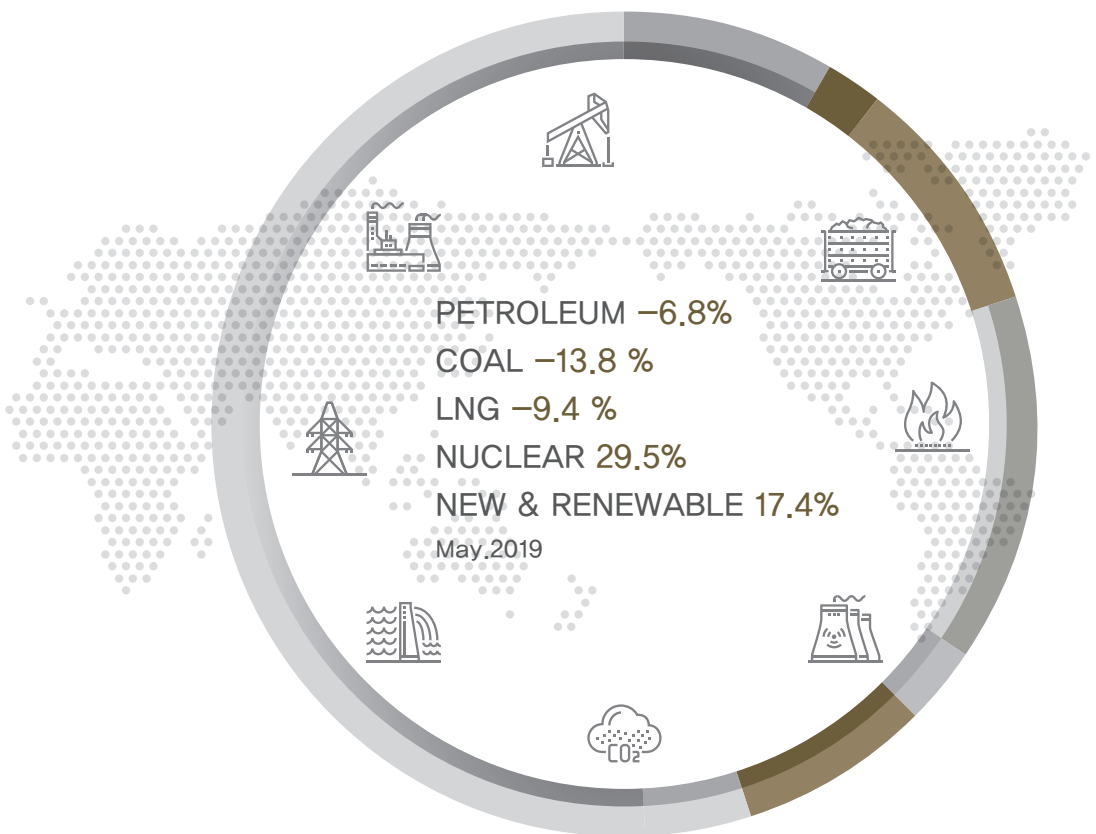


# KEEI

## MONTHLY KOREA ENERGY TRENDS



2019 / 08  
KOREA ENERGY ECONOMICS INSTITUTE





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# 1. The Economy and the Industry

## □ The mining & manufacturing production index slightly increased in May on a year-on-year basis (0.2%), led by the semiconductor and automobile industries.

- The production index of semiconductors rose by 12.9% year-on-year along with sustained growth in export volume, although the export value declined (-30.5%) owing to the lower unit price of memory chips and base effect. The shipment and inventory index also rose by 11.4% and 15.6%.
- The production index of automobiles was up 2.7% year-on-year following the launch of a new vehicle and along with the increased export with strong sales of eco-friendly vehicles.
- The production index of basic chemical materials fell by 10.5% year-on-year despite the extension of LG Chemical's naphtha cracking centers (230,000 tons, 2019.4), as its production declined due to the massive scheduled maintenance and decreased export volume.
- The production index of iron & steel products was down 2.5% year-on-year driven by decreased export volume, especially steel pipes and cold rolled steel sheets, even though the domestic demand increased, led by the automobile and shipbuilding sectors that are the major source of demand.

## □ The service production index posted a year-on-year growth of 2.3% (in May), as the production rebounded in the wholesale & retail sectors and increased in the health & social welfare sectors.

### ► Trend in major economic and industrial indicators

	2017	2018p	2019p				
			M1~5	M5	M1~5	M4	M5
GDP (trillion won)	1 760.8 (3.2)	1 807.7 (2.7)	428.7 (2.8)	- -	435.8 (1.7)	- -	- -
Total export (\$billion, customs clearance basis)	573.7 (15.8)	604.9 (5.4)	245.6 (7.8)	50.7 (12.8)	227.2 (-7.5)	48.8 (-2.1)	45.7 (-9.8)
Industrial production index (2015=100))	104.7 (2.5)	106.1 (1.3)	104.0 (0.2)	107.1 (2.2)	102.9 (-1.1)	106.4 (0.2)	107.3 (0.2)
Semi-conductors	138.9 (10.8)	167.0 (20.3)	149.6 (13.3)	157.1 (13.4)	159.8 (6.8)	167.0 (3.6)	177.4 (12.9)
Basic compound	110.4 (5.5)	110.4 -	111.6 (2.3)	114.7 (5.0)	105.2 (-5.7)	101.9 (-8.2)	102.6 (-10.5)
Steel	102.9 (1.7)	99.8 (-3.1)	100.6 (-2.1)	104.0 (-1.5)	98.4 (-2.2)	99.3 (-1.1)	101.4 (-2.5)
Cars	95.0 (-2.7)	93.7 (-1.4)	91.9 (-6.9)	97.7 (0.4)	94.4 (2.7)	101.1 (3.4)	100.3 (2.7)
Service production index (2015=100)	104.5 (1.8)	106.7 (2.1)	104.6 (2.5)	106.9 (2.2)	106.1 (1.4)	107.6 (1.6)	109.4 (2.3)
Wholesale & Retail	103.3 (0.8)	104.8 (1.4)	103.9 (2.1)	106.6 (2.4)	103.7 (-0.2)	105.4 (-0.7)	108.2 (1.5)
Restaurant & Accommodation	100.4 (-1.9)	98.5 (-1.9)	96.1 (-2.8)	101.4 (-2.4)	94.9 (-1.2)	95.7 (-1.2)	100.1 (-1.3)

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



## Domestic energy prices

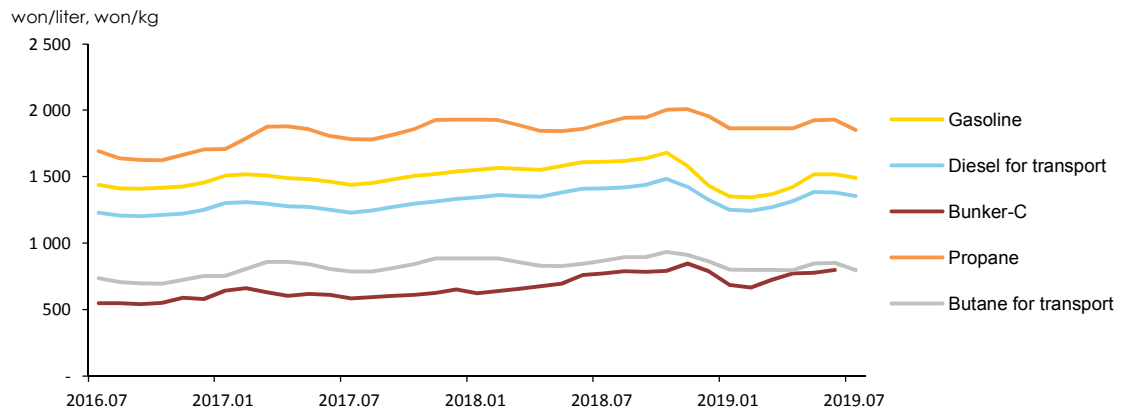
- **Gasoline and diesel prices declined in July from the previous month, as the downward trend continued until the 3<sup>rd</sup> week of the month.**
  - Gasoline and diesel prices fell by 1.7% and 2.0% in July from the previous month, as the downward trend has continued from June until the 3<sup>rd</sup> week of July in line with the global oil price trend, although the prices rebounded in the 4<sup>th</sup> week along with increased global prices.
- **Propane and butane prices dropped by around 5% in July than a month earlier, as domestic LPG suppliers lowered the prices.**
  - The domestic prices of propane and butane dropped by 4.0% and 6.4% respectively from the previous month, as domestic LPG suppliers lowered the prices (-100 won/liter), reflecting Saudi Aramco's price reduction for propane and butane (-18.1%, -21.7% in June).

### ► Trend in domestic energy prices

	2017	2018				2019		
			M5	M6	M7	M5	M6	M7
Gasoline (won/liter)	1 491.3 (6.3)	1 581.3 (6.0)	1 580.3 (6.7)	1 609.1 (10.1)	1 610.9 (12.0)	1 517.2 (-4.0)	1 517.5 (-5.7)	1 491.5 (-7.4)
Diesel for transport (won/liter)	1 282.5 (8.4)	1 391.9 (8.5)	1 380.2 (8.6)	1 410.0 (12.7)	1 411.9 (14.8)	1 385.3 (0.4)	1 379.8 (-2.1)	1 352.8 (-4.2)
Bunker-C (won/liter)	619.3 (18.9)	735.0 (18.7)	695.9 (12.7)	759.5 (24.4)	771.5 (32.0)	777.0 (11.7)	799.2 (5.2)	-
Propane (won/kg)	1 833.8 (8.5)	1 920.5 (4.7)	1 842.2 (-0.8)	1 860.0 (3.0)	1 902.9 (6.9)	1 924.1 (4.4)	1 929.0 (3.7)	1 851.4 (-2.7)
Butane for transport (won/liter)	826.5 (12.6)	874.6 (5.8)	826.9 (-1.8)	843.7 (4.8)	869.1 (10.5)	847.6 (2.5)	851.6 (0.9)	796.8 (-8.3)

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

### ► Trend in domestic petroleum product prices



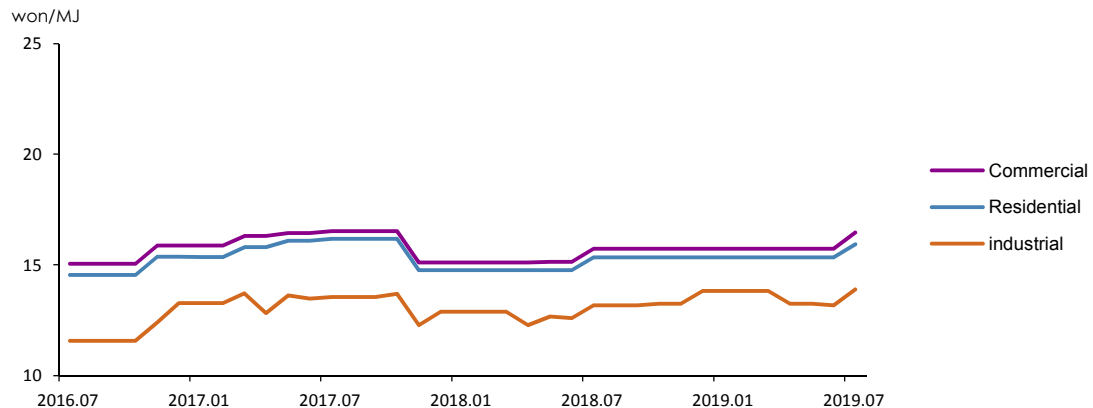
□ **City gas price rose by 4.6% in July than the previous month, as the price was raised for the first time in a year to collect the outstanding amount.**

- City gas price had been fixed since July, 2018 despite the increased global LNG price in order to relieve the economic burden on people. The price, however, was raised in a year to collect the outstanding amount that was accumulated due to the price freeze.
- According to 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 importing price, which is affected by changes in global oil price and exchange rates.

□ **Heat energy price has been flat since the price increase in July, 2018 despite increased city gas price.**

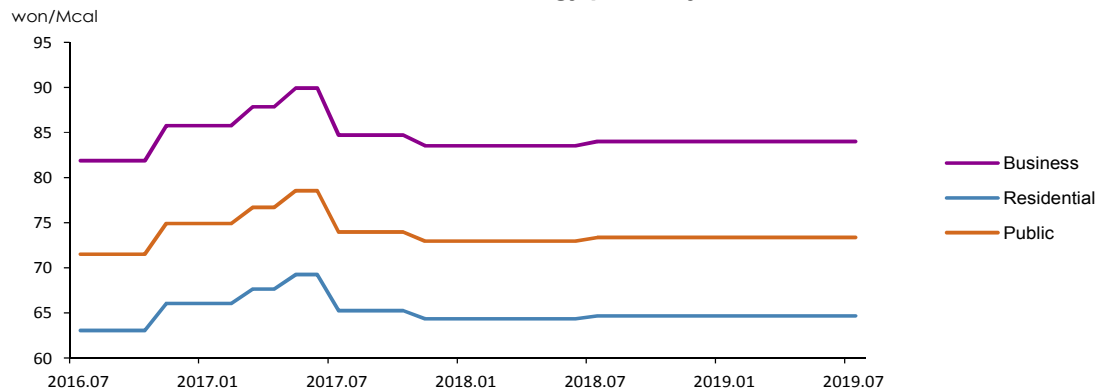
- Korea District Heating Corporation's heat energy price is linked to city gas price according to the fuel cost pass-through scheme, and the actual fuel cost is reflected in the heat energy price once a year (LNG for over 100MW, city gas for under 100MW).

#### ► 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 pricing 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.

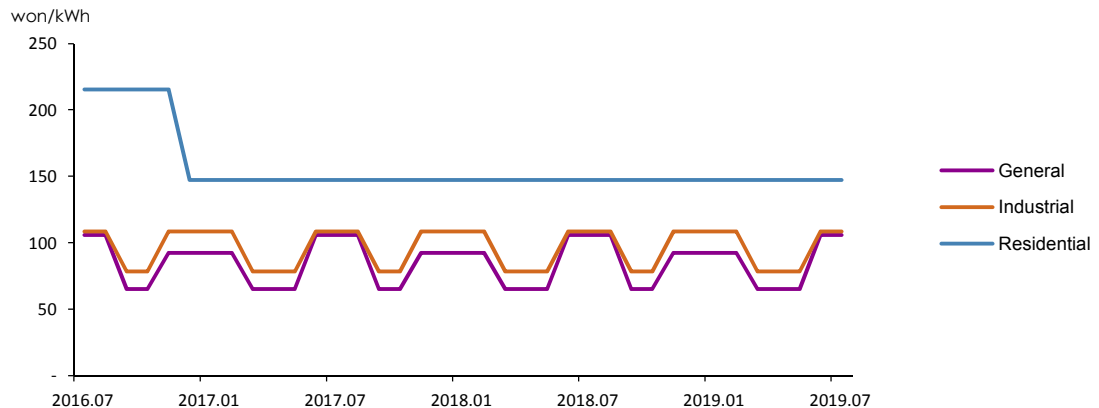
☐ **Electricity prices for <sup>1</sup>general and industrial use were adjusted for the summer season in June, and the prices were flat in July.**

- Electricity prices for general and industrial use that are subject to the seasonal adjustment, remained flat in July following the price change from spring/autumn (Mar-May, Sept-Oct) to summer (June-Aug) in June.
- Electricity price for residential use has been at the same level since the progressive pricing scheme was restructured from six to three stages as a result of the extreme summer heat in 2016.

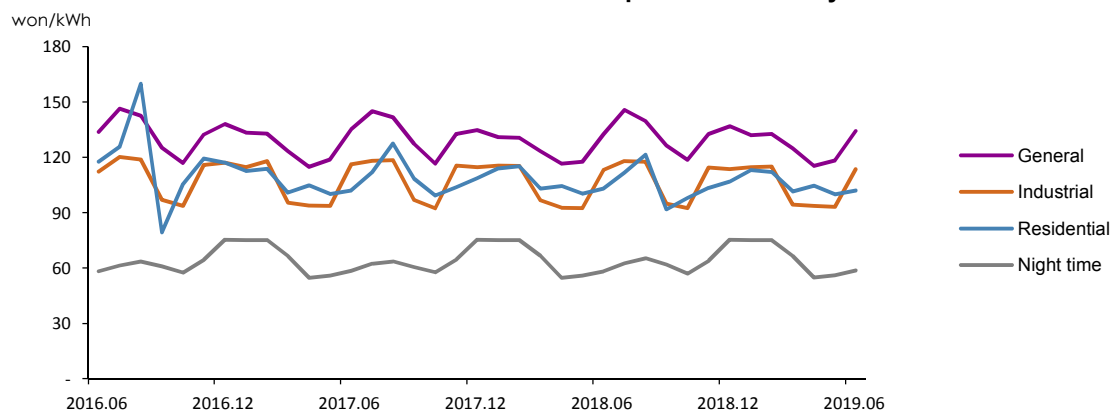
☐ **The unit sales price of electricity for industrial and general use surged with the change of season, and that for residential use slightly increased.**

- The unit sales price of electricity increased (1.9%) in the residential sector (progressive pricing), as the demand grew (1.6%) with the change of season, and the prices were up 13.4% and 21.9% respectively in the general and industrial sectors due to the price adjustment for summer.

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



► **Trend in unit sales price of electricity**



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



### 3. Energy Supply

- **The total energy import volume fell by 1.0% year-on-year in May due to the maintenance work at some refineries and decreased crude oil import as a result of the suspension on Iranian oil exports.**
  - Crude oil import fell by 11.6% on a year-on-year basis owing to the scheduled maintenance work at some refineries and decreased import from the Middle East and Europe as a consequence of the US sanctions on Iranian oil sales.
  - The import volume of petroleum products bounced back in four months (2.0%) on the back of increased LPG import, although naphtha and bunker-C imports decreased.
  - The foreign energy dependence including nuclear energy stood at 92.2%, and the energy's share of the total import value fell by 1.2%p year-on-year to 24.6%.

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

	2017	2018p	2019p				
			M1~5	M5	M1~5	M4	M5
Import volume							
Crude oil (Mbbl)	1 118.2 (3.7)	1 116.3 (-0.2)	459.4 (0.9)	95.2 (2.7)	458.5 (-0.2)	95.7 (9.8)	84.1 (-11.6)
Petroleum product (Mbbl)	314.5 (-6.0)	341.2 (8.5)	139.6 (6.1)	27.9 (2.5)	131.4 (-5.9)	26.2 (-2.3)	28.5 (2.0)
Bituminous coal (Mton)	131.5 (11.0)	131.5 (0.0)	55.6 (2.9)	9.9 (1.8)	52.4 (-5.8)	10.1 (-17.7)	10.6 (6.4)
Anthracite (Mton)	7.0 (-25.7)	8.1 (16.0)	3.3 (0.3)	0.8 (34.1)	3.1 (-6.5)	0.5 (-27.0)	0.6 (-22.3)
LNG (Mton)	37.5 (12.2)	44.0 (17.3)	18.9 (17.0)	2.8 (11.7)	16.7 (-11.9)	3.3 (4.4)	3.0 (6.8)
Import volume (Mtoe)	339.7 (5.5)	354.1 (4.2)	147.2 (4.5)	28.4 (5.9)	143.3 (-2.6)	28.2 (-2.7)	28.1 (-1.0)
Import value (billion US\$, CIF)	109.5 (35.2)	146.0 (33.3)	56.9 (24.8)	11.5 (31.9)	53.7 (-5.5)	11.0 (2.1)	10.7 (-6.8)
Energy share of total import value (%)	22.9	27.3	25.8	25.9	25.5	24.5	24.6
Foreign energy dependence (%)*	93.9	93.5	93.7	93.3	93.0	92.7	92.2
Domestic production							
Hydropower (TWh)	7.0 (5.5)	7.3 (3.9)	2.7 (0.5)	0.8 (30.5)	2.5 (-5.5)	0.5 (5.6)	0.5 (-32.1)
Anthracite (Mton)	1.5 (-14.0)	1.2 (-19.2)	0.6 (-12.7)	0.1 (-5.1)	0.5 (-18.2)	0.1 (-11.9)	0.1 (-17.9)
Natural gas (Mton)	0.3 (120.5)	0.2 (-10.4)	0.1 (-7.1)	0.0 (-5.6)	0.1 (-25.3)	0.0 (-6.9)	0.0 (-11.4)
Renewable energy (Mtoe)	15.8 (16.7)	17.5 (10.5)	7.2 (10.7)	1.4 (10.1)	8.1 (11.6)	1.6 (7.3)	1.7 (17.4)

Note: p means provisional, ( ) is year-on-year growth rates (%), \*Foreign energy dependence (%) including Nuclear energy  
Source: Monthly Energy Statistics

## 4. Energy Consumption

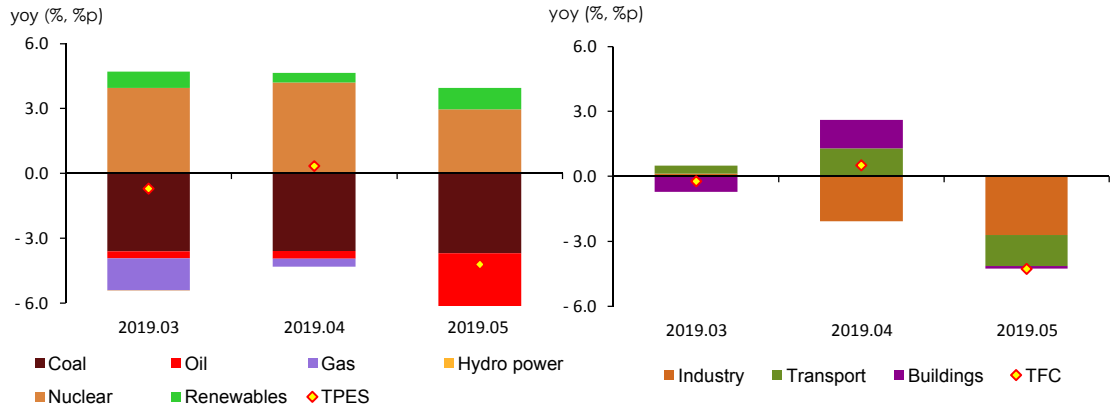
- **Total Primary Energy Supply (“TPES”) went down by 4.2% year-on-year in May despite increased use of nuclear and renewable energy, as coal, petroleum and gas use all declined.**
  - Transport petroleum use declined in May, as its demand increased in April in advance of the reduction of fuel tax relief, and industrial petroleum use also declined, especially naphtha, due to the scheduled maintenance work at petrochemical facilities, and consequently the total consumption fell by 6.8% on a year-on-year basis.
  - Coal consumption plunged by 13.8% year-on-year, as bituminous coal use declined in the steelmaking sector amid the sluggish business, and the consumption declined in the power generation sector due to the rapidly increased daily average of preventive maintenance and fine dust reduction measures that limit the maximum output of coal-fired power plants.
  - Gas consumption declined by 9.4% year-on-year, as the consumption plunged in the power generation sector due to the increased nuclear generation, although city gas consumption increased even at higher price led by the commercial sector amid increased service production (2.3%).
- **Total Final Consumption (“TFC”) dropped by 4.3% year-on-year (in May), as all of the end-use sectors consumed less energy.**
  - Industrial energy use was down 4.2% despite the increased number of work days (1.5 days), because the production slowed down in large energy consuming industries amid the economic downturn and the maintenance work at some petrochemical facilities.
  - Transport energy use fell by 7.7%, as the demand moved to April prior to the reduction of fuel tax relief from May.
  - Energy use in buildings declined by 0.7% year-on-year owing to the steep decline in heat energy, petroleum and coal consumption, which was affected by the decreased number of heating degree days and higher energy prices, although gas and electricity consumption increased.

### ► Energy consumption trend

	2017	2018p		2019p			
			M1~5	M5	M1~5	M4	M5
<b>Total energy (Mtoe)</b>	<b>302.1</b>	<b>307.3</b>	<b>129.6</b>	<b>24.3</b>	<b>127.2</b>	<b>24.1</b>	<b>23.3</b>
	(2.9)	(1.7)	(3.0)	(3.5)	(-1.9)	(0.3)	(-4.2)
- Non-energy oil&coal excluded	215.4	221.4	94.0	16.9	92.7	17.4	16.3
	(1.6)	(2.8)	(3.8)	(3.5)	(-1.4)	(2.5)	(-3.6)
<b>Final energy (Mtoe)</b>	<b>233.9</b>	<b>237.9</b>	<b>102.2</b>	<b>19.0</b>	<b>100.8</b>	<b>19.4</b>	<b>18.2</b>
	(3.9)	(1.7)	(3.5)	(4.2)	(-1.4)	(0.5)	(-4.3)

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

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





## 6. Petroleum

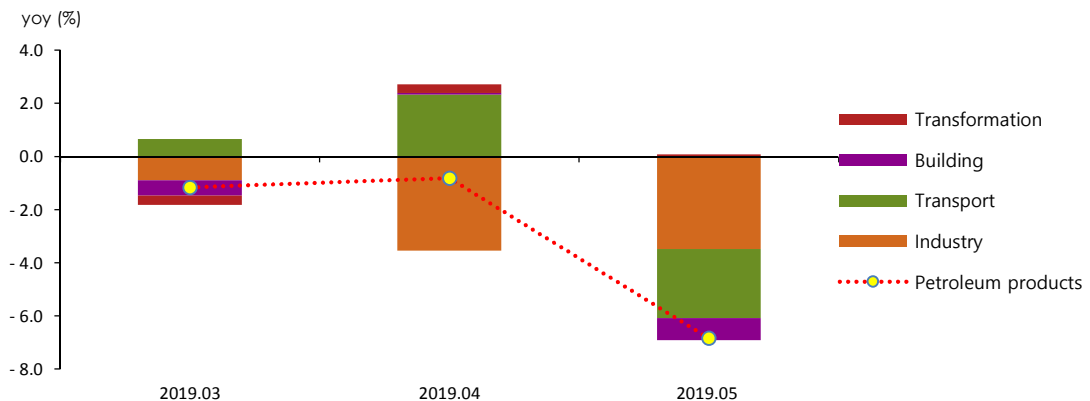
- **Petroleum consumption was down 6.8% year-on-year in May, as the consumption plunged in the transport sector in addition to the continued downward trend in the industrial sector.**
  - Industrial petroleum consumption dropped by 5.5% year-on-year, as the use of non-energy oil including naphtha continued to drop sharply, and the use of energy oil including LPG started the downward slide as well.
  - The growth rate of petroleum consumption in the transport sector fell by over 15%p in May than the previous month due to the reduced tax benefit.

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

	2017	2018p	2019p				
			M1~5	M5	M1~5	M4	M5
<b>Petroleum (Mbbl)</b>	<b>937.1</b>	<b>929.3</b>	<b>390.1</b>	<b>78.0</b>	<b>382.8</b>	<b>75.6</b>	<b>72.7</b>
	(1.7)	(-0.8)	(1.7)	(1.8)	(-1.9)	(-0.8)	(-6.8)
Industry	567.0	562.2	235.5	48.9	229.4	44.3	46.2
	(4.5)	(-0.8)	(2.2)	(5.9)	(-2.6)	(-5.7)	(-5.5)
-Naphtha	458.4	451.2	190.3	38.9	181.8	34.6	36.4
	(6.6)	(-1.6)	(1.5)	(5.3)	(-4.4)	(-7.9)	(-6.3)
Transport	303.2	299.8	121.5	24.9	124.7	26.3	22.9
	(0.9)	(-1.1)	(-0.7)	(-4.7)	(2.6)	(7.2)	(-8.2)
Buildings	56.4	55.9	26.7	3.7	24.7	4.3	3.1
	(0.3)	(-1.0)	(6.4)	(3.0)	(-7.7)	(1.1)	(-17.6)
Power generation	10.5	11.5	6.3	0.4	4.1	0.7	0.5
	(-51.9)	(9.6)	(16.4)	(-32.2)	(-35.4)	(55.8)	(14.2)

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

### ► The growth rates of petroleum product consumption & the consumption by end-use sectors



## 7. Gas

□ **Natural gas consumption decreased by 9.4% year-on-year in May, as the consumption plunged in the power generation sector amid surging nuclear generation.**

- Gas use for power generation has been down for seven consecutive months despite a slight increase in electricity consumption (0.4%), because the nuclear generation grew rapidly(29.5%).

□ **City gas consumption increased by 1.5% year-on-year (in May), with the industrial and buildings sectors leading the growth.**

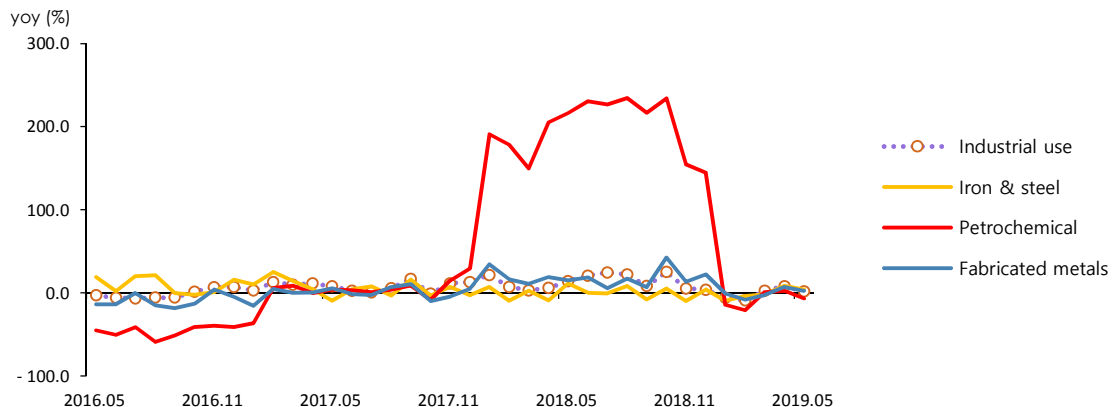
- Industrial city gas consumption posted a year-on-year growth, as the consumption increased in the primary metals and fabricated metals industries. The consumption growth, however, was much slower than the previous month partly because the petrochemical sector consumed less city gas.
- City gas consumption remained stagnant (0.6%) in residential buildings amid the decreased number of heating degree days but grew fast in commercial buildings (4.8%), and consequently the total consumption increased.

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

	2017	2018p	2019p				
			M1~5	M5	M1~5	M4	M5
<b>LNG (Mton)</b>	<b>36.4</b>	<b>40.9</b>	<b>19.5</b>	<b>2.8</b>	<b>18.0</b>	<b>3.1</b>	<b>2.5</b>
	(4.3)	(12.5)	(20.0)	(31.5)	(-7.8)	(-2.2)	(-9.4)
Power generation	15.6	18.0	8.0	1.4	7.0	1.4	1.2
	(0.6)	(15.6)	(29.6)	(42.9)	(-11.5)	(-11.7)	(-14.4)
City gas production	18.4	19.8	10.0	1.1	9.7	1.5	1.1
	(5.8)	(7.7)	(10.2)	(14.8)	(-3.5)	(11.2)	(-1.0)
<b>City gas (bm<sup>3</sup>)</b>	<b>22.6</b>	<b>24.3</b>	<b>12.7</b>	<b>1.5</b>	<b>12.4</b>	<b>2.1</b>	<b>1.5</b>
	(6.3)	(7.3)	(9.2)	(12.7)	(-2.9)	(10.6)	(1.5)
Industry	7.8	8.7	3.8	0.7	3.8	0.8	0.7
	(7.7)	(12.4)	(10.2)	(14.1)	(-1.2)	(7.8)	(1.4)
Buildings	13.6	14.3	8.4	0.7	8.1	1.2	0.7
	(6.0)	(5.2)	(9.4)	(13.8)	(-3.7)	(13.4)	(1.8)

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

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



## 8. Electricity

□ Electricity consumption was up 0.4% year-on-year in May led by the buildings sector, though the consumption declined in the industrial sector

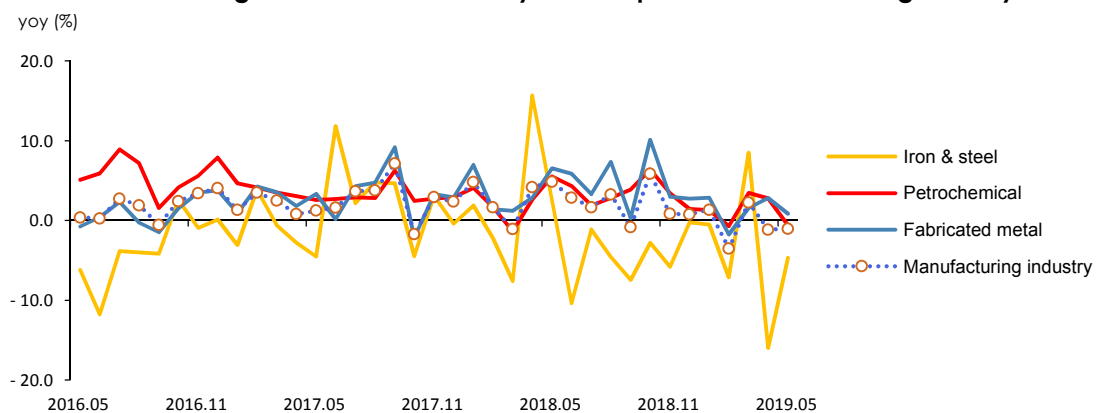
- Industrial electricity consumption fell slightly on a year-on-year basis despite the increased number of work days, as the consumption declined in the primary metals (iron & steel) and petrochemical sectors due to the sluggish production.
- Electricity consumption in buildings increased compared to the same month last year, as heat wave warnings were issued amid higher average temperatures (national average, 0.8°C), which led to increased energy demand for cooling.

► Trend in electricity consumption by end-use sectors

	2017	2018p	2019p				
			M1~5	M5	M1~5	M4	M5
<b>Electricity (TWh)</b>	<b>507.7</b>	<b>526.1</b>	<b>220.6</b>	<b>40.5</b>	<b>219.2</b>	<b>42.4</b>	<b>40.7</b>
	(2.2)	(3.6)	(4.2)	(4.6)	(-0.6)	(1.0)	(0.4)
Industry	276.7	283.7	117.7	23.3	117.5	23.3	23.2
	(2.5)	(2.5)	(3.0)	(4.6)	(-0.2)	(-0.7)	(-0.5)
Transport	2.9	3.0	1.2	0.2	1.2	0.2	0.2
	(6.5)	(3.6)	(7.7)	(2.9)	(-0.4)	(2.0)	(2.1)
Buildings	228.2	239.5	101.7	17.0	100.5	18.9	17.3
	(1.7)	(4.9)	(5.6)	(4.7)	(-1.2)	(3.0)	(1.7)
Residential	66.5	70.7	28.2	5.1	28.6	5.6	5.2
	(0.5)	(6.3)	(4.1)	(3.2)	(1.1)	(2.8)	(2.1)
Commercial	130.4	136.4	59.5	9.5	58.3	10.7	9.7
	(2.3)	(4.6)	(6.2)	(5.2)	(-2.0)	(3.0)	(2.4)

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

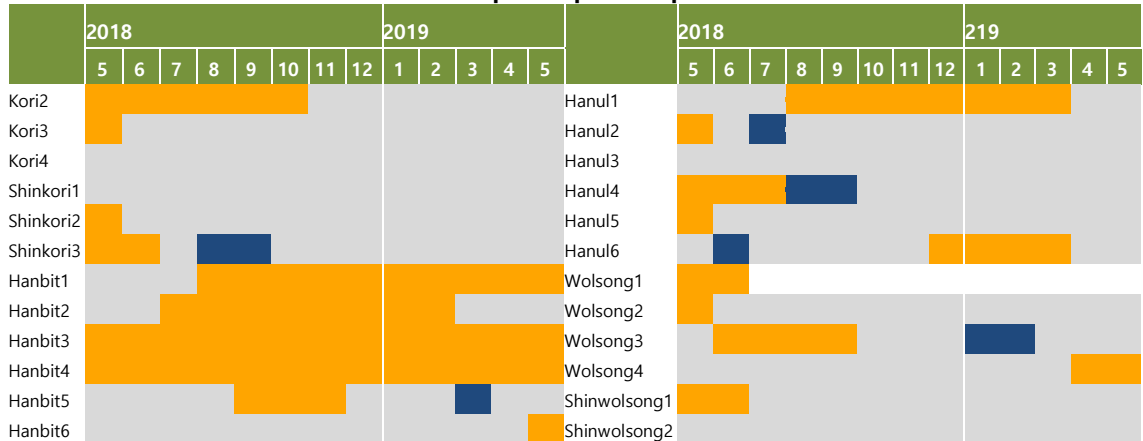
► The growth rate of electricity consumption in manufacturing industry



## 9. Nuclear

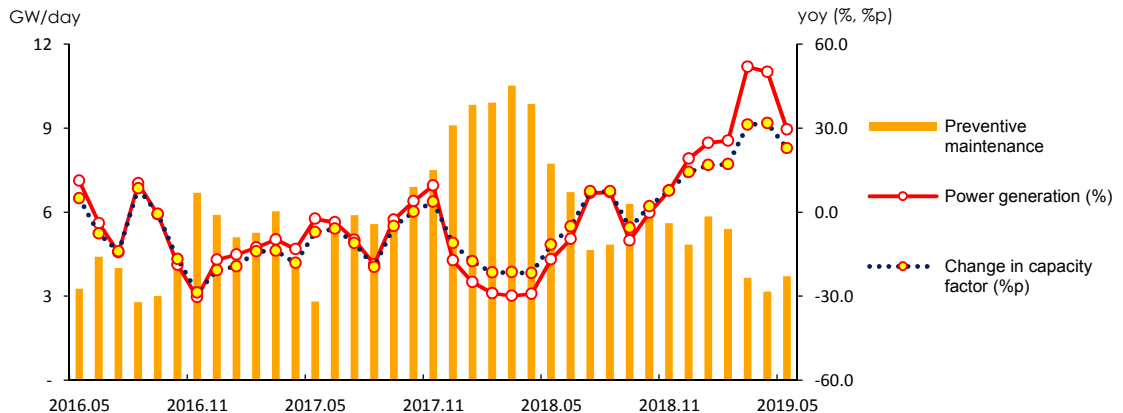
- Nuclear generation posted a year-on-year growth of 29.5% in May along with increased average capacity factors.
- The average capacity factors at nuclear power plants jumped 22.8%p year-on-year to 90.6%, as the number of nuclear reactors closed for maintenance declined.
- Nuclear energy's share of the generation mix was up 7.6%p year-on-year to 33.2%.

### ► 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

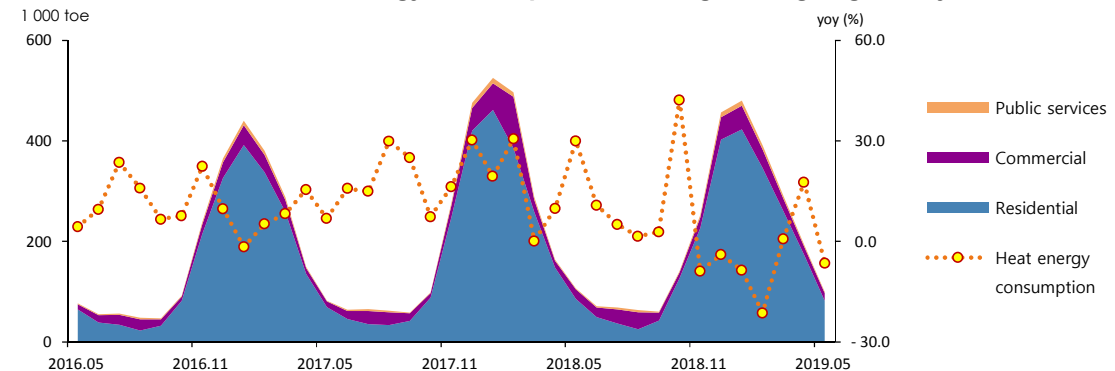
□ **Heat energy consumption fell by 6.5% year-on-year in May due to base effect and the decreased number of heating degree days.**

- Heat energy consumption declined in May partly due to the base effect of a surge (30.0%) in heat energy use amid the rapidly increased heating degree days during the same month last year.

□ **Renewable & other energy use grew by 12.1% year-on-year on the back of growing renewable generation, even though hydropower generation declined.**

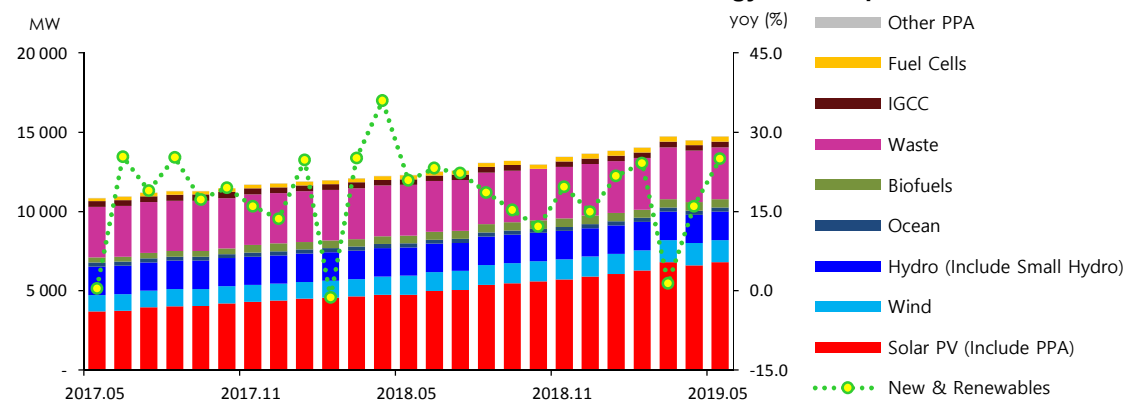
- Renewable generation (except hydropower) surged by over 40%, with solar PV, fuel cell and bioenergy taking the lead, even though IGCC plants generated less power.
- Hydropower generation (including pumping-up & small hydro) plunged by 32.1% year-on-year as a result of sharply decreased amount of rainfall (-54.8%).

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



Note: The total heat energy consumption is estimated based on the total supply from district heating & cooling companies (KEA's collective energy business). Previously, the figure reflected the monthly supply data of only three energy companies (KDHC, GS Power, SH Corp.).

### ► Trend in renewable and other energy consumption



## 11. Industry

- Industrial energy consumption decreased by 4.2% year-on-year in May due to the sluggish production in the petrochemical and primary metals industries.
  - Despite the increased number of work days (1.5 days, yoy), the industry consumed less energy due to the maintenance work at some petrochemical facilities, weak production in the iron & steel sector and a slowdown in the semiconductor business.

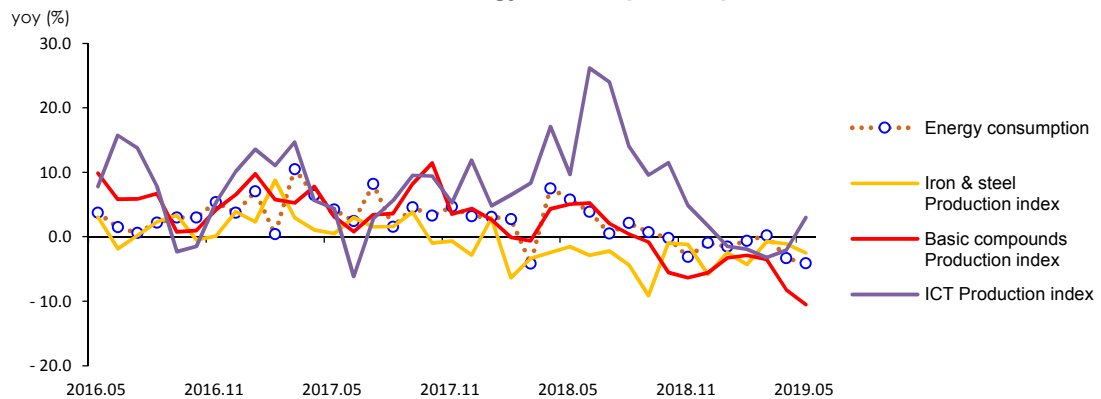
### ► Trend in the industrial energy consumption

	2017	2018p	2019p				
			M1~5	M5	M1~5	M4	M5
<b>Industry (Mtoe)</b>	<b>144.3</b>	<b>146.3</b>	<b>61.0</b>	<b>12.4</b>	<b>59.8</b>	<b>11.7</b>	<b>11.9</b>
	(4.7)	(1.4)	(2.9)	(5.8)	(-1.9)	(-3.3)	(-4.2)
Petrochemical	70.4	71.4	29.9	6.2	28.9	5.6	5.8
	(6.7)	(1.4)	(3.9)	(7.7)	(-3.3)	(-5.3)	(-5.9)
- Naphtha	56.2	55.3	23.3	4.8	22.3	4.2	4.5
	(6.6)	(-1.6)	(1.5)	(5.3)	(-4.4)	(-7.9)	(-6.3)
Iron & Steel	35.0	30.4	12.5	2.6	12.0	2.4	2.4
	(24.4)	(-13.1)	(-12.8)	(-11.2)	(-3.5)	(-1.5)	(-4.9)
-Coking coal	25.3	25.7	10.4	2.1	10.1	2.0	2.0
	(8.0)	(1.6)	(1.7)	(2.9)	(-3.5)	(0.1)	(-5.4)
Fabricated metal	10.8	11.5	4.8	0.9	4.9	0.9	0.9
	(1.9)	(6.2)	(6.2)	(6.5)	(0.7)	(3.6)	(1.2)
Share of feedstock (%)	59.9	58.6	58.3	59.0	57.4	57.3	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 consumption went down by 7.7% year-on-year in May, as the consumption plunged in the road transport sector which takes a large share of the total consumption.
  - Energy use in the road transport sector fell by nearly 10% from the same month last year largely because of the reduced fuel tax benefit in May.<sup>2</sup>
  - Energy use in the navigation sector continued its downward trend for five months in a row, as the export, import and coastal transport volumes all declined, although the pace of decline was much slower than the previous month.

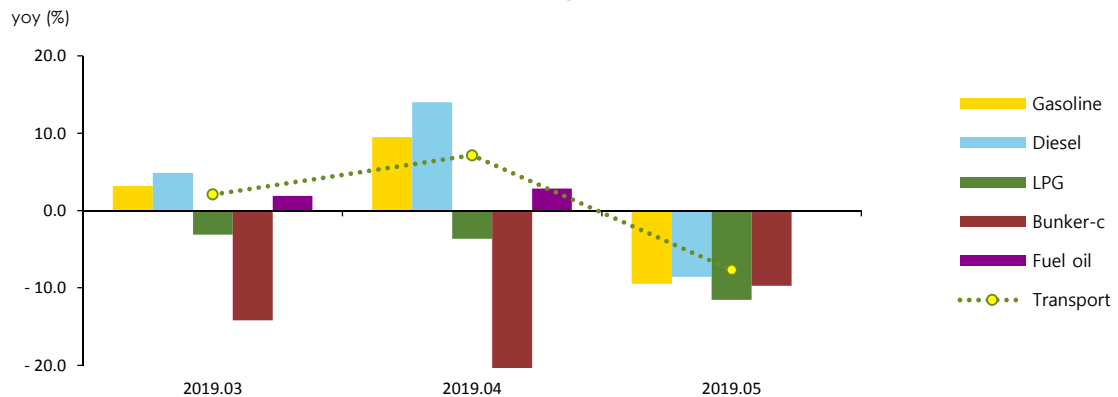
► The growth rate of petroleum consumption in the transport sector

	2017	2018p			2019p		
			M1~5	M5	M1~5	M4	M5
Transport (Mtoe)	42.8	42.6	17.2	3.6	17.7	3.7	3.3
	(1.2)	(-0.5)	(-0.2)	(-3.8)	(2.5)	(7.1)	(-7.7)
Road	34.1	34.1	13.7	2.8	14.3	3.1	2.6
	(0.5)	(-0.1)	(-0.3)	(-4.7)	(4.5)	(10.3)	(-9.0)
Navigation	3.5	3.1	1.3	0.3	1.2	0.2	0.2
	(5.8)	(-11.5)	(-12.0)	(-14.8)	(-12.0)	(-18.0)	(-6.6)
Aviation	4.8	5.0	2.1	0.4	2.1	0.4	0.4
	(3.2)	(4.4)	(9.2)	(11.1)	(-0.6)	(2.9)	(-0.0)
Rail	0.3	0.4	0.1	0.0	0.1	0.0	0.0
	(2.5)	(3.6)	(7.0)	(4.9)	(-1.3)	(-0.5)	(0.5)

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



<sup>2</sup>According to the 15% fuel tax relief from Nov 6, taxes on gasoline, diesel and butane were lowered by 123 won, 87 won and 30 won. The tax relief was originally scheduled to expire after six month period, however it was extended until Aug 31, and the benefit was lowered from 15% to 7% from May 6.

## 13. Buildings

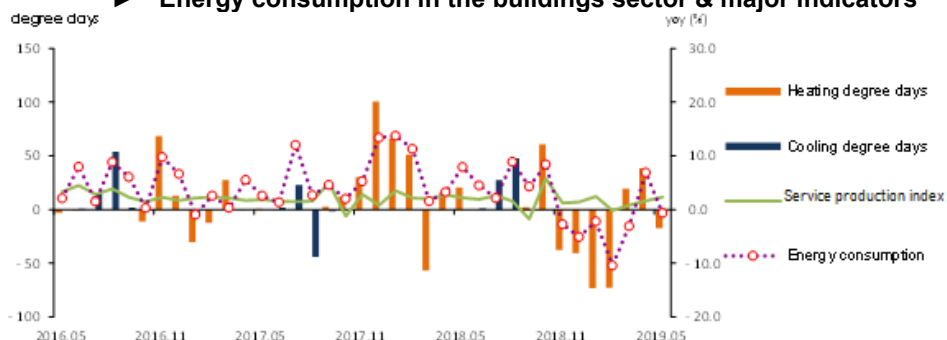
- **Energy use in buildings decreased by 0.7% year-on-year in May owing to base effect and the decreased number of heating degree days.**
  - Energy use in buildings decreased as a result of the decreased petroleum demand, which was affected by the base effect of the consumption growth (7.9%) during the same month last year, decreased number of heating degree days and higher energy prices, although more electricity was consumed in buildings, as extremely hot days came earlier than usual in some region, driving up energy demand for cooling.
  - Energy use in residential buildings fell by 4.0% despite increased use of electricity and city gas (2.1%, 0.6%), because briquette, petroleum and heat energy use all decreased (-35.0%, -27.8%, -4.2%).
  - Energy use in commercial buildings remained flat despite sharply decreased petroleum use (-15.1%), as the service production increased especially in the wholesale & retail sectors (1.5%) resulting in increased electricity and city gas consumption (2.4%, 4.8%).
  - Energy consumption in public buildings grew faster, as diesel and renewable energy consumption increased (33.9%, 14.4%).

### ► Energy consumption trend in the buildings sector

	2017	2018p	2019p				
			M1~5	M5	M1~5	M4	M5
Buildings (Mtoe)	46.8	49.1	24.0	3.0	23.3	3.9	3.0
	(4.2)	(4.8)	(8.2)	(7.9)	(-2.9)	(6.9)	(-0.7)
Residential	22.5	23.5	12.6	1.3	12.1	1.9	1.2
	(3.7)	(4.7)	(9.0)	(11.6)	(-4.3)	(8.8)	(-4.0)
Commercial	17.4	18.1	8.2	1.2	8.0	1.4	1.2
	(2.2)	(4.1)	(6.7)	(5.4)	(-2.5)	(6.7)	(-0.0)
Public+others	6.9	7.4	3.2	0.5	3.3	0.6	0.6
	(11.0)	(6.6)	(8.9)	(5.2)	(1.4)	(1.3)	(6.1)
Heating degree days	2 517.1	2 597.8	1 616.9	37.6	1 511.5	180.8	20.3
	(5.5)	(3.2)	(6.4)	(118.6)	(-6.5)	(27.2)	(-46.0)
Cooling degree days	132.7	209.0	-	-	-	-	-
	(-13.9)	(57.5)	-	-	-	-	-

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 to power stations fell by 1.4% year-on-year in May, as the use of all energy resources declined except nuclear and renewable energy.
  - The total power generated remained flat in May on a year-on-year basis; baseload (nuclear + coal) generation took a larger share (2.3%p) despite decreased coal-fired generation, as nuclear generation increased, and accordingly, gas-fired generation continued to drop sharply.
  - The average capacity factors at nuclear, coal and gas-fired power plants stood at 90.6%, 54.4% and 37.2% respectively.

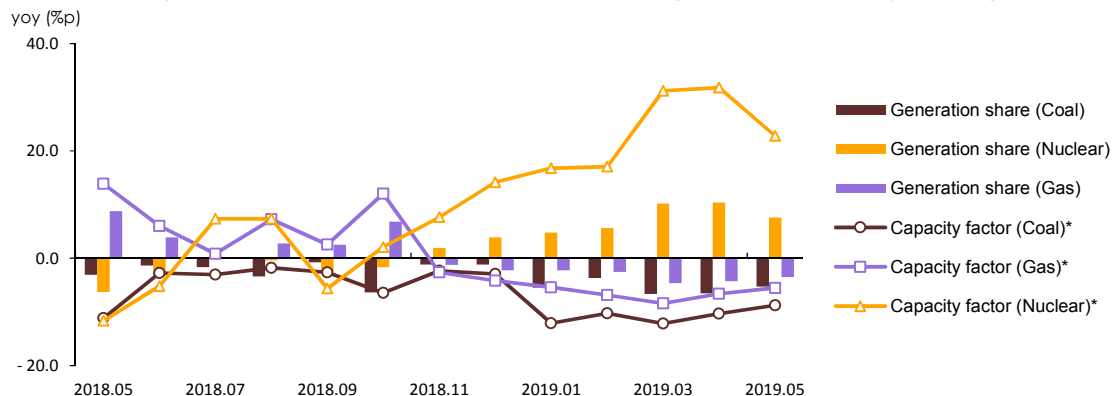
### ► Energy consumption in the power generation sector

	2017	2018p	2019p		2019p	M1~5	M4	M5
			M1~5	M5				
<b>Input (Mtoe)</b>	<b>111.2</b>	<b>113.3</b>	<b>46.2</b>	<b>8.7</b>	<b>45.5</b>	<b>8.5</b>	<b>8.6</b>	
	(0.2)	(1.9)	(1.5)	(1.4)	(-1.7)	(1.1)	(-1.4)	
Coal	52.8	54.2	22.5	3.9	19.1	3.1	3.2	
	(7.4)	(2.7)	(7.8)	(0.1)	(-15.1)	(-18.9)	(-17.2)	
Oil	1.2	1.3	0.7	0.0	0.4	0.1	0.0	
	(-59.5)	(4.0)	(5.5)	(-32.4)	(-35.9)	(42.4)	(-0.9)	
Gas	20.7	23.9	10.6	1.9	9.4	1.8	1.6	
	(0.9)	(15.6)	(29.4)	(42.5)	(-11.5)	(-11.5)	(-14.4)	
Nuclear	31.6	28.4	10.4	2.4	14.1	3.0	3.1	
	(-7.5)	(-10.1)	(-25.9)	(-16.8)	(36.0)	(50.1)	(29.5)	
Hydro/other renewables	4.8	5.4	2.1	0.5	2.5	0.5	0.6	
	(19.3)	(11.9)	(11.4)	(15.6)	(15.4)	(6.9)	(21.0)	

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

	2016	2017			2018				2019
			3Q	4Q	1Q		3Q	4Q	1Q
GDP (trillion won)	1 706.9 (2.9)	1 760.8 (3.2)	443.7 (3.9)	461.8 (2.8)	428.7 (2.8)	1 807.7 (2.7)	453.0 (2.1)	475.2 (2.9)	435.8 (1.7)
Private consumption	825.7 (2.6)	848.6 (2.8)	213.0 (3.0)	218.2 (3.2)	218.8 (3.6)	872.3 (2.8)	217.8 (2.3)	223.5 (2.4)	222.8 (1.9)
Facilities investment	146.2 (2.6)	170.3 (16.5)	41.1 (17.4)	44.0 (10.4)	44.1 (10.2)	166.2 (-2.4)	37.3 (-9.4)	41.7 (-5.3)	36.4 (-17.4)
Construction investment	263.7 (10.0)	282.9 (7.3)	74.5 (6.9)	75.6 (3.1)	57.1 (1.2)	270.9 (-4.3)	68.0 (-8.7)	71.3 (-5.7)	53.0 (-7.2)
Consumer price index (2015=100)	101.0	102.9	103.2	103.0	103.9	104.5	104.8	104.8	104.5
USD to KRW exchange rate (won)	1 160.8	1 131.0	1 132.3	1 107.5	1 072.7	1 100.2	1 121.5	1 127.4	1 125.1
Benchmark rate (%)	1.4	1.3	1.3	1.4	1.5	1.5	1.5	1.7	1.8
Coincident composite index (2015=100)	103.3	107.2	107.6	108.2	108.7	109.4	109.6	109.8	109.8
Mining & manufacturing production index (2015=100)	102.2	104.7	105.1	105.4	102.3	106.1	105.2	109.9	100.2
Manufacturing operation ratio index (2015=100)	98.9	98.1	98.9	97.1	94.6	98.4	97.0	101.3	92.8
Average temperature	13.6	13.1	24.1	7.3	2.0	13.0	24.8	7.4	3.4
- year-on-year difference	0.2	- 0.5	- 0.4	- 1.6	- 0.7	- 0.1	0.7	0.1	1.4
Heating degree days	2 386.8 (3.9)	2 517.1 (5.5)	2.9 (1350.0)	993.9 (16.8)	1 437.2 (4.4)	2 597.8 (3.2)	5.0 (72.4)	975.9 (-1.8)	1 310.4 (-8.8)
Cooling degree days	154.1 (87.2)	132.7 (-13.9)	130.3 (-15.1)	-	-	209.0 (57.5)	205.5 (57.7)	-	-
Energy intensity	0.17 (-0.5)	0.17 (-0.2)	0.17 (-0.7)	0.17 (1.3)	0.19 (-0.3)	0.17 (-0.9)	0.17 (0.0)	0.17 (-3.9)	0.18 (-3.5)
Per capita consumption									
oil (bbl)	18.0 (7.5)	18.2 (1.5)	4.6 (2.2)	4.8 (0.7)	4.6 (-0.1)	18.0 (-1.3)	4.5 (-1.6)	4.5 (-5.6)	4.5 (-0.8)
Electricity (MWh)	9.7 (2.4)	9.9 (1.9)	2.5 (3.4)	2.4 (2.2)	2.7 (3.9)	10.2 (3.1)	2.7 (4.4)	2.5 (0.9)	2.6 (-1.6)
City gas (1 000 m³)	0.4 (1.9)	0.4 (6.0)	0.1 (4.9)	0.1 (10.7)	0.2 (9.6)	0.5 (6.8)	0.1 (7.9)	0.1 (2.2)	0.2 (-6.5)
Total energy (toe)	5.7 (2.0)	5.9 (2.7)	1.4 (2.9)	1.5 (3.9)	1.6 (2.0)	6.0 (1.3)	1.5 (1.7)	1.5 (-1.6)	1.5 (-2.1)

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=100)

	2017	2018					2019			
			M1~5	M3	M4	M5	M1~5	M3	M4	M5
Industrial production index										
All industry	105.7 (2.6)	107.2 (1.4)	104.9 (1.5)	109.1 (-0.5)	106.7 (2.4)	107.3 (2.0)	105.0 (0.1)	108.4 (-0.6)	107.4 (0.7)	108.6 (1.2)
Mining & manufacturing	104.7 (2.5)	106.1 (1.3)	104.0 (0.2)	108.1 (-2.5)	106.2 (2.0)	107.1 (2.2)	102.9 (-1.1)	105.6 (-2.3)	106.4 (0.2)	107.3 (0.2)
Iron & steel	102.9 (1.7)	99.8 (-3.1)	100.6 (-2.1)	101.2 (-3.3)	100.4 (-2.4)	104.0 (-1.5)	98.4 (-2.2)	100.5 (-0.7)	99.3 (-1.1)	101.4 (-2.5)
Cement	110.0 (1.7)	100.1 (-9.0)	97.5 (-12.6)	108.1 (-15.7)	111.3 (-8.7)	114.6 (-11.1)	91.4 (-6.2)	99.0 (-8.4)	105.8 (-4.9)	106.4 (-7.2)
Basic compound	110.4 (5.5)	110.4 -	111.6 (2.3)	111.7 (-0.6)	111.0 (4.3)	114.7 (5.0)	105.2 (-5.7)	107.8 (-3.5)	101.9 (-8.2)	102.6 (-10.5)
Transport equipment	95.0 (-2.7)	93.7 (-1.4)	91.9 (-6.9)	98.2 (-11.6)	97.8 (-4.9)	97.7 (0.4)	94.4 (2.7)	97.3 (-0.9)	101.1 (3.4)	100.3 (2.7)
Electric & electronic	105.5 (2.6)	105.2 (-0.3)	101.6 (-0.2)	106.2 (-3.1)	104.2 (0.8)	104.4 (-0.4)	100.0 (-1.5)	102.7 (-3.3)	105.0 (0.8)	106.9 (2.4)
Service	104.5 (1.8)	106.7 (2.1)	104.6 (2.5)	107.7 (2.0)	105.9 (2.7)	106.9 (2.2)	106.1 (1.4)	108.6 (0.8)	107.6 (1.6)	109.4 (2.3)
Operating ratio index										
Manufacturing	98.1 (-0.9)	98.4 (0.3)	97.0 (-0.7)	100.9 (-3.4)	99.6 (1.1)	101.5 (2.0)	96.0 (-1.0)	98.6 (-2.3)	100.2 (0.6)	101.4 (-0.1)
Iron & steel	102.3 (1.5)	98.8 (-3.4)	99.4 (-2.6)	99.8 (-3.9)	99.2 (-2.9)	102.5 (-2.2)	98.6 (-0.8)	100.6 (0.8)	99.6 (0.4)	101.7 (-0.8)
Cement	107.4 (0.4)	108.9 (1.4)	103.6 (-4.7)	117.2 (-6.3)	121.7 (2.4)	125.4 (0.4)	104.1 (0.5)	108.7 (-7.3)	115.9 (-4.8)	117.0 (-6.7)
Basic compound	107.1 (3.6)	104.9 (-2.0)	106.2 (-0.3)	106.2 (-3.3)	105.6 (1.8)	109.3 (2.5)	99.5 (-6.4)	101.9 (-4.0)	96.4 (-8.7)	96.9 (-11.3)
Transport equipment	87.6 (-6.6)	90.2 (2.9)	88.1 (-3.6)	94.6 (-7.8)	95.2 (0.3)	94.6 (5.9)	94.0 (6.8)	96.0 (1.5)	101.0 (6.1)	100.4 (6.1)
Electric & electronic	102.5 (0.7)	100.3 (-2.1)	97.9 (-1.8)	102.6 (-4.6)	99.5 (-1.5)	101.3 -	96.9 (-1.0)	100.5 (-2.0)	101.7 (2.2)	102.3 (1.0)

Note: p means provisional  
Source: Monthly Energy Statistics

## International Energy Prices

	2017	2018					2019			
			M1~7	M5	M6	M7	M1~7	M5	M6	M7
Crude oil (USD/bbl)										
WTI	51.0 (17.6)	64.8 (27.1)	66.1 (33.3)	70.0 (44.2)	67.3 (48.9)	70.6 (51.2)	57.4 (-13.2)	60.9 (-13.0)	54.7 (-18.7)	57.6 (-18.5)
Dubai	53.2 (28.9)	69.4 (30.5)	68.7 (35.0)	74.4 (46.7)	73.6 (58.4)	73.1 (53.7)	65.1 (-5.2)	69.4 (-6.8)	61.8 (-16.1)	63.3 (-13.5)
Brent	54.8 (21.7)	71.5 (30.5)	71.6 (37.0)	77.0 (49.9)	75.9 (59.7)	75.0 (52.5)	65.8 (-8.0)	70.3 (-8.7)	63.0 (-17.0)	64.2 (-14.3)
Unit value of import (C&F)	53.3 (29.9)	71.4 (34.0)	69.1 (32.7)	71.2 (36.0)	74.3 (48.6)	75.0 (58.0)	66.4 (-3.9)	71.1 (-0.3)	68.5 (-7.8)	65.9 (-12.2)
LNG										
From Indonesia (USD/MMBTU)	8.6 (16.7)	10.7 (24.0)	10.1 (16.9)	10.3 (12.7)	10.4 (17.6)	10.4 (17.9)	10.8 (7.2)	10.1 (-1.0)	10.0 (-3.9)	10.0 (-3.9)
Unit value of import (USD/ton, CIF)	416.3 (16.7)	526.3 (26.4)	497.5 (20.3)	510.1 (17.9)	509.7 (25.1)	519.5 (27.2)	527.1 (5.9)	482.9 (-5.3)	470.4 (-7.7)	487.7 (-6.1)
Bituminous coal (USD/ton)										
From Australia	88.5 (33.9)	107.0 (20.9)	106.0 (29.9)	105.3 (41.5)	114.3 (41.0)	119.6 (36.7)	85.8 (-19.0)	82.3 (-21.8)	72.5 (-36.6)	72.1 (-39.7)
Unit value of import (CIF)	104.3 (51.5)	113.6 (8.9)	113.8 (5.7)	114.8 (1.8)	114.3 (-1.9)	112.5 (10.6)	107.9 (-5.2)	111.8 (-2.6)	109.4 (-4.3)	96.6 (-14.1)
Petroleum product (USD/bbl)										
Gasoline	68.1 (21.2)	79.9 (17.4)	81.2 (24.2)	87.6 (35.2)	83.6 (39.7)	83.1 (34.6)	71.4 (-12.0)	76.3 (-12.9)	67.6 (-19.2)	73.7 (-11.3)
Kerosene	65.3 (23.6)	84.8 (29.8)	84.2 (35.5)	89.9 (47.3)	86.9 (52.4)	87.4 (46.2)	78.1 (-7.2)	81.5 (-9.3)	74.6 (-14.2)	78.4 (-10.2)
Diesel	66.4 (25.2)	84.9 (27.9)	83.9 (32.5)	90.5 (46.0)	87.4 (49.7)	86.9 (41.3)	78.9 (-5.9)	82.7 (-8.6)	75.1 (-14.0)	78.8 (-9.3)
Bunker-C	49.7 (40.2)	65.2 (31.3)	63.1 (32.5)	68.1 (43.7)	69.2 (52.7)	70.4 (52.7)	63.5 (0.7)	64.4 (-5.3)	59.5 (-14.0)	66.1 (-6.1)
Propane	467.5 (44.6)	542.1 (16.0)	526.4 (24.1)	500.0 (29.9)	560.0 (45.5)	555.0 (60.9)	457.9 (-13.0)	525.0 (5.0)	430.0 (-23.2)	375.0 (-32.4)
Butane	501.7 (41.0)	539.2 (7.5)	520.7 (9.5)	505.0 (29.5)	560.0 (43.6)	570.0 (56.2)	463.6 (-11.0)	530.0 (5.0)	415.0 (-25.9)	355.0 (-37.7)
Naphtha	53.8 (26.6)	67.0 (24.5)	67.8 (34.1)	74.5 (53.2)	70.7 (57.7)	72.1 (57.8)	56.9 (-16.0)	60.0 (-19.5)	51.7 (-26.9)	55.6 (-22.9)

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

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



## Total Primary Energy Supply (TPES)

	2017	2018p					2019p			
			M1~5	M3	M4	M5	M1~5	M3	M4	M5
Coal (Mton)	139.8 (8.1)	143.2 (2.5)	59.1 (5.3)	11.9 (2.2)	10.7 (4.3)	11.0 (2.7)	52.3 (-11.6)	10.3 (-13.0)	9.2 (-13.9)	9.4 (-13.8)
- Coking coal excluded	103.5 (7.9)	106.4 (2.8)	44.2 (6.5)	8.9 (2.8)	7.8 (3.8)	7.9 (2.6)	37.9 (-14.3)	7.4 (-16.8)	6.3 (-19.1)	6.5 (-17.1)
Oil (Mbbl)	937.1 (1.7)	929.3 (-0.8)	390.1 (1.7)	77.4 (-3.9)	76.3 (6.1)	78.0 (1.8)	382.8 (-1.9)	76.5 (-1.2)	75.6 (-0.8)	72.7 (-6.8)
- Non-energy oil excluded	443.7 (-2.5)	444.4 (0.2)	186.9 (2.6)	38.0 (2.9)	35.6 (3.0)	36.1 (-0.9)	186.6 (-0.2)	38.0 (-0.2)	37.8 (6.1)	33.2 (-8.2)
LNG (Mton)	36.4 (4.3)	40.9 (12.5)	19.5 (20.0)	3.9 (11.2)	3.2 (28.1)	2.8 (31.5)	18.0 (-7.8)	3.6 (-7.5)	3.1 (-2.2)	2.5 (-9.4)
Hydro (TWh)	7.0 (5.5)	7.3 (3.9)	2.7 (0.5)	0.5 (-7.6)	0.5 (-2.5)	0.8 (30.5)	2.5 (-5.5)	0.5 (-2.8)	0.5 (5.6)	0.5 (-32.1)
Nuclear (TWh)	148.4 (-8.4)	133.5 (-10.1)	48.7 (-25.9)	9.2 (-29.8)	9.4 (-29.2)	11.4 (-16.8)	66.2 (36.0)	14.0 (51.8)	14.1 (50.1)	14.7 (29.5)
Others (Mtoe)	15.8 (16.7)	17.5 (10.5)	7.2 (10.7)	1.5 (9.1)	1.5 (14.2)	1.4 (10.1)	8.1 (11.6)	1.6 (13.3)	1.6 (7.3)	1.7 (17.4)
<b>TPES (Mtoe)</b>	<b>302.1</b> (2.9)	<b>307.3</b> (1.7)	<b>129.6</b> (3.0)	<b>25.8</b> (-1.8)	<b>24.0</b> (4.6)	<b>24.3</b> (3.5)	<b>127.2</b> (-1.9)	<b>25.6</b> (-0.7)	<b>24.1</b> (0.3)	<b>23.3</b> (-4.2)
- Non-energy oil excluded	240.7 (2.2)	247.1 (2.7)	104.4 (3.6)	20.9 (0.3)	19.0 (3.6)	19.1 (3.4)	102.8 (-1.6)	20.8 (-0.5)	19.4 (2.2)	18.3 (-3.8)
- Non-energy oil&coal excluded	215.4 (1.6)	221.4 (2.8)	94.0 (3.8)	18.8 (0.3)	17.0 (3.3)	16.9 (3.5)	92.7 (-1.4)	18.7 (-0.3)	17.4 (2.5)	16.3 (-3.6)

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

## Share of TPES by Sources

(unit: %)

	2017	2018p					2019p			
			M1~5	M3	M4	M5	M1~5	M3	M4	M5
Coal	28.5	28.7	28.1	28.4	27.5	27.9	25.4	24.9	23.8	25.3
- Coking coal excluded	20.2	20.3	20.0	20.3	19.0	19.1	17.5	16.9	15.4	16.5
Oil	39.5	38.4	38.2	38.2	40.3	40.7	38.2	38.1	39.8	39.5
- non-energy oil excluded	19.2	18.9	18.8	19.2	19.3	19.2	19.0	19.4	20.3	18.4
LNG	15.7	17.4	19.7	19.8	17.2	14.9	18.5	18.5	16.8	14.1
Hydro	0.5	0.5	0.4	0.4	0.4	0.7	0.4	0.4	0.5	0.5
Nuclear	10.5	9.3	8.0	7.6	8.3	10.0	11.1	11.7	12.5	13.5
Others	5.2	5.7	5.6	5.6	6.2	5.8	6.4	6.4	6.6	7.1
<b>TPES</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Note: p means provisional  
Source: Monthly Energy Statistics

## Total Final Consumption (TFC)

(Unit: Mtoe)

	2017	2018p					2019p			
			M1~5	M3	M4	M5	M1~5	M3	M4	M5
Industry	144.3 (4.7)	146.3 (1.4)	61.0 (2.9)	12.0 (-4.2)	12.1 (7.5)	12.4 (5.8)	59.8 (-1.9)	12.0 (0.2)	11.7 (-3.3)	11.9 (-4.2)
Transport	42.8 (1.2)	42.6 (-0.5)	17.2 (-0.2)	3.6 (-0.9)	3.5 (1.3)	3.6 (-3.8)	17.7 (2.5)	3.6 (2.1)	3.7 (7.1)	3.3 (-7.7)
Residential-commercial	39.9 (3.0)	41.7 (4.4)	20.8 (8.1)	4.0 (1.0)	3.1 (1.9)	2.5 (8.5)	20.1 (-3.6)	3.9 (-3.6)	3.3 (7.9)	2.5 (-2.1)
Public	6.9 (11.0)	7.4 (6.6)	3.2 (8.9)	0.6 (4.9)	0.6 (11.1)	0.5 (5.2)	3.3 (1.4)	0.6 (-0.0)	0.6 (1.3)	0.6 (6.1)
<b>TFC</b>	<b>233.9</b> (3.9)	<b>237.9</b> (1.7)	<b>102.2</b> (3.5)	<b>20.2</b> (-2.3)	<b>19.3</b> (5.5)	<b>19.0</b> (4.2)	<b>100.8</b> (-1.4)	<b>20.1</b> (-0.2)	<b>19.4</b> (0.5)	<b>18.2</b> (-4.3)
Coal (Mton)	50.4 (2.7)	51.5 (2.2)	21.1 (1.4)	4.1 (-6.1)	4.2 (7.4)	4.4 (7.2)	19.9 (-5.5)	4.1 (-1.3)	3.9 (-6.3)	4.0 (-8.9)
Oil (Mbbbl)	926.6 (3.0)	917.8 (-0.9)	383.8 (1.5)	75.8 (-5.0)	75.8 (6.3)	77.6 (2.1)	378.7 (-1.3)	75.2 (-0.8)	74.9 (-1.2)	72.2 (-7.0)
Electricity (TWh)	507.7 (2.2)	526.1 (3.6)	220.6 (4.2)	42.9 (0.9)	42.0 (3.0)	40.5 (4.6)	219.2 (-0.6)	43.1 (0.4)	42.4 (1.0)	40.7 (0.4)
City gas (Bm <sup>3</sup> )	22.6 (6.3)	24.3 (7.3)	12.7 (9.2)	2.6 (2.0)	1.9 (2.3)	1.5 (12.7)	12.4 (-2.9)	2.5 (-2.6)	2.1 (10.6)	1.5 (1.5)
Heat-others (1 000 toe)	15.0 (14.0)	16.4 (9.3)	7.2 (11.1)	1.4 (6.3)	1.3 (11.2)	1.2 (11.9)	7.6 (4.9)	1.5 (7.2)	1.4 (8.6)	1.3 (6.9)

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

## Share of the Total Final Consumption by Sources

(unit: %)

	2017	2018p					2019p			
			M1~5	M3	M4	M5	M1~5	M3	M4	M5
Industry	61.7	61.5	59.6	59.3	62.8	65.3	59.3	59.5	60.4	65.4
Transport	18.3	17.9	16.9	17.6	18.1	18.7	17.5	18.0	19.3	18.0
Residential-commercial	17.1	17.5	20.4	19.9	16.0	13.3	19.9	19.3	17.2	13.6
Public	3.0	3.1	3.1	3.2	3.1	2.7	3.2	3.2	3.1	3.0
Final energy	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Coal	14.3	14.3	13.6	13.6	14.3	15.2	13.1	13.4	13.5	14.6
Oil	50.4	49.0	47.6	47.6	49.9	51.6	47.6	47.4	49.0	50.0
Electricity	18.7	19.0	18.6	18.3	18.7	18.3	18.7	18.4	18.8	19.2
City gas	10.3	10.9	13.2	13.4	10.4	8.6	13.0	13.1	11.4	9.1
Heat-others	6.4	6.9	7.1	7.1	6.7	6.3	7.5	7.6	7.3	7.0

Note: p means provisional  
Source: Monthly Energy Statistics

## Statistics on Energy Production Facilities

	2016	2017	2018				2019p		
				M3	M4	M5	M3	M4	M5
Total capacity (GW)	105.9	116.9	119.1	116.7	116.7	117.8	119.8	119.8	119.8
	-	(10.4)	(1.9)	(6.6)	(5.5)	(5.8)	(2.6)	(2.6)	(1.7)
Nuclear	23.1	22.5	21.9	22.5	22.5	22.5	21.9	21.9	21.9
	-	(-2.5)	(-3.0)	(-2.5)	(-2.5)	(-2.5)	(-3.0)	(-3.0)	(-3.0)
Bituminous coal	30.9	36.1	36.4	36.1	36.1	36.3	36.5	36.5	36.5
	-	(16.8)	(0.7)	(14.3)	(14.3)	(14.4)	(1.0)	(1.0)	(0.5)
Gas	32.6	37.9	37.9	37.4	37.4	37.9	37.9	37.9	37.9
	-	(16.0)	(-0.0)	(6.2)	(3.2)	(3.3)	(1.3)	(1.3)	(-0.0)
Refinery capacity (mil BPSD)	3.1	3.1	3.2	3.2	3.2	3.2	3.2	3.2	3.2
	(0.2)	(1.3)	(3.2)	(3.2)	(3.2)	(3.2)	-	-	-

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

Source: The monthly report on major electric power statistics

## Statistics on Energy Consumption

	2016	2017	2018				2019p		
				M3	M4	M5	M3	M4	M5
The number of household demanding city gas (mil)	18.0	18.6	19.1	18.8	18.8	18.8	19.3	19.3	19.3
	(3.4)	(3.3)	(3.1)	(3.3)	(3.3)	(3.4)	(3.0)	(2.8)	(2.8)
Registered cars (mil)	21.8	22.5	23.2	22.7	22.8	22.8	23.3	23.3	23.4
	(3.9)	(3.3)	(3.0)	(3.2)	(3.2)	(3.2)	(2.8)	(2.6)	(2.5)
- gasoline	10.1	10.4	10.6	10.4	10.5	10.5	10.7	10.7	10.8
	(2.9)	(2.7)	(2.5)	(2.6)	(2.6)	(2.6)	(2.4)	(2.4)	(2.5)
- diesel	9.2	9.6	9.9	9.7	9.7	9.7	10.0	10.0	10.0
	(6.4)	(4.4)	(3.7)	(4.1)	(4.1)	(4.1)	(3.2)	(2.7)	(2.4)
- LPG	2.2	2.1	2.0	2.1	2.1	2.1	2.0	2.0	2.0
	(-4.0)	(-2.9)	(-3.3)	(-3.0)	(-3.2)	(-3.2)	(-3.2)	(-3.1)	(-2.9)
- hybrid	0.2	0.3	0.4	0.3	0.3	0.3	0.4	0.4	0.4
	(37.6)	(37.6)	(30.9)	(38.1)	(42.0)	(36.7)	(29.5)	(29.9)	(29.5)

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

Source: Monthly Energy Statistics

# KEEI

MONTHLY **KOREA ENERGY TRENDS** (2019, NO.89)



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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)

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