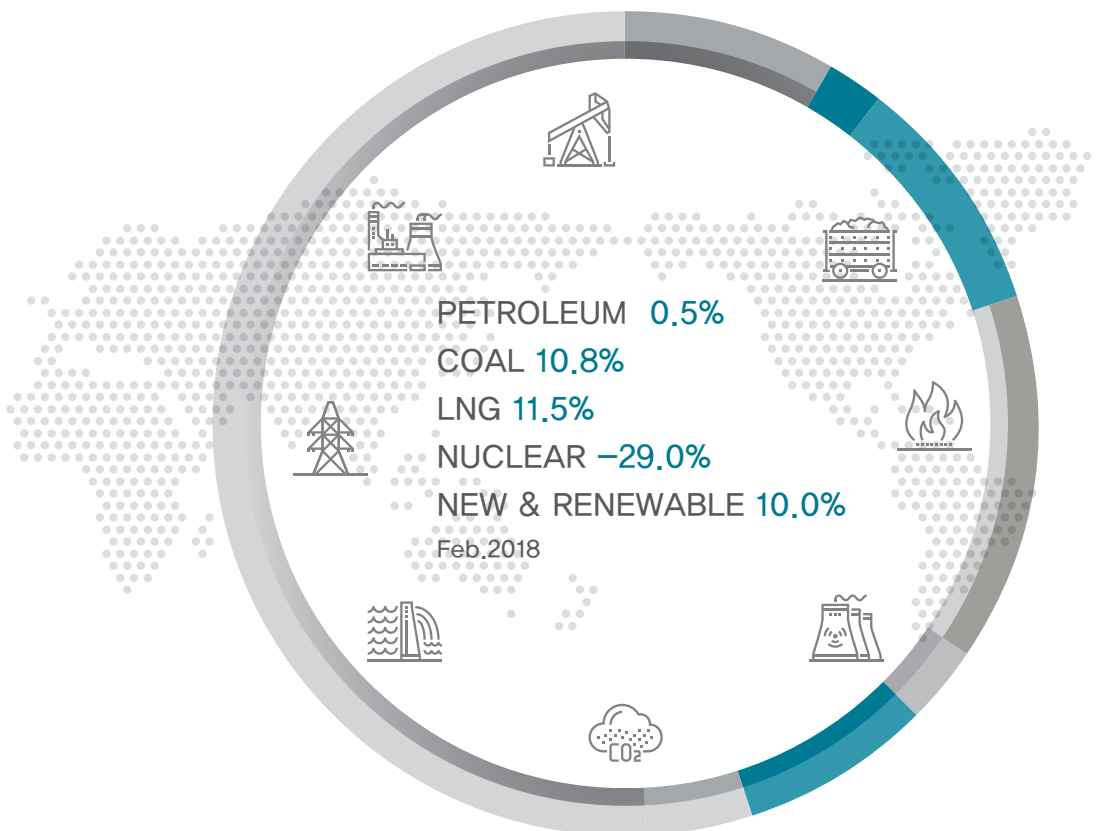


# KEEI

## MONTHLY KOREA ENERGY TRENDS

2018 / 05  
KOREA ENERGY ECONOMICS INSTITUTE



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# 1. The Economy and the Industry

☐ **The total export value rose by 3.3% year-on-year in February, despite fewer working days (-2.5), due to growing export demand for semi-conductors, petroleum products, Ships and etc.**

- The export value of semiconductors rose by 40.8% year-on-year on the back of strong demand for server DRAM and high-capacity NAND flash for smartphones, and also, as its price has stabilized at high levels.
- The export value of petrochemical and petroleum products went up by 6.5% and 14.1% respectively, even though there were less number of work days, because increased oil prices drove up the unit prices of those products.
- The export value of Ships, marine structures and components rose by 29.7%, as several vessels cleared customs, including LNG vessels (5), container vessels (2) and offshore plants (crude oil production · FSRU).
- The export value of computers increased by 29.4%, with the help of stronger demand for PCs and high capacity SSD and the launch of new products.
- The export value of iron and steel products fell by 10.0% due to the plunged export of steel frames, although the product unit prices increased as a result of output cuts according to the Chinese government's action plan for clean air (2017-2018), aimed at protecting the environment.
- The export value of automobiles dropped by 14.5%, because there were fewer work days, and the auto export to the U.S. has been sluggish.

☐ **The production index of mining and manufacturing industries declined by 6.4% due to decreased production of cement, iron & steel and automobiles, while the service production index increased by 1.9%.**

- The production index of mining and manufacturing industries posted the sharpest drop since March, 2013, owing to the lackluster performance of the cement (-21.2%), iron & steel (-14.5%) and automobile (-19.6%) industries, although a few other sectors performed better, such as ICT (2.7%)— including semi-conductors—and basic chemical materials (0.7%).
- The service production index rose by 1.9%, despite weaker performance in the transport (-0.8%) and restaurants & accommodations (-6.7%) sectors, as the index increased in the financial & insurance (5.4%), wholesale & retail (2.5%) and health & social welfare (3.9%) sectors.

► Trend in major economic and industrial indicators

	2016		2017p				2018p	
		M12	M1	M2		M12	M1	M2
GDP (trillion won)	1 508.3 (2.8)	395.9 (2.4)	- -	- -	1 554.8 (3.1)	407.8 (3.0)	- -	- -
Total export (\$billion, customs clearance basis)	495.4 (-5.9)	45.1 (6.3)	40.3 (11.0)	43.2 (20.2)	573.7 (15.8)	49.0 (8.8)	49.2 (22.3)	44.6 (3.3)
Semi-conductors	62.9 (0.4)	62.2 (-1.1)	5.6 (2.5)	5.7 (-2.6)	5.6 (1.7)	8.8 (56.7)	9.7 (69.9)	9.5 (69.6)
Petroleum products	26.5 (-17.3)	2.6 (16.6)	2.8 (68.1)	2.9 (73.3)	35.0 (32.3)	3.4 (31.7)	3.6 (31.1)	3.3 (14.1)
Petrochemicals	37.8 (-21.6)	36.2 (-4.3)	3.2 (4.2)	3.1 (-0.3)	3.0 (0.1)	3.7 (17.8)	4.3 (41.6)	3.1 (6.2)
Iron & steel	28.5 (-5.5)	2.4 (0.4)	2.3 (8.1)	2.9 (42.3)	34.2 (19.9)	2.6 (8.1)	2.7 (17.2)	2.6 (-10.0)
Mining and manufacturing production index (2015=100)	102.3 (2.3)	111.3 (5.6)	100.3 (1.5)	98.6 (7.6)	104.2 (1.8)	106.0 (-4.8)	104.6 (4.3)	92.3 (-6.4)
Cement	108.3 (8.3)	117.1 (8.0)	86.7 (9.9)	92.5 (30.5)	109.9 (1.4)	105.9 (-9.6)	77.6 (-10.5)	72.9 (-21.2)
Service industry production index (2015=100)	102.6 (2.6)	112.9 (1.7)	99.6 (2.3)	97.5 (2.3)	104.5 (1.8)	114.1 (1.1)	103.0 (3.4)	99.4 (1.9)

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

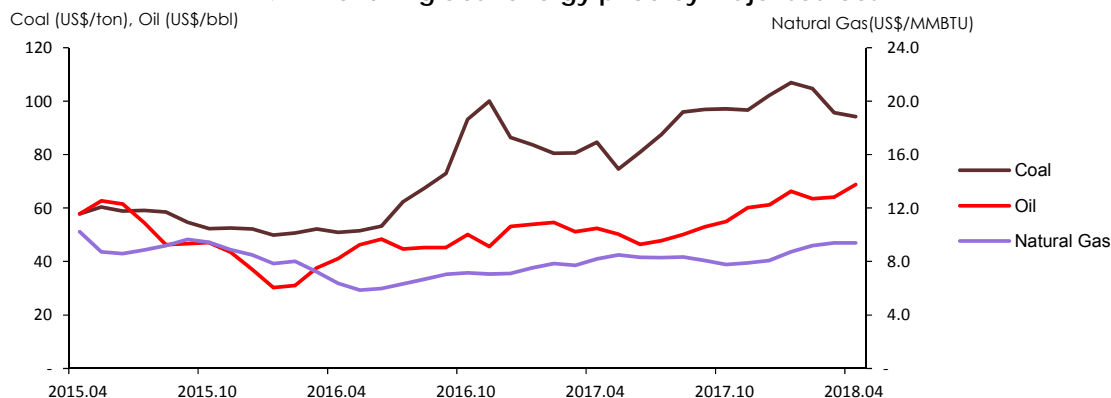
- **Global oil price went up by 7.4% in April from the previous month amid escalating geopolitical instability in the Middle East and possible U.S. economic sanctions against Iran.**
  - The geopolitical anxiety has been mounting in the Middle East, as the U.S. and other western countries bombed Syrian chemical weapons facilities, and Yemen's Houthi rebels launched missile attacks on Saudi Arabia's major facilities.
  - As Iran is suspected of being behind the Houthi rebels, the dispute between Yemen and Saudi Arabia is giving rise to the Sunni-Shiite conflict, and there is growing possibility of economic sanctions against Iran by the U.S., which supports Saudi Arabia. Under these circumstances, the global oil price has shown an upward trend.
- **Global coal price fell slightly to around \$95/ton, and natural gas price has been hovering at \$9/MMBTU.**
  - The global coal price fell by 1.5% from the previous month, as China imported less amount of coal for power generation to improve air quality, while its coal production improved after the Chinese government eased its restrictions on the coal industry.

#### ► Trend in global energy prices

	2016	2017	2018			2018	M2	M3	M4
			M2	M3	M4				
Crude oil (US\$/bbl)	43.3 (-15.2)	53.0 (22.4)	54.6 (76.1)	51.1 (35.8)	52.4 (27.4)	63.5 (16.3)	64.1 (25.3)	68.8 (31.2)	
Natural gas (US\$/MMBTU)	6.9 (-32.6)	8.0 (16.9)	7.9 (-2.0)	7.7 (6.5)	8.2 (28.5)	9.2 (17.1)	9.4 (22.1)	9.4 (14.6)	
Coal (US\$/ton)	65.9 (14.7)	88.4 (34.1)	80.4 (58.6)	80.6 (54.3)	84.6 (66.3)	104.7 (30.2)	95.7 (18.8)	94.2 (11.3)	

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

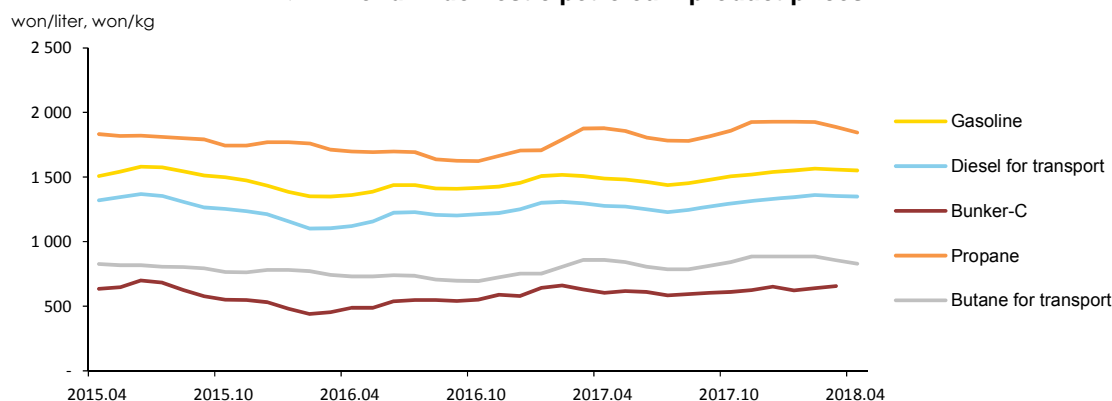
- **Gasoline and diesel prices remained flat in April compared to the previous month in line with the stagnant global oil price.**
  - Domestic prices of gasoline and diesel were at the level of the previous month in April, as the global oil price dipped in February after months of growth, and then stayed flat in March.
- **Domestic prices of propane and butane fell by 2.2% and 3.3% respectively in April than a month ago, as a result of a sharp drop in global prices.**
  - The global prices of propane and butane (Saudi Aramco's supply price)— based on which the domestic prices are set in the following month— fell by 8.6% to \$480/ton and 7.9% to \$465/ton in March compared to the previous month.

### ► Trend in domestic energy prices

	2016	2017	2018			2018	M3	M4
			M2	M3	M4			
Gasoline (won/liter)	1 402.9 (-7.1)	1 491.4 (6.3)	1 516.7 (12.2)	1 506.8 (11.6)	1 487.5 (9.2)	1 564.6 (3.2)	1 557.9 (3.4)	1 551.3 (4.3)
Diesel for transport (won/liter)	1 182.9 (-9.0)	1 282.6 (8.4)	1 307.5 (18.7)	1 297.3 (17.6)	1 277.8 (14.0)	1 360.4 (4.0)	1 354.6 (4.4)	1 349.1 (5.6)
Bunker-C (won/liter)	521.1 (-14.9)	619.4 (18.9)	660.6 (50.4)	630.0 (38.3)	603.7 (23.8)	638.7 (-3.3)	656.5 (4.2)	-
Propane (won/kg)	1 689.7 (-6.2)	1 833.7 (8.5)	1 788.2 (1.6)	1 875.9 (9.6)	1 878.7 (10.6)	1 926.3 (7.7)	1 886.8 (0.6)	1 845.1 (-1.8)
Butane for transport (won/liter)	733.9 (-9.0)	826.4 (12.6)	805.2 (4.3)	858.5 (15.7)	858.1 (17.4)	886.0 (10.0)	857.2 (-0.2)	828.7 (-3.4)

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

### ► Trend in domestic petroleum product prices



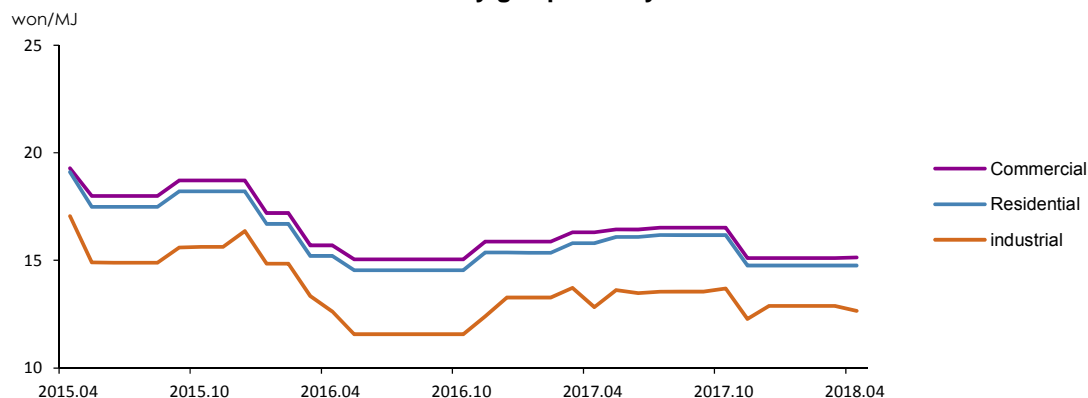
□ **City gas price has been at the same level for six months, ever since it had plunged in November, 2017 after Korea Gas Corporation (“KOGAS”) completed the collection of receivables.**

- Under the raw material cost pass-through scheme, city gas price is adjusted bimonthly in every odd month in order to reflect over 3% changes in natural gas import price, which is affected by global oil price and exchange rates.
- The accounts receivables were accumulated with the suspension of the raw material cost pass-through scheme (2008.3~2013.2) in the time of high oil price, and after KOGAS collected all the receivables through price increase from Sept 2010 until Oct 2017, the price declined again.

□ **Heat energy price has been stagnant for six months as in the case of city gas.**

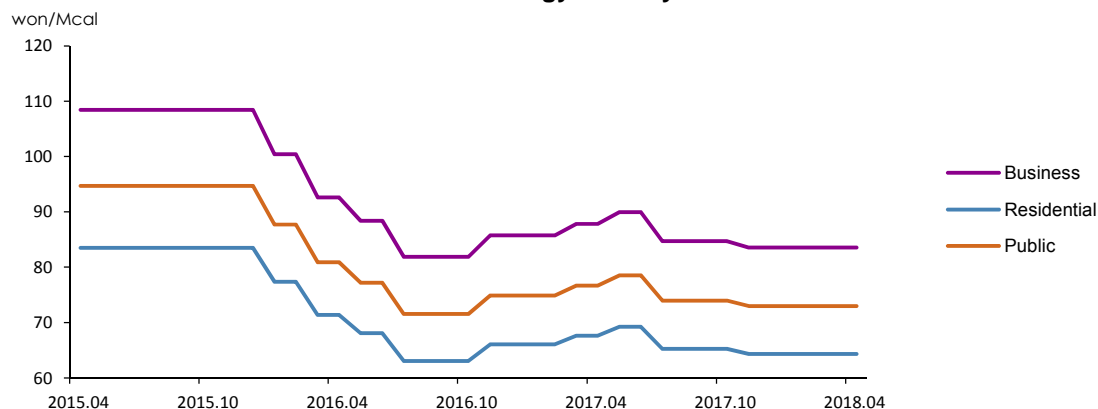
- Korea District Heating Corporation’s heat energy price is linked to city gas price according to the fuel cost pass-through scheme, and the actual fuel cost is reflected in the heat energy price once a year (LNG for over 100MW, city gas for under 100MW).

### ► 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 rates by end-use sectors



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

Source: Korea District Heating Corporation.

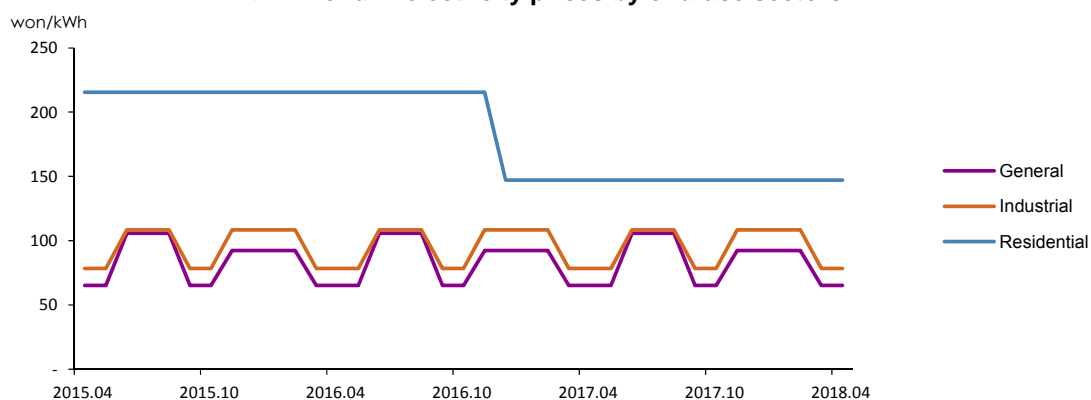
□ **Electricity price<sup>1</sup> plunged in March with the seasonal price change from winter to spring/autumn, and the price maintained the level of the previous month in April,**

- Electricity prices for industrial and general customers fell by 27.7% and 29.4% respectively in March than a month ago according to the price adjustment from winter (Nov-Feb) to spring/autumn (Mar-May, Sep-Oct).
- The residential electricity price, which does not change by season, has been stagnant after a sharp drop (-31.7%) in December, 2016 as a result of the reform of the progressive pricing scheme that was caused by last summer's scorching heatwave.

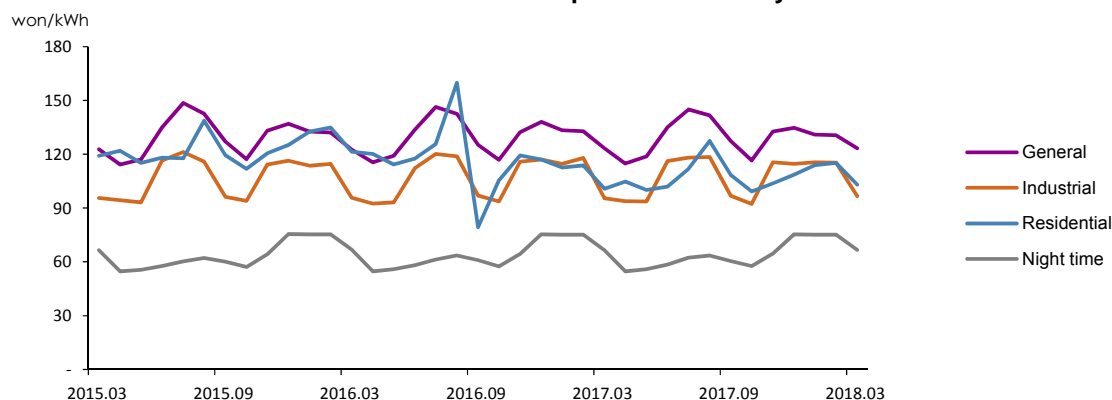
□ **The unit price of electricity for general, industrial and residential customers declined by 5.5%, 16.2% and 10.5% respectively in March from the previous month.**

- The drop in the unit price of electricity for general and industrial use was due to the seasonal price adjustment (spring/autumn), and in the case of residential electricity price, the main cause of the drop was much less electricity consumption for heating compared to February.

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



► **Trend in unit price of electricity**



<sup>1</sup> The electricity prices by end-use sectors refer to the rates 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 value made a year-on-year growth of 28.5% in February due to the bigger import volume of crude oil, petroleum products and LNG in addition to the price increase.**
  - The unit importing price of crude oil rose by 21.4% to \$66.9/bbl, LNG ↑ 23.7% to \$517.2/ton, bituminous coal ↑ 3.4% to \$109.7/ton on a year-on-year basis.
  - Crude oil import has been growing for five consecutive months, as the import increased from the Americas, Africa and Asia, although the import declined from the Middle East.
  - The import volume of petroleum products has been up for two months in a row, mainly bunker-C oil (6.7%) and naphtha (21.2%).
  - The import volume of LNG rebounded due to growing import from the U.S. and Australia, while the bituminous coal import has been declining for three straight months because coking coal and steam coal consumption both slowed down.
  - The energy import accounted for 29.0% of the total import value, which is a 3.0%p increase on a year-on-year basis, owing to the increased unit energy import price, larger import volume and ect.

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

	2016	2017p			2018p		
			M1~2	M12	M1~2	M1	M2
Import volume							
Crude oil (Mbbl)	1 078.1 (5.1)	1 118.2 (3.7)	182.3 (1.6)	99.9 (0.1)	194.3 (6.6)	99.8 (6.6)	94.4 (6.6)
Petroleum product (Mbbl)	334.6 (8.7)	314.0 (-6.2)	51.2 (-4.7)	26.2 (-4.5)	56.9 (10.9)	27.5 (4.1)	29.3 (18.3)
Bituminous coal (Mton)	118.5 (-0.8)	131.5 (11.0)	23.0 (22.1)	11.0 (-13.9)	22.1 (-4.2)	11.7 (-2.8)	10.4 (-5.7)
Anthracite (Mton)	9.4 (5.4)	7.0 (-25.7)	1.3 (11.2)	0.6 (-2.1)	1.2 (-5.2)	0.6 (-19.8)	0.6 (18.3)
LNG (Mton)	33.5 (0.3)	37.6 (12.3)	7.9 (23.6)	4.2 (4.1)	8.7 (10.4)	4.1 (-3.5)	4.6 (27.0)
Import volume (Mtoe)	323.1 (2.7)	338.8 (4.9)	59.1 (9.3)	30.7 (-1.5)	60.8 (2.8)	31.1 (-0.0)	29.7 (6.0)
Import value (billion US\$, CIF)	80.9 (-21.2)	109.5 (35.2)	18.9 (59.6)	11.0 (22.2)	23.7 (25.6)	11.7 (22.7)	12.1 (28.5)
Domestic production							
Hydropower (TWh)	6.6 (14.5)	7.0 (5.2)	1.0 (3.9)	0.5 (-3.1)	0.9 (-11.2)	0.5 (-8.9)	0.4 (-13.7)
Anthracite (Mton)	1.7 (-2.2)	1.5 (-13.9)	0.3 (-1.9)	0.1 (-19.2)	0.2 (-13.9)	0.1 (-1.6)	0.1 (-25.8)
Natural gas (Mton)	0.1 (-18.0)	0.3 (120.5)	0.0 (142.7)	0.0 (-12.7)	0.0 (-6.4)	0.0 (-6.3)	0.0 (-6.4)
Renewable energy (Mtoe)	13.6 (5.7)	15.0 (10.2)	2.5 (8.5)	1.3 (10.7)	2.8 (12.6)	1.4 (15.1)	1.3 (10.0)

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

## 4. Energy Consumption

□ **Total Primary Energy Supply (“TPES”) went up by 2.5% year-on-year in February, though the growth rate declined due to the slower growth of petroleum and gas consumption.**

- The total nuclear generation fell more sharply, as the average capacity factor declined by 21.6%p year-on-year due to much increased preventive maintenance (4.6GW, 88.2%) with delayed power plant restart and the closure of Wolsong unit1.
- The growth of petroleum consumption slowed down, though the consumption grew in the buildings sector, because naphtha consumption grew at slower pace due to increased maintenance at naphtha cracking centers(NCC), while fewer work days led to decreased freight transport, and accordingly, decreased petroleum consumption in the transport sector.
- Gas consumption increased in both of the power generation and city gas production sectors, affected by growing power demand, temperature effect and relatively lower price compared to naphtha and LPG. The consumption growth rate, however, declined because of increased coal-fired generation.
- Coal consumption increased, owing to more use of anthracite and increased coal-fired generation with expanded installed capacity (4.6GW, 14.3%), leading the growth of TPES, although the consumption was stagnant in the steelmaking industry and declined in the cement industry.

□ **Total Final Consumption (“TFC”) posted a year-on-year growth of 3.2% (in February), influenced by increased production and temperature effect, though the growth was slower.**

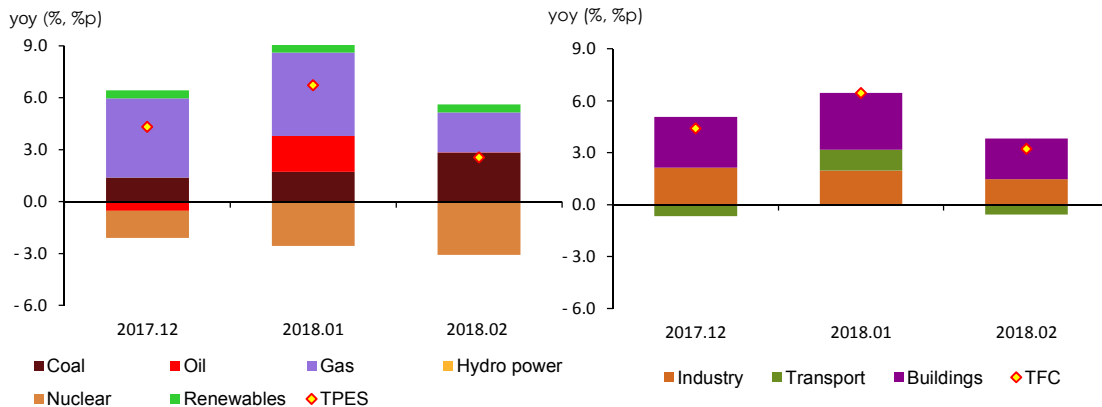
- The industrial sector consumed more energy with increased production in the petrochemical and semi-conductor industries, while the consumption growth rate declined with fewer work days.
- The transport energy use started to decline due to a drop in all of freight transport, air passengers to Jeju island and container traffic at ports.
- The energy use in buildings has been increased for 11 consecutive months, affected by lower temperatures, but the consumption growth rate decreased with slower growth in the number of heating degree days.
- Electricity consumption increased due to bigger production in the petrochemical and semi-conductor industries, higher heating degree days and solid production activity in the service industry, although the consumption growth was slower with fewer work days and decreased production of automobiles and electric furnace steel.

### ► Energy consumption trend

	2016	2017p			2018p		
			M1~2	M12	M1~2	M1	M2
Total energy (Mtoe)	294.6 (2.4)	301.1 (2.2)	53.0 (0.3)	29.0 (4.3)	55.5 (4.7)	29.6 (6.7)	25.9 (2.5)
Final energy (Mtoe)	225.5 (3.3)	232.5 (3.1)	41.2 (1.8)	22.2 (4.4)	43.2 (4.9)	22.6 (6.5)	20.6 (3.2)

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

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



## 5. Coal

□ Coal consumption made a year-on-year growth of 10.8% in February, as the consumption has been continuously rising in the transformation sector and rebounded in the industrial sector.

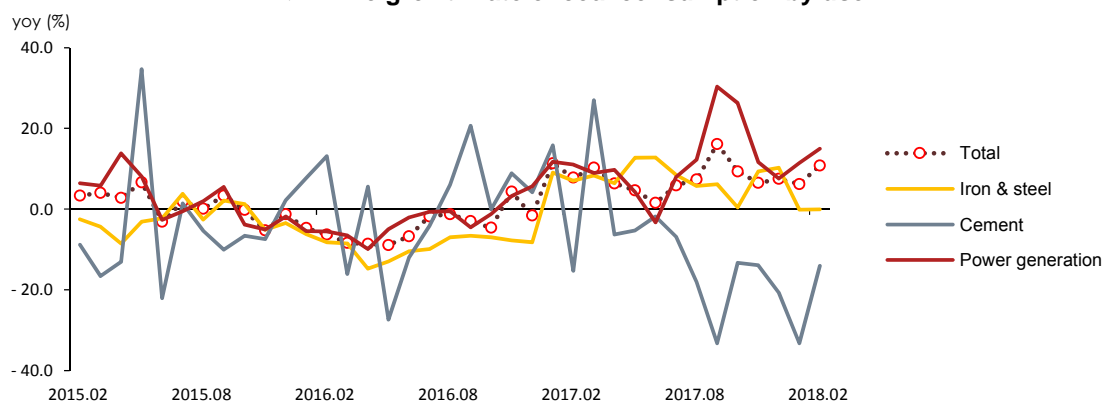
- Coal consumption grew faster in the transformation sector with expanded installed capacity (YoY, 4.6GW, 14.3%) and decreased preventive maintenance on daily average (1.3GW).
- Coal consumption rebounded in the industrial sector, driven by dramatically increased anthracite consumption (50.0%), although the consumption was flat (-0.0%) in the steelmaking industry and plunged (-14.0%) in the cement industry.

► Coal consumption trend

	2016	2017p			2018p		
			M1~2	M12	M1~2	M1	M2
Coal (Mton)	129.4 (-4.3)	139.7 (7.9)	23.6 (9.6)	12.9 (7.5)	25.6 (8.3)	13.5 (6.2)	12.1 (10.8)
Industry	47.9 (-6.6)	49.2 (2.7)	8.1 (7.6)	4.3 (8.8)	8.1 (-0.1)	4.3 (-3.2)	3.8 (3.6)
Buildings	1.3 (-14.8)	1.1 (-14.1)	0.2 (-19.3)	0.1 (-23.2)	0.2 (-9.2)	0.1 (-6.3)	0.1 (-12.5)
Power generation	80.3 (-2.7)	89.4 (11.3)	15.3 (11.4)	8.4 (7.6)	17.3 (13.1)	9.1 (11.4)	8.2 (14.9)

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 rose by 0.5% in February, but the growth was slower, as the consumption declined in the transport sector and grew more slowly in the industrial and buildings sectors.**

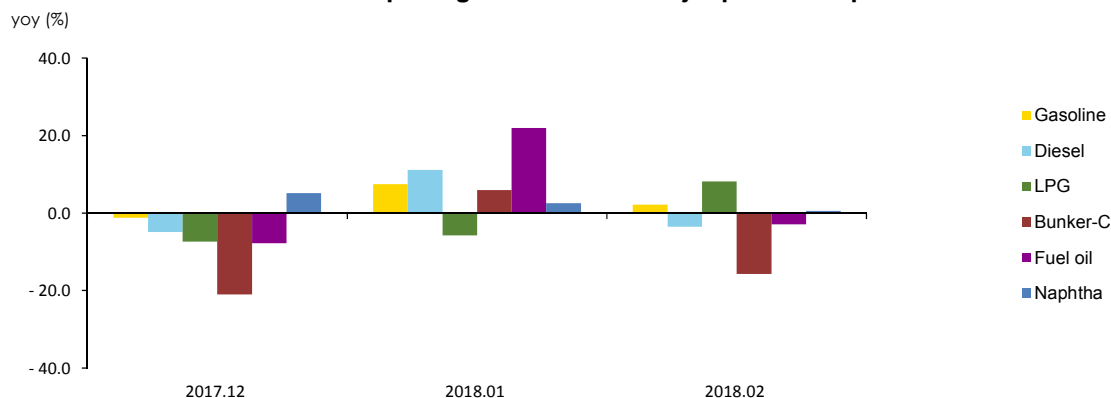
- Industrial petroleum consumption grew at slower pace, despite much increased LPG use, as naphtha consumption grew more slowly.
- Transport petroleum consumption started to decline with less use of major petroleum products except gasoline.
- Petroleum consumption in buildings has grown for four months in a row, especially kerosene for heating, amid lower temperatures. The consumption growth, however, slowed down, as the number of heating degree days rose more slowly.

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

	2016	2017p	2018p				
			M1~2	M1~12	M1~2	M1	M2
<b>Petroleum (Mbbbl)</b>	<b>924.2</b> (7.9)	<b>938.2</b> (1.5)	<b>154.5</b> (-0.6)	<b>938.2</b> (1.5)	<b>158.9</b> (2.8)	<b>84.0</b> (5.1)	<b>74.9</b> (0.5)
Industry	542.6 (8.3)	566.8 (4.5)	92.1 (3.0)	566.8 (4.5)	93.9 (2.0)	49.4 (2.4)	44.4 (1.5)
Transport	303.6 (5.7)	304.4 (0.3)	46.6 (-2.3)	304.4 (0.3)	47.4 (1.7)	25.0 (7.3)	22.4 (-3.8)
Buildings	56.3 (5.2)	56.9 (1.1)	12.4 (-4.6)	56.9 (1.1)	13.8 (11.7)	7.6 (16.3)	6.2 (6.5)
Power generation	21.8 (48.7)	10.1 (-53.6)	3.4 (-35.3)	10.1 (-53.6)	3.8 (10.2)	2.0 (8.4)	1.8 (12.1)

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

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



## 7. Gas

- **Gas consumption increased by 11.5% in February on a year-on-year basis, as the consumption in both of the power generation and gas production sectors sustained double digit growth.**
  - Gas use for power generation increased due to growing power demand (5.2%) and a sharp drop in nuclear generation (-25.0%), though the growth was offset by increased coal-fired generation (10.5%).
- **City gas consumption posted a year-on-year growth of 8.5% on the back of enhanced price competitiveness compared to petroleum and because of cold wave.**
  - Industrial city gas use was up 7.0%, led by the petrochemical industry that posted an exponential growth in city gas consumption (178.2%) for two months in a row with stronger price competitiveness.
  - City gas use in buildings rose by near 10%, led by the residential sector (13.7%), affected by ongoing cold spell, although commercial city gas use fell by 7.1% due to decreased production activity in restaurant & accommodations business (-6.7%), which has the highest energy intensity in the service industry.

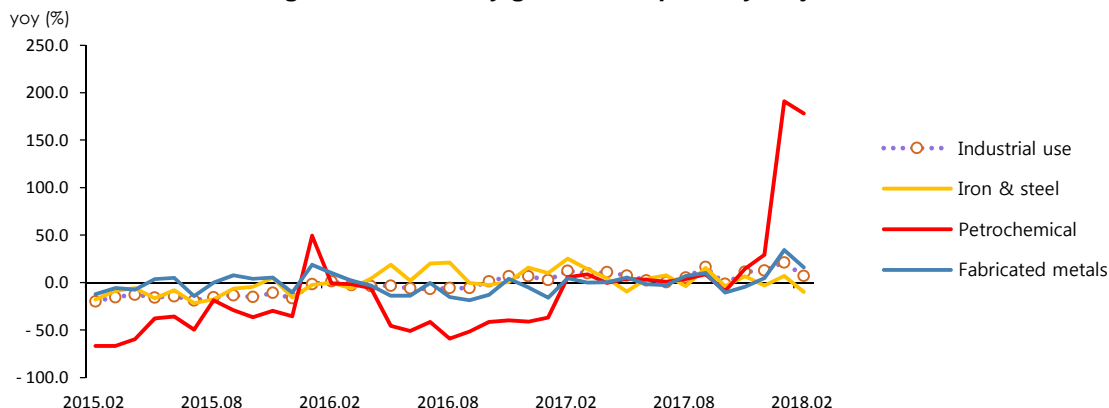
### ► Trend in natural gas and city gas consumption

	2016	2017p	2018p				
			M1~2	M12	M1~2	M1	M2
<b>LNG (Mton)</b>	<b>34.9</b>	<b>36.1</b>	<b>8.2</b>	<b>5.0</b>	<b>9.6</b>	<b>5.3</b>	<b>4.3</b>
	(4.4)	(3.5)	(0.9)	(24.0)	(18.0)	(23.8)	(11.5)
Power generation	15.5	15.6	2.8	1.9	3.4	1.9	1.5
	(6.4)	(0.4)	(1.4)	(28.6)	(23.0)	(34.4)	(10.8)
City gas production	17.4	18.4	4.9	2.8	5.6	3.0	2.5
	(2.7)	(5.8)	(0.3)	(20.8)	(15.2)	(18.4)	(11.6)
<b>City gas (bm<sup>3</sup>)</b>	<b>21.3</b>	<b>22.6</b>	<b>6.0</b>	<b>3.1</b>	<b>6.7</b>	<b>3.5</b>	<b>3.2</b>
	(2.3)	(6.2)	(3.6)	(17.7)	(11.7)	(14.9)	(8.5)
Industry	7.2	7.8	1.5	0.8	1.7	0.9	0.8
	(-1.4)	(7.6)	(7.3)	(12.8)	(14.2)	(21.2)	(7.0)
Buildings	12.8	13.6	4.3	2.2	4.8	2.5	2.3
	(5.0)	(5.9)	(2.5)	(20.7)	(11.4)	(13.2)	(9.5)

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

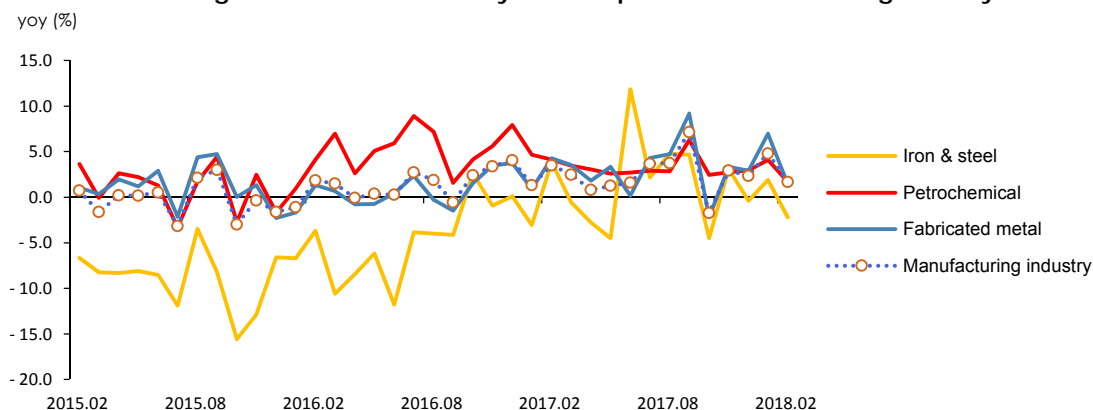
- **Electricity consumption rose by 5.2% year-on-year in February, as the consumption increased in the industrial and buildings sectors, influenced by growing export demand and temperature effect.**
  - The growth of industrial electricity consumption was led by the petrochemical and fabricated metals industries. The growth rate, however, was lower than the previous month because of fewer work days (-2.5).
  - Electricity consumption in buildings grew fast with more heating demand and increased service production.

► **Trend in electricity consumption by end-use sectors**

	2016	2017p			2018p		
			M1~2	M12	M1~2	M1	M2
<b>Electricity (TWh)</b>	<b>497.0</b>	<b>507.7</b>	<b>89.6</b>	<b>45.8</b>	<b>95.1</b>	<b>48.4</b>	<b>46.7</b>
	(2.8)	(2.2)	(1.6)	(5.2)	(6.1)	(7.0)	(5.2)
Industry	270.0	276.7	46.0	24.2	47.7	24.7	22.9
	(1.6)	(2.5)	(2.4)	(2.8)	(3.7)	(5.1)	(2.2)
Transport	2.7	2.8	0.5	0.3	0.5	0.3	0.3
	(21.3)	(4.9)	(1.9)	(14.0)	(11.0)	(12.2)	(9.7)
Buildings	224.4	228.3	43.2	21.3	46.9	23.4	23.6
	(4.0)	(1.7)	(0.7)	(7.9)	(8.7)	(9.0)	(8.4)

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

► **The growth rate of electricity consumption in manufacturing industry**

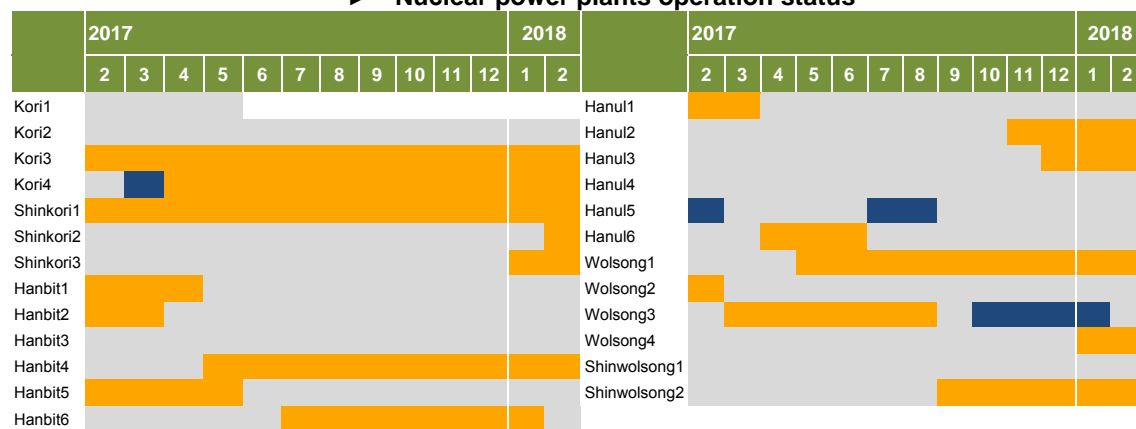


## 9. Nuclear

□ **Nuclear generation declined by 29.0% year-on-year in February as a result of a surge in planned preventive maintenance and the shutdown of Wolsong unit1.**

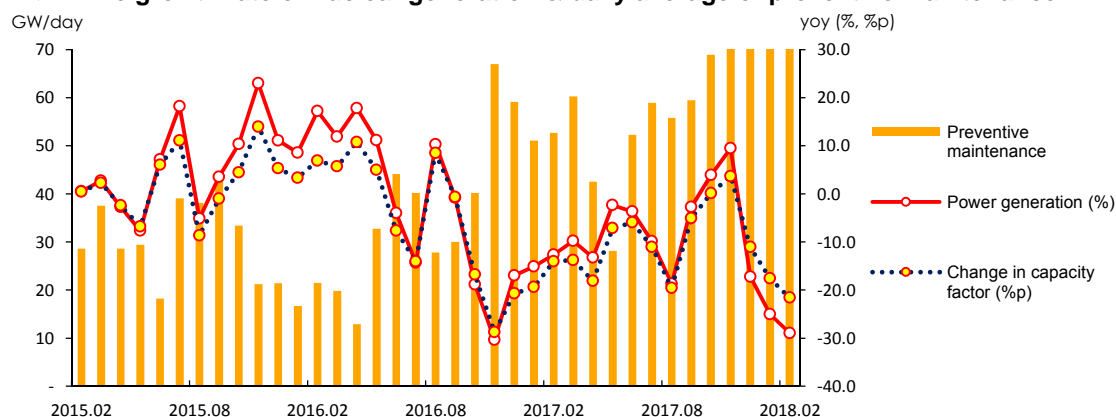
- The average capacity factors at nuclear power plants fell by 21.6%p to 58.1%, as the restart of nuclear reactors was delayed with stronger safety inspections, and as Wolsong unit1 was closed according to the 8<sup>th</sup> Electricity Supply & Demand Plan.
- Nuclear's share of the total generation dropped by 8.2%p to 19.0% in February compared to the same month last year.

► **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

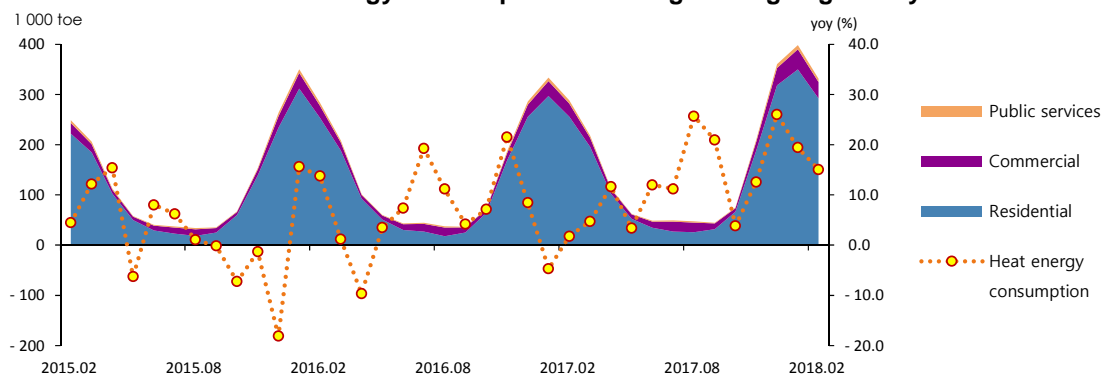
□ **Heat energy consumption went up by 15.0% year-on-year in February with a surge in the number of heating degree days amid prolonged cold spell.**

- Heat energy consumption in the residential, commercial and public sectors increased by 14.2%, 25.4% and 8.3% respectively, as extremely cold weather continued through mid-February, and accordingly, the number of heating degree days kept increasing (39.2degree days, 7.7%).

□ **Renewable & other energy consumption rose by 13.1%, despite reduced hydropower generation, as renewable generation and its share of TFC increased.**

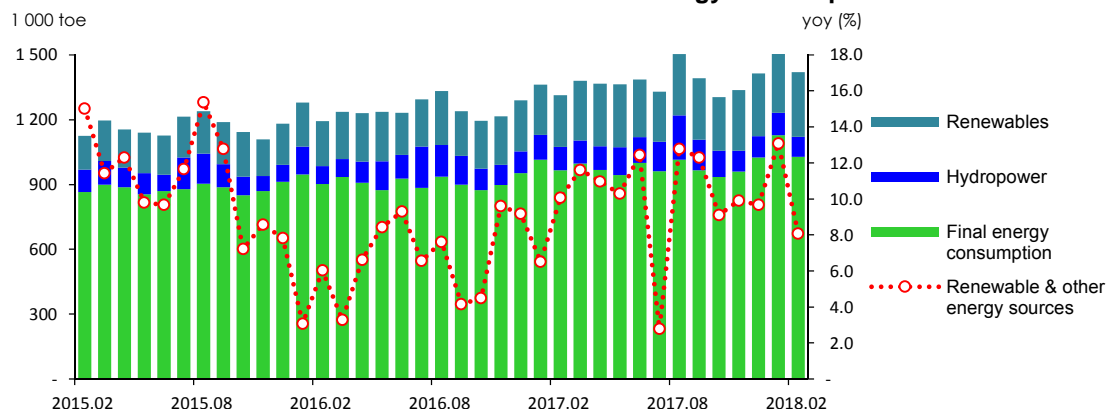
- Renewable generation (except hydropower) was up 24.1% with a surge in the use of solar PV, fuel cell and bioenergy, and its share of TFC increased by 6.5%, led by the industrial sector.
- Hydropower generation decreased by 13.7% (438.6GWh) due to the base effect of a sudden increase during the same month last year (30.4%), even though the amount of rainfall returned to the average (32.5mm) thanks to the heavy rain at the end of February.

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



Note: The heat energy consumption is based on the supply of KDHC, GS Power, SH Corp. In accordance with the heating/cooling degree days of the meteorological agency, base temperature of heating degree days is set at 18°C and that of cooling degree days was revised from 18°C to 24°C.

### ► Trend in renewable and other energy consumption



## 11. Industry

□ Industrial energy consumption posted a year-on-year growth of 2.6% in February, driven by the petrochemical and fabricated metals industries.

- Meanwhile, the growth rate of the industrial energy use slowed down because there were 2.5 fewer work days in February with Lunar New Year holiday that was in January in the previous year.

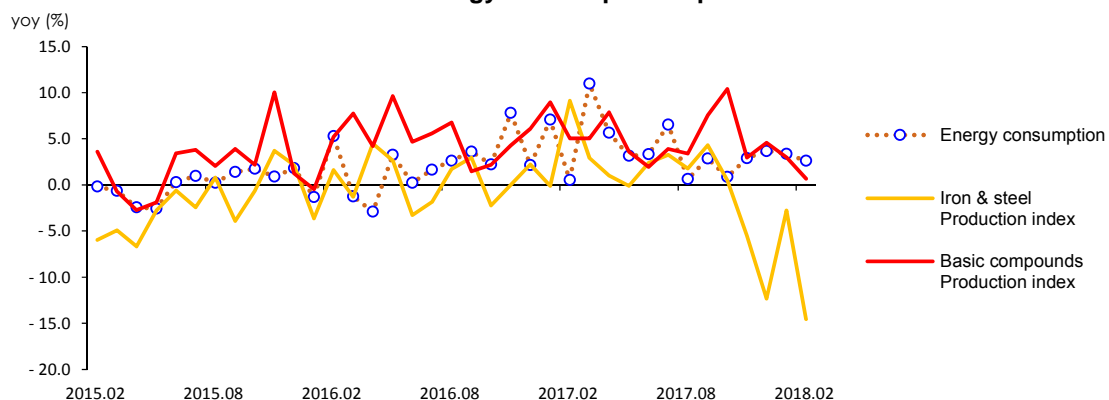
### ► Trend in the industrial energy consumption

	2016	2017p	2018p				
			M1~2	M12	M1~2	M1	M2
<b>Industry (Mtoe)</b>	<b>138.3</b>	<b>143.8</b>	<b>23.7</b>	<b>12.8</b>	<b>24.4</b>	<b>12.9</b>	<b>11.6</b>
	(1.9)	(4.0)	(3.9)	(3.7)	(3.0)	(3.4)	(2.6)
Petrochemical	65.9	68.6	11.4	6.1	11.9	6.2	5.7
	(6.8)	(4.1)	(2.2)	(2.5)	(5.0)	(5.2)	(4.7)
- Naphtha	52.7	56.2	9.3	5.0	9.4	4.9	4.5
	(4.7)	(6.6)	(1.3)	(5.1)	(1.6)	(2.6)	(0.5)
Iron & Steel	28.1	30.0	5.0	2.6	5.0	2.6	2.3
	(-8.0)	(6.7)	(6.8)	(8.4)	(-0.1)	(0.3)	(-0.5)
Fabricated metal	10.6	10.9	1.9	1.0	2.1	1.1	1.0
	(0.4)	(3.0)	(1.3)	(1.9)	(7.2)	(11.9)	(2.5)
Share of feedstock (%)	58.7	59.9	59.2	59.7	58.1	58.0	58.2

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

Source: Monthly Energy Statistics

### ► Industrial energy consumption & production index



## 12. Transport

□ **Transport energy use declined by 3.5% year-on-year in February, as all of the transport sectors used less energy except rail transport.**

- The prices of gasoline, diesel and butane for transport rose by 3.2%, 4.0% and 10.0% respectively, while bunker-C oil price declined by 3.3%.
- Energy use for road transport decreased with less freight traffic, which was caused by fewer work days with Lunar New Year.
- Energy use for navigation started to decline even with lower bunker-C oil price, because of decreased volume of coastal transport (-31.6%) and export (-0.9%).
- Energy use for aviation decreased, largely influenced by a drop in the number of passengers and flights at Jeju, Gimpo and Gimhae airports, which take up a large part of the domestic air traffics.

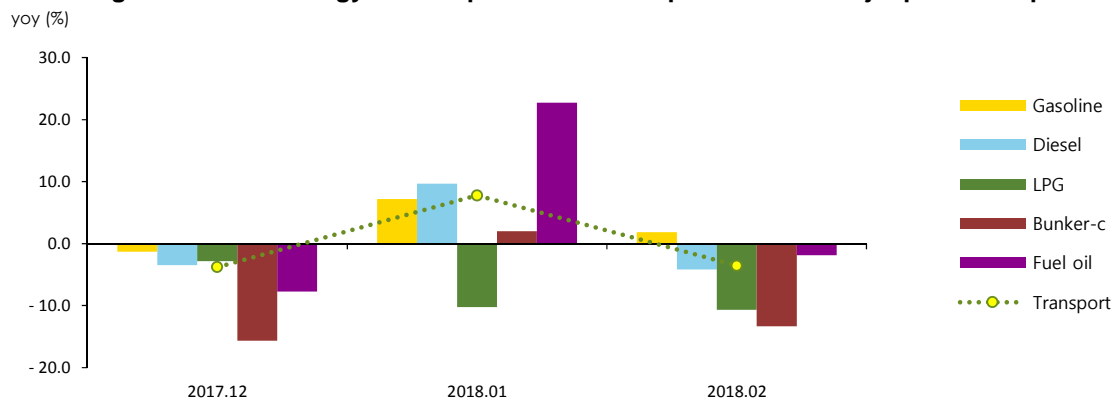
► **The growth rate of petroleum consumption in the transport sector**

	2016	2017p	2018p		2018p	M1	M2
			M1~2	M12			
<b>Transport (Mtoe)</b>	<b>42.7</b> (6.0)	<b>43.0</b> (0.7)	<b>6.6</b> (-1.9)	<b>3.6</b> (-3.8)	<b>6.7</b> (2.1)	<b>3.5</b> (7.8)	<b>3.2</b> (-3.5)
Road	34.4 (4.9)	34.4 (0.2)	5.2 (-3.2)	3.0 (-2.0)	5.3 (1.7)	2.8 (6.2)	2.5 (-2.9)
Navigation	3.4 (13.8)	3.4 (2.0)	0.6 (11.5)	0.3 (-17.3)	0.6 (-4.8)	0.3 (2.7)	0.3 (-12.3)
Aviation	4.7 (9.1)	4.8 (3.2)	0.7 (-2.4)	0.4 (-7.8)	0.8 (10.0)	0.4 (22.7)	0.4 (-1.8)
Rail	0.3 (8.3)	0.3 (2.5)	0.1 (-1.7)	0.0 (17.9)	0.1 (8.8)	0.0 (12.3)	0.0 (5.2)

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 8.6% year-on-year in February, as cold wave continued through mid-February.**

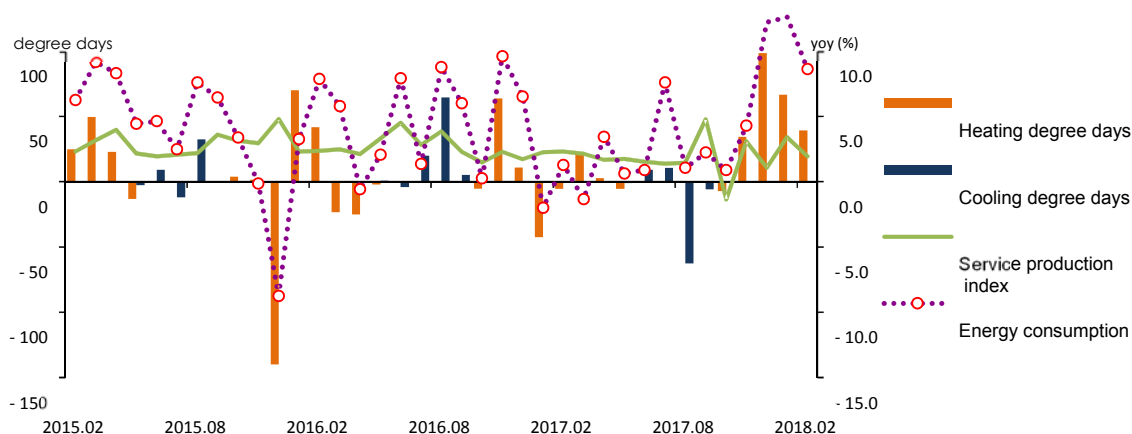
- Energy consumption in buildings has been growing fast, which is attributable to increased heating degree days in the midst of cold weather (7.7%) and more energy use for heating with lower prices of city gas and heat energy.
- Energy consumption in residential buildings increased by 11.3%, mainly city gas, heat energy and kerosene, as extremely cold weather drove up the energy demand for heating.
- As for the energy consumption in commercial buildings, LPG and city gas use dropped by 2.9% and 7.1% respectively due to decreased production activity in the restaurant & accommodations business (-6.7%), while electricity, kerosene and heat energy use rose by 9.3%, 18.6% and 25.4% each due to temperature effect.

### ► Energy consumption trend in the buildings sector

	2016	2017p	2018p				
			M1~2	M12	M1~2	M1	M2
<b>Buildings (Mtoe)</b>	<b>44.5</b>	<b>45.7</b>	<b>10.9</b>	<b>5.7</b>	<b>12.1</b>	<b>6.2</b>	<b>5.8</b>
	(5.1)	(2.6)	(-0.4)	(12.2)	(10.6)	(12.6)	(8.6)
Residential	21.3	21.9	6.1	3.3	6.9	3.6	3.3
	(5.6)	(3.0)	(-1.1)	(16.5)	(13.3)	(15.2)	(11.3)
Commercial	17.0	17.4	3.7	1.8	3.9	2.0	1.9
	(3.3)	(2.4)	(0.2)	(7.7)	(6.7)	(8.1)	(5.3)
Public-others	6.2	6.4	1.2	0.6	1.3	0.7	0.6
	(8.4)	(1.9)	(1.1)	(5.1)	(9.2)	(13.2)	(5.2)

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 increased by 0.7% year-on-year in February, mainly coal and gas.

- The commissioning of a new bituminous coal power plant and growing power demand led to increased coal and gas-fired generation.

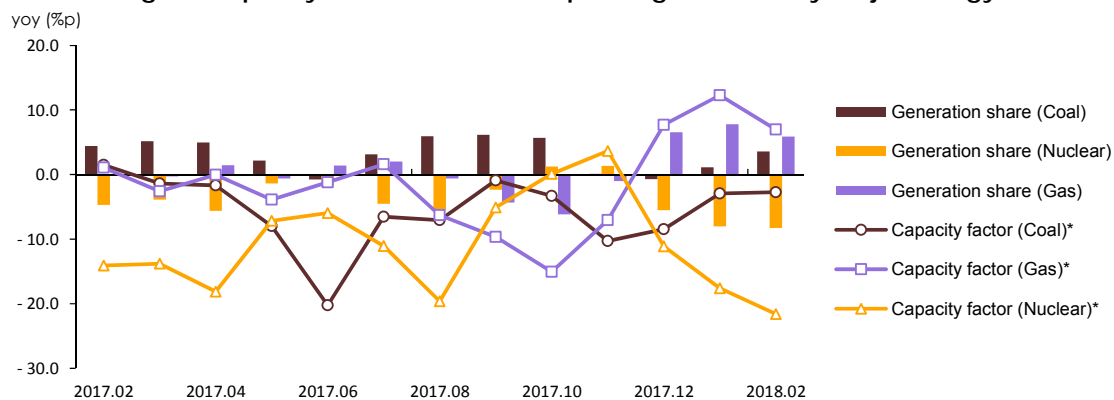
### ► Energy consumption in the power generation sector

	2016	2017p	2018p		
			M1~2	M12	M1~2
<b>Input (Mtoe)</b>	<b>110.9</b>	<b>111.1</b>	<b>19.2</b>	<b>10.3</b>	<b>19.9</b>
	(0.8)	(0.1)	(-1.9)	(2.7)	(3.5)
Coal	49.2	52.8	9.0	4.9	10.2
	(-2.8)	(7.4)	(7.2)	(3.8)	(13.4)
Oil	3.0	1.2	0.4	0.2	0.4
	(50.1)	(-59.7)	(-40.5)	(-29.6)	(-4.6)
Gas	20.5	20.7	3.7	2.5	4.5
	(6.3)	(0.9)	(1.8)	(28.9)	(22.9)
Nuclear	34.2	31.6	5.4	2.2	4.0
	(-1.7)	(-7.5)	(-13.1)	(-16.5)	(-26.9)
Hydro/other renewables	4.0	4.7	0.7	0.4	0.8
	(17.4)	(16.4)	(11.5)	(15.2)	(15.5)

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			2017	2017		
			2Q	3Q	4Q		2Q	3Q	4Q
GDP (trillion won)	1 466.8 (2.8)	1 508.3 (2.8)	378.6 (3.4)	378.2 (2.6)	395.9 (2.4)	1 554.8 (3.1)	388.8 (2.7)	392.4 (3.8)	407.8 (3.0)
Private consumption	707.5 (2.2)	725.4 (2.5)	176.8 (3.6)	182.1 (2.8)	184.5 (1.4)	744.3 (2.6)	181.0 (2.4)	186.8 (2.6)	190.7 (3.4)
Facilities investment	140.3 (4.7)	138.8 (-1.0)	35.7 (-1.6)	33.6 (-2.5)	37.4 (3.3)	159.1 (14.6)	42.0 (17.9)	39.1 (16.3)	40.6 (8.6)
Construction investment	211.5 (6.6)	233.4 (10.3)	61.8 (9.4)	62.0 (11.0)	65.1 (11.9)	251.1 (7.6)	67.1 (8.5)	67.0 (8.0)	67.6 (3.8)
Consumer price index (2015=100)	100.0	101.0	100.8	101.0	101.5	102.9	102.7	103.3	103.1
USD to KRW exchange rate (won)	1 131.0	1 160.8	1 163.2	1 121.1	1 156.4	1 131.0	1 129.4	1 132.3	1 107.5
Benchmark rate (%)	1.6	1.4	1.4	1.3	1.3	1.3	1.3	1.3	1.4
Coincident composite index (2015=100)	100.0	103.3	102.7	103.9	104.5	107.0	106.8	107.4	107.9
Mining & manufacturing production index (2015=100)	100.0	102.3	102.1	100.2	108.4	104.2	104.3	104.8	104.3
Manufacturing operation ratio index (2015=100)	100.0	98.2	100.3	95.5	101.4	97.1	98.3	98.1	96.0
Average temperature	13.6	13.6	19.1	25.8	8.0	13.0	18.9	25.0	6.7
- year-on-year difference	0.2	- 0.0	0.5	0.9	- 0.6	- 0.6	- 0.2	- 0.8	- 1.3
Heating degree days	2 459.1 (-1.7)	2 589.7 (5.3)	140.9 (-16.2)	0.3 n.a	935.3 (8.0)	2 687.6 (3.8)	138.6 (-1.6)	0.6 (100.0)	1 060.9 (13.4)
Cooling degree days	151.8 (21.1)	238.1 (56.9)	10.2 (-24.4)	227.9 (64.8)	- n.a	188.1 (-21.0)	18.2 (78.4)	169.9 (-25.5)	- n.a
Energy intensity	0.20 (-1.1)	0.20 (-0.4)	0.18 (-2.2)	0.19 (0.6)	0.19 (-0.0)	0.19 (-0.9)	0.18 (-1.0)	0.19 (-1.5)	0.19 (0.3)
Per capita consumption									
oil (bbl)	16.8 (3.7)	18.0 (7.4)	4.3 (8.0)	4.5 (7.8)	4.8 (6.7)	18.2 (1.2)	4.3 (1.3)	4.6 (1.9)	4.8 (0.4)
Electricity (MWh)	9.5 (0.7)	9.7 (2.3)	2.3 (1.0)	2.5 (3.7)	2.4 (3.0)	9.9 (1.8)	2.3 (0.7)	2.5 (3.4)	2.4 (2.2)
City gas (1 000 m <sup>3</sup> )	0.4 (-6.4)	0.4 (1.8)	0.1 (-3.3)	0.1 (-2.6)	0.1 (7.2)	0.4 (5.8)	0.1 (4.9)	0.1 (4.7)	0.1 (10.4)
Total energy (toe)	5.6 (1.1)	5.7 (1.9)	1.3 (0.6)	1.4 (2.7)	1.5 (1.9)	5.9 (1.8)	1.3 (1.3)	1.4 (1.9)	1.5 (2.9)

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)

	2015	2016	2017				2018		
			M12	M1	M2		M12	M1	M2
Industrial production index									
All industry	100.0 (1.9)	103.1 (3.2)	116.4 (3.6)	99.3 (2.4)	98.4 (5.0)	105.5 (2.3)	115.5 (-0.8)	103.7 (4.4)	97.6 (-0.8)
Mining & manufacturing	100.0 (-0.3)	102.3 (2.3)	111.3 (5.6)	100.3 (1.5)	98.6 (7.6)	104.2 (1.8)	106.0 (-4.8)	104.6 (4.3)	92.3 (-6.4)
Iron & steel	100.0 (-2.0)	100.2 (0.2)	106.2 (2.2)	98.1 (-0.1)	97.0 (9.1)	100.7 (0.4)	93.1 (-12.3)	95.4 (-2.8)	82.9 (-14.5)
Cement	100.0 (19.5)	108.3 (8.3)	117.1 (8.0)	86.7 (9.9)	92.5 (30.5)	109.9 (1.4)	105.9 (-9.6)	77.6 (-10.5)	72.9 (-21.2)
Basic compound	100.0 (2.2)	104.8 (4.8)	111.5 (6.1)	113.2 (9.0)	103.8 (5.1)	110.4 (5.4)	116.6 (4.6)	116.6 (3.0)	104.5 (0.7)
Transport equipment	100.0 (1.3)	97.7 (-2.3)	116.5 (7.4)	87.3 (-9.5)	95.3 (10.3)	94.9 (-2.9)	82.5 (-29.2)	88.9 (1.8)	76.6 (-19.6)
Electric & electronic	100.0 (-3.3)	103.3 (3.3)	114.3 (1.2)	94.0 (-3.9)	98.2 (6.3)	106.4 (3.0)	110.7 (-3.1)	100.8 (7.2)	89.5 (-8.9)
Service	100.0 (2.8)	102.6 (2.6)	112.9 (1.7)	99.6 (2.3)	97.5 (2.3)	104.5 (1.8)	114.1 (1.1)	103.0 (3.4)	99.4 (1.9)
Operating ratio index									
Manufacturing	100.0 (-2.0)	98.2 (-1.8)	102.3 (-1.0)	92.7 (-3.2)	91.7 (3.1)	97.1 (-1.2)	95.8 (-6.4)	95.0 (2.5)	84.1 (-8.3)
Iron & steel	100.0 (-2.4)	99.9 (-0.1)	105.9 (2.1)	97.8 (-0.3)	96.8 (8.9)	101.0 (1.0)	99.9 (-5.7)	102.2 (4.5)	89.0 (-8.1)
Cement	100.0 (8.3)	107.0 (7.0)	115.2 (6.6)	85.1 (8.3)	90.7 (28.7)	107.6 (0.5)	104.9 (-8.9)	77.3 (-9.2)	73.0 (-19.5)
Basic compound	100.0 (-1.8)	103.6 (3.6)	109.2 (4.6)	110.8 (7.3)	101.5 (3.0)	107.2 (3.4)	111.8 (2.4)	112.0 (1.1)	100.5 (-1.0)
Transport equipment	100.0 (1.6)	94.2 (-5.8)	110.5 (4.0)	83.2 (-11.7)	90.8 (7.8)	89.7 (-4.8)	77.8 (-29.6)	85.1 (2.3)	73.0 (-19.6)
Electric & electronic	100.0 (1.0)	102.2 (2.2)	112.2 (0.8)	93.3 (-3.2)	96.8 (5.7)	102.8 (0.5)	102.3 (-8.8)	94.9 (1.7)	83.5 (-13.7)

Note: p means provisional  
Source: Monthly Energy Statistics

## International Energy Prices

	2016	2017					2018			
			M1~4	M2	M3	M4	M1~4	M2	M3	M4
Crude oil (USD/bbl)										
WTI	43.3 (-11.2)	51.0 (17.6)	51.7 (46.2)	53.5 (74.6)	49.7 (30.8)	51.1 (24.3)	63.7 (23.2)	62.2 (16.3)	62.8 (26.4)	66.3 (29.8)
Dubai	41.2 (-18.8)	53.2 (28.9)	52.9 (62.8)	54.4 (88.4)	51.2 (45.3)	52.3 (34.1)	65.0 (22.8)	62.7 (15.3)	62.7 (22.5)	68.3 (30.5)
Brent	45.0 (-16.0)	54.8 (21.7)	54.5 (46.6)	56.0 (67.0)	52.5 (32.0)	53.8 (24.2)	68.3 (25.5)	65.7 (17.4)	66.7 (27.0)	71.8 (33.3)
Unit value of import (C&F)	41.0 (-23.0)	53.3 (29.9)	53.6 (63.0)	55.1 (88.3)	54.2 (68.8)	52.7 (43.7)	49.1 (-8.4)	66.9 (21.4)	64.7 (19.3)	- -
LNG										
From Indonesia (USD/MMBTU)	6.9 (-32.6)	8.0 (16.8)	7.8 (6.1)	7.9 (-2.0)	7.7 (6.5)	8.2 (28.5)	9.2 (17.4)	9.2 (17.1)	9.4 (22.1)	9.4 (14.6)
Unit value of import (USD/ton, CIF)	356.7 (-35.0)	416.3 (16.7)	411.9 (7.1)	418.3 (3.9)	407.6 (8.3)	408.9 (19.4)	485.4 (17.9)	517.2 (23.7)	488.5 (19.8)	483.7 (18.3)
Bituminous coal (USD/ton)										
From Australia	65.9 (14.5)	88.4 (34.2)	82.3 (61.7)	80.4 (58.6)	80.6 (54.3)	84.6 (66.3)	100.4 (21.9)	104.7 (30.2)	95.7 (18.8)	94.2 (11.3)
Unit value of import (CIF)	68.9 (-6.8)	104.3 (51.5)	105.8 (75.5)	106.1 (85.2)	110.4 (80.3)	102.3 (69.6)	113.1 (7.0)	109.7 (3.4)	119.5 (8.2)	113.6 (11.0)
Petroleum product (USD/bbl)										
Gasoline	56.2 (-19.1)	68.1 (21.2)	67.9 (33.7)	70.0 (55.4)	64.3 (21.6)	67.7 (24.2)	78.6 (15.8)	77.0 (10.0)	77.1 (20.0)	81.5 (20.3)
Kerosene	52.8 (-18.3)	65.3 (23.6)	64.3 (46.1)	66.2 (62.0)	61.9 (29.3)	63.9 (28.9)	81.3 (26.4)	80.0 (20.9)	79.0 (27.6)	85.2 (33.2)
Diesel	53.0 (-20.4)	66.4 (25.1)	65.4 (50.1)	67.3 (68.2)	63.1 (34.6)	65.0 (31.2)	80.7 (23.4)	78.1 (15.9)	78.4 (24.2)	84.3 (29.6)
Bunker-C	35.4 (-21.6)	49.7 (40.2)	48.6 (88.3)	49.6 (108.3)	46.2 (70.0)	48.0 (62.4)	58.5 (20.2)	57.0 (15.0)	57.0 (23.4)	61.0 (27.1)
Propane	323.3 (-22.3)	468.8 (45.0)	463.8 (49.6)	510.0 (78.9)	480.0 (65.5)	430.0 (34.4)	517.5 (11.6)	525.0 (2.9)	480.0 -	475.0 (10.5)
Butane	355.8 (-18.5)	500.8 (40.7)	546.3 (58.9)	600.0 (90.5)	600.0 (87.5)	490.0 (40.0)	502.5 (-8.0)	505.0 (-15.8)	465.0 (-22.5)	470.0 (-4.1)
Naphtha	42.5 (-19.0)	53.8 (26.6)	53.6 (41.3)	56.4 (66.8)	50.7 (30.3)	52.2 (23.3)	64.3 (19.8)	61.2 (8.7)	62.9 (24.1)	66.9 (28.2)

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)

	2015	2016	2017p				2018p		
				M1~2	M1	M2	M1~2	M1	M2
Coal (Mton)	135.2 (1.2)	129.4 (-4.3)	139.7 (7.9)	23.6 (9.6)	12.7 (11.3)	10.9 (7.8)	25.6 (8.3)	13.5 (6.2)	12.1 (10.8)
- Coking coal excluded	98.5 (2.6)	96.0 (-2.5)	103.5 (7.9)	17.6 (10.2)	9.5 (12.1)	8.1 (8.0)	19.6 (11.2)	10.3 (8.3)	9.3 (14.6)
Oil (Mbbbl)	856.2 (4.2)	924.2 (7.9)	938.2 (1.5)	154.5 (-0.6)	79.9 (1.2)	74.6 (-2.4)	158.9 (2.8)	84.0 (5.1)	74.9 (0.5)
- Non-energy oil excluded	411.7 (6.0)	458.0 (11.2)	446.3 (-2.5)	74.6 (-1.7)	38.4 (-2.6)	36.2 (-0.8)	77.6 (4.1)	41.3 (7.6)	36.3 (0.4)
LNG (Mton)	33.4 (-8.7)	34.9 (4.4)	36.1 (3.5)	8.2 (0.9)	4.3 (-2.8)	3.9 (5.3)	9.6 (18.0)	5.3 (23.8)	4.3 (11.5)
Hydro (TWh)	5.8 (-25.9)	6.6 (14.5)	7.0 (5.2)	1.0 (3.9)	0.5 (-12.2)	0.5 (29.1)	0.9 (-11.2)	0.5 (-8.9)	0.4 (-13.7)
Nuclear (TWh)	164.8 (5.3)	162.0 (-1.7)	148.4 (-8.4)	25.5 (-13.9)	13.1 (-15.1)	12.4 (-12.6)	18.6 (-26.9)	9.8 (-25.0)	8.8 (-29.0)
Others (Mtoe)	12.8 (17.2)	13.6 (5.7)	15.0 (10.2)	2.5 (8.5)	1.2 (8.5)	1.2 (8.6)	2.8 (12.6)	1.4 (15.1)	1.3 (10.0)
<b>TPES (Mtoe)</b>	<b>287.7</b> (1.6)	<b>294.6</b> (2.4)	<b>301.1</b> (2.2)	<b>53.0</b> (0.3)	<b>27.7</b> (0.3)	<b>25.3</b> (0.3)	<b>55.5</b> (4.7)	<b>29.6</b> (6.7)	<b>25.9</b> (2.5)
- Non-energy oil excluded	232.4 (1.4)	236.6 (1.8)	240.0 (1.4)	43.1 (0.2)	22.6 (-0.7)	20.5 (1.3)	45.4 (5.4)	24.3 (7.6)	21.1 (3.0)
- Non-energy oil & coal excluded	206.7 (1.9)	213.2 (3.2)	214.8 (0.7)	38.9 (-0.5)	20.4 (-1.6)	18.5 (0.8)	41.3 (6.0)	22.1 (8.5)	19.2 (3.3)

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

## Share of TPES by Sources

(unit: %)

	2015	2016	2017p				2018p		
				M1~2	M1	M2	M1~2	M1	M2
Coal	29.8	27.8	28.7	27.5	28.2	26.7	28.4	28.0	28.8
- Coking coal excluded	20.8	19.8	20.3	19.6	20.3	18.9	20.9	20.6	21.2
Oil	38.1	40.1	39.7	37.1	36.6	37.6	36.5	36.2	36.7
- non-energy oil excluded	18.9	20.4	19.4	18.4	18.1	18.8	18.3	18.4	18.2
LNG	15.2	15.4	15.7	20.1	20.2	20.0	22.7	23.4	21.8
Hydro	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4
Nuclear	12.1	11.6	10.5	10.2	10.1	10.4	7.1	7.1	7.2
Others	4.5	4.6	5.0	4.6	4.5	4.8	5.0	4.9	5.1
TPES	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: p means provisional  
Source: Monthly Energy Statistics

## Total Final Consumption (TFC)

(unit: Mtoe)

	2015	2016	2017p				2018p		
				M1~2	M1	M2	M1~2	M1	M2
Industry	135.7 (0.3)	138.3 (1.9)	143.8 (4.0)	23.7 (3.9)	12.4 (7.1)	11.3 (0.6)	24.4 (3.0)	12.9 (3.4)	11.6 (2.6)
Transport	40.3 (7.1)	42.7 (6.0)	43.0 (0.7)	6.6 (-1.9)	3.3 (-5.6)	3.3 (2.1)	6.7 (2.1)	3.5 (7.8)	3.2 (-3.5)
Residential · commercial	36.6 (3.0)	38.3 (4.5)	39.3 (2.7)	9.7 (-0.6)	4.9 (-2.3)	4.8 (1.2)	10.8 (10.8)	5.6 (12.5)	5.2 (9.1)
Public	5.8 (7.8)	6.2 (8.4)	6.4 (1.9)	1.2 (1.1)	0.6 (0.2)	0.6 (2.0)	1.3 (9.2)	0.7 (13.2)	0.6 (5.1)
<b>TFC</b>	<b>218.4</b> (2.1)	<b>225.5</b> (3.3)	<b>232.5</b> (3.1)	<b>41.2</b> (1.8)	<b>21.3</b> (2.5)	<b>19.9</b> (1.0)	<b>43.2</b> (4.9)	<b>22.6</b> (6.5)	<b>20.6</b> (3.2)
Coal (Mton)	52.7 (-1.1)	49.1 (-6.8)	50.3 (2.3)	8.3 (6.6)	4.5 (10.7)	3.8 (2.2)	8.3 (-0.3)	4.4 (-3.3)	3.9 (3.2)
Oil (Mbbbl)	841.6 (4.1)	902.4 (7.2)	928.1 (2.8)	151.1 (0.7)	78.1 (2.6)	73.0 (-1.3)	155.1 (2.7)	82.0 (5.0)	73.1 (0.2)
Electricity (TWh)	483.7 (1.3)	497.0 (2.8)	507.7 (2.2)	89.6 (1.6)	45.2 (1.2)	44.4 (2.0)	95.1 (6.1)	48.4 (7.0)	46.7 (5.2)
City gas (Bm <sup>3</sup> )	20.8 (-5.9)	21.3 (2.3)	22.6 (6.2)	6.0 (3.6)	3.0 (0.9)	2.9 (6.4)	6.7 (11.7)	3.5 (14.9)	3.2 (8.5)
Heat · others (1 000 toe)	12.2 (13.4)	12.6 (3.8)	13.6 (7.5)	2.6 (4.9)	1.3 (4.0)	1.3 (5.8)	2.9 (10.9)	1.5 (13.2)	1.4 (8.5)

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

Source: Monthly Energy Statistics

## Share of the Total Final Consumption by Sources

(unit: %)

	2015	2016	2017p				2018p		
				M1~2	M1	M2	M1~2	M1	M2
Industry	62.2	61.3	61.9	57.5	58.5	56.5	56.5	56.8	56.2
Transport	18.5	18.9	18.5	16.0	15.4	16.5	15.5	15.6	15.4
Residential · commercial	16.8	17.0	16.9	23.6	23.3	23.9	24.9	24.6	25.3
Public	2.6	2.8	2.7	2.9	2.8	3.0	3.0	3.0	3.1
Final energy	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Coal	16.1	14.5	14.4	13.4	14.1	12.8	12.8	12.8	12.7
Oil	49.1	50.9	50.8	46.4	46.4	46.4	45.5	46.0	45.0
Electricity	19.0	19.0	18.8	18.7	18.3	19.2	18.9	18.4	19.5
City gas	10.1	10.1	10.2	15.1	14.9	15.4	16.1	16.0	16.1
Heat · others	5.6	5.6	5.8	6.3	6.3	6.3	6.7	6.7	6.6

Note: p means provisional

Source: Monthly Energy Statistics

## Statistics on Energy Production Facilities

	2015	2016	2017				2018		
			M12	M1	M2		M12	M1	M2
Total capacity (GW)	97.6 (4.8)	105.9 (8.4)	105.9 (8.4)	106.2 (12.9)	107.1 (13.8)	116.9 (19.7)	116.9 (19.7)	116.4 (18.6)	116.4 (17.8)
Nuclear	21.7 (4.8)	23.1 (6.4)	23.1 (6.4)	23.1 (11.6)	23.1 (11.6)	22.5 (3.7)	22.5 (3.7)	22.5 (3.7)	22.5 (3.7)
Bituminous coal	26.2 (1.1)	30.9 (18.0)	30.9 (18.0)	31.0 (19.6)	31.0 (19.6)	36.1 (37.8)	36.1 (37.8)	36.1 (37.7)	36.1 (37.0)
Gas	32.2 (6.5)	32.6 (1.2)	32.6 (1.2)	32.6 (5.2)	33.5 (8.0)	37.9 (17.4)	37.9 (17.4)	37.4 (16.4)	37.4 (14.8)
Refinery capacity (mil BPSD)	3.1 (3.7)	3.1 -	3.1 -	3.1 -	3.1 -	3.1 -	3.1 -	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				2018		
			M12	M1	M2		M12	M1	M2
The number of household demanding city gas (mil)	17.4 (3.0)	18.0 (3.4)	18.0 (3.4)	18.0 (3.3)	18.1 (3.2)	18.6 (3.3)	18.6 (3.3)	18.7 (3.4)	18.7 (3.2)
Registered cars (mil)	21.0 (4.3)	21.8 (3.9)	21.8 (3.9)	21.9 (3.9)	21.9 (3.8)	22.5 (3.3)	22.5 (3.3)	22.6 (3.2)	22.6 (3.2)
- gasoline	9.8 (2.3)	10.1 (2.9)	10.1 (2.9)	10.1 (3.0)	10.2 (3.0)	10.4 (2.7)	10.4 (2.7)	10.4 (2.7)	10.4 (2.7)
- diesel	8.6 (8.6)	9.2 (6.4)	9.2 (6.4)	9.2 (6.1)	9.2 (5.9)	9.6 (4.4)	9.6 (4.4)	9.6 (4.3)	9.6 (4.2)
- LPG	2.3 (-3.4)	2.2 (-4.0)	2.2 (-4.0)	2.2 (-3.9)	2.2 (-3.9)	2.1 (-2.9)	2.1 (-2.9)	2.1 (-3.0)	2.1 (-3.0)
- hybrid	0.2 (31.3)	0.2 (37.6)	0.2 (37.6)	0.2 (37.8)	0.2 (37.5)	0.3 (37.6)	0.3 (37.6)	0.3 (37.5)	0.3 (37.7)

Note: ( ) is year-on-year growth rates (%)  
Source: Monthly Energy Statistics

# KEEI

MONTHLY **KOREA ENERGY TRENDS** (2018, NO.74)



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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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