

KEEI

MONTHLY KOREA ENERGY TRENDS



KOREA ENERGY ECONOMICS INSTITUTE

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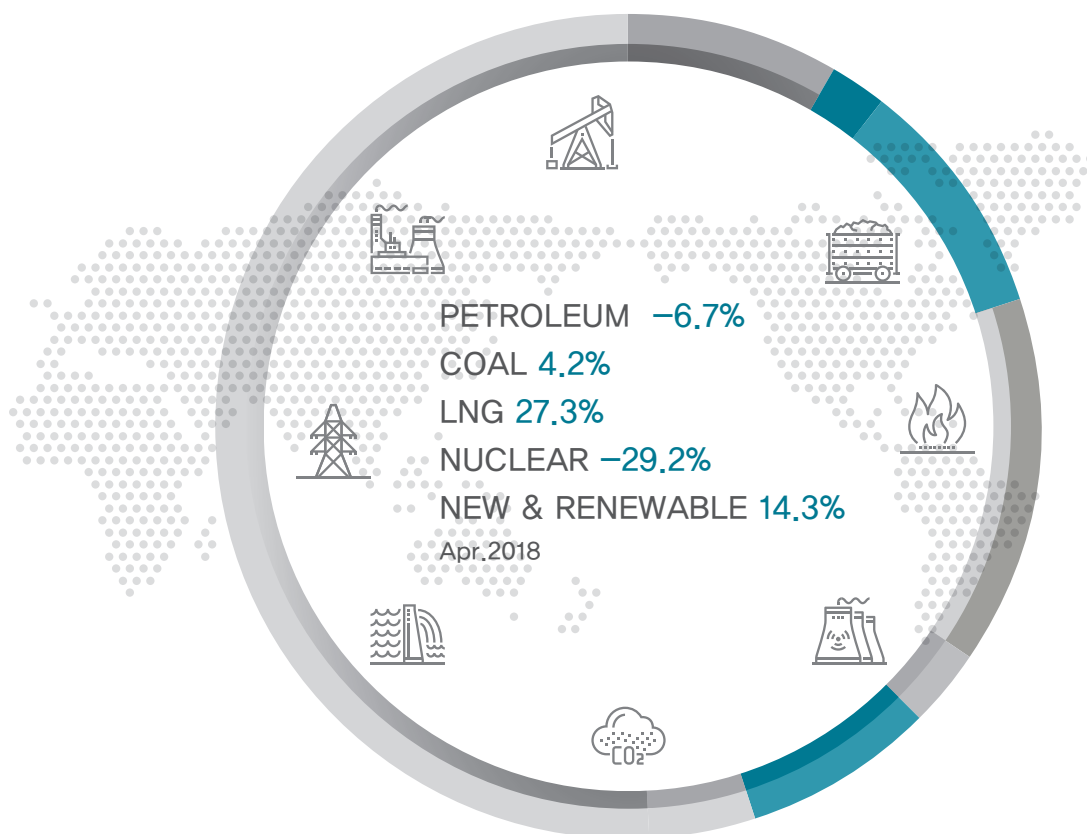


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1. The Economy and the Industry

- **The total export value posted a year-on-year decline of 1.5% in April, despite stronger performance of the semi-conductor and other industries, as the export value of marine vessels and iron & steel products declined due to a base effect.**
 - The export value of semi-conductors went up by 37.0% year-on-year, taking up 19.5% of the total export value, and marking 19 consecutive months of increase. Such growth was attributed to a strong performance of emerging markets such as server DRAM (memory semi-conductor), Internet of Things (IoT) and autonomous vehicles.
 - The export value of petroleum products rose by 58.2% on the back of larger export volume, which has to do with the base effect of regular maintenance during the same month last year, in addition to higher unit prices that was driven by oil price increase. The export value of petrochemical products was up 11.9% also because of higher unit prices.
 - The export value of iron & steel products fell by 7.4% year-on-year due to the base effect of a dramatic increase during the same month last year with the help of strong export of steel products(project-based).
 - The export value of marine vessels plunged by 75.1% year-on-year, owing to the base effect of a surge (102.7%) during the same period of last year when several offshore plants cleared customs.
- **The production index of mining and manufacturing industries was up 0.8%, led by the semi-conductors and basic chemical materials sectors, and the service industry production index was up 2.7%.**
 - The production index of mining and manufacturing industries increased for the first time in three months, boosted by the basic chemical materials (4.1%) and ICT sectors (11.8%), although the production was sluggish in the cement (-9.6%) and automobiles (-5.4%) sectors.
 - The service industry production index remained on an upward trend thanks to the strong performance of the wholesale & retail business (1.1%) and sewage/waste/raw material recycling sector (12.1%), even though the production declined in the restaurant & accommodations (-1.7%) and art/sports/leisure (-3.2%) businesses.

► **Trend in major economic and industrial indicators**

	2016	2017p				2018p		
			M2	M3	M4	M2	M3	M4
GDP (trillion won)	1 509.8 (2.9)	1 556.0 (3.1)	- -	366.2 (2.9)	- -	- -	376.4 (2.8)	- -
Total export (\$billion, customs clearance basis)	495.4 (-5.9)	573.7 (15.8)	43.2 (20.2)	48.6 (13.1)	50.8 (23.8)	44.5 (3.2)	51.3 (5.5)	50.1 (-1.5)
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)	35.0 (32.3)	2.9 (73.3)	3.0 (59.3)	2.5 (3.8)	3.3 (14.2)	3.1 (1.6)	4.0 (58.2)
Ships, marine structures & components	34.3 (-14.6)	42.2 (23.1)	1.9 (-29.4)	2.9 (11.5)	7.1 (102.7)	2.5 (29.7)	2.0 (-31.0)	1.8 (-75.1)
Mining and manufacturing production index (2015=100)	102.3 (2.3)	104.2 (1.8)	98.6 (7.6)	110.6 (5.0)	103.3 (3.7)	91.9 (-6.8)	106.3 (-3.9)	104.1 (0.8)
ICT	107.0 (7.0)	110.9 (3.6)	99.4 (6.2)	112.2 (14.7)	101.9 (3.9)	102.1 (2.7)	114.8 (2.3)	113.9 (11.8)
Cement	108.3 (8.3)	109.9 (1.4)	92.5 (30.5)	128.2 (13.4)	121.7 (4.3)	73.6 (-20.4)	108.0 (-15.8)	110.0 (-9.6)
Service industry performance index (2015=100)	102.6 (2.6)	104.5 (1.8)	97.5 (2.3)	105.6 (2.1)	103.1 (1.7)	99.3 (1.8)	108.1 (2.4)	105.9 (2.7)

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

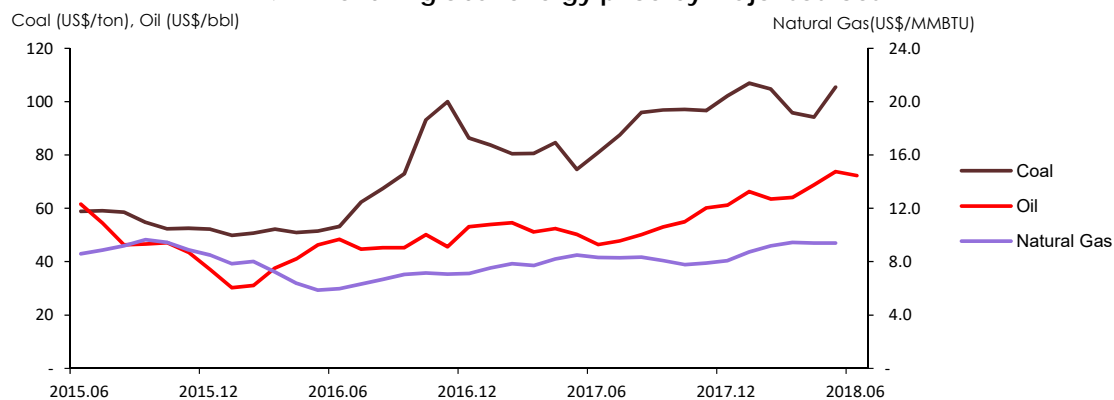
- **Global oil price slid by 2.0% in June from the previous month after OPEC and non-OPEC oil producers agreed to start easing oil output cuts.**
 - OPEC and non-OPEC oil producers agreed to boost oil output by 1Mbb/d from July at a regular meeting held on June 23rd.
 - Meanwhile, the U.S. crude inventory decreased compared to the previous month (434.5Mbb/d→417.9Mbb/d), partially offsetting the oil price decline.
- **Global coal price jumped to over \$100/ton in May, while natural gas price has been flat at \$9/MMBTU.¹**
 - Global coal price went up by 11.9% in May from the previous month, as China increased its coal import to meet growing demand from the power generation sector during extremely hot weather.

► Trend in global energy prices

	2016	2017				2018		
			M4	M5	M6	M4	M5	M6
Crude oil (US\$/bbl)	43.3	53.0	52.4	50.2	46.4	68.8	73.8	72.3
	(-15.2)	(22.4)	(27.4)	(8.6)	(-4.0)	(31.2)	(47.0)	(55.8)
Natural gas (US\$/MMBTU)	6.9	8.0	8.2	8.5	8.3	9.4	9.4	-
	(-32.6)	(16.9)	(28.5)	(45.1)	(38.6)	(14.6)	(10.6)	(-100.0)
Coal (US\$/ton)	65.9	88.4	84.6	74.5	81.0	94.2	105.5	-
	(14.7)	(34.1)	(66.3)	(44.8)	(52.3)	(11.3)	(41.5)	(-100.0)

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



¹ Since the World Bank's 'Monthly Price' data was not updated, the latest available data is for May.

Domestic energy prices

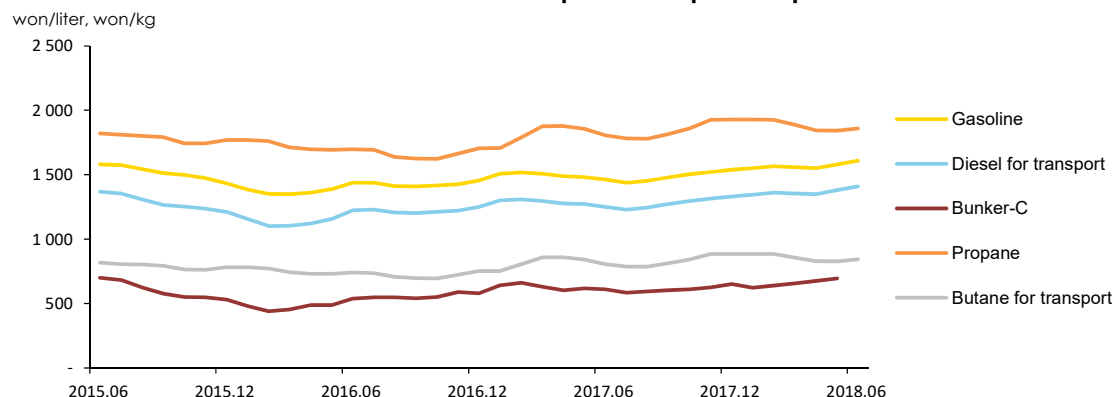
- **Gasoline and diesel prices increased by 1.8% and 2.2% respectively in June following the global oil price hike of the previous month.**
 - The domestic prices of petroleum products all increased in June, despite a 2.0% drop in global oil price in the same month, as domestic prices reflect global prices of the previous month; global oil price rose by 7.3% in May.
- **The domestic prices of propane and butane rose by 1.0% and 2.0% respectively in June than a month earlier as a result of the global price increase.**
 - The global prices of propane and butane (Saudi Aramco's supply price) are the basis for domestic LPG price of the following month, and they went up by 5.3% and 7.4% respectively in May (\$500/ton, \$505/ton) from the previous month.

► Trend in domestic energy prices

	2016	2017				2018		
			M4	M5	M6		M4	M5
Gasoline (won/liter)	1 402.9	1 491.4	1 487.5	1 481.2	1 461.6	1 551.3	1 580.3	1 609.1
	(-7.1)	(6.3)	(9.2)	(6.7)	(1.7)	(4.3)	(6.7)	(10.1)
Diesel for transport (won/liter)	1 182.9	1 282.6	1 277.8	1 271.4	1 251.5	1 349.1	1 380.2	1 410.0
	(-9.0)	(8.4)	(14.0)	(9.8)	(2.1)	(5.6)	(8.6)	(12.7)
Bunker-C (won/liter)	521.1	619.4	603.7	617.6	610.4	674.6	695.9	-
	(-14.9)	(18.9)	(23.8)	(26.3)	(13.4)	(11.7)	(12.7)	-
Propane (won/kg)	1 689.7	1 833.7	1 878.7	1 857.1	1 805.9	1 845.1	1 842.2	1 860.0
	(-6.2)	(8.5)	(10.6)	(9.7)	(6.4)	(-1.8)	(-0.8)	(3.0)
Butane for transport (won/liter)	733.9	826.4	858.1	842.3	804.7	828.7	826.9	843.7
	(-9.0)	(12.6)	(17.4)	(15.2)	(8.6)	(-3.4)	(-1.8)	(4.8)

Note: Gasoline, diesel and butane prices are based on charging station prices, Bunker-C 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



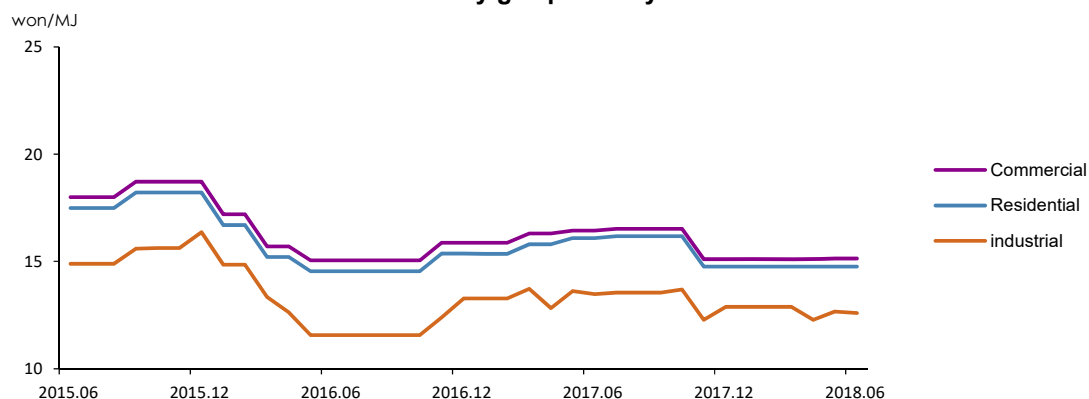
□ **City gas price for industrial use fell slightly in June, while the prices for residential and commercial use maintained the level of the previous month.**

- City gas price fell by 9.3% in Seoul after Korea Gas Corporation("KOGAS") had completed the collection of receivables in Nov, 2017.

□ **Heat energy price, which is linked to city gas price, has been flat for eight consecutive months since November 2017.**

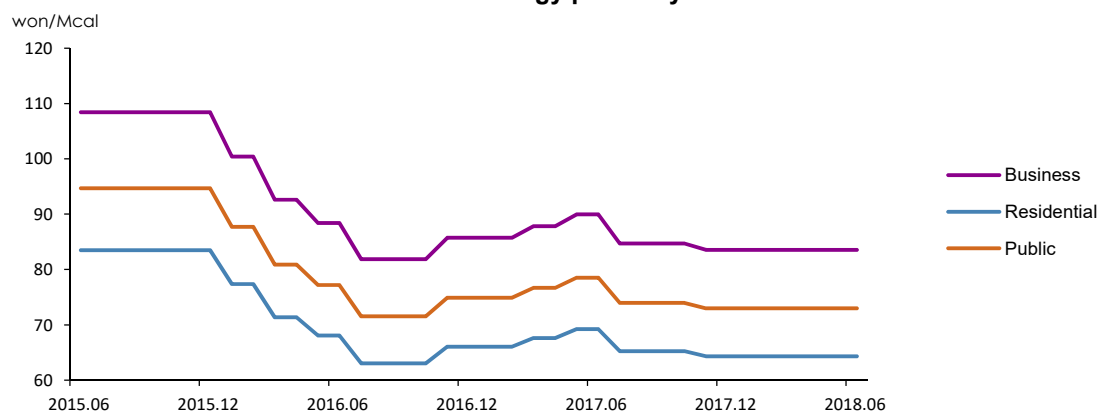
- Korea District Heating Corporation's heat energy price is linked to city gas price according to the fuel cost pass-through scheme, and the actual fuel cost is reflected in the heat energy price once a year (LNG for over 100MW, city gas for under 100MW).

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



Note: Instead of volume (M³), calorie (MJ) has been used as the unit of measurement in the city gas price system since July 2012. Figures before that are converted based on standard calorie (additional tax, base charge excluded)

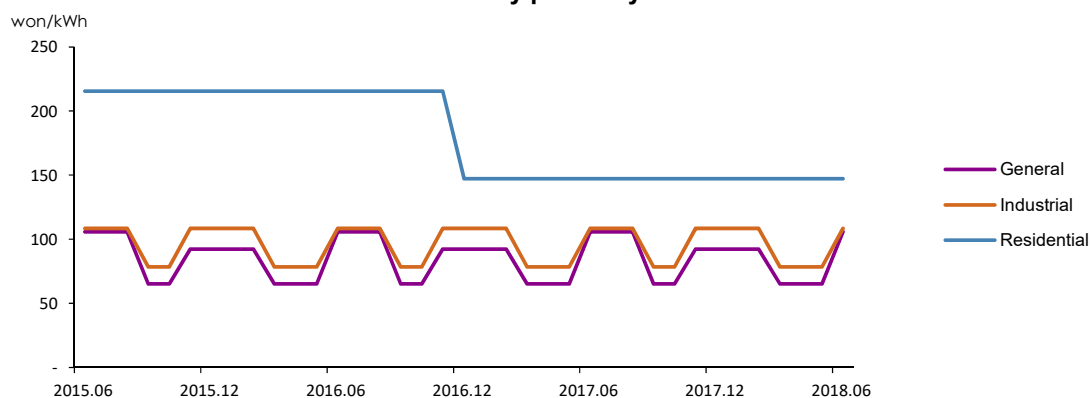
► **Trend in heat energy prices by end-use sectors**



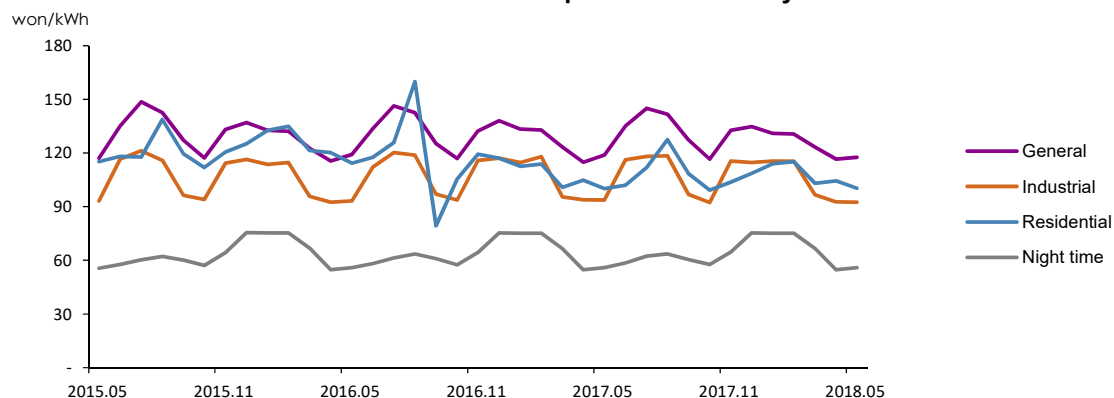
Note: The prices are based on flat price for heating (additional tax, base charge excluded)
Source: Korea District Heating Corporation.

- **Electricity prices ²for industrial and general use soared (in June) with the seasonal price adjustment, while the price for residential use remained unchanged from the previous month.**
 - Electricity prices for industrial and general use change based on season and the time of day, and the prices increased by 38.2% and 62.1% respectively (in June) following the price adjustment from spring/autumn (Mar-May, Sep-Oct) to summer (Jun-Aug).
- **The unit prices of electricity for general and industrial use were almost flat in May compared to the prior month, while that of residential electricity declined.**
 - The unit price of electricity for residential customers, which is progressively priced, was down 4.0% with decreased sales volume (-6.3%) than a month ago, while the prices for general and industrial customers were up 0.9% and down 0.2% respectively—almost the same as the previous month.

► Trend in electricity prices by end-use sectors



► Trend in unit prices of electricity



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

3. Energy Supply

- **The total energy import volume went up by 13.1% year-on-year in April due to the increased import of major energy commodities.**
 - The import price of crude oil rose by 25.8% year-on-year in April to \$66.2/bbl, LNG up 18.5% to \$484.5/ton and bituminous coal up 11.1% to \$113.7/ton.
 - Crude oil import went up by 3.1% due to bigger input to refineries (5.5%), and the dependence on the Middle East's crude oil went down by 7.8%p to 77.8% on a year-on-year basis due to the oil supply curb within the region.
 - The import volume of petroleum products rose by 5.5% year-on-year, especially LPG and naphtha, because of the recent growth in LPG consumption and the construction of new NCC.
 - The LNG import volume was up 38.0%, especially from Qatar, Indonesia, Malaysia and the U.S., while bituminous coal consumption has been up for two months in a row, with the power generation sector taking the lead.
 - The foreign energy dependence including nuclear energy declined by 0.4%p year-on-year to 93.4% due to decreased nuclear generation, and the energy share of the total import value grew by 3.0%p to 24.5% on a year-on-year basis because of the upward trend in energy prices.

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

	2016	2017p	2018p				
			M1~4	M1~4	M2	M3	M4
Import volume							
Crude oil (Mbbbl)	1 078.1 (5.1)	1 118.2 (3.7)	362.7 (2.2)	364.3 (0.4)	94.4 (6.6)	82.8 (-13.6)	87.2 (3.1)
Petroleum product (Mbbbl)	334.6 (8.7)	314.0 (-6.2)	104.1 (-4.2)	111.8 (7.4)	29.3 (18.3)	28.1 (2.4)	26.8 (5.5)
Bituminous coal (Mton)	118.5 (-0.8)	131.5 (11.0)	44.3 (14.7)	45.8 (3.3)	10.4 (-5.7)	11.5 (5.1)	12.3 (17.8)
Anthracite (Mton)	9.4 (5.4)	7.0 (-25.7)	2.7 (0.9)	2.5 (-7.0)	0.6 (18.3)	0.6 (-27.9)	0.7 (16.6)
LNG (Mton)	33.5 (0.3)	37.6 (12.3)	13.7 (14.5)	16.2 (18.0)	4.5 (26.9)	4.3 (22.0)	3.2 (38.0)
Import volume (Mtoe)	323.1 (2.7)	338.8 (4.9)	113.8 (6.1)	119.1 (4.6)	29.6 (5.8)	29.3 (1.1)	29.0 (13.1)
Import value (billion US\$, CIF)	80.9 (-21.2)	109.5 (35.2)	36.8 (56.8)	45.2 (22.6)	12.1 (28.5)	10.8 (10.4)	10.7 (30.4)
Domestic production							
Hydropower (TWh)	6.6 (14.5)	7.0 (5.2)	2.1 (10.3)	1.9 (-8.3)	0.4 (-13.7)	0.5 (-8.0)	0.5 (-2.8)
Anthracite (Mton)	1.7 (-2.2)	1.5 (-13.9)	0.5 (-4.3)	0.5 (-14.5)	0.1 (-25.8)	0.1 (-18.1)	0.1 (-11.9)
Natural gas (Mton)	0.1 (-18.0)	0.3 (120.5)	0.1 (182.4)	0.1 (-7.5)	0.0 (-6.4)	0.0 (-10.2)	0.0 (-7.1)
Renewable energy (Mtoe)	13.6 (5.7)	15.0 (10.2)	5.0 (9.6)	5.6 (12.3)	1.3 (10.0)	1.4 (9.7)	1.4 (14.3)

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

Source: Monthly Energy Statistics

4. Energy Consumption

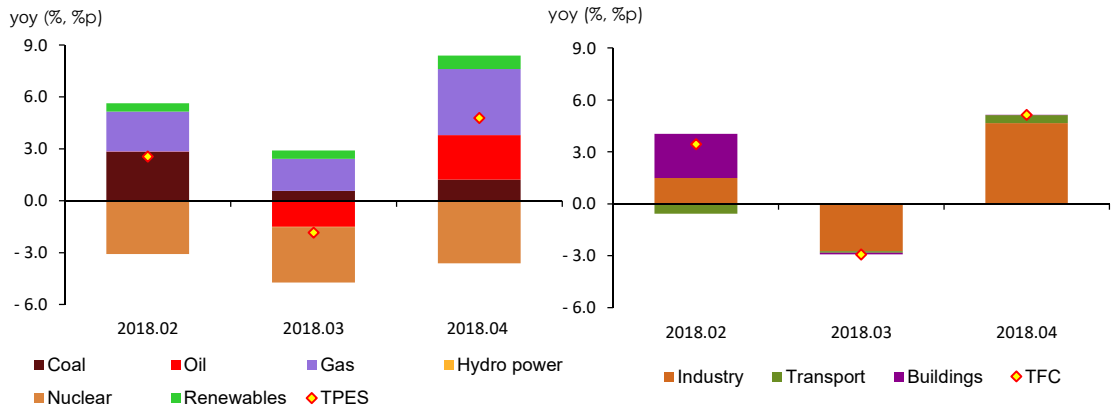
- **Total Primary Energy Supply(“TPES”) posted a year-on-year growth of 4.8% in April, despite less use of nuclear energy, as coal, petroleum and gas use all increased.**
 - Coal consumption grew faster by 4.2%, driven by a rebound in the industrial sector, especially for steel-making and the use of anthracite, though the coal consumption grew at slower pace in the power generation sector due to the temporary shutdown of old coal power plants during spring months.
 - Petroleum consumption rallied by 6.7%, as LPG consumption increased with stable and low level of petroleum product prices, and as naphtha consumption surged due to the commissioning of new NCCs and skipped regular maintenance.
 - Gas consumption rose sharply by 27.3%, mostly in the power generation sector amid growing power demand and plunged nuclear generation.
 - The total nuclear generation fell by 29.2% year-on-year, as the average capacity factor declined by 21.8%p due to much increased preventive maintenance (5.6GW, 132%) along with delayed power plant restart and the closure of Wolsong unit1.
- **Total Final Consumption (“TFC”) recorded a year-on-year growth of 5.1%, which is attributable to the increased industrial use of naphtha and bituminous coal as feedstock.**
 - Industrial energy use bounced back (7.5%), affected by the construction of new petrochemical and iron & steel facilities, more work days(+0.5day) and skipped regular maintenance at NCCs, which led to increased naphtha and bituminous coal consumption as feedstock.
 - Transport energy use rose by 2.4% even with higher fuel prices, owing to the growth in the number of cars, traffics and air passengers & air cargo.
 - The growth of energy consumption in buildings was not significant due to decreased commercial gas use, even though gas and heat energy prices declined and heating degree days increased.
 - Electricity consumption went up by 3.0%, as the buildings sector consumed more energy with vigorous service production and high temperature, and as the industrial power use rebounded with stronger performance of semi-conductor industry along with bigger outputs of petrochemical products and electric furnace steel.

► Energy consumption trend

	2016	2017p	2018p				
			M1~4	M1~4	M2	M3	M4
Total energy (Mtoe)	294.6 (2.4)	301.1 (2.2)	102.1 (1.6)	105.3 (3.1)	25.9 (2.5)	25.7 (-1.8)	24.1 (4.8)
Final energy (Mtoe)	225.5 (3.3)	232.5 (3.1)	80.0 (3.3)	82.4 (3.0)	20.6 (3.5)	20.0 (-2.9)	19.2 (5.1)

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 sector



5. Coal

□ Coal consumption increased by 4.2% year-on-year in April, despite slower growth in the transformation sector, as the industrial coal consumption rebounded.

- Coal consumption increased in the transformation sector with dramatically increased installed capacity (4.1GW, 12.6%), though the consumption growth was much slower with lower capacity factors as a result of the temporary shutdown of old coal power plants during spring months.
- Industrial coal consumption went up by 7.2% compared to the same month last year due to sharply increased use of anthracite and coal for steel-making, although coal consumption continued to plunge in the cement industry.

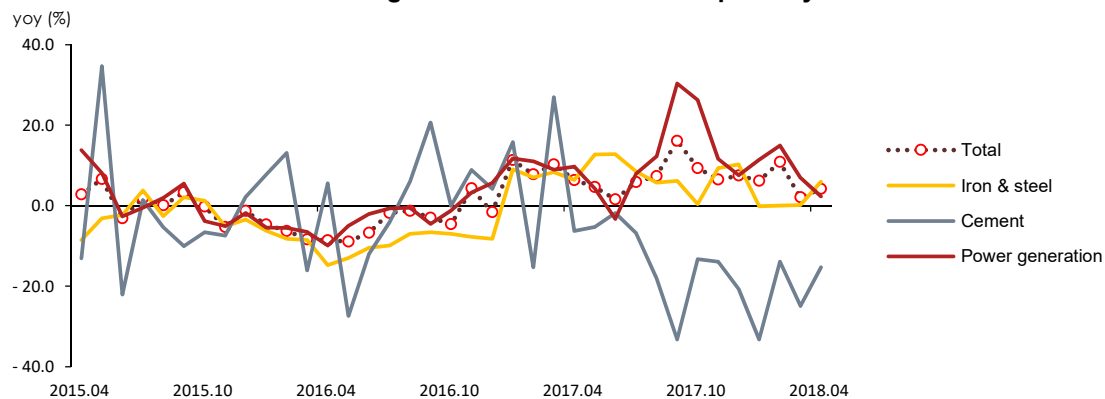
► Coal consumption trend

	2016	2017p	2018p				
			M1~4	M1~4	M2	M3	M4
Coal (Mton)	129.4 (-4.3)	139.7 (7.9)	45.5 (9.0)	48.1 (5.8)	12.1 (10.8)	11.8 (2.1)	10.7 (4.2)
Industry	47.9 (-6.6)	49.2 (2.7)	16.3 (7.4)	16.3 (0.2)	3.8 (3.6)	4.1 (-5.6)	4.2 (7.2)
Buildings	1.3 (-14.8)	1.1 (-14.1)	0.4 (-16.9)	0.3 (-12.2)	0.1 (-12.5)	0.1 (-23.1)	0.0 (-8.3)
Power generation	80.3 (-2.7)	89.4 (11.3)	28.8 (10.4)	31.5 (9.2)	8.2 (14.9)	7.7 (7.0)	6.5 (2.4)

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 grew by 6.7% year-on-year in April, especially naphtha, LPG (industrial use) and jet oil.**

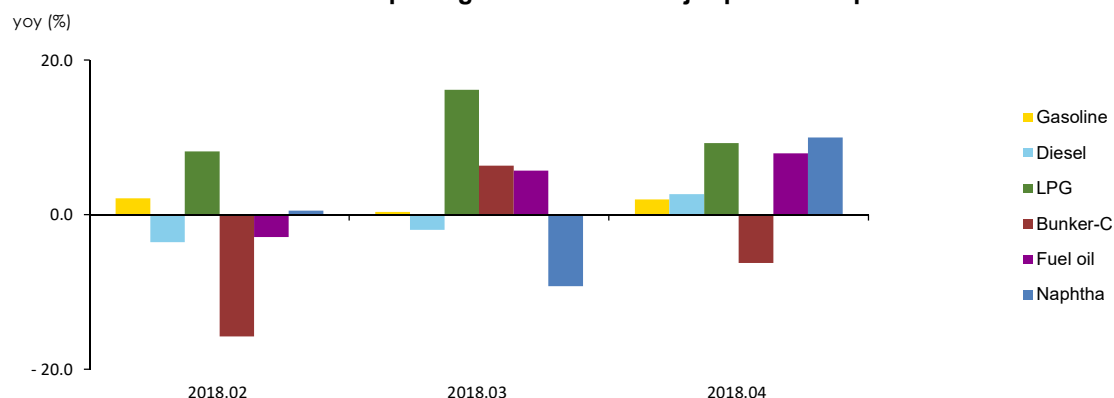
- The industrial petroleum consumption rallied by 9.3% on the back of growing naphtha and LPG use, largely contributing to the growth of total petroleum consumption.
- The transport sector posted a 1.9% growth in petroleum consumption after two consecutive months of declines, owing to the increased use of major petroleum products for transport except bunker-C.
- Petroleum consumption in the buildings sector rebounded by 10.1%, especially LPG and diesel, amid increased heating degree days, strong service production and lower LPG price, even though the prices of all other petroleum products increased.
- Petroleum consumption in the transformation sector declined by 8.9% because of decreased oil-fired generation (-72.2%) and accordingly less use of bunker-C (-26.3%).

► Trend in petroleum product consumption by end-use sector

	2016	2017p	2018p				
			M1~4	M1~4	M2	M3	M4
Petroleum (Mbbl)	924.2	938.2	307.1	313.4	74.9	77.7	76.7
	(7.9)	(1.5)	(1.5)	(2.0)	(0.5)	(-3.6)	(6.7)
Industry	542.6	566.8	184.3	186.5	44.4	45.6	47.0
	(8.3)	(4.5)	(7.3)	(1.2)	(1.5)	(-7.3)	(9.3)
Transport	303.6	304.4	96.7	97.9	22.4	25.4	25.0
	(5.7)	(0.3)	(-1.5)	(1.2)	(-3.8)	(-0.4)	(1.9)
Buildings	56.3	56.9	21.4	23.2	6.2	5.1	4.3
	(5.2)	(1.1)	(-5.5)	(8.4)	(6.5)	(-0.7)	(10.1)
Power generation	21.8	10.1	4.6	5.8	1.8	1.5	0.4
	(48.7)	(-53.6)	(-53.6)	(24.3)	(12.1)	(115.1)	(-8.9)

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

► The consumption growth rates of major petroleum products



7. Gas

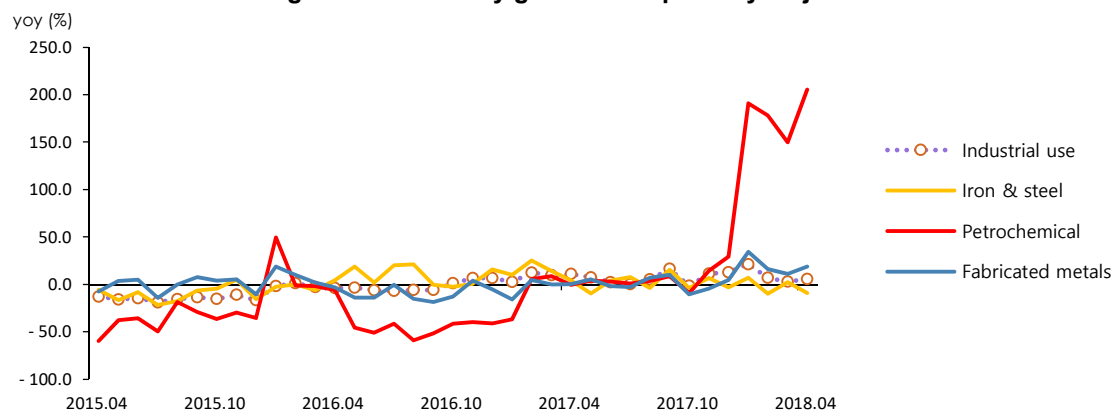
- **Natural gas consumption maintained double digit growth in April, driven by surging demand from the power generation sector, affected by plunged baseload generation.**
 - Gas consumption for power generation recorded the largest growth in April since November 2016 (60.4%), as power demand increased (3.0%), and sharply decreased nuclear generation (-29.2%) caused a steep decline in baseload generation (-17.0%) as well.
- **City gas consumption fell by 3.5% year-on-year (in April), largely due to a sharp fall in the buildings sector, although the industrial sector consumed more.**
 - Industrial city gas use has been up for six straight months on the back of enhanced price competitiveness, and thus, sharply increased consumption in the petrochemical industry.
 - City gas use in the buildings sector has been down for two consecutive months, as the consumption fell sharply in commercial buildings, although residential city gas use, which takes up a large part of the total consumption, remained flat on a year-on-year basis.

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

	2016	2017p	2018p				
			M1~4	M1~4	M2	M3	M4
LNG (Mton)	34.9	36.1	14.1	16.6	4.3	3.9	3.1
	(4.4)	(3.5)	(3.7)	(17.8)	(11.5)	(10.6)	(27.3)
Power generation	15.5	15.6	5.1	6.5	1.4	1.7	1.5
	(6.4)	(0.4)	(5.5)	(28.4)	(8.1)	(25.9)	(54.0)
City gas production	17.4	18.4	8.1	8.9	2.5	1.9	1.4
	(2.7)	(5.8)	(2.7)	(9.9)	(11.6)	(-1.0)	(6.3)
City gas (bm³)	21.3	22.6	10.3	10.9	3.2	2.5	1.8
	(2.3)	(6.2)	(4.6)	(5.8)	(8.5)	(-1.7)	(-3.5)
Industry	7.2	7.8	2.9	3.1	0.8	0.8	0.7
	(-1.4)	(7.6)	(8.7)	(9.4)	(7.0)	(2.9)	(5.8)
Buildings	12.8	13.6	7.1	7.4	2.3	1.6	1.0
	(5.0)	(5.9)	(3.3)	(4.7)	(9.5)	(-3.7)	(-9.4)

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

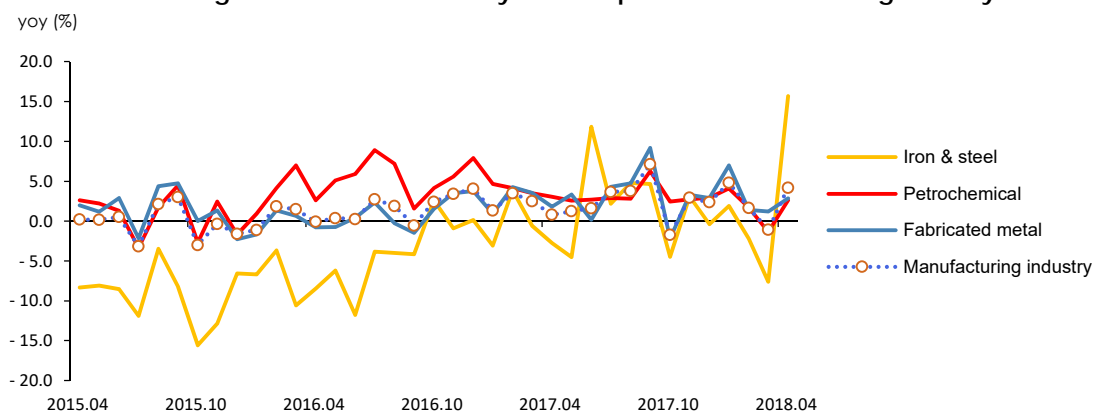
- **Electricity consumption went up by 3.0% in April on a year-on-year basis, especially in the industrial sector, as the consumption rebounded in the primary metals business.**
 - Industrial electricity consumption returned to around 3% growth with more work days (0.5), led by the primary metals industry.
 - Electricity consumption in buildings rose by near 2% due to improved service production and temperature effect.

► Trend in electricity consumption by end-use sector

	2016	2017p	2018p				
			M1~4	M1~4	M2	M3	M4
Electricity (TWh)	497.0	507.7	173.0	180.1	46.7	42.9	42.0
	(2.8)	(2.2)	(1.4)	(4.1)	(5.2)	(0.9)	(3.0)
Industry	270.0	276.7	92.1	94.4	22.9	23.3	23.5
	(1.6)	(2.5)	(2.1)	(2.6)	(2.2)	(-0.9)	(3.9)
Transport	2.7	2.8	0.9	1.0	0.3	0.2	0.2
	(21.3)	(4.9)	(0.5)	(10.1)	(9.7)	(9.9)	(8.3)
Buildings	224.4	228.3	80.0	84.7	23.6	19.4	18.3
	(4.0)	(1.7)	(0.6)	(5.8)	(8.4)	(3.0)	(1.8)

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

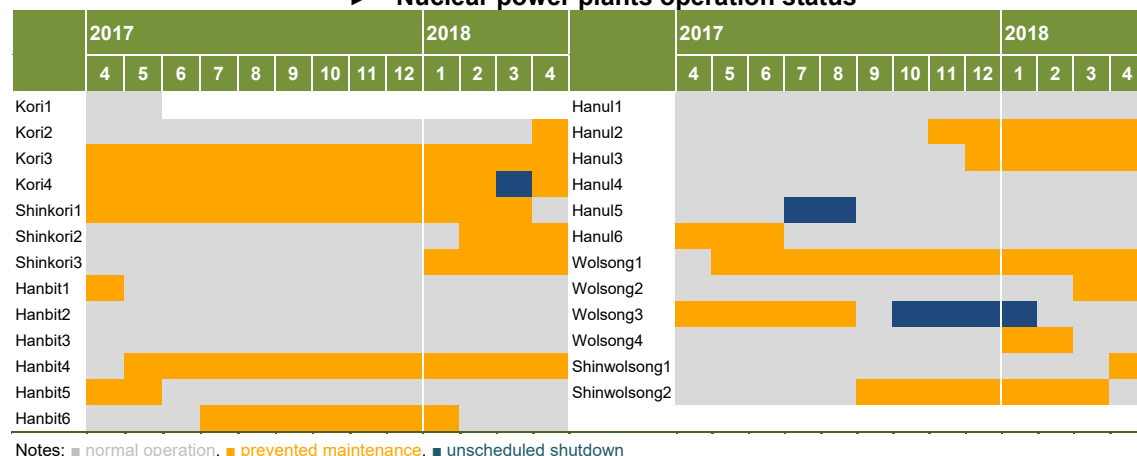
► The growth rate of electricity consumption in manufacturing industry



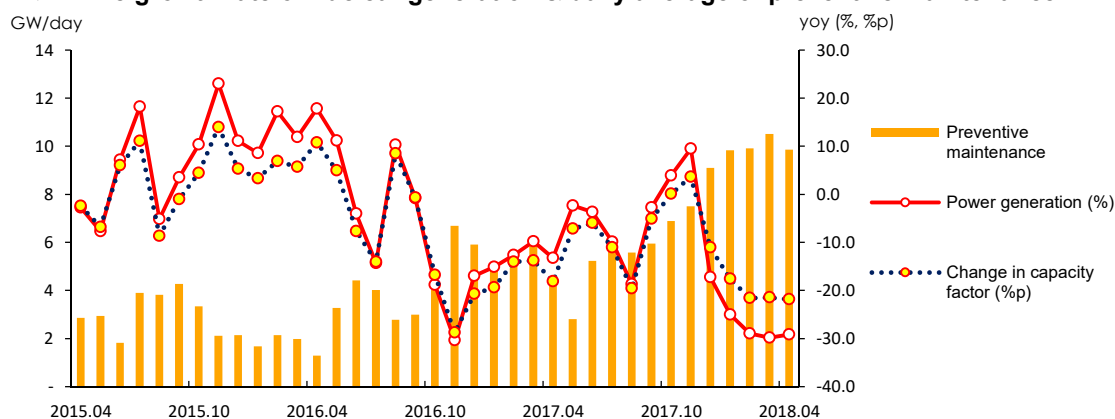
9. Nuclear

- The total nuclear generation fell by 29.2% year-on-year in April following the temporary shutdown of 12 reactors for preventive maintenance.
 - The daily average of preventive maintenance has been rapidly increasing (5.6GW, 132%) with delayed restart of nuclear power plants for stronger safety inspection and the shutdown of Wolsong uni1.
 - The average capacity factors dropped by 21.8%p year-on-year to 58.1%, and nuclear share of the total power generation fell by 9.8%p to 21.9%.

► Nuclear power plants operation status



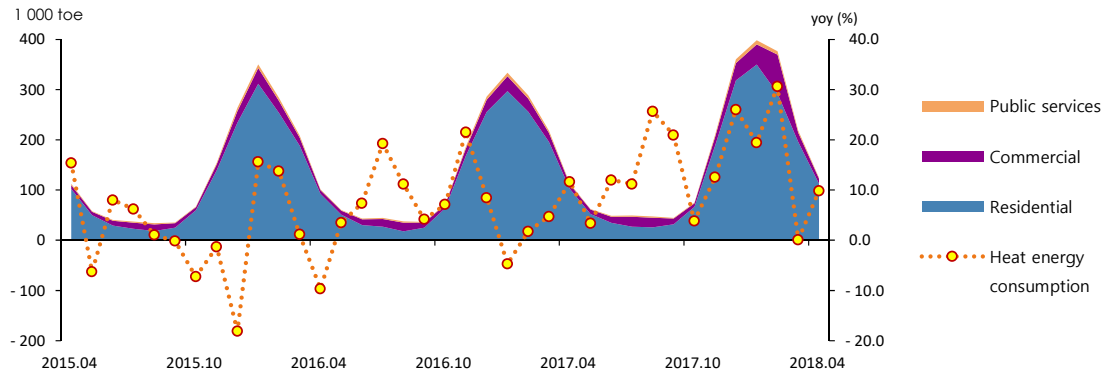
► The growth rate of nuclear generation & daily average of preventive maintenance



10. Heat and Renewable energy

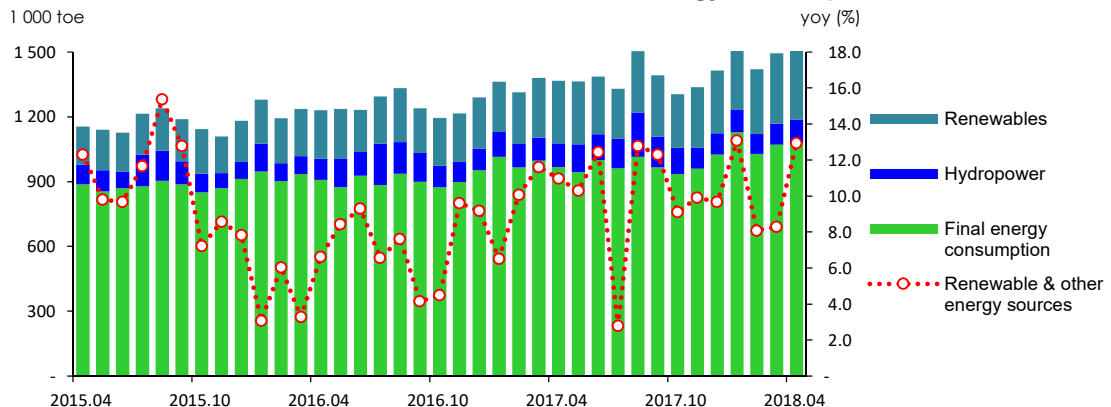
- **Heat energy consumption went up by 9.8% year-on-year in April due to increased heating degree days and the commissioning of a new combined heat & power("CHP") plant.**
 - Heat energy consumption increased, mostly in the residential and commercial sectors, affected by higher heating degree days (29.1degree days, 23.5%) with fluctuating temperature, the commissioning of a new CHP plant and lower heat energy price (-4.9%).
- **Renewable & other energy consumption grew by 12.9% (in April), despite decreased hydropower generation, as renewable generation and its share of TFC increased.**
 - Renewable generation (except hydro) rose by 23.5% with much increased use of solar PV, wind and bioenergy, and renewable's share of TFC also increased by 11.5%, with the industrial and buildings sectors making the largest contributions.
 - Hydropower generation (496.6GWh) fell by 2.8%, even though the amount of rainfall was bigger than the same month last year (65.0mm).

► 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 made a year-on-year increase of 7.5%, owing to the consumption recovery in the large energy consuming businesses.
 - The petrochemical and primary metals industries led the growth of industrial energy use, affected by more work days (0.5) and the building of new facilities.

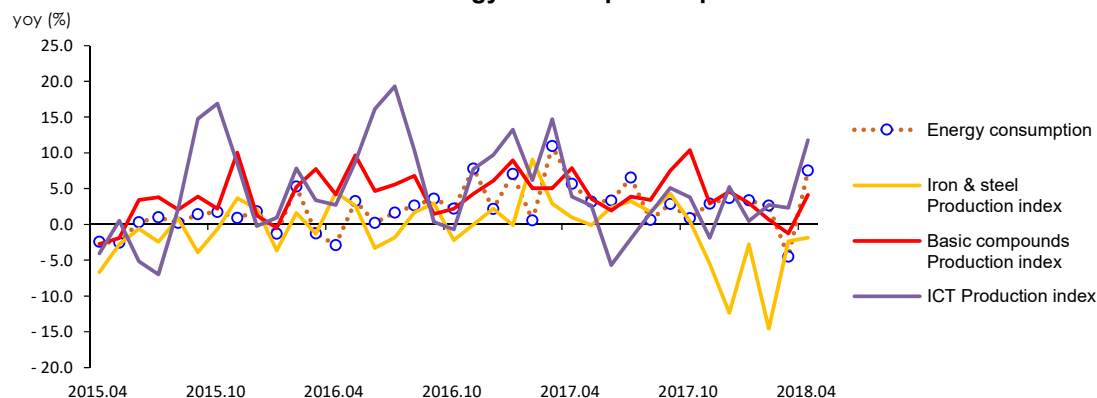
► Trend in the industrial energy consumption

	2016	2017p	2018p				
			M1~4	M1~4	M2	M3	M4
Industry (Mtoe)	138.3	143.8	47.5	48.5	11.6	11.9	12.2
	(1.9)	(4.0)	(6.1)	(2.1)	(2.6)	(-4.5)	(7.5)
Petrochemical	65.9	68.6	22.6	23.5	5.7	5.7	5.8
	(6.8)	(4.1)	(6.7)	(4.1)	(4.7)	(-4.7)	(12.3)
- Naptha	52.7	56.2	18.5	18.6	4.5	4.5	4.6
	(4.7)	(6.6)	(7.5)	(0.6)	(0.5)	(-9.3)	(10.0)
Iron & Steel	28.1	30.0	9.8	9.9	2.3	2.5	2.5
	(-8.0)	(6.7)	(6.4)	(1.2)	(-0.5)	(-0.7)	(6.1)
Fabricated metal	10.6	10.9	3.8	3.9	1.0	1.0	0.9
	(0.4)	(3.0)	(2.4)	(4.9)	(2.5)	(1.6)	(3.2)
Share of feedstock (%)	58.7	59.9	58.9	58.2	58.2	58.2	58.4

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

Source: Monthly Energy Statistics

► Industrial energy consumption & production index



12. Transport

□ **Transport energy use went up by 2.4% year-on-year in April, backed by a rebound in the road transport sector, although the energy use declined in the navigation sector.**

- The prices of gasoline, diesel and bunker-C went up by 4.3%, 5.6% and 11.7% respectively in April, while that of butane for transport use went down by 3.4%.
- Energy consumption bounced back in the road transport sector after two consecutive months of decline, with increased use of diesel, gasoline, LPG and renewable energy.
- Energy consumption in the navigation sector has decreased for three months in a row due to the increased bunker-C price and decreased coastal transport (-11.1%), offsetting the growth of the total transport energy use.
- Energy consumption in the aviation sector has been up for two straight months, despite a drop in the number of domestic flights and passengers visiting Jeju island, due to the increased number of international flights, domestic passengers going abroad including China and increased air freight volume.

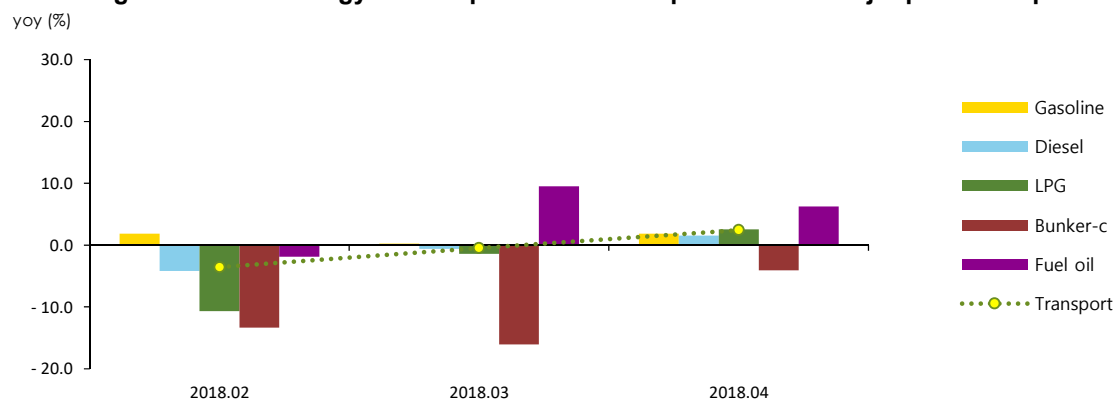
► The growth rate of petroleum consumption in the transport sector

	2016	2017p	2018p				
			M1~4	M4	M2	M3	M4
Transport (Mtoe)	42.7	43.0	13.7	3.6	3.2	3.6	3.6
	(6.0)	(0.7)	(-1.0)	(2.4)	(-3.5)	(-0.5)	(2.4)
Road	34.4	34.4	10.9	2.9	2.5	2.9	2.9
	(4.9)	(0.2)	(-2.0)	(2.4)	(-2.9)	(-0.2)	(2.4)
Navigation	3.4	3.4	1.2	0.3	0.3	0.3	0.3
	(13.8)	(2.0)	(9.2)	(-3.2)	(-12.3)	(-15.1)	(-3.2)
Aviation	4.7	4.8	1.5	0.4	0.4	0.4	0.4
	(9.1)	(3.2)	(-1.4)	(6.2)	(-1.8)	(9.5)	(6.2)
Rail	0.3	0.3	0.1	0.0	0.0	0.0	0.0
	(8.3)	(2.5)	(-3.9)	(6.9)	(5.2)	(4.9)	(6.9)

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 grew by mere 0.1% year-on-year in April even with lower energy prices and increased heating degree days, because city gas use declined.**

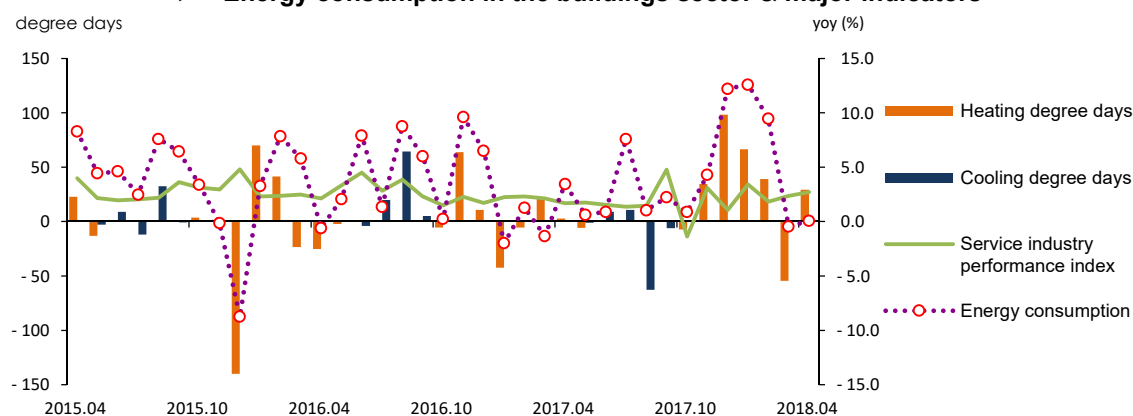
- Energy use in buildings was almost flat in April compared to the same month last year, despite lower prices and higher heating degree days (23.5%), as city gas consumption fell sharply, mostly in the commercial sector.
- In residential buildings, coal and kerosene use fell by 8.3% and 7.1% respectively, while diesel and LPG use both increased by over 15%, heat energy up 9.3% and electricity up 1.9%. City gas use was at the level of the same month last year.
- Energy consumption in commercial buildings showed the same rate of decline on a year-on-year basis due to the sharp fall in city gas and kerosene consumption, although LPG and electricity consumption grew decently.

► Energy consumption trend in the buildings sector

	2016	2017p	2018p				
			M1~4	M1~4	M2	M3	M4
Buildings (Mtoe)	44.5 (5.1)	45.7 (2.6)	18.9 (0.1)	20.0 (6.3)	5.9 (9.5)	4.4 (-0.4)	3.5 (0.1)
Residential	21.3 (5.6)	21.9 (3.0)	10.1 (-0.2)	11.0 (9.1)	3.3 (11.3)	2.4 (2.8)	1.7 (2.7)
Commercial	17.0 (3.3)	17.4 (2.4)	6.5 (0.4)	6.6 (1.7)	1.9 (7.8)	1.4 (-6.3)	1.2 (-6.5)
Public-others	6.2 (8.4)	6.4 (1.9)	2.3 (0.3)	2.4 (7.2)	0.6 (5.2)	0.6 (1.8)	0.5 (8.6)

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

► Energy consumption in the buildings sector & major indicators



14. Transformation

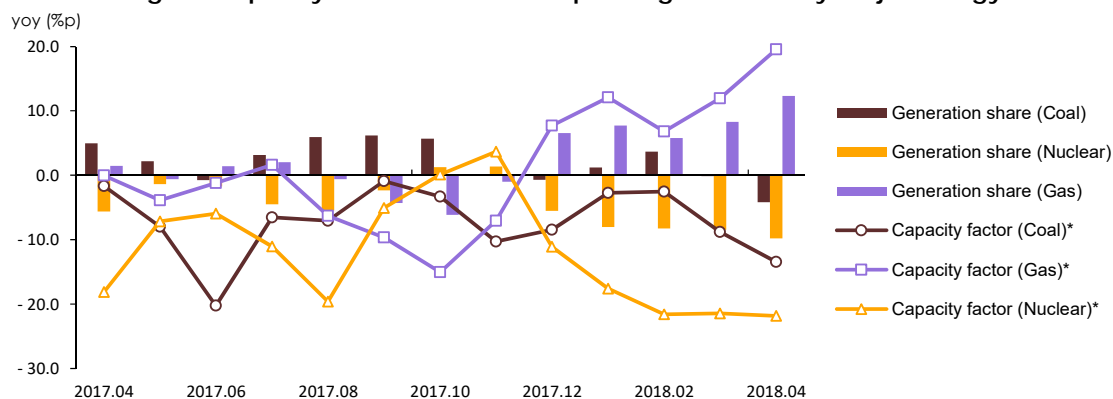
- The total energy input for power generation went up by 0.3% year-on-year in April, with coal and gas making the largest contributions.
 - More energy was used for power generation, mainly coal and gas, due to the commissioning of a new bituminous coal power plant and growing power demand.
 - Nuclear share of the total generation maintained the downward trend and has been smaller than that of gas for six consecutive months since Nov, 2017.

► Energy consumption in the power generation sector

	2016	2017p	2018p				
			M1~4	M1~4	M2	M3	M4
Input (Mtoe)	110.9	111.1	36.9	37.5	9.2	9.3	8.4
	(0.8)	(0.1)	(-1.9)	(1.8)	(0.2)	(0.6)	(0.3)
Coal	49.2	52.8	17.0	18.6	4.8	4.6	3.8
	(-2.8)	(7.4)	(6.4)	(9.4)	(15.2)	(7.2)	(2.5)
Oil	3.0	1.2	0.6	0.6	0.2	0.2	0.0
	(50.1)	(-59.7)	(-59.7)	(10.0)	(-23.8)	(123.1)	(-22.9)
Gas	20.5	20.7	6.8	8.7	1.9	2.2	2.0
	(6.3)	(0.9)	(5.9)	(28.1)	(8.4)	(25.7)	(53.1)
Nuclear	34.2	31.6	11.1	7.9	1.9	2.0	2.0
	(-1.7)	(-7.5)	(-11.9)	(-28.2)	(-29.0)	(-29.8)	(-29.2)
Hydro/other renewables	4.0	4.7	1.5	1.7	0.4	0.4	0.5
	(17.4)	(16.4)	(18.2)	(14.5)	(12.4)	(10.8)	(16.3)

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 source



*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		2019	2020
		3Q	4Q	1Q	2Q	3Q	4Q		
GDP (trillion won)	1 466.8 (2.8)	1 509.8 (2.9)	378.3 (2.7)	396.5 (2.6)	366.2 (2.9)	1 556.0 (3.1)	392.6 (3.8)	407.6 (2.8)	376.4 (2.8)
Private consumption	707.5 (2.2)	725.4 (2.5)	182.1 (2.8)	184.5 (1.4)	185.8 (2.1)	744.3 (2.6)	186.8 (2.6)	190.7 (3.4)	192.4 (3.5)
Facilities investment	140.3 (4.7)	138.8 (-1.0)	33.6 (-2.5)	37.4 (3.3)	37.3 (16.1)	159.1 (14.6)	39.1 (16.3)	40.6 (8.6)	40.1 (7.3)
Construction investment	211.5 (6.6)	233.4 (10.3)	62.0 (11.0)	65.1 (11.9)	49.5 (11.3)	251.1 (7.6)	67.0 (8.0)	67.6 (3.8)	50.4 (1.8)
Consumer price index (2015=100)	100.0	101.0	101.0	101.5	102.7	102.9	103.3	103.1	104.0
USD to KRW exchange rate (won)	1 131.0	1 160.8	1 121.1	1 156.4	1 154.9	1 131.0	1 132.3	1 107.5	1 072.7
Benchmark rate (%)	1.6	1.4	1.3	1.3	1.3	1.3	1.3	1.4	1.5
Coincident composite index (2015=100)	100.0	103.3	103.9	104.5	105.9	107.0	107.4	107.9	108.5
Mining & manufacturing production index (2015=100)	100.0	102.3	100.2	108.4	103.2	104.2	104.8	104.3	100.9
Manufacturing operation ratio index (2015=100)	100.0	98.2	95.5	101.4	95.9	97.1	98.1	96.0	92.7
Average temperature	13.6	13.6	25.8	8.0	1.4	13.0	25.0	6.7	0.8
- year-on-year difference	0.2	- 0.0	0.9	- 0.6	0.1	- 0.6	- 0.8	- 1.3	- 0.6
Heating degree days	2 459.1 (-1.7)	2 589.7 (5.3)	0.3 n.a	935.3 (8.0)	1 487.5 (-1.7)	2 687.6 (3.8)	0.6 (100.0)	1 060.9 (13.4)	1 538.9 (3.5)
Cooling degree days	151.8 (21.1)	238.1 (56.9)	227.9 (64.8)	- n.a	- n.a	188.1 (-21.0)	169.9 (-25.5)	- n.a	- n.a
Energy intensity	0.20 (-1.1)	0.20 (-0.5)	0.19 (0.6)	0.19 (-0.2)	0.22 (-1.2)	0.19 (-0.9)	0.19 (-1.5)	0.19 (0.5)	0.22 (-0.2)
Per capita consumption									
oil (bbl)	16.8 (3.7)	18.0 (7.4)	4.5 (7.8)	4.8 (6.7)	4.6 (1.1)	18.2 (1.2)	4.6 (1.9)	4.8 (0.4)	4.6 (0.3)
Electricity (MWh)	9.5 (0.7)	9.7 (2.3)	2.5 (3.7)	2.4 (3.0)	2.6 (1.0)	9.9 (1.8)	2.5 (3.4)	2.4 (2.2)	2.7 (4.1)
City gas (1 000 m ³)	0.4 (-6.4)	0.4 (1.8)	0.1 (-2.6)	0.1 (7.2)	0.2 (3.4)	0.4 (5.8)	0.1 (4.7)	0.1 (10.4)	0.2 (7.4)
Total energy (toe)	5.6 (1.1)	5.7 (1.9)	1.4 (2.7)	1.5 (1.9)	1.5 (1.3)	5.9 (1.8)	1.4 (1.9)	1.5 (2.9)	1.6 (2.2)

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)

2013=100

	2016	2017					2018			
			M1~4	M2	M3	M4	M1~4	M2	M3	M4
Industrial production index										
All industry	103.1 (3.2)	105.5 (2.3)	102.8 (3.7)	98.4 (5.0)	109.4 (4.2)	104.0 (3.2)	103.9 (1.1)	97.2 (-1.2)	108.7 (-0.6)	106.1 (2.0)
Mining & manufacturing	102.3 (2.3)	104.2 (1.8)	103.2 (4.4)	98.6 (7.6)	110.6 (5.0)	103.3 (3.7)	101.7 (-1.5)	91.9 (-6.8)	106.3 (-3.9)	104.1 (0.8)
Iron & steel	100.2 (0.2)	100.7 (0.4)	99.8 (3.1)	97.0 (9.1)	102.5 (2.9)	101.4 (1.0)	94.5 (-5.3)	82.9 (-14.5)	100.1 (-2.3)	99.5 (-1.9)
Cement	108.3 (8.3)	109.9 (1.4)	107.3 (13.0)	92.5 (30.5)	128.2 (13.4)	121.7 (4.3)	92.3 (-14.0)	73.6 (-20.4)	108.0 (-15.8)	110.0 (-9.6)
Basic compound	104.8 (4.8)	110.4 (5.4)	109.0 (6.7)	103.8 (5.1)	112.4 (5.0)	106.7 (7.9)	110.8 (1.6)	104.5 (0.7)	111.0 (-1.2)	111.1 (4.1)
Transport equipment	97.7 (-2.3)	94.9 (-2.9)	99.1 (0.2)	95.3 (10.3)	111.1 (-1.1)	102.7 (2.2)	90.0 (-9.2)	76.4 (-19.8)	97.4 (-12.3)	97.2 (-5.4)
Electric & electronic	103.3 (3.3)	106.4 (3.0)	101.6 (2.4)	98.2 (6.3)	110.4 (1.3)	103.9 (6.2)	100.4 (-1.2)	91.6 (-6.7)	106.0 (-4.0)	103.1 (-0.8)
Service	102.6 (2.6)	104.5 (1.8)	101.5 (2.1)	97.5 (2.3)	105.6 (2.1)	103.1 (1.7)	104.1 (2.6)	99.3 (1.8)	108.1 (2.4)	105.9 (2.7)
Operating ratio index										
Manufacturing	98.2 (-1.8)	97.1 (-1.2)	96.2 (-0.1)	91.7 (3.1)	103.3 (0.7)	97.0 (-0.7)	94.0 (-2.3)	84.1 (-8.3)	98.9 (-4.3)	97.8 (0.8)
Iron & steel	99.9 (-0.1)	101.0 (1.0)	99.5 (3.0)	96.8 (8.9)	102.2 (2.9)	101.1 (1.0)	97.1 (-2.4)	89.1 (-8.0)	98.9 (-3.2)	98.1 (-3.0)
Cement	107.0 (7.0)	107.6 (0.5)	105.1 (11.4)	90.7 (28.7)	125.5 (11.8)	119.1 (2.7)	97.2 (-7.5)	73.8 (-18.6)	117.4 (-6.5)	120.4 (1.1)
Basic compound	103.6 (3.6)	107.2 (3.4)	106.6 (4.9)	101.5 (3.0)	109.8 (3.2)	104.1 (6.1)	106.4 (-0.2)	100.5 (-1.0)	106.4 (-3.1)	106.6 (2.4)
Transport equipment	94.2 (-5.8)	89.7 (-4.8)	93.9 (-2.2)	90.8 (7.8)	104.8 (-3.4)	96.9 (-0.2)	87.3 (-7.0)	72.9 (-19.7)	95.3 (-9.1)	96.0 (-0.9)
Electric & electronic	102.2 (2.2)	102.8 (0.5)	99.8 (1.6)	96.8 (5.7)	108.0 (0.7)	100.9 (3.5)	93.9 (-5.8)	85.3 (-11.9)	98.7 (-8.6)	96.8 (-4.1)

Note: p means provisional
Source: Monthly Energy Statistics

International Energy Prices

	2016	2017					2018			
			M1~6	M4	M5	M6	M1~6	M4	M5	M6
Crude oil (USD/bbl)										
WTI	43.3 (-11.2)	51.0 (17.6)	50.1 (26.8)	51.1 (24.3)	48.5 (3.7)	45.2 (-7.5)	65.4 (30.5)	66.3 (29.8)	70.0 (44.2)	67.3 (48.9)
Dubai	41.2 (-18.8)	53.2 (28.9)	51.5 (40.0)	52.3 (34.1)	50.7 (14.6)	46.5 (0.4)	68.0 (32.1)	68.3 (30.5)	74.4 (46.7)	73.6 (58.4)
Brent	45.0 (-16.0)	54.8 (21.7)	52.8 (28.7)	53.8 (24.2)	51.4 (7.8)	47.6 (-4.8)	71.0 (34.6)	71.8 (33.3)	77.0 (49.9)	75.9 (59.7)
Unit value of import (C&F)	41.0 (-23.0)	53.3 (29.9)	52.8 (45.6)	52.7 (43.7)	52.4 (27.3)	50.0 (11.1)	68.0 (28.8)	66.2 (25.8)	71.2 (36.0)	74.1 -
LNG										
From Indonesia (USD/MMBTU)	6.9 (-32.6)	8.0 (16.8)	8.0 (16.3)	8.2 (28.5)	8.5 (45.1)	8.3 (38.6)	7.7 (-4.0)	9.4 (14.6)	9.4 (10.6)	- (-100.0)
Unit value of import (USD/ton, CIF)	356.7 (-35.0)	416.3 (16.7)	414.6 (16.0)	408.9 (19.4)	432.5 (39.0)	407.5 (37.4)	493.6 (19.0)	484.5 (18.5)	510.1 (17.9)	508.5 (24.8)
Bituminous coal (USD/ton)										
From Australia	65.9 (14.5)	88.4 (34.2)	80.8 (57.3)	84.6 (66.3)	74.5 (44.8)	81.0 (52.3)	84.5 (4.6)	94.2 (11.3)	105.5 (41.5)	- (-100.0)
Unit value of import (CIF)	68.9 (-6.8)	104.3 (51.5)	108.7 (79.4)	102.3 (69.6)	112.8 (82.1)	116.4 (92.1)	113.6 (4.5)	113.7 (11.1)	114.7 (1.7)	114.2 (-1.9)
Petroleum product (USD/bbl)										
Gasoline	56.2 (-19.1)	68.1 (21.2)	66.0 (23.3)	67.7 (24.2)	64.8 (9.6)	59.8 (1.2)	80.9 (22.6)	81.5 (20.3)	87.6 (35.2)	83.6 (39.7)
Kerosene	52.8 (-18.3)	65.3 (23.6)	62.6 (29.6)	63.9 (28.9)	61.1 (10.7)	57.0 (-2.2)	83.7 (33.8)	85.2 (33.2)	89.9 (47.3)	86.9 (52.4)
Diesel	53.0 (-20.4)	66.4 (25.1)	63.6 (32.0)	65.0 (31.2)	62.0 (10.6)	58.4 (-1.2)	83.4 (31.1)	84.3 (29.6)	90.5 (46.0)	87.4 (49.7)
Bunker-C	35.4 (-21.6)	49.7 (40.2)	47.9 (64.5)	48.0 (62.4)	47.3 (37.9)	45.3 (22.6)	61.8 (29.2)	61.0 (27.1)	68.1 (43.7)	69.2 (52.7)
Propane	323.3 (-22.3)	468.8 (45.0)	437.5 (38.5)	430.0 (34.4)	385.0 (18.5)	385.0 (16.7)	521.7 (19.2)	475.0 (10.5)	500.0 (29.9)	560.0 (45.5)
Butane	355.8 (-18.5)	500.8 (40.7)	494.2 (39.9)	490.0 (40.0)	390.0 (2.6)	390.0 (6.8)	512.5 (3.7)	470.0 (-4.1)	505.0 (29.5)	560.0 (43.6)
Naphtha	42.5 (-19.0)	53.8 (26.6)	51.3 (27.7)	52.2 (23.3)	48.6 (10.6)	44.8 (-1.2)	67.0 (30.6)	66.9 (28.2)	74.5 (53.2)	70.7 (57.7)

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			
			M1~4	M2	M3	M4	M1~4	M2	M3	M4
Coal (Mton)	129.4 (-4.3)	139.7 (7.9)	45.5 (9.0)	10.9 (7.8)	11.6 (10.3)	10.3 (6.3)	48.1 (5.8)	12.1 (10.8)	11.8 (2.1)	10.7 (4.2)
- Coking coal excluded	96.0 (-2.5)	103.5 (7.9)	33.8 (9.5)	8.1 (8.0)	8.6 (11.0)	7.5 (6.3)	36.3 (7.3)	9.3 (14.6)	8.9 (2.7)	7.8 (3.5)
Oil (Mbbl)	924.2 (7.9)	938.2 (1.5)	307.1 (1.5)	74.6 (-2.4)	80.6 (5.5)	71.9 (1.6)	313.4 (2.0)	74.9 (0.5)	77.7 (-3.6)	76.7 (6.7)
- Non-energy oil excluded	458.0 (11.2)	446.3 (-2.5)	146.6 (-3.3)	36.2 (-0.8)	37.2 (-5.1)	34.8 (-4.9)	152.0 (3.7)	36.3 (0.4)	38.3 (3.1)	36.1 (3.7)
LNG (Mton)	34.9 (4.4)	36.1 (3.5)	14.1 (3.7)	3.9 (5.3)	3.5 (6.2)	2.5 (10.3)	16.6 (17.8)	4.3 (11.5)	3.9 (10.6)	3.1 (27.3)
Hydro (TWh)	6.6 (14.5)	7.0 (5.2)	2.1 (10.3)	0.5 (29.1)	0.5 (27.0)	0.5 (9.8)	1.9 (-8.3)	0.4 (-13.7)	0.5 (-8.0)	0.5 (-2.8)
Nuclear (TWh)	162.0 (-1.7)	148.4 (-8.4)	52.0 (-12.7)	12.4 (-12.6)	13.2 (-9.8)	13.3 (-13.2)	37.3 (-28.2)	8.8 (-29.0)	9.2 (-29.8)	9.4 (-29.2)
Others (Mtoe)	13.6 (5.7)	15.0 (10.2)	5.0 (9.6)	1.2 (8.6)	1.3 (10.4)	1.3 (11.0)	5.6 (12.3)	1.3 (10.0)	1.4 (9.7)	1.4 (14.3)
TPES (Mtoe)	294.6 (2.4)	301.1 (2.2)	102.1 (1.6)	25.3 (0.3)	26.2 (4.4)	23.0 (1.7)	105.3 (3.1)	25.9 (2.5)	25.7 (-1.8)	24.1 (4.8)
- Non-energy oil excluded	236.6 (1.8)	240.0 (1.4)	82.2 (0.6)	20.5 (1.3)	20.8 (1.7)	18.3 (0.1)	85.3 (3.7)	21.1 (3.0)	20.8 (0.1)	19.0 (3.6)
- Non-energy oil&coal excluded	213.2 (3.2)	214.8 (0.7)	74.1 (-0.1)	18.5 (0.8)	18.7 (1.1)	16.4 (-0.5)	77.0 (3.9)	19.2 (3.3)	18.8 (0.1)	17.0 (3.3)

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

Share of TPES by Sources

(unit: %)

	2016	2017p					2018p			
			M1~4	M2	M3	M4	M1~4	M2	M3	M4
Coal	27.8	28.7	27.5	26.7	27.4	27.7	28.2	28.8	28.5	27.6
- Coking coal excluded	19.8	20.3	19.5	18.9	19.4	19.3	20.4	21.2	20.4	19.1
Oil	40.1	39.7	38.3	37.6	39.2	40.0	37.9	36.7	38.4	40.6
- non-energy oil excluded	20.4	19.4	18.8	18.8	18.6	19.8	18.9	18.2	19.4	19.6
LNG	15.4	15.7	18.1	20.0	17.5	14.0	20.6	21.8	19.7	17.0
Hydro	0.5	0.5	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.4
Nuclear	11.6	10.5	10.8	10.4	10.7	12.3	7.5	7.2	7.7	8.3
Others	4.6	5.0	4.9	4.8	4.9	5.5	5.3	5.1	5.4	6.0
TPES	100.0	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)

	2016	2017p	2018p				2018p			
			M1~4	M2	M3	M4	M1~4	M2	M3	M4
Industry	138.3 (1.9)	143.8 (4.0)	47.5 (6.1)	11.3 (0.6)	12.5 (11.0)	11.3 (5.7)	48.5 (2.1)	11.6 (2.6)	11.9 (-4.5)	12.2 (7.5)
Transport	42.7 (6.0)	43.0 (0.7)	13.7 (-1.0)	3.3 (2.1)	3.6 (2.2)	3.5 (-2.6)	13.9 (1.5)	3.2 (-3.5)	3.6 (-0.5)	3.6 (2.4)
Residential-commercial	38.3 (4.5)	39.3 (2.7)	16.6 (0.0)	4.8 (1.2)	3.9 (-1.2)	3.0 (3.8)	17.6 (6.2)	5.2 (10.0)	3.9 (-0.8)	2.9 (-1.3)
Public	6.2 (8.4)	6.4 (1.9)	2.3 (0.3)	0.6 (2.0)	0.6 (-2.2)	0.5 (1.5)	2.4 (7.2)	0.6 (5.1)	0.6 (1.8)	0.5 (8.6)
TFC	225.5 (3.3)	232.5 (3.1)	80.0 (3.3)	19.9 (1.0)	20.6 (6.5)	18.3 (3.6)	82.4 (3.0)	20.6 (3.5)	20.0 (-2.9)	19.2 (5.1)
Coal (Mton)	49.1 (-6.8)	50.3 (2.3)	16.7 (6.8)	3.8 (2.2)	4.4 (12.5)	3.9 (1.3)	16.7 (-0.1)	3.9 (3.2)	4.1 (-5.9)	4.2 (7.1)
Oil (Mboil)	902.4 (7.2)	928.1 (2.8)	302.5 (3.4)	73.0 (-1.3)	79.9 (8.5)	71.5 (3.7)	307.6 (1.7)	73.1 (0.2)	76.2 (-4.7)	76.3 (6.8)
Electricity (TWh)	497.0 (2.8)	507.7 (2.2)	173.0 (1.4)	44.4 (2.0)	42.6 (0.7)	40.8 (1.7)	180.1 (4.1)	46.7 (5.2)	42.9 (0.9)	42.0 (3.0)
City gas (Bm ³)	21.3 (2.3)	22.6 (6.2)	10.3 (4.6)	2.9 (6.4)	2.5 (4.2)	1.8 (8.8)	10.9 (5.8)	3.2 (8.5)	2.5 (-1.7)	1.8 (-3.5)
Heat-others (1 000 toe)	12.6 (3.8)	13.6 (7.5)	4.9 (5.7)	1.3 (5.8)	1.2 (6.3)	1.1 (7.1)	5.4 (10.7)	1.4 (12.1)	1.3 (6.0)	1.2 (11.4)

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			
			M1~4	M2	M3	M4	M1~4	M2	M3	M4
Industry	61.3	61.9	59.4	56.5	60.8	61.9	58.9	56.1	59.8	63.3
Transport	18.9	18.5	17.1	16.5	17.6	19.1	16.8	15.4	18.0	18.6
Residential-commercial	17.0	16.9	20.7	23.9	18.9	16.3	21.4	25.4	19.3	15.3
Public	2.8	2.7	2.8	3.0	2.8	2.7	2.9	3.1	2.9	2.8
Final energy	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Coal	14.5	14.4	13.8	12.8	14.2	14.3	13.5	12.7	13.8	14.6
Oil	50.9	50.8	48.0	46.4	49.4	50.0	47.4	44.9	48.4	50.6
Electricity	19.0	18.8	18.6	19.2	17.8	19.2	18.8	19.5	18.5	18.8
City gas	10.1	10.2	13.5	15.4	12.7	10.6	13.8	16.1	12.9	9.7
Heat-others	5.6	5.8	6.1	6.3	5.9	5.9	6.6	6.8	6.4	6.3

Note: p means provisional
Source: Monthly Energy Statistics

Statistics on Energy Production Facilities

	2015	2016	2017				2018p		
				M2	M3	M4	M2	M3	M4
Total capacity (GW)	97.6 (4.8)	105.9 (8.4)	116.9 (19.7)	107.1 (13.8)	109.5 (14.8)	110.7 (16.0)	116.4 (17.8)	116.7 (18.2)	116.7 (18.0)
Nuclear	21.7 (4.8)	23.1 (6.4)	22.5 (3.7)	23.1 (11.6)	23.1 (11.6)	23.1 (11.6)	22.5 (3.7)	22.5 (3.7)	22.5 (3.7)
Bituminous coal	26.2 (1.1)	30.9 (18.0)	36.1 (37.8)	31.0 (19.6)	31.6 (21.9)	31.6 (21.9)	36.1 (37.0)	36.1 (37.0)	36.1 (36.9)
Gas	32.2 (6.5)	32.6 (1.2)	37.9 (17.4)	33.5 (8.0)	35.2 (10.5)	36.2 (13.6)	37.4 (14.8)	37.4 (14.8)	37.4 (14.6)
Refinery capacity (mil BPSD)	3.1 (3.7)	3.1 -	3.1 -	3.1 -	3.1 -	3.1 -	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		
				M2	M3	M4	M2	M3	M4
The number of household demanding city gas (mil)	17.4 (3.0)	18.0 (3.4)	18.6 (3.3)	18.1 (3.2)	18.2 (3.2)	18.2 (3.3)	18.7 (3.2)	18.7 (3.3)	18.8 (3.3)
Registered cars (mil)	21.0 (4.3)	21.8 (3.9)	22.5 (3.3)	21.9 (3.8)	22.0 (3.7)	22.1 (3.6)	22.6 (3.2)	22.7 (3.2)	22.8 (3.2)
- gasoline	9.8 (2.3)	10.1 (2.9)	10.4 (2.7)	10.2 (3.0)	10.2 (3.0)	10.2 (3.1)	10.4 (2.7)	10.4 (2.6)	10.5 (2.6)
- diesel	8.6 (8.6)	9.2 (6.4)	9.6 (4.4)	9.2 (5.9)	9.3 (5.5)	9.3 (5.3)	9.6 (4.2)	9.7 (4.2)	9.7 (4.1)
- LPG	2.3 (-3.4)	2.2 (-4.0)	2.1 (-2.9)	2.2 (-3.9)	2.2 (-3.8)	2.1 (-3.6)	2.1 (-3.0)	2.1 (-3.0)	2.1 (-3.2)
- hybrid	0.2 (31.3)	0.2 (37.6)	0.3 (37.6)	0.2 (37.5)	0.2 (37.6)	0.2 (31.2)	0.3 (37.7)	0.3 (38.0)	0.3 (42.1)

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

KEEI

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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.

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