1~9	M9	M1~9	M8	M9
<b>Petroleum (Mbbl)</b>	<b>921.1</b>	<b>937.1</b>	<b>691.8</b>	<b>77.0</b>	<b>699.9</b>	<b>77.6</b>	<b>76.7</b>
	(8.0)	(1.7)	(2.0)	(2.9)	(1.2)	(-0.3)	(-0.4)
Industry	542.6	567.0	418.0	46.7	423.2	46.7	47.3
	(8.3)	(4.5)	(4.9)	(3.3)	(1.2)	(-1.9)	(1.4)
Transport	300.5	303.2	227.0	25.9	227.3	26.8	25.0
	(5.8)	(0.9)	(1.4)	(3.1)	(0.1)	(1.7)	(-3.4)
Buildings	56.3	56.4	39.2	4.0	40.0	3.1	3.9
	(5.2)	(0.3)	(0.6)	(10.0)	(2.1)	(-8.6)	(-1.9)
Power generation	21.8	10.5	7.7	0.4	9.4	1.0	0.4
	(48.7)	(-51.9)	(-54.1)	(-52.6)	(22.4)	(88.0)	(-2.0)

Note: p means provisional, ( ) is year-on-year growth rates (%)  
Source: Monthly Energy Statistics

### ► The consumption growth rates of major petroleum products



## 7. Gas

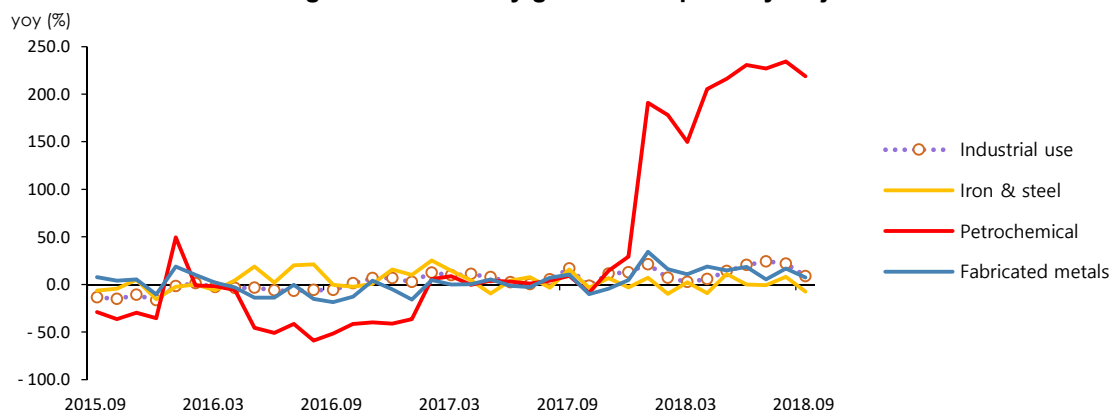
- **Natural gas consumption posted a year-on-year growth of 5.5% in September, led by the power generation and city gas production sectors.**
  - Gas consumption for power generation increased, as decreased baseload (coal + nuclear) generation (-5.5%) was partially replaced by gas generation.
- **City gas consumption was flat on a year-on-year basis, despite a sharp drop in the buildings sector, because industrial consumption increased.**
  - Industrial city gas consumption increased compared to the same month last year, boosted by continuing rapid growth of consumption in the petrochemical sector, even though the consumption declined in the primary metals sector due to the weak iron & steel business.
  - City gas consumption in buildings fell for two months; it plunged in the commercial sector due to the output reduction of the service industry, and its residential use also declined especially for cooking.

► **Trend in natural gas and city gas consumption**

	2016	2017p			2018p		
			M1~9	M9	M1~9	M8	M9
<b>LNG (Mton)</b>	<b>34.9</b>	<b>36.4</b>	<b>25.5</b>	<b>2.0</b>	<b>29.8</b>	<b>2.7</b>	<b>2.2</b>
	(4.4)	(4.3)	(3.0)	(-3.9)	(16.8)	(17.0)	(5.5)
Power generation	15.5	15.6	11.3	1.0	13.6	1.6	1.1
	(6.4)	(0.6)	(2.2)	(-18.0)	(20.4)	(18.5)	(6.7)
City gas production	17.4	18.4	12.6	0.9	13.9	0.9	0.9
	(2.7)	(5.8)	(2.9)	(11.9)	(10.4)	(10.7)	(5.1)
<b>City gas (bm<sup>3</sup>)</b>	<b>21.3</b>	<b>22.6</b>	<b>16.1</b>	<b>1.1</b>	<b>17.0</b>	<b>1.1</b>	<b>1.1</b>
	(2.3)	(6.3)	(4.5)	(11.7)	(5.5)	(4.1)	(0.0)
Industry	7.2	7.8	5.6	0.6	6.4	0.6	0.6
	(-1.4)	(7.7)	(7.6)	(16.7)	(13.4)	(21.9)	(8.8)
Buildings	12.8	13.6	9.6	0.4	9.7	0.4	0.4
	(5.0)	(6.0)	(3.1)	(7.8)	(1.6)	(-15.6)	(-10.8)

Note: p means provisional, ( ) is year-on-year growth rates (%)  
Source: Monthly Energy Statistics

► **The growth rate of city gas consumption by major industries**



## 8. Electricity

□ Electricity consumption slightly decreased in the industrial sector in September while increased in the buildings sector, and in total, it rose by 3.3% year-on-year.

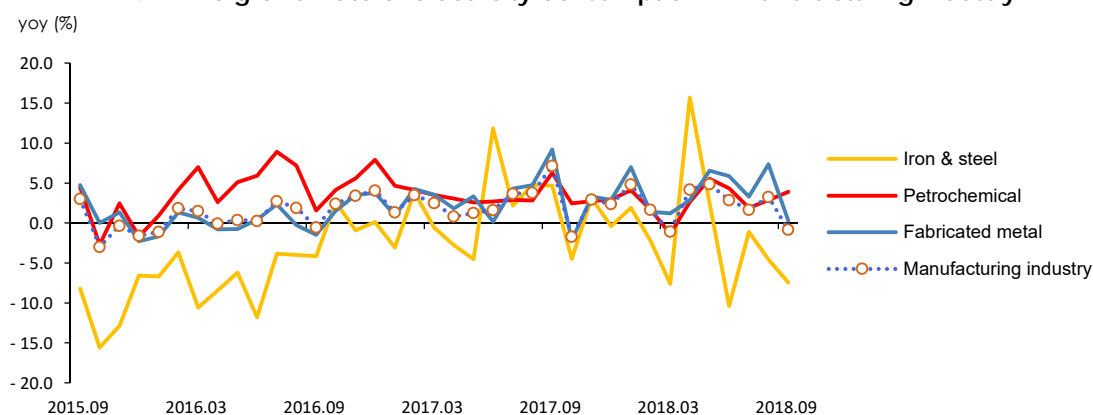
- Industrial electricity consumption posted a slight decline from the same month last year, influenced by decreased consumption in the primary metals industry where the operation of electric furnaces was ceased during holidays, although the consumption increased in the petrochemical industry.
- Electricity consumption in buildings went up by over 7% year-on-year as a result of temperature effect, leading the growth of the total consumption.

► Trend in electricity consumption by end-use sectors

	2016	2017p			2018p		
			M1~9	M9	M1~9	M8	M9
<b>Electricity (TWh)</b>	<b>497.0</b>	<b>507.7</b>	<b>382.3</b>	<b>42.3</b>	<b>398.9</b>	<b>49.5</b>	<b>43.7</b>
	(2.8)	(2.2)	(2.0)	(2.7)	(4.4)	(9.2)	(3.3)
Industry	270.0	276.7	207.3	23.3	212.6	24.5	23.3
	(1.6)	(2.5)	(2.8)	(6.2)	(2.6)	(4.5)	(-0.2)
Transport	2.7	2.9	2.1	0.3	2.3	0.3	0.3
	(21.3)	(6.5)	(4.7)	(6.6)	(5.2)	(6.6)	(1.5)
Buildings	224.4	228.2	172.9	18.7	184.1	24.8	20.2
	(4.0)	(1.7)	(1.0)	(-1.3)	(6.5)	(14.3)	(7.6)

Notes: p means provisional, ( ) is year-on-year growth rates (%)  
Source: Monthly Energy Statistics

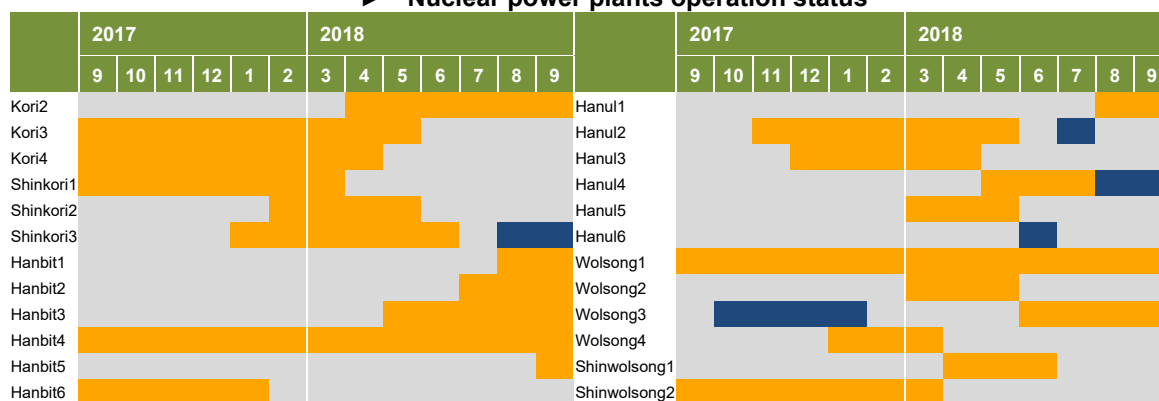
► The growth rate of electricity consumption in manufacturing industry



## 9. Nuclear

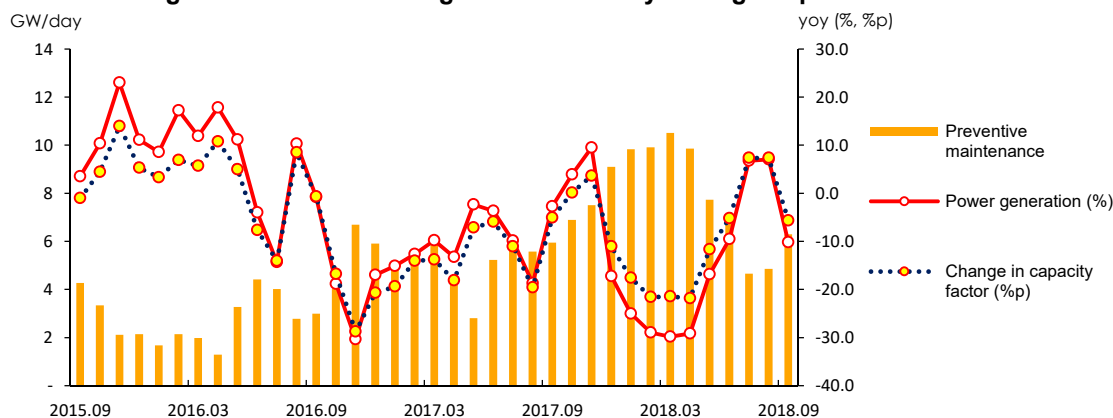
- The total nuclear generation decreased by 10.2% year-on-year in September, as the capacity factor fell to around 70% level due to the increased preventive maintenance.
- The capacity factor at nuclear power plants dropped by 5.6%p year-on-year to 70.4%, which is attributed to the increased daily average of preventive maintenance (0.3 GW, 5.8%), the closure of Wolsong unit 1 and unscheduled shutdown of Shinkori unit 3 & Hanul unit 3.
- Nuclear share of the total generation was down 2.4%p to 25.5% on a year-on-year basis.

### ► Nuclear power plants operation status



Notes: ■ normal operation, ■ prevented maintenance, ■ unscheduled shutdown

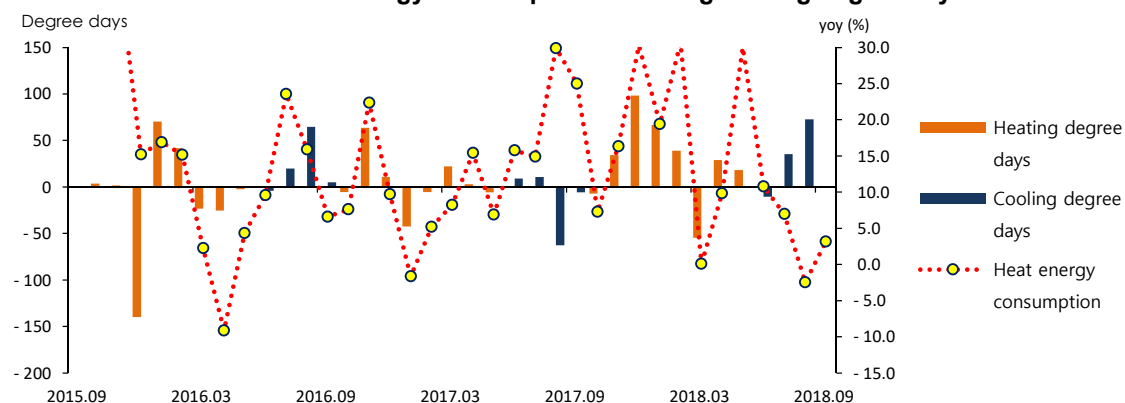
### ► The growth rate of nuclear generation & daily average of preventive maintenance



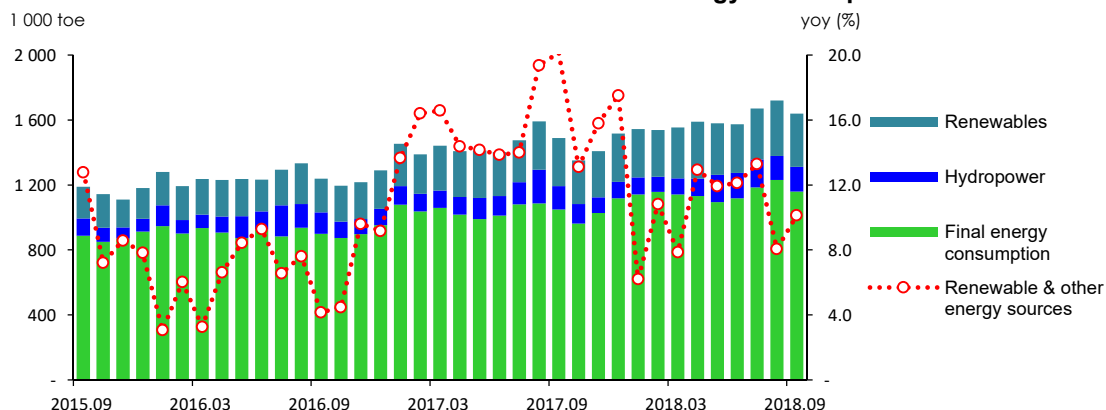
## 10. Heat and Renewable energy

- **Heat energy consumption went up by 3.1% year-on-year in September mostly for residential and public use due to the increased number of heating degree days.**
  - Heat energy consumption increased in the residential and public sectors by 4.8% and 10.5% respectively along with the increased number of heating degree days (0.9), while the commercial use of heat energy declined by 2.2% due to the reduced service production.
- **Renewable & other energy consumption registered a year-on-year growth of 8.1%, as the number of renewable energy facilities increased according to the government's renewable energy development policy.**
  - Renewable generation (except hydro) was up 10.9%, as more power was generated from increased solar PV and wind installations and other new renewable sources on the back of the government support for renewable energy.

### ► Heat energy consumption & heating/cooling degree days



### ► Trend in renewable and other energy consumption





## 11. Industry

- Industrial energy consumption increased by mere 0.7% in September on a year-on-year basis, as the consumption fell sharply in the primary metals sector and remained stagnant in the fabricated metals sector.
  - Energy consumption continued its rapid decline in the primary metals sector and was flat in the fabricated metals sector, partly because there were fewer work days, although it grew decently in the petrochemical sector.

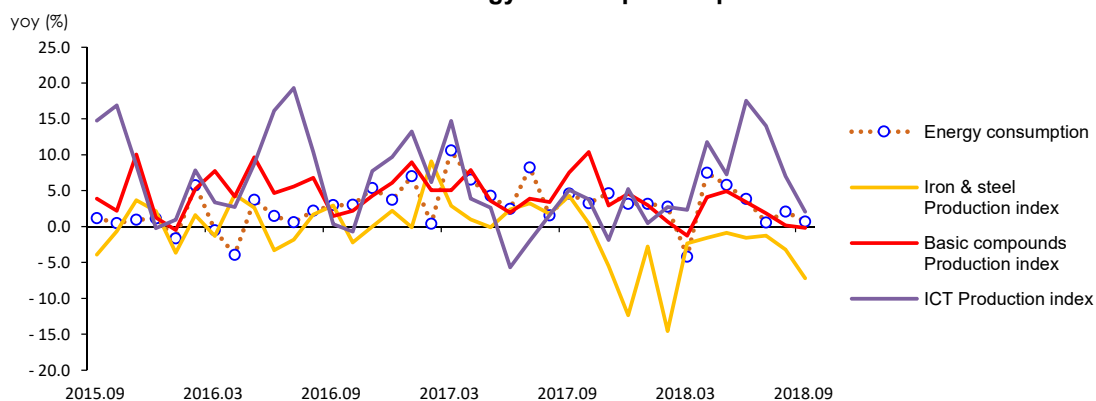
### ► Industrial energy consumption trend

	2016	2017p		2018p			
			M1~9	M9	M1~9	M8	M9
Industry (Mtoe)	137.8 (1.9)	144.3 (4.7)	107.0 (5.1)	11.9 (4.6)	109.5 (2.4)	12.2 (2.1)	12.0 (0.7)
Petrochemical	65.9 (6.7)	70.4 (6.8)	52.0 (6.7)	5.7 (6.0)	53.7 (3.2)	6.0 (1.1)	6.0 (4.4)
- Naphtha	52.7 (4.7)	56.2 (6.6)	41.4 (6.1)	4.6 (6.5)	41.8 (0.9)	4.7 (-1.9)	4.7 (3.0)
Iron & Steel	28.1 (-8.0)	35.0 (24.4)	26.1 (24.6)	2.9 (23.2)	22.8 (-12.8)	2.6 (-13.2)	2.5 (-13.4)
-Coking coal	23.4 (-9.0)	25.3 (8.0)	18.8 (8.0)	2.1 (5.8)	19.2 (2.1)	2.2 (1.7)	2.2 (2.5)
Fabricated metal	10.6 (0.4)	10.8 (1.9)	8.1 (2.6)	0.9 (8.3)	8.5 (5.4)	0.9 (8.8)	0.9 (0.6)
Share of feedstock (%)	58.8	60.0	59.7	60.0	58.8	58.8	60.9

Note: p means provisional, ( ) is year-on-year growth rates (%)

Source: Monthly Energy Statistics

### ► Industrial energy consumption & production index



## 12. Transport

□ Transport energy use decreased by 2.5% year-on-year in September despite the consumption growth in the aviation sector, as it declined both in the road transport and domestic navigation sectors.

- Energy use for road transport was down 3.2%; higher prices drove down the use of gasoline, diesel and LPG.
- Energy use for domestic navigation has declined for 10 consecutive months, affected by decreased coastal transport and increased bunker-C price.
- Energy use for aviation started an upward move, offsetting decreased petroleum consumption in the transport sector, which was attributable to the increased number of passengers bound for China and increased cargo volume that were sent to the Americas and China, although domestic passengers and air travelers to Jeju all declined.
- The road transport sector (-2.6%p) took the largest share of the decline in transport energy use, followed by the domestic navigation (-0.5%p), railways (0.0%p) and aviation (0.6%p) sectors.

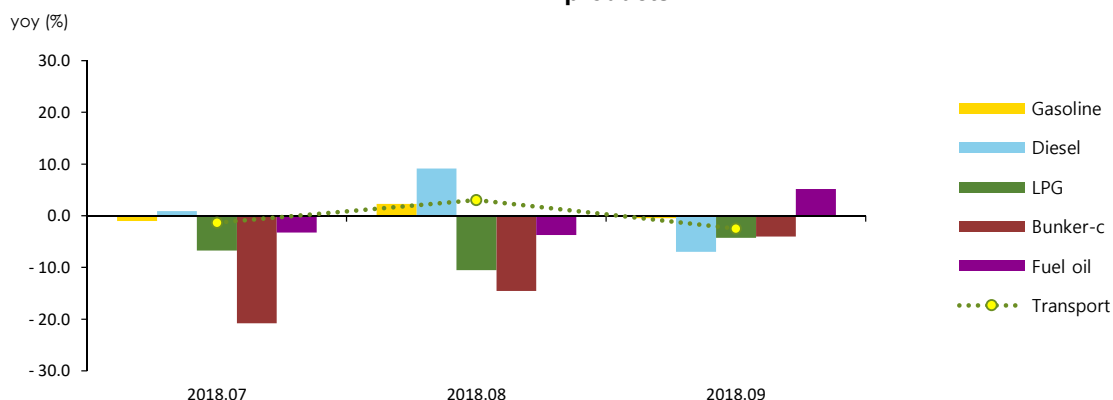
► The growth rate of petroleum consumption in the transport sector

	2016	2017p			2018p		
			M1~9	M9	M1~9	M8	M9
<b>Transport (Mtoe)</b>	<b>42.3</b>	<b>42.7</b>	<b>32.0</b>	<b>3.6</b>	<b>32.3</b>	<b>3.8</b>	<b>3.6</b>
	(6.1)	(1.1)	(1.6)	(3.4)	(1.0)	(3.0)	(-2.5)
Road	33.9	34.0	25.5	2.9	25.9	3.1	2.8
	(4.9)	(0.3)	(0.6)	(3.9)	(1.9)	(5.9)	(-3.2)
Navigation	3.4	3.5	2.7	0.3	2.3	0.2	0.3
	(13.8)	(5.7)	(8.2)	(-1.0)	(-12.8)	(-15.0)	(-6.8)
Aviation	4.7	4.8	3.6	0.4	3.8	0.4	0.4
	(9.1)	(3.3)	(3.8)	(3.5)	(4.7)	(-3.9)	(4.9)
Rail	0.3	0.3	0.3	0.0	0.3	0.0	0.0
	(8.3)	(2.4)	(-1.2)	(1.9)	(4.4)	(6.9)	(-3.8)

Note: p means provisional, ( ) is year-on-year growth rates (%)

Source: Monthly Energy Statistics

► The growth rate of energy consumption in the transport sector & major petroleum products



## 13. Buildings

□ **Energy consumption in buildings went up by 3.0% year-on-year in September as a result of the increased electricity use in the residential and public sectors.**

- Energy use in buildings was driven up by growing power use (7.6%) amid increased cooling degree days and base effect, although petroleum use fell by 1.9% due to the price increase, and city gas use also dropped by 10.8%, even amid increased heating degree days.
- Energy use in residential buildings went up by 1.9%, as electricity use rose by 12.9% due to the base effect of the consumption decline during the same month last year. Meanwhile, petroleum and city gas use declined (-7.0%, -2.8%) due to the increased petroleum product prices and the base effect.
- Energy use in commercial buildings slightly decreased despite increase electricity use (5.6%), because LPG and city gas use continued to drop rapidly (-14.6%, -20.2%) as a result of the reduced production in the restaurant & accommodation business (-3.9%).
- Energy use in public buildings maintained its rapid growth, as the use of petroleum, electricity and renewable energy grew decently.
- Electricity (4.2%p) made the biggest contribution to the energy consumption growth in buildings, followed by city gas (-1.7%p) and petroleum (-0.2%).

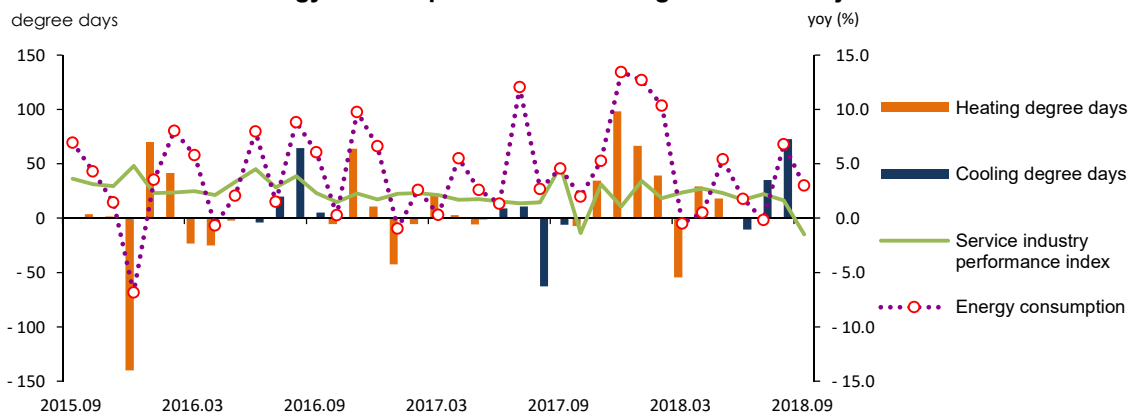
► **Energy consumption trend in the buildings sector**

	2016	2017p			2018p		
			M1~9	M9	M1~9	M8	M9
<b>Buildings (Mtoe)</b>	<b>45.0</b>	<b>46.9</b>	<b>33.8</b>	<b>2.9</b>	<b>35.6</b>	<b>3.3</b>	<b>3.0</b>
	(5.2)	(4.2)	(2.8)	(4.6)	(5.3)	(6.8)	(3.0)
Residential	21.7	22.5	15.6	1.1	16.9	1.2	1.1
	(5.5)	(3.8)	(1.3)	(5.0)	(7.9)	(9.9)	(1.9)
Commercial	17.1	17.4	13.0	1.3	13.2	1.5	1.3
	(3.5)	(2.2)	(1.7)	(1.7)	(1.0)	(4.0)	(-0.1)
Public · others	6.2	6.9	5.2	0.5	5.6	0.6	0.6
	(8.7)	(11.0)	(10.4)	(11.2)	(8.2)	(8.3)	(12.8)

Note: p means provisional, ( ) is year-on-year growth rates (%)

Source: Monthly Energy Statistics

► **Energy consumption in the buildings sector & major indicators**



## 14. Transformation

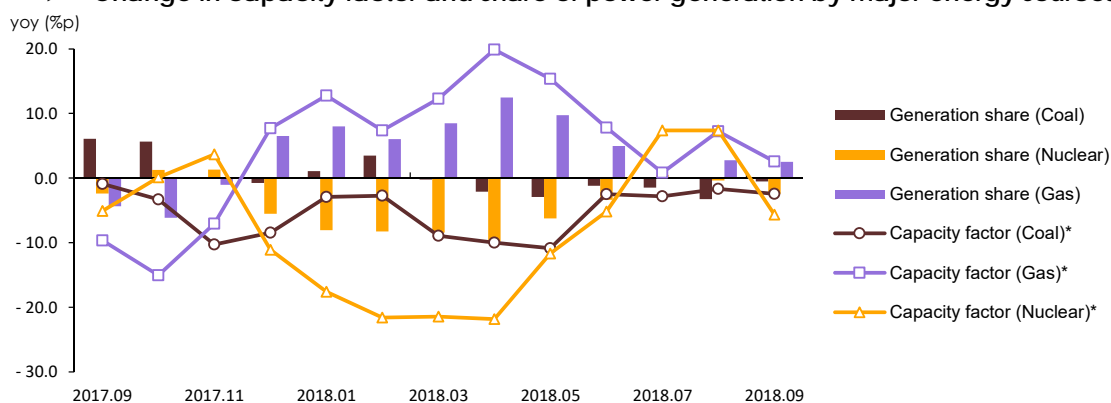
- The total energy input for power generation dropped by 4.7% year-on-year in September, especially nuclear energy and coal, as a result of the decreased total generation.
  - The total generation fell by 1.5% in September, though electricity consumption posted a year-on-year growth, which is seemingly due to the different meter-reading schedule.
  - Nuclear and coal-fired generation declined because of the increased preventive maintenance, while gas generation instead increased.
  - The baseload generation's share of the total generation fell by 3.0%p on a year-on-year basis, while that of gas rose by 2.5%p.

### ► Energy consumption in the power generation sector

	2016	2017p	2018p		2018p		
			M1~9	M9	M1~9	M8	M9
<b>Input (Mtoe)</b>	<b>110.9</b>	<b>111.2</b>	<b>83.0</b>	<b>9.3</b>	<b>84.9</b>	<b>10.8</b>	<b>8.8</b>
	(0.8)	(0.2)	(-0.7)	(8.0)	(2.3)	(9.8)	(-4.7)
Coal	49.2	52.8	39.1	4.8	41.1	5.4	4.5
	(-2.8)	(7.4)	(6.4)	(25.9)	(5.4)	(8.1)	(-6.2)
Oil	3.0	1.2	0.9	0.0	1.1	0.1	0.0
	(50.1)	(-59.5)	(-61.0)	(-60.4)	(16.9)	(104.7)	(-0.3)
Gas	20.5	20.7	15.0	1.3	18.1	2.1	1.4
	(6.3)	(0.9)	(2.5)	(-17.5)	(20.4)	(18.5)	(7.0)
Nuclear	34.2	31.6	24.4	2.6	20.6	2.7	2.4
	(-1.7)	(-7.5)	(-9.2)	(-1.8)	(-15.5)	(7.0)	(-10.2)
Hydro/other renewables	4.0	4.8	3.6	0.4	4.0	0.5	0.5
	(17.4)	(19.3)	(19.2)	(29.6)	(10.9)	(-3.2)	(9.1)

Notes: p means provisional, ( ) is year-on-year growth rates (%)  
Source: Monthly Energy Statistics

### ► Change in capacity factor and share of power generation by major energy sources



\*Capacity factor is the ratio of actual energy produced to the amount of energy produced from continuous operation at full rated power

## <Appendix> Major Indicators & Statistics of Energy Supply and Demand

### Major Statistics & Indicators of the Economy

	2015	2016	2017				2018		
			4Q	2Q	3Q		4Q	2Q	3Q
GDP (trillion won)	1 466.8 (2.8)	1 509.8 (2.9)	396.5 (2.6)	389.6 (2.8)	392.6 (3.8)	1 556.0 (3.1)	407.6 (2.8)	400.6 (2.8)	400.3 (2.0)
Private consumption	707.5 (2.2)	725.4 (2.5)	184.5 (1.4)	181.0 (2.4)	186.8 (2.6)	744.3 (2.6)	190.7 (3.4)	186.1 (2.8)	191.5 (2.5)
Facilities investment	140.3 (4.7)	138.8 (-1.0)	37.4 (3.3)	42.0 (17.9)	39.1 (16.3)	159.1 (14.6)	40.6 (8.6)	40.8 (-3.0)	36.2 (-7.4)
Construction investment	211.5 (6.6)	233.4 (10.3)	65.1 (11.9)	67.1 (8.5)	67.0 (8.0)	251.1 (7.6)	67.6 (3.8)	66.1 (-1.5)	61.0 (-8.9)
Consumer price index (2015=100)	100.0	101.0	101.5	102.7	103.3	102.9	103.1	104.3	105.0
USD to KRW exchange rate (won)	1 131.0	1 160.8	1 156.4	1 129.4	1 132.3	1 131.0	1 107.5	1 079.0	1 121.5
Benchmark rate (%)	1.6	1.4	1.3	1.3	1.3	1.3	1.4	1.5	1.5
Coincident composite index (2015=100)	100.0	103.3	104.5	106.8	107.4	107.0	107.9	109.1	109.2
Mining & manufacturing production index (2015=100)	100.0	102.3	108.4	104.3	104.8	104.2	104.3	105.0	103.0
Manufacturing operation ratio index (2015=100)	100.0	98.2	101.4	98.3	98.1	97.1	96.0	99.2	96.4
Average temperature	13.6	13.6	8.0	18.9	25.0	13.0	6.7	18.1	26.0
- year-on-year difference	0.2	- 0.0	- 0.6	- 0.2	- 0.8	- 0.6	- 1.3	- 0.8	1.0
Heating degree days	2 459.1 (-1.7)	2 589.7 (5.3)	935.3 (8.0)	138.6 (-1.6)	0.6 (100.0)	2 687.6 (3.8)	1 060.9 (13.4)	185.4 (33.8)	1.5 (150.0)
Cooling degree days	151.8 (21.1)	238.1 (56.9)	- -	18.2 (78.4)	169.9 (-25.5)	188.1 (-21.0)	- -	7.7 (-57.7)	278.5 (63.9)
Energy intensity	0.20 (-1.2)	0.20 (-0.5)	0.19 (-0.1)	0.18 (-0.6)	0.19 (-0.6)	0.19 (-0.2)	0.20 (1.3)	0.18 (1.2)	0.19 (0.2)
Per capita consumption									
oil (bbl)	16.7 (3.7)	18.0 (7.4)	4.7 (6.8)	4.3 (1.6)	4.5 (2.1)	18.2 (1.4)	4.8 (0.6)	4.5 (3.3)	4.5 (-1.1)
Electricity (MWh)	9.5 (0.7)	9.7 (2.3)	2.4 (3.0)	2.3 (0.7)	2.5 (3.4)	9.9 (1.8)	2.4 (2.2)	2.4 (3.3)	2.7 (4.5)
City gas (1 000 m <sup>3</sup> )	0.4 (-6.4)	0.4 (1.8)	0.1 (7.2)	0.1 (5.0)	0.1 (4.8)	0.4 (5.9)	0.1 (10.7)	0.1 (2.2)	0.1 (3.3)
Total energy (toe)	5.6 (1.0)	5.7 (1.9)	1.5 (1.9)	1.3 (1.9)	1.4 (2.8)	5.9 (2.6)	1.5 (3.8)	1.4 (3.6)	1.5 (1.8)

Note: Figures are based on the real price of 2010, p means provisional, ( ) is year-on-year growth rates (%)  
Source: BOA Economic statistics system, Monthly energy statistics

## The Index of Production & Operating Ratio by Sectors

(2015=100)

	2016	2017					2018			
			M1~9	M7	M8	M9	M1~9	M7	M8	M9
Industrial production index										
All industry	103.1 (3.2)	105.5 (2.3)	104.6 (3.4)	104.3 (2.4)	103.1 (2.1)	109.4 (7.4)	105.1 (0.5)	105.8 (1.4)	104.8 (1.6)	104.2 (-4.8)
Mining & manufacturing	102.3 (2.3)	104.2 (1.8)	104.1 (3.8)	104.8 (1.6)	100.8 (2.3)	108.9 (10.0)	103.0 (-1.1)	105.9 (1.0)	103.3 (2.5)	99.8 (-8.4)
Iron & steel	100.2 (0.2)	100.7 (0.4)	101.8 (2.6)	104.7 (3.3)	103.5 (1.8)	101.8 (4.3)	98.0 (-3.7)	103.4 (-1.2)	100.6 (-2.8)	95.0 (-6.7)
Cement	108.3 (8.3)	109.9 (1.4)	110.4 (5.8)	102.4 (-2.8)	102.2 (-7.5)	120.5 (16.7)	97.6 (-11.6)	102.5 (0.1)	90.2 (-11.7)	86.0 (-28.6)
Basic compound	104.8 (4.8)	110.4 (5.4)	109.6 (5.2)	112.0 (3.9)	112.4 (3.4)	111.3 (7.5)	111.6 (1.8)	114.1 (1.9)	112.6 (0.2)	111.1 (-0.2)
Transport equipment	97.7 (-2.3)	94.9 (-2.9)	96.9 (2.8)	99.5 (-0.3)	78.9 (12.4)	98.7 (26.5)	89.8 (-7.4)	87.4 (-12.2)	86.5 (9.6)	83.8 (-15.1)
Electric & electronic	103.3 (3.3)	106.4 (3.0)	104.9 (4.7)	103.6 (4.2)	103.4 (5.7)	116.1 (11.8)	101.3 (-3.4)	102.7 (-0.9)	102.1 (-1.3)	98.6 (-15.1)
Service	102.6 (2.6)	104.5 (1.8)	103.5 (2.1)	103.5 (1.4)	103.9 (1.5)	107.5 (4.8)	105.4 (1.9)	105.8 (2.2)	105.7 (1.7)	106.0 (-1.4)
Operating ratio index										
Manufacturing	98.2 (-1.8)	97.1 (-1.2)	97.4 (0.3)	98.3 (-1.3)	94.1 (1.0)	101.9 (8.9)	96.1 (-1.4)	98.8 (0.5)	96.6 (2.7)	93.8 (-7.9)
Iron & steel	99.9 (-0.1)	101.0 (1.0)	101.5 (2.6)	104.3 (3.1)	103.3 (2.0)	101.5 (4.3)	98.3 (-3.1)	102.2 (-2.0)	99.2 (-4.0)	93.9 (-7.5)
Cement	107.0 (7.0)	107.6 (0.5)	107.9 (4.4)	99.8 (-3.9)	99.8 (-8.2)	117.7 (15.8)	105.7 (-2.0)	113.1 (13.3)	100.2 (0.4)	95.8 (-18.6)
Basic compound	103.6 (3.6)	107.2 (3.4)	106.7 (3.3)	108.3 (1.5)	108.7 (1.1)	107.8 (5.4)	107.0 (0.3)	109.0 (0.6)	107.4 (-1.2)	106.1 (-1.6)
Transport equipment	94.2 (-5.8)	89.7 (-4.8)	91.8 (0.7)	94.3 (-2.1)	74.9 (11.1)	93.4 (24.7)	87.8 (-4.4)	85.9 (-8.9)	85.3 (13.9)	82.2 (-12.0)
Electric & electronic	102.2 (2.2)	102.8 (0.5)	102.0 (2.8)	100.1 (1.1)	100.0 (4.1)	111.5 (8.9)	95.3 (-6.5)	96.8 (-3.3)	95.9 (-4.1)	91.7 (-17.8)

Note: p means provisional  
Source: Monthly energy statistics

## International Energy Prices

	2016	2017					2018			
			M1~11	M9	M10	M11	M1~11	M9	M10	M11
Crude oil (USD/bbl)										
WTI	43.3 (-11.2)	51.0 (17.6)	50.3 (18.3)	49.9 (10.3)	51.6 (3.3)	56.7 (23.8)	66.2 (31.6)	70.1 (40.5)	70.8 (37.2)	56.7 (0.1)
Dubai	41.2 (-18.8)	53.2 (28.9)	52.4 (30.2)	53.7 (23.8)	55.5 (13.4)	60.8 (38.5)	70.5 (34.5)	77.2 (43.9)	79.4 (42.9)	65.6 (7.8)
Brent	45.0 (-16.0)	54.8 (21.7)	54.0 (22.3)	55.5 (17.5)	57.7 (12.2)	62.9 (33.5)	72.8 (34.8)	79.1 (42.5)	80.6 (39.9)	66.0 (4.9)
Unit value of import (C&F)	41.0 (-23.0)	53.3 (29.9)	52.5 (30.0)	51.9 (18.4)	54.7 (19.9)	57.9 (21.9)	71.9 (36.9)	76.5 (47.4)	79.2 (44.6)	76.4 (31.9)
LNG										
From Indonesia (USD/MMBTU)	7.4 (-32.6)	8.6 (16.7)	8.6 (17.0)	8.6 (14.6)	8.3 (8.6)	8.5 (11.3)	10.5 (22.6)	11.3 (30.8)	11.7 (40.3)	11.7 (38.0)
Unit value of import (USD/ton, CIF)	356.7 (-35.0)	416.3 (16.7)	415.0 (17.0)	421.4 (19.4)	421.6 (11.2)	400.3 (3.1)	521.6 (25.7)	561.9 (33.3)	579.9 (37.6)	581.2 (45.2)
Bituminous coal (USD/ton)										
From Australia	65.9 (14.5)	88.5 (34.4)	87.4 (36.6)	97.8 (34.2)	97.1 (4.2)	96.6 (-3.4)	107.5 (23.0)	114.2 (16.7)	108.7 (12.0)	100.7 (4.2)
Unit value of import (CIF)	68.9 (-6.8)	104.3 (51.5)	104.6 (58.4)	94.4 (41.3)	102.6 (36.8)	107.1 (12.6)	113.3 (8.3)	116.4 (23.3)	114.3 (11.5)	111.2 (3.9)
Petroleum product (USD/bbl)										
Gasoline	56.2 (-19.1)	68.1 (21.2)	67.4 (22.1)	70.5 (21.5)	70.1 (11.3)	75.7 (28.2)	81.8 (21.3)	89.5 (26.9)	87.7 (25.1)	68.6 (-9.3)
Kerosene	52.8 (-18.3)	65.3 (23.6)	64.4 (24.3)	68.1 (24.1)	68.3 (12.1)	74.0 (30.9)	86.0 (33.6)	91.7 (34.6)	95.1 (39.2)	82.9 (12.0)
Diesel	53.0 (-20.4)	66.4 (25.2)	65.6 (26.0)	69.4 (25.7)	70.3 (14.0)	74.1 (29.9)	86.3 (31.6)	93.8 (35.2)	97.2 (38.4)	82.3 (11.1)
Bunker-C	35.4 (-21.6)	49.7 (40.2)	49.1 (43.9)	50.7 (28.4)	51.9 (18.3)	56.7 (33.1)	66.0 (34.5)	70.7 (39.5)	76.8 (47.9)	68.3 (20.4)
Propane	323.3 (-22.3)	467.5 (44.6)	456.4 (43.4)	480.0 (62.7)	575.0 (69.1)	575.0 (47.4)	550.9 (20.7)	600.0 (25.0)	655.0 (13.9)	540.0 (-6.1)
Butane	355.8 (-18.5)	501.7 (41.0)	495.5 (41.6)	500.0 (56.3)	580.0 (56.8)	580.0 (31.8)	550.5 (11.1)	635.0 (27.0)	655.0 (12.9)	525.0 (-9.5)
Naphtha	42.5 (-19.0)	53.8 (26.6)	52.8 (26.5)	54.9 (29.6)	57.6 (21.1)	64.4 (38.4)	68.4 (29.5)	75.2 (36.9)	74.7 (29.7)	56.8 (-11.9)

Note: 1. ( ) is year-on-year growth rates(%)

2. Gasoline type is 95RON, diesel is 0.001%, Bunker-C is high-sulfur oil(180cst/3.5%), for propane and butane, CP is reference value  
Source: www.petronet.co.kr, IMF (primary commodity price), Monthly Energy Statistics

## Total Primary Energy Supply (TPES)

	2016	2017p					2018p			
			M1~9	M7	M8	M9	M1~9	M7	M8	M9
Coal (Mton)	129.3 (-4.3)	139.8 (8.1)	103.5 (8.0)	12.4 (5.9)	12.5 (7.4)	12.2 (16.2)	107.5 (3.9)	12.7 (3.0)	13.4 (7.5)	11.5 (-5.7)
- Coking coal excluded	95.8 (-2.5)	103.5 (7.9)	76.5 (7.9)	9.2 (5.1)	9.4 (7.9)	9.2 (19.9)	80.0 (4.5)	9.5 (2.7)	10.3 (9.4)	8.4 (-8.4)
Oil (Mbbbl)	921.1 (8.0)	937.1 (1.7)	691.8 (2.0)	79.2 (8.7)	77.8 (-3.5)	77.0 (2.9)	699.9 (1.2)	77.9 (-1.6)	77.6 (-0.3)	76.7 (-0.4)
- Non-energy oil excluded	454.9 (11.3)	443.7 (-2.5)	328.5 (-1.5)	37.3 (5.5)	36.3 (-8.7)	36.7 (-0.5)	335.0 (2.0)	36.8 (-1.6)	37.2 (2.6)	35.5 (-3.2)
LNG (Mton)	34.9 (4.4)	36.4 (4.3)	25.5 (3.0)	2.6 (6.7)	2.3 (-2.3)	2.0 (-3.9)	29.8 (16.8)	2.7 (7.0)	2.7 (17.0)	2.2 (5.5)
Hydro (TWh)	6.6 (14.5)	7.0 (5.5)	5.5 (5.1)	0.6 (-29.4)	1.0 (39.5)	0.7 (7.7)	5.6 (2.2)	0.8 (26.4)	0.7 (-28.0)	0.7 (5.3)
Nuclear (TWh)	162.0 (-1.7)	148.4 (-8.4)	114.6 (-10.1)	12.2 (-9.9)	11.9 (-18.7)	12.3 (-2.8)	96.8 (-15.5)	13.1 (6.8)	12.8 (7.0)	11.1 (-10.2)
Others (Mtoe)	13.6 (5.7)	15.8 (16.7)	11.9 (16.9)	1.3 (21.4)	1.4 (16.7)	1.3 (21.5)	13.2 (11.1)	1.5 (12.0)	1.6 (13.4)	1.5 (10.6)
<b>TPES (Mtoe)</b>	<b>293.4</b> (2.4)	<b>302.0</b> (2.9)	<b>222.7</b> (2.5)	<b>25.1</b> (5.3)	<b>24.7</b> (-1.3)	<b>24.1</b> (5.9)	<b>229.2</b> (2.9)	<b>25.8</b> (2.7)	<b>26.1</b> (5.4)	<b>23.7</b> (-1.8)
- Non-energy oil excluded	235.5 (1.8)	240.6 (2.2)	177.5 (1.7)	19.9 (3.7)	19.6 (-2.1)	19.1 (5.7)	183.9 (3.6)	20.7 (3.9)	21.1 (7.6)	18.6 (-2.7)
- Non-energy oil & coal excluded	212.0 (3.2)	215.3 (1.6)	158.7 (1.1)	17.7 (3.2)	17.4 (-2.9)	17.0 (5.7)	164.6 (3.8)	18.4 (3.8)	18.9 (8.3)	16.4 (-3.4)

Note: p means provisional, ( ) is year-on-year growth rates (%)  
Source: Monthly Energy Statistics

## Share of TPES by Sources

(unit: %)

	2016	2017p					2018p			
			M1~9	M7	M8	M9	M1~9	M7	M8	M9
Coal	27.7	28.5	28.7	30.3	31.1	31.3	28.9	30.5	31.5	30.2
- Coking coal excluded	19.7	20.2	20.2	21.6	22.4	22.4	20.5	21.6	23.2	21.0
Oil	40.1	39.5	39.6	40.1	40.0	40.7	38.8	38.4	37.8	41.1
- non-energy oil excluded	20.3	19.2	19.2	19.4	19.1	19.9	19.1	18.6	18.6	19.5
LNG	15.5	15.7	15.0	13.3	12.2	11.0	17.0	13.9	13.6	11.9
Hydro	0.5	0.5	0.5	0.5	0.8	0.6	0.5	0.7	0.6	0.6
Nuclear	11.6	10.5	11.0	10.4	10.3	10.9	9.0	10.8	10.4	9.9
Others	4.6	5.2	5.3	5.3	5.6	5.6	5.8	5.8	6.0	6.3
<b>TPES</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Note: p means provisional  
Source: Monthly Energy Statistics



## Total Final Consumption (TFC)

(Unit: Mtoe)

	2016	2017p	2018p				2018p			
			M1~9	M7	M8	M9	M1~9	M7	M8	M9
Industry	137.8 (1.9)	144.3 (4.7)	107.0 (5.1)	12.3 (8.2)	12.0 (1.6)	11.9 (4.6)	109.5 (2.4)	12.4 (0.6)	12.2 (2.1)	12.0 (0.7)
Transport	42.3 (6.1)	42.7 (1.1)	32.0 (1.6)	3.8 (9.3)	3.7 (-5.3)	3.6 (3.4)	32.3 (1.0)	3.7 (-1.4)	3.8 (3.0)	3.6 (-2.5)
Residential-commercial	38.7 (4.6)	39.9 (3.1)	28.7 (1.5)	2.3 (6.7)	2.5 (1.3)	2.4 (3.2)	30.1 (4.8)	2.3 (-0.9)	2.7 (6.5)	2.4 (0.8)
Public	6.2 (8.7)	6.9 (11.0)	5.2 (10.4)	0.6 (41.4)	0.6 (9.3)	0.5 (11.2)	5.6 (8.2)	0.6 (2.8)	0.6 (8.3)	0.6 (12.8)
<b>TFC</b>	<b>225.1</b> (3.3)	<b>233.9</b> (3.9)	<b>172.8</b> (3.9)	<b>19.0</b> (9.0)	<b>18.8</b> (0.3)	<b>18.5</b> (4.4)	<b>177.5</b> (2.7)	<b>19.0</b> (0.1)	<b>19.3</b> (3.0)	<b>18.5</b> (0.4)
Coal (Mton)	49.0 (-6.8)	50.4 (2.7)	37.4 (4.3)	4.4 (2.4)	4.1 (-1.5)	4.1 (-4.5)	37.9 (1.3)	4.3 (-2.9)	4.3 (5.8)	3.9 (-5.0)
Oil (Mbbbl)	899.3 (7.3)	926.6 (3.0)	684.2 (3.4)	78.4 (10.4)	77.3 (-2.6)	76.6 (3.6)	690.5 (0.9)	76.9 (-1.9)	76.5 (-1.0)	76.3 (-0.4)
Electricity (TWh)	497.0 (2.8)	507.7 (2.2)	382.3 (2.0)	43.2 (6.5)	45.4 (2.1)	42.3 (2.7)	398.9 (4.4)	44.0 (1.9)	49.5 (9.2)	43.7 (3.3)
City gas (Bm <sup>3</sup> )	21.3 (2.3)	22.6 (6.3)	16.1 (4.5)	1.1 (0.4)	1.1 (3.8)	1.1 (11.7)	17.0 (5.5)	1.2 (7.0)	1.1 (4.1)	1.1 (0.0)
Heat-others (1 000 toe)	13.1 (4.2)	15.0 (14.0)	11.0 (13.4)	1.1 (21.8)	1.1 (16.7)	1.1 (17.0)	12.2 (10.9)	1.3 (9.5)	1.3 (12.4)	1.2 (10.2)

Note: p means provisional, ( ) is year-on-year growth rates (%)  
Source: Monthly Energy Statistics

## Share of the Total Final Consumption by Sources

(unit: %)

	2016	2017p	2018p				2018p			
			M1~9	M7	M8	M9	M1~9	M7	M8	M9
Industry	61.2	61.7	61.9	64.8	63.8	64.4	61.7	65.1	63.2	64.5
Transport	18.8	18.3	18.5	20.0	19.7	19.8	18.2	19.7	19.7	19.2
Residential-commercial	17.2	17.1	16.6	12.2	13.4	13.0	16.9	12.1	13.8	13.0
Public	2.8	3.0	3.0	3.0	3.1	2.9	3.1	3.0	3.2	3.3
Final energy	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Coal	14.3	14.3	14.4	15.4	14.5	14.8	14.2	15.1	14.8	14.2
Oil	50.8	50.4	50.3	52.6	52.3	52.9	49.4	51.5	50.2	52.3
Electricity	19.0	18.7	19.0	19.6	20.8	19.7	19.3	20.0	22.0	20.3
City gas	10.1	10.3	9.9	6.4	6.3	6.6	10.3	6.8	6.3	6.6
Heat-others	5.8	6.4	6.4	6.0	6.1	6.0	6.9	6.6	6.7	6.6

Note: p means provisional  
Source: Monthly Energy Statistics

## Statistics on Energy Production Facilities

	2015	2016	2017				2018p		
				M7	M8	M9	M7	M8	M9
Total capacity (GW)	97.6 (4.8)	105.9 (8.4)	116.9 (19.7)	113.4 (17.1)	114.2 (17.9)	115.2 (19.0)	117.5 (17.3)	118.0 (16.8)	118.0 (15.7)
Nuclear	21.7 (4.8)	23.1 (6.4)	22.5 (3.7)	22.5 (3.7)	22.5 (3.7)	22.5 (3.7)	21.9 (0.6)	21.9 (0.6)	21.9 (0.6)
Bituminous coal	26.2 (1.1)	30.9 (18.0)	36.1 (37.8)	34.7 (34.0)	35.3 (36.3)	36.2 (39.8)	36.4 (33.2)	36.4 (30.3)	36.4 (26.1)
Gas	32.2 (6.5)	32.6 (1.2)	37.9 (17.4)	36.7 (15.1)	36.7 (15.1)	36.7 (15.1)	37.9 (16.1)	37.9 (16.1)	37.9 (16.1)
Refinery capacity (mil BPSD)	3.1 (3.7)	3.1 -	3.1 (0.2)	3.1 (0.2)	3.1 (0.2)	3.1 (0.2)	3.1 (0.2)	3.1 (0.2)	3.1 (0.2)

Note: ( ) is year-on-year growth rates (%)

Source: The monthly report on major electric power statistics

## Statistics on Energy Consumption

	2015	2016	2017				2018p		
				M7	M8	M9	M7	M8	M9
The number of household demanding city gas (mil)	17.4 (3.0)	18.0 (3.4)	18.6 (3.3)	18.2 (3.2)	18.2 (3.3)	18.2 (3.3)	18.8 (3.3)	18.8 (3.0)	18.8 (3.0)
Registered cars (mil)	21.0 (4.3)	21.8 (3.9)	22.5 (3.3)	22.3 (3.4)	22.3 (3.4)	22.4 (3.5)	22.9 (3.1)	23.0 (3.1)	23.0 (3.0)
- gasoline	9.8 (2.3)	10.1 (2.9)	10.4 (2.7)	10.3 (2.8)	10.3 (2.9)	10.3 (2.9)	10.5 (2.5)	10.5 (2.5)	10.6 (2.4)
- diesel	8.6 (8.6)	9.2 (6.4)	9.6 (4.4)	9.4 (4.8)	9.4 (4.8)	9.5 (4.8)	9.8 (4.1)	9.8 (4.1)	9.9 (3.9)
- LPG	2.3 (-3.4)	2.2 (-4.0)	2.1 (-2.9)	2.1 (-3.3)	2.1 (-3.3)	2.1 (-3.1)	2.1 (-3.3)	2.1 (-3.3)	2.1 (-3.2)
- hybrid	0.2 (31.3)	0.2 (37.6)	0.3 (37.6)	0.3 (34.6)	0.3 (35.4)	0.3 (36.4)	0.3 (33.2)	0.4 (32.5)	0.4 (30.8)

Note: ( ) is year-on-year growth rates (%)

Source: Monthly Energy Statistics

# KEEI

MONTHLY **KOREA ENERGY TRENDS** [2018, NO.81]



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KEEI Monthly Korea Energy Trends is designed to be used for energy policy and market strategy in the government and industrial sector by analyzing and providing energy economic indicators in Korea.

This report is written by the Energy Demand and Supply Division of the Center for Energy Information and Statistics in cooperation with the Energy Statistics Research Division of KEEI and other related research divisions.

The energy economic indicators included in this report will be constantly updated until further confirmation.

If you have any further inquiries, please send an email to [EnergyOutlook@keei.re.kr](mailto:EnergyOutlook@keei.re.kr) or call +82-52-714-2270.

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