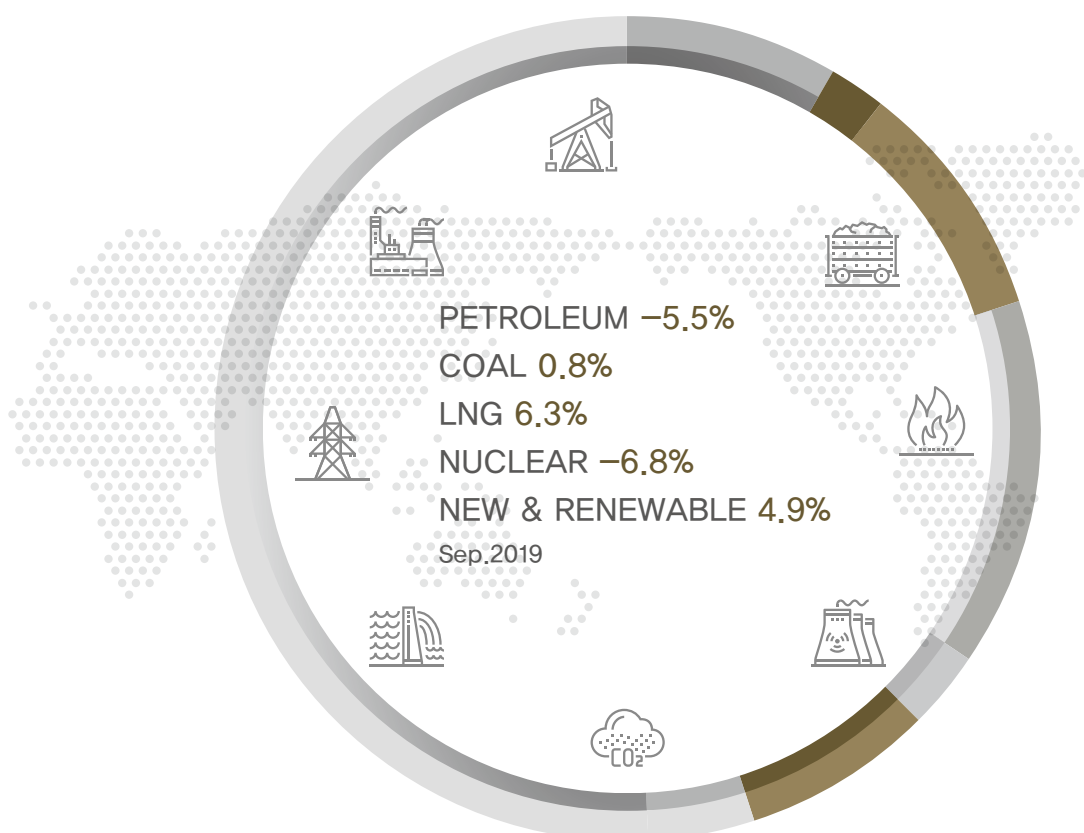


# KEEI

## MONTHLY KOREA ENERGY TRENDS



# Table of Contents

- 1. The Economy and the Industry..... 4
- 2. Energy Prices ..... 6
- 3. Energy Supply ..... 10
- 4. Energy Consumption ..... 11
- 5. Coal ..... 13
- 6. Petroleum ..... 14
- 7. Gas ..... 15
- 8. Electricity ..... 16
- 9. Nuclear ..... 17
- 10. Heat and Renewable energy ..... 18
- 11. Industry ..... 19
- 12. Transport ..... 20
- 13. Buildings ..... 21
- 14. Transformation..... 22
- <Appendix> Major Indicators & Statistics of Energy Supply and Demand ..... 23

## 1. The Economy and the Industry

- ☐ **Gross Domestic Product(“GDP”) posted a year-on-year growth of 2.0% in 3Q 2019 backed by increased private spending and slower pace of decline in facility investment.**
  - Construction investment fell by 3.7% despite faster growth in the civil engineering sector, as the investment fell more sharply in the building construction sector (-6.5%) amid sluggish real estate business. Facility investment fell more slowly due to the continued growth in the transport equipment sector and slower decline in the machinery sector (-7.1%).
  - Private spending went up by 1.8% especially on non-durable goods and services, though the growth slowed down on a year-on-year basis.
- ☐ **The mining & manufacturing production index slightly increased (0.4%) in September on a year-on-year basis, led by the semiconductor sector, even though the index declined in major industries.**
  - The production index of semiconductors went up by 9.7% year-on-year, and its export volume grew by 20.7%, though the export value fell by 31.6% due to the base effect of lower unit price of Dram and the all-time high export value during the same month last year.
  - The production index of basic chemical materials fell slightly (-0.8%) owing to the decreased outputs of benzene and paraxylene, although ethylene and propylene outputs increased following the construction of new naphtha cracking centers (Lotte Chemical, 200,000 tons, 2018.10/ LG Chemical, 230,000 tons, 2019.4).
  - The production index of iron & steel products declined by 1.9% year-on-year, as domestic demand was weak as a result of decreased automobile production, and as more products were imported especially steel plates.
  - The production index of automobiles dropped by 2.9% on a year-on-year basis despite the launch of a new model, as the production declined after a strike at General Motors in Korea.
- ☐ **The service production index was up 1.0% year-on-year (in September), led by the health & social welfare sectors, though the index decreased in the restaurant & accommodation sectors.**

► Trend in major economic and industrial indicators

	2017	2018p			2019p		
			M1~9	M9	M1~9	M8	M9
GDP (trillion won)	1 760.8 (3.2)	1 807.7 (2.7)	1 332.6 (2.6)	453.0 (2.1)	1 358.2 (1.9)	- -	462.3 (2.0)
Total export (\$billion, customs clearance basis)	573.7 (15.8)	604.9 (5.4)	450.3 (4.7)	50.7 (-8.1)	405.9 (-9.9)	44.0 (-14.0)	44.7 (-11.8)
Industrial production index (2015=100)	104.7 (2.5)	106.1 (1.3)	104.8 (0.3)	102.1 (-6.7)	103.6 (-1.1)	101.7 (-3.3)	102.5 (0.4)
Semi-conductors	138.9 (10.8)	167.0 (20.3)	163.5 (21.3)	183.4 (24.7)	175.6 (7.4)	194.7 (12.5)	201.2 (9.7)
Basic compound	110.4 (5.5)	110.4 -	111.7 (2.0)	110.6 (-0.8)	106.3 (-4.8)	110.7 (-1.9)	109.7 (-0.8)
Steel	102.9 (1.7)	99.8 (-3.1)	99.8 (-3.2)	93.3 (-9.2)	97.4 (-2.3)	94.2 (-4.8)	91.5 (-1.9)
Cars	95.0 (-2.7)	93.7 (-1.4)	90.4 (-6.8)	84.8 (-14.3)	91.6 (1.3)	76.4 (-12.5)	82.3 (-2.9)
Service industry performance index (2015=100)	104.5 (1.8)	106.7 (2.1)	105.4 (1.8)	105.8 (-1.8)	106.8 (1.3)	108.1 (2.4)	106.9 (1.0)

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

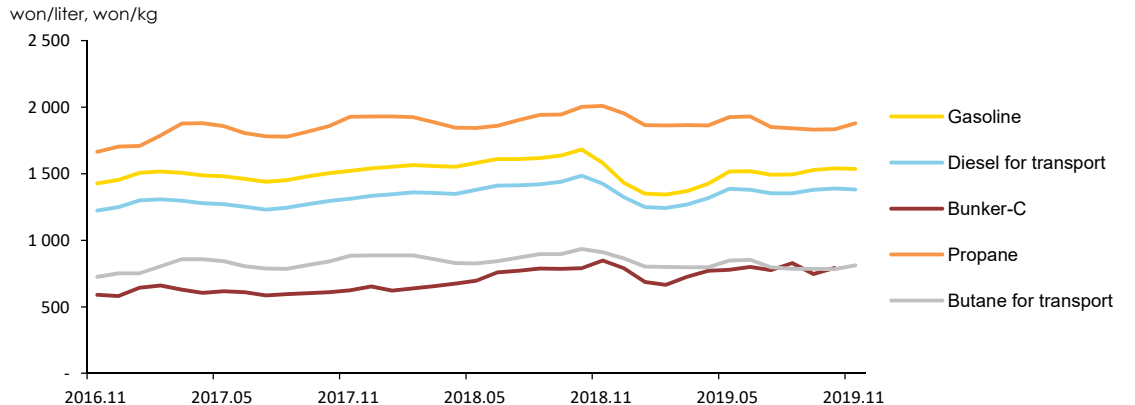
- ☐
**Gasoline and diesel prices decreased in November than a month earlier despite the global oil price increase, because their prices continued to decline until the middle of the month.**
  - Gasoline and diesel prices at gas stations continued their downward slides until the mid-November and rebounded afterwards reflecting the increased global oil price. On a month-on-month basis, however, the prices fell by 0.3% and 0.5% respectively.
- ☐
**Domestic prices of propane and butane increased in November compared to the previous month, as their supply price increased in line with higher global prices.**
  - Saudi Aramco’s propane and butane prices rose by around 20% in October, and accordingly, domestic LPG suppliers raised their supply prices for the first time in five months, which led to the 2.5% increase in propane price from the prior month.
  - The price increase of butane for transport use has been restricted to promote the use of LPG cars after the deregulation of them and to relieve consumers’ economic burden. However, the price went up by 3.4% (in November) from the previous month as a result of the global price increase.

► Trend in domestic energy prices

	2017	2018				2019		
			M9	M10	M11	M9	M10	M11
Gasoline (won/liter)	1 491.3 (6.3)	1 581.3 (6.0)	1 637.6 (10.7)	1 681.1 (11.7)	1 580.9 (3.9)	1 529.3 (-6.6)	1 540.5 (-8.4)	1 535.7 (-2.9)
Diesel for transport (won/liter)	1 282.5 (8.4)	1 391.9 (8.5)	1 438.9 (13.2)	1 485.0 (14.6)	1 424.7 (8.5)	1 379.8 (-4.1)	1 387.7 (-6.6)	1 380.5 (-3.1)
Bunker-C (won/liter)	619.3 (18.9)	735.0 (18.7)	784.4 (30.1)	790.3 (29.5)	846.5 (35.6)	747.4 (-4.7)	791.4 (0.1)	- -
Propane (won/kg)	1 833.8 (8.5)	1 920.5 (4.7)	1 945.2 (7.1)	2 002.4 (7.8)	2 008.6 (4.3)	1 831.9 (-5.8)	1 833.6 (-8.4)	1 879.3 (-6.4)
Butane for transport (won/liter)	826.5 (12.6)	874.6 (5.8)	895.4 (10.1)	934.2 (11.1)	910.5 (2.9)	784.7 (-12.4)	783.7 (-16.1)	810.5 (-11.0)

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

► Trend in domestic petroleum product prices



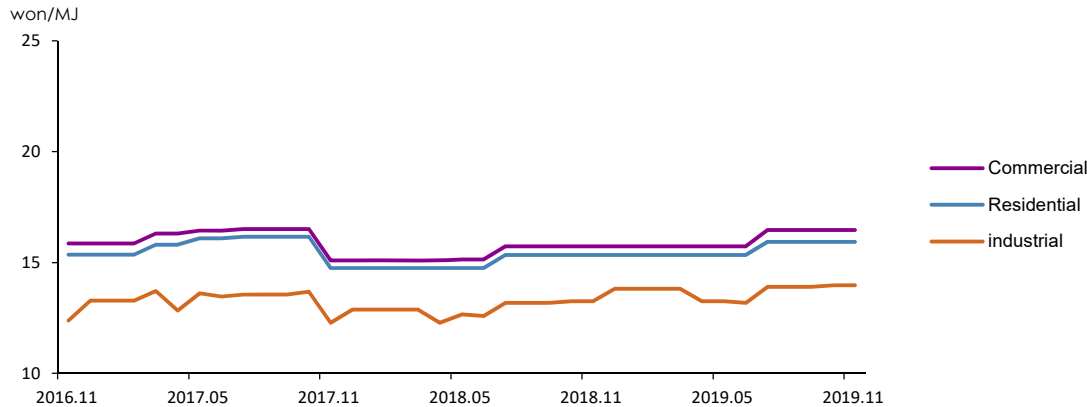
□ **City gas price has been flat for the past five months until November, since it was raised in July, 2019.**

- City gas price had been fixed since July, 2018 despite the upward trend in global LPG price in order to alleviate economic burdens on people. The price, however, was raised in July, 2019 for the first time in a year to collect accounts receivable that were accumulated during the price-fixing period.
- 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 until November on a month-on-month basis, since it was raised in August.**

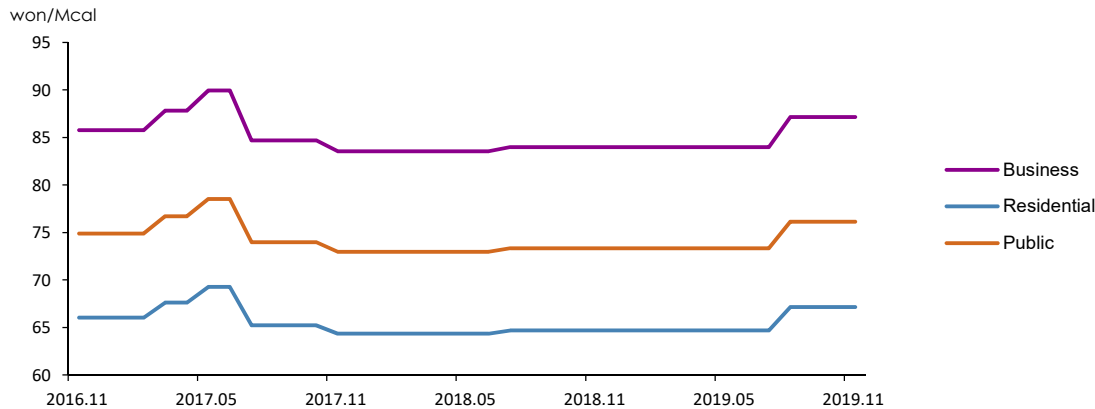
- Heat energy price was raised in August for the first time in 13 months (July, 2018), reflecting the city gas price increase in July and the energy tax reform.

► **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.

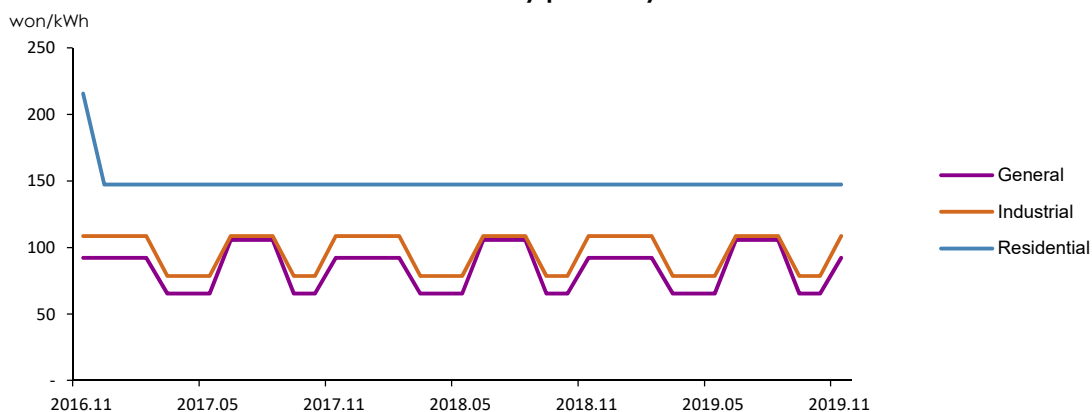
□ **Electricity prices <sup>1</sup>for general and industrial use were higher in November than the previous month, as they were adjusted for the winter season.**

- General and industrial customers are billed based on time-of-use pricing, and their electricity prices went up by 41.6% and 38.2% respectively than a month earlier through the price adjustment from spring/autumn (Mar-May, Sept-Oct) to winter (Nov-Feb).
- Residential electricity price has been flat since the progressive pricing scheme was restructured from six to three stages in December, 2016.

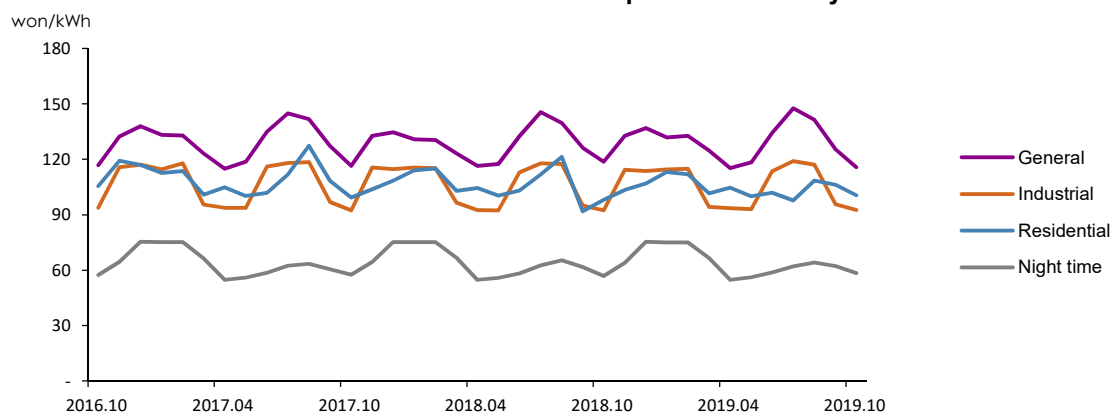
□ **The unit sales price of electricity for general, industrial and residential use all declined in October than the previous month.**

- The unit sales price of electricity for residential customers fell by 5.3% than a month earlier due to decreased consumption in autumn, and that for general and industrial customers declined by 7.7% and 3.2% respectively under time-of-use pricing.

► **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 dropped by 5.4% year-on-year in September despite increased imports of petroleum products, owing to the decreased crude oil imports.**
  - The import volume of crude oil declined by 2.2% year-on-year due to the scheduled maintenance at some refineries, and accordingly, crude input also fell by 2.2%.
  - The import volume of petroleum products posted a year-on-year growth of 9.2%, led by naphtha and LPG that are mostly used as petrochemical feedstocks.
  - The foreign energy dependence including nuclear energy stood at 92.7%, and energy's share of the total import value fell by 5.6%p year-on-year to 23.3%.

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

	2017	2018p			2019p		
			M1~9	M9	M1~9	M8	M9
Import volume							
Crude oil (Mbbl)	1 118.2 (3.7)	1 116.3 (-0.2)	830.2 (-0.1)	81.1 (-12.9)	807.0 (-2.8)	97.1 (2.2)	79.3 (-2.2)
Petroleum product (Mbbl)	314.5 (-6.0)	341.6 (8.6)	253.2 (6.6)	29.1 (6.1)	258.3 (2.0)	35.0 (29.8)	31.7 (9.2)
Bituminous coal (Mton)	131.5 (11.0)	131.5 (0.0)	99.3 (-1.4)	11.6 (-11.7)	97.6 (-1.8)	12.6 (14.6)	11.0 (-5.2)
Anthracite (Mton)	7.0 (-25.7)	8.1 (16.0)	5.8 (5.7)	0.3 (-31.3)	5.3 (-9.0)	0.7 (-7.5)	0.2 (-36.7)
LNG (Mton)	37.5 (12.2)	44.0 (17.3)	31.6 (15.9)	3.3 (40.9)	29.0 (-8.3)	3.6 (24.2)	2.5 (-24.8)
Import volume (Mtoe)	339.7 (5.5)	354.5 (4.4)	262.7 (3.8)	29.3 (3.8)	259.8 (-1.1)	31.8 (12.0)	27.7 (-5.4)
Import value (billion US\$, CIF)	109.5 (35.2)	146.0 (33.3)	106.3 (33.0)	11.9 (31.4)	95.1 (-10.5)	11.6 (-7.6)	9.0 (-23.8)
Energy share of total import value (%)	22.9	27.3	26.9	28.9	25.3	27.3	23.3
Foreign energy dependence (%)*	93.9	93.6	93.6	93.0	93.4	93.0	92.7
Domestic production							
Hydropower (TWh)	7.0 (5.5)	7.3 (3.9)	5.6 (2.2)	0.7 (5.8)	4.7 (-15.9)	0.6 (-14.7)	0.6 (-21.2)
Anthracite (Mton)	1.5 (-14.0)	1.2 (-19.2)	0.9 (-18.0)	0.1 (-36.4)	0.8 (-13.6)	0.1 (-4.5)	0.1 (15.6)
Natural gas (Mton)	0.3 (120.5)	0.2 (-10.4)	0.2 (-6.6)	0.0 (-7.2)	0.2 (-21.4)	0.0 (-12.4)	0.0 (-43.9)
Renewable energy (Mtoe)	15.8 (16.7)	17.1 (8.0)	12.9 (8.3)	1.5 (6.6)	13.5 (4.8)	1.7 (7.9)	1.5 (4.7)

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

## 4. Energy Consumption

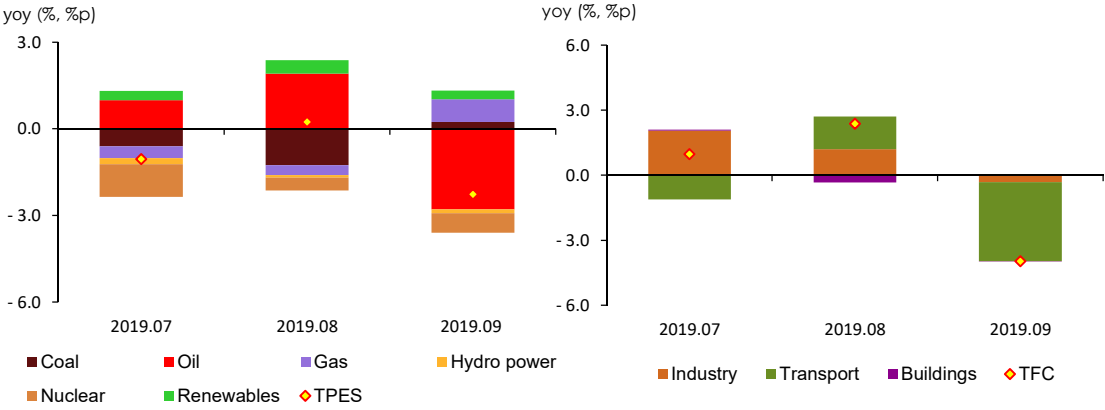
- **Total Primary Energy Supply (“TPES”) was down 2.3% in September on a year-on-year basis due to the decreased use of petroleum and nuclear energy, although the use of coal and gas increased.**
  - Coal use posted a slight year-on-year growth (0.8%), led by the power generation sector due to the base effect of the sharp decline during the same month last year, even though the industrial coal use declined amid the continued downturn in the iron & steel sector.
  - Gas use grew by 6.3% year-on-year, as it increased in the power generation sector along with increased total generation (2.0%) while baseload generation (nuclear + coal) remained stagnant. Meanwhile, city gas use decreased as a result of the sharp drop in the petrochemical sector (-28.3%).
  - Petroleum use fell by 5.5% year-on-year, because it plunged by more than 18% in the transport sector, although industrial petroleum use grew by more than 1% despite decreased use of naphtha due to increased use of LPG.
- **Total Final Consumption (“TFC”) was down 4.0% year-on-year (in September), because the consumption fell slightly in the industrial and buildings sectors, and fell sharply in the transport sector.**
  - Industrial energy use fell by 0.5% year-on-year despite increased number of work days (+1 day) and expanded petrochemical capacity (at the end of 2019, 2019.4), owing to the downturn in global and domestic economies.
  - Transport energy use plunged by 18.4% year-on-year, as it declined in all end-use sectors (navigation, aviation, road) due to decreased exports, increased consumption ahead of the tax break expiration (8.31) as well as shorter Chuseok holiday than the same month last year.
  - Energy use in buildings dropped by 0.1% year-on-year, which is attributed to decreased energy use in public and other buildings, even though it increased in residential and commercial buildings, mostly city gas and electricity.

### ► Energy consumption trend

	2017	2018p	2019p				
			M1~9	M9	M1~9	M8	M9
<b>Total energy (Mtoe)</b>	<b>302.1</b>	<b>307.5</b>	<b>228.8</b>	<b>23.8</b>	<b>226.0</b>	<b>26.2</b>	<b>23.2</b>
	(2.8)	(1.8)	(2.8)	(-1.6)	(-1.2)	(0.2)	(-2.3)
- Non-energy oil&coal excluded	215.4	222.9	165.3	16.6	163.3	19.1	16.3
	(1.4)	(3.5)	(4.2)	(-2.4)	(-1.2)	(-0.2)	(-2.1)
<b>Final energy (Mtoe)</b>	<b>230.0</b>	<b>232.7</b>	<b>173.5</b>	<b>18.1</b>	<b>172.0</b>	<b>19.4</b>	<b>17.4</b>
	(3.9)	(1.2)	(2.1)	(-0.0)	(-0.9)	(2.4)	(-4.0)

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

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



# 5. Coal

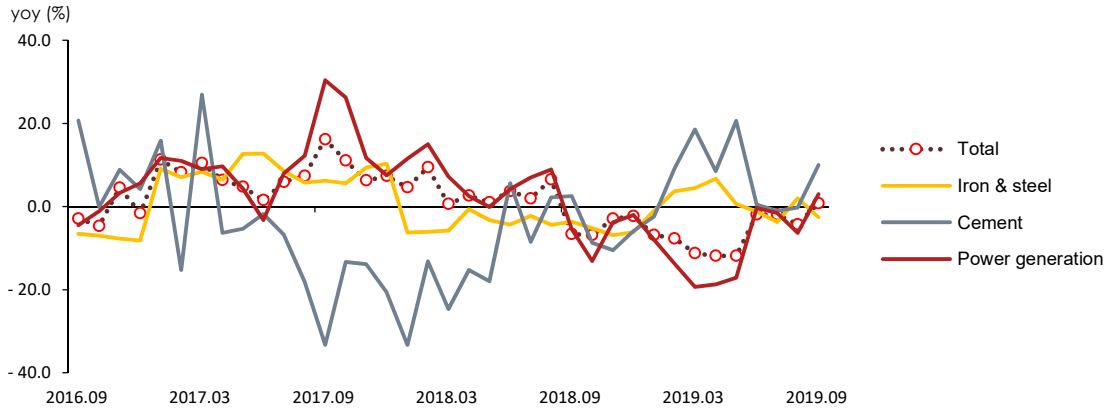
- **Coal consumption was up 0.8% year-on-year in September, led by the power generation sector, though the consumption declined in the industrial sector.**
  - Coal use for power generation rebounded for the first time since August, 2018 along with increased capacity factors at coal-fired power stations.
  - Industrial coal use went down by 3.4% despite increased number of work days and growing use of bituminous coal in the cement sector, owing to the decreased use of bituminous coal (coking coal) for steelmaking which takes up a large share of the total consumption.

► **Coal consumption trend**

	2017	2018p	2019p				
			M1~9	M9	M1~9	M8	M9
<b>Coal (Mton)</b>	<b>139.8</b>	<b>141.0</b>	<b>106.2</b>	<b>11.4</b>	<b>99.6</b>	<b>12.7</b>	<b>11.5</b>
	(8.1)	(0.9)	(2.6)	(-6.7)	(-6.2)	(-4.3)	(0.8)
Industry	49.3	48.3	35.8	3.7	35.5	4.1	3.5
	(3.2)	(-2.0)	(-2.9)	(-8.4)	(-0.8)	(0.3)	(-3.4)
-Coking-coal	36.3	34.6	25.9	2.9	26.1	3.0	2.9
	(8.5)	(-4.6)	(-4.1)	(-3.7)	(0.9)	(2.0)	(-2.6)
Buildings	1.1	0.9	0.4	0.1	0.3	0.0	0.0
	(-14.0)	(-15.7)	(-15.5)	(-38.1)	(-29.8)	(-25.0)	(-24.6)
Power generation	89.4	91.8	69.9	7.7	63.7	8.6	7.9
	(11.3)	(2.6)	(5.8)	(-5.4)	(-8.8)	(-6.4)	(3.0)

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

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



## 6. Petroleum

□ **Petroleum consumption fell by 5.5% year-on-year in September, as the consumption plunged in the transport and buildings sectors, though it increased in the industrial sector.**

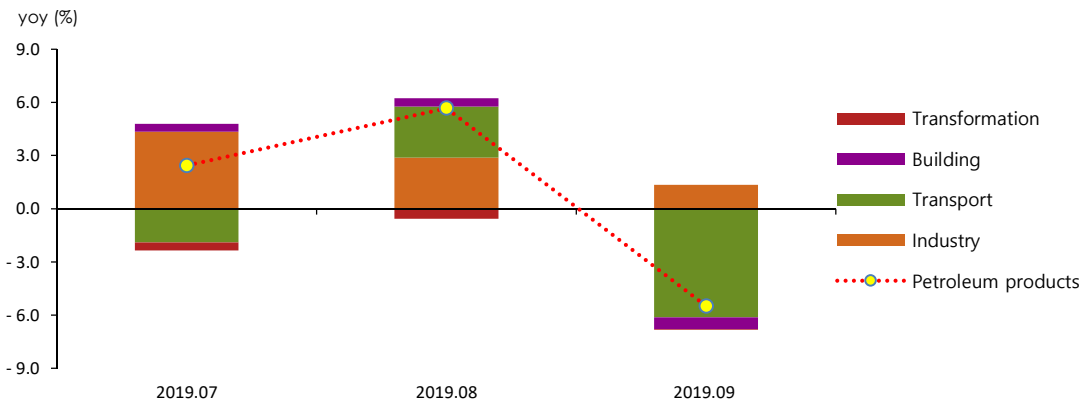
- Industrial petroleum use posted a year-on-year growth of 2.2%, backed by increased use of energy oil (34.9%), which resulted from dramatically increased LPG use (56.8%) instead of naphtha in the petrochemical sector, although the use of non-energy oil fell by 2.9%, especially naphtha (-3.2%).
- The use of all types of petroleum products declined in the transport sector; diesel, gasoline, LPG, jet oil and bunker-C, which account for large shares of the total consumption, fell by 22.4%, 16.4%, 7.3%, 8.9% and 44.1% respectively.

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

	2017	2018p	2019p		2019p		
			M1~9	M9	M1~9	M8	M9
<b>Petroleum (Mbbbl)</b>	<b>937.1</b>	<b>931.8</b>	<b>698.8</b>	<b>76.9</b>	<b>688.8</b>	<b>82.2</b>	<b>72.7</b>
	(1.7)	(-0.6)	(1.0)	(-0.1)	(-1.4)	(5.7)	(-5.5)
Industry	567.0	564.1	424.5	47.5	421.3	49.1	48.5
	(4.5)	(-0.5)	(1.6)	(1.8)	(-0.8)	(4.8)	(2.2)
-Naphtha	458.4	451.2	340.9	38.3	329.6	38.2	37.1
	(6.6)	(-1.6)	(0.9)	(3.0)	(-3.3)	(0.8)	(-3.2)
Transport	303.2	302.3	226.6	25.3	224.3	29.2	20.6
	(0.9)	(-0.3)	(-0.2)	(-2.4)	(-1.0)	(8.3)	(-18.6)
Buildings	56.4	53.7	38.1	3.7	37.0	3.3	3.2
	(0.3)	(-4.9)	(-2.9)	(-7.3)	(-2.9)	(12.5)	(-13.8)
Power generation	10.5	11.7	9.6	0.4	6.2	0.6	0.3
	(-51.9)	(12.1)	(25.4)	(-6.6)	(-35.4)	(-41.6)	(-8.0)

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

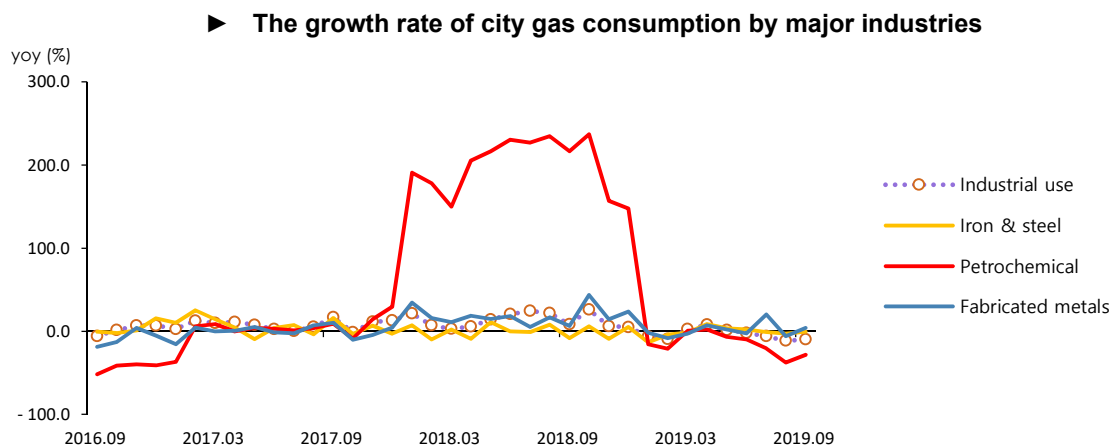
- ☐
**Gas use went up by 6.3% year-on-year in September, with the power generation sector taking the lead, though gas use for city gas production declined.**
  - Gas consumption posted a double-digit growth in the power generation sector, as it partly offset the decline in nuclear generation while electricity consumption remained stagnant.
- ☐
**City gas consumption fell by 3.6% year-on-year (in September), owing to the consumption decline in the industrial sector, especially the petrochemical sector.**
  - Industrial city gas use dropped by 9.9% despite increased consumption in the fabricated metals sector, as it plunged (-28.3%) in the petrochemical sector.

►

Trend in natural gas and city gas consumption

	2017	2018p	2019p				
			M1~9	M9	M1~9	M8	M9
<b>LNG (Mton)</b>	<b>36.4</b>	<b>42.3</b>	<b>30.7</b>	<b>2.3</b>	<b>29.5</b>	<b>2.8</b>	<b>2.4</b>
	(4.3)	(16.2)	(20.3)	(11.9)	(-3.9)	(-2.4)	(6.3)
Power generation	15.6	18.9	14.3	1.2	13.4	1.6	1.3
	(0.6)	(21.5)	(26.4)	(14.5)	(-6.0)	(-2.7)	(11.7)
City gas production	18.4	19.8	13.9	0.9	13.4	0.9	0.9
	(5.8)	(7.7)	(10.3)	(5.1)	(-3.5)	(-4.3)	(-5.9)
<b>City gas (bm³)</b>	<b>22.6</b>	<b>24.3</b>	<b>17.6</b>	<b>1.2</b>	<b>17.1</b>	<b>1.1</b>	<b>1.1</b>
	(6.3)	(7.4)	(9.1)	(2.9)	(-2.9)	(-4.0)	(-3.6)
Industry	7.8	8.8	6.4	0.6	6.2	0.6	0.6
	(7.7)	(12.7)	(13.4)	(8.1)	(-3.7)	(-11.3)	(-9.9)
Buildings	13.6	14.3	10.3	0.4	10.0	0.5	0.4
	(6.0)	(5.1)	(7.7)	(-2.5)	(-2.5)	(7.0)	(5.1)

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



## 8. Electricity

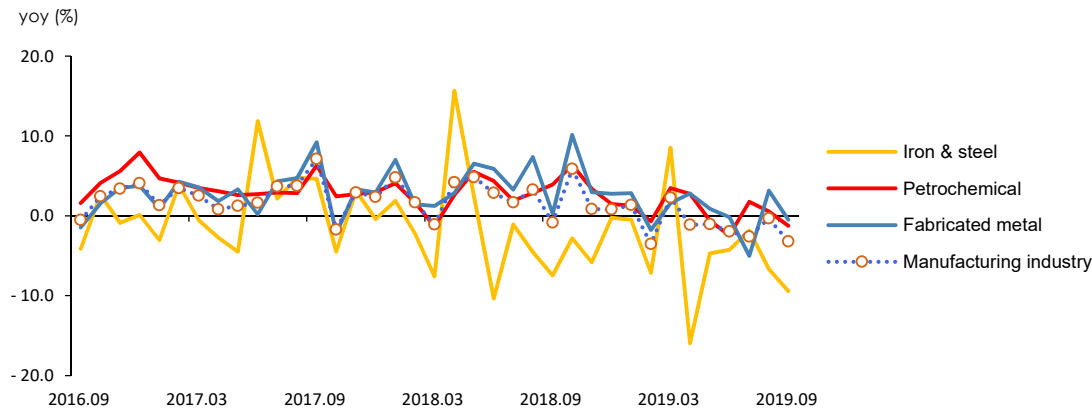
- **Electricity consumption was down 0.2% year-on-year in September, which was caused by decreased consumption in the industrial sector, though it increased in the buildings sector.**
  - Industrial electricity consumption decreased compared to the same month last year despite increased number of work days (+1.0), as the production slowed down in large power consuming businesses amid the economic downturn at home and abroad.
  - Electricity consumption in buildings posted a year-on-year growth, as the consumption increased in residential and commercial building owing to the increased number of cooling degree days (6.1degree days) and work days as well as the increased use of home appliances.

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

	2017	2018p	2019p				
			M1~9	M9	M1~9	M8	M9
<b>Electricity (TWh)</b>	<b>507.7</b>	<b>526.1</b>	<b>398.9</b>	<b>43.7</b>	<b>394.0</b>	<b>47.6</b>	<b>43.6</b>
	(2.2)	(3.6)	(4.4)	(3.3)	(-1.2)	(-4.0)	(-0.2)
Industry	276.7	283.7	212.6	23.3	210.7	24.3	22.7
	(2.5)	(2.5)	(2.6)	(-0.2)	(-0.9)	(-0.9)	(-2.6)
Transport	2.9	3.0	2.3	0.3	2.2	0.3	0.3
	(6.5)	(3.6)	(5.2)	(1.5)	(-0.7)	(-3.3)	(0.8)
Buildings	228.2	239.5	184.1	20.2	181.1	23.0	20.7
	(1.7)	(4.9)	(6.5)	(7.6)	(-1.6)	(-7.1)	(2.6)
Residential	66.5	70.7	54.4	6.4	53.7	7.6	6.6
	(0.5)	(6.3)	(7.6)	(12.9)	(-1.3)	(-11.8)	(4.0)
Commercial	130.4	136.4	105.1	11.1	103.2	12.6	11.3
	(2.3)	(4.6)	(6.3)	(5.6)	(-1.8)	(-4.9)	(1.9)

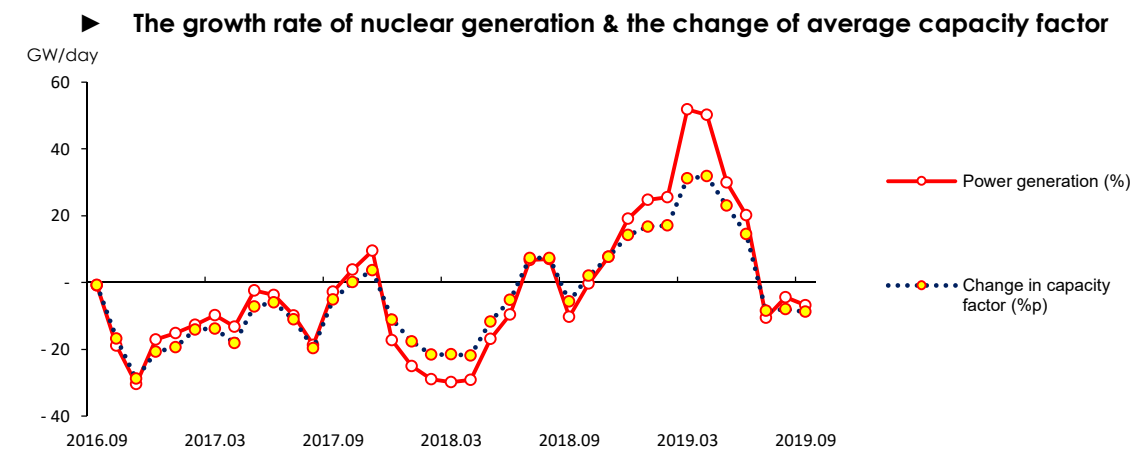
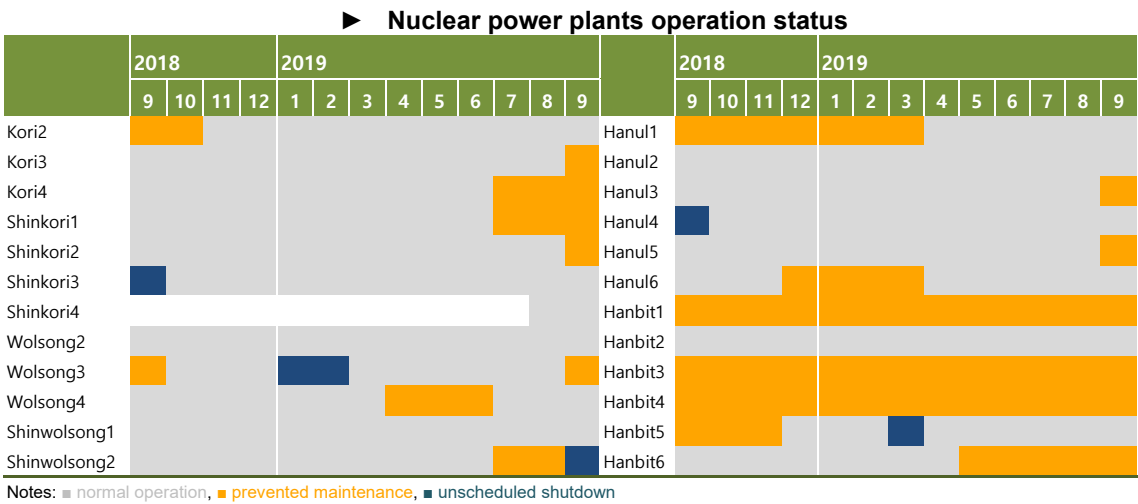
Notes: p means provisional, ( ) is year-on-year growth rates (%)  
Source: Monthly Energy Statistics

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



9. Nuclear

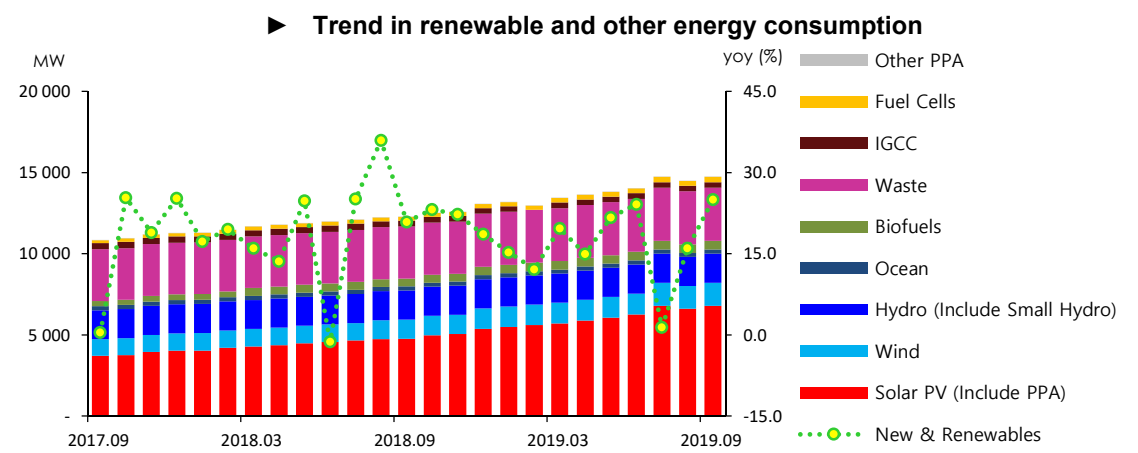
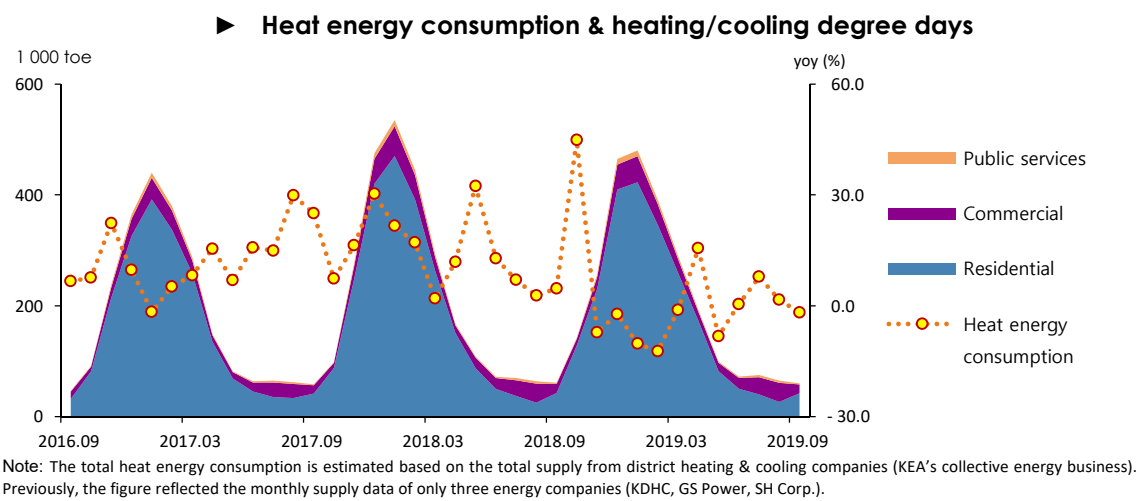
- ☐ The total nuclear generation decreased by 6.8% in September on a year-on-year basis as a result of the increased preventive maintenance, even though a new reactor started commercial operation in the previous month.
- The average capacity factor at nuclear power plants fell by 8.7%p to 61.7%, because the number of reactors that were under maintenance increased.
- Nuclear energy’s share of the total generation went up by 2.2%p to 23.3% on a year-on-year basis





# 10. Heat and Renewable energy

- ☐
**Heat energy consumption fell by 1.8% year-on-year in September, as its demand for heating declined amid decreased number of heating degree days.**
  - Heat energy use in residential and commercial & public sectors fell by 1.8% respectively, because the number of heating degree days decreased (-4.1) with increased temperatures (1.3°C) which resulted in decreased heat energy use for heating.
- ☐
**Renewable & other energy consumption grew at slower pace on a year-on-year basis, as hydro generation declined and renewable generation remained flat.**
  - Renewable generation (except hydropower) was flat despite increased use of solar PV (including PPA), bioenergy and fuel cells, as wind and waste energy generation declined.
  - Hydro generation (including pumped storage, small hydro) fell by 21.2% year-on-year, even though the amount of rainfall increased partly because of a typhoon.



# 11. Industry

- Industrial energy use declined by 0.5% year-on-year in September, which was caused by weak production amid the economic downturn at home and abroad.
- Energy consumption was down in the three largest energy consuming industries despite increased number of work days (+1.0), owing to the decreased exports and sluggish domestic economy.

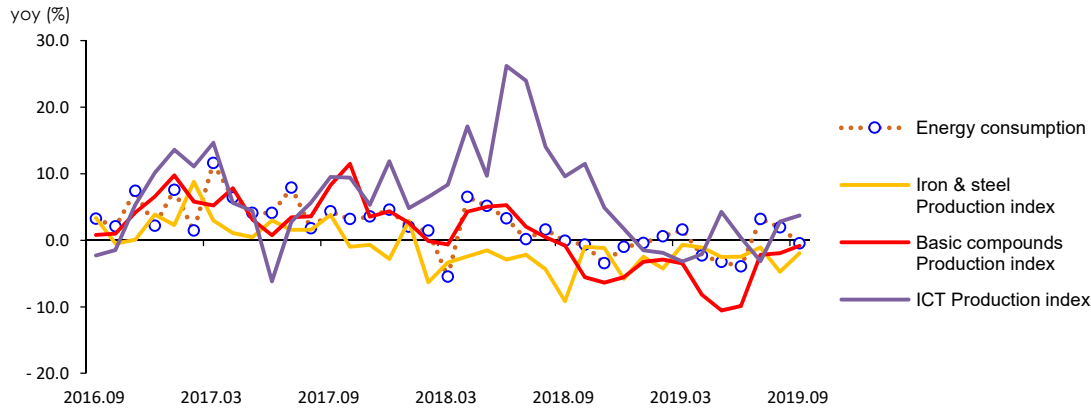
## ► Trend in the industrial energy consumption

	2017	2018p			2019p		
			M1~9	M9	M1~9	M8	M9
<b>Industry (Mtoe)</b>	<b>141.9</b>	<b>142.9</b>	<b>106.8</b>	<b>11.7</b>	<b>106.4</b>	<b>12.2</b>	<b>11.6</b>
	(5.0)	(0.7)	(1.5)	(-0.1)	(-0.4)	(1.9)	(-0.5)
Petrochemical	70.0	72.1	54.2	6.1	53.9	6.3	6.1
	(4.9)	(3.0)	(4.9)	(6.6)	(-0.6)	(2.7)	(0.7)
- Naphtha	56.2	55.3	41.8	4.7	40.4	4.7	4.5
	(6.6)	(-1.6)	(0.9)	(3.0)	(-3.3)	(0.8)	(-3.2)
Iron & Steel	33.2	28.9	21.6	2.4	21.6	2.5	2.3
	(7.4)	(-13.0)	(-12.6)	(-13.2)	(0.2)	(0.9)	(-3.1)
-Coking coal	25.3	24.1	18.0	2.0	18.2	2.1	2.0
	(8.0)	(-4.6)	(-4.1)	(-3.7)	(0.9)	(2.0)	(-2.6)
Fabricated metal	10.8	11.4	8.5	0.9	8.5	1.0	0.9
	(1.9)	(5.9)	(5.1)	(0.3)	(0.7)	(2.0)	(-0.2)
Share of feedstock (%)	60.9	59.1	59.4	61.4	58.8	58.9	60.1

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

Source: Monthly Energy Statistics

## ► Industrial energy consumption & production index



## 12. Transport

□ **Transport energy use fell by 18.4% year-on-year in September due to the sharp decline in the road, navigation and aviation sectors.**

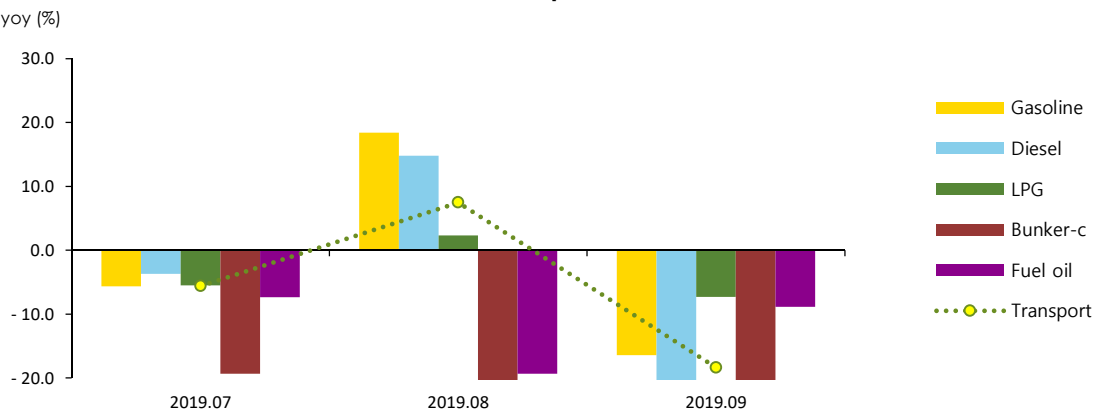
- While energy consumption for road transport was up 13.5% in August, it was down 18.4% in September, because consumers made their purchases earlier prior to the expiration of tax break on August 31, otherwise, they would have purchased in the following month.
- Energy consumption plunged by 36.5% year-on-year in the domestic navigation sector, as the export and coastal transport volumes fell by 4.6% and 8.1% respectively, though the import volume rose by 8.7%.
- Energy consumption was cut by 8.9% year-on-year in the aviation sector despite the 4.6% increase in the number of international flights, because that of domestic flights fell by 5.6%.

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

	2017	2018p			2019p		
			M1~9	M9	M1~9	M8	M9
<b>Transport (Mtoe)</b>	<b>42.8</b>	<b>43.0</b>	<b>32.2</b>	<b>3.6</b>	<b>31.9</b>	<b>4.1</b>	<b>2.9</b>
	(1.2)	(0.4)	(0.5)	(-1.6)	(-1.1)	(7.5)	(-18.4)
Road	34.1	34.4	25.8	2.9	26.0	3.5	2.4
	(0.5)	(0.9)	(1.2)	(-2.1)	(0.7)	(13.5)	(-18.4)
Navigation	3.5	3.2	2.4	0.3	2.0	0.2	0.2
	(5.8)	(-9.9)	(-11.4)	(-5.9)	(-16.6)	(-19.1)	(-36.5)
Aviation	4.8	5.0	3.8	0.4	3.6	0.4	0.4
	(3.2)	(4.4)	(4.8)	(5.0)	(-3.8)	(-19.4)	(-8.9)
Rail	0.3	0.4	0.3	0.0	0.3	0.0	0.0
	(2.5)	(3.6)	(4.4)	(-3.9)	(-1.2)	(-4.2)	(4.4)

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

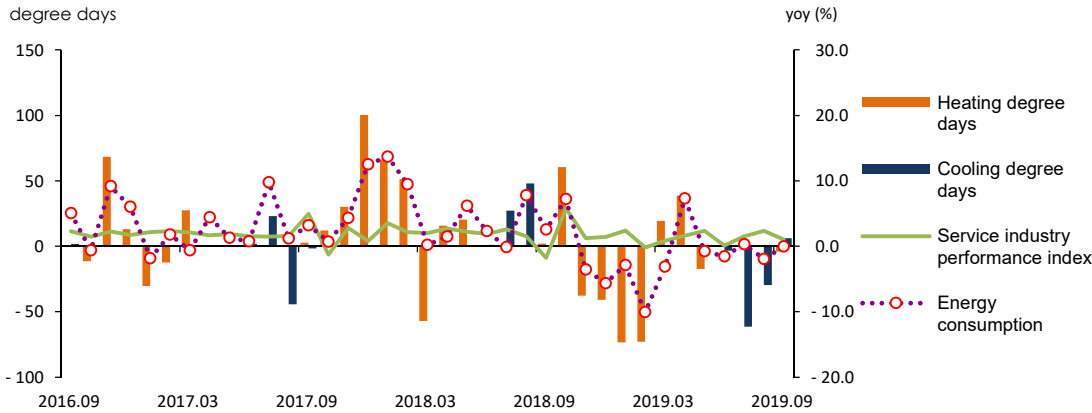
- **Energy use in buildings was almost flat in September on a year-on-year basis, as petroleum use decreased, while the use of electricity and city gas increased.**
  - Energy use in buildings fell by mere 0.1% year-on-year despite increased electricity demand amid increased number of cooling degree days, as petroleum use declined in public buildings with decreased number of heating degree days.
  - Energy consumption in residential buildings went up slightly due to the increased electricity and city gas consumption (4.0%, 6.4%), even though the petroleum consumption declined (-10.9%) including kerosene and LPG.
  - While energy consumption in commercial buildings increased, led by city gas and electricity, it decreased in public buildings due to a sharp drop in petroleum consumption (36.8%), driving down the total energy consumption in buildings.

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

	2017	2018p			2019p		
			M1~9	M9	M1~9	M8	M9
<b>Buildings (Mtoe)</b>	<b>45.3</b>	<b>46.9</b>	<b>34.5</b>	<b>2.9</b>	<b>33.8</b>	<b>3.1</b>	<b>2.9</b>
	(3.1)	(3.5)	(5.7)	(2.6)	(-2.3)	(-1.9)	(-0.1)
Residential	22.5	23.5	16.8	1.1	16.2	1.1	1.1
	(3.7)	(4.4)	(7.1)	(-0.2)	(-3.0)	(-2.4)	(0.6)
Commercial	17.4	17.9	13.6	1.3	13.5	1.5	1.4
	(1.9)	(2.9)	(4.6)	(2.8)	(-1.0)	(-2.9)	(2.0)
Public-others	5.5	5.6	4.2	0.5	4.1	0.5	0.4
	(4.1)	(2.0)	(3.7)	(9.2)	(-3.2)	(2.3)	(-7.5)
Heating degree days	2 517.1	2 597.8	1 621.9	5.0	1 512.4	-	0.9
	(5.5)	(3.2)	(6.5)	(72.4)	(-6.8)	-	(-82.0)
Cooling degree days	132.7	209.0	209.0	-	120.4	74.8	6.1
	(-13.9)	(57.5)	(57.5)	-	(-42.4)	(-28.4)	-

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 plants grew by 1.7% year-on-year in September; coal and gas input increased while the energy input for nuclear generation decreased.
  - The total energy input to power plants increased, led by coal and gas, as the total generation increased (2.0%) even amid stagnant power demand (-0.2%).
  - The average capacity factors at coal, nuclear and gas power plants were 77.9%, 61.7% and 36.0% respectively.

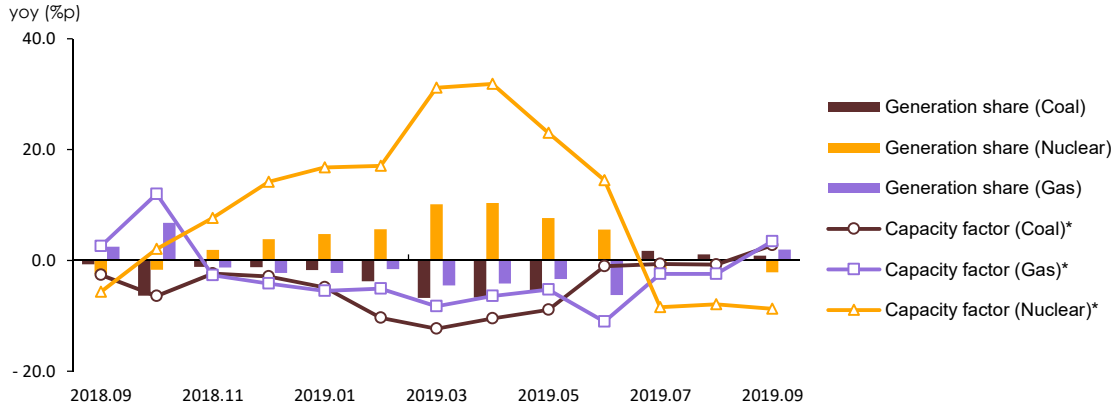
## ► Energy consumption in the power generation sector

	2017	2018p	2019p				
			M1~9	M9	M1~9	M8	M9
<b>Input (Mtoe)</b>	<b>115.1</b>	<b>118.7</b>	<b>89.2</b>	<b>9.3</b>	<b>87.9</b>	<b>10.8</b>	<b>9.5</b>
	(0.3)	(3.1)	(3.8)	(-2.9)	(-1.4)	(-4.7)	(1.7)
Coal	52.8	54.2	41.3	4.5	37.6	5.1	4.7
	(7.4)	(2.7)	(5.8)	(-5.5)	(-8.9)	(-6.4)	(3.1)
Oil	1.2	1.3	1.1	0.0	0.6	0.1	0.0
	(-59.5)	(7.5)	(21.1)	(-6.0)	(-42.3)	(-55.1)	(-35.1)
Gas	20.7	25.1	19.0	1.5	17.8	2.2	1.7
	(0.9)	(21.4)	(26.3)	(14.7)	(-6.1)	(-2.8)	(11.0)
Nuclear	31.6	28.4	20.6	2.4	24.3	2.6	2.2
	(-7.5)	(-10.1)	(-15.5)	(-10.2)	(17.8)	(-4.4)	(-6.8)
Hydro/other renewables	8.7	9.6	7.2	0.8	7.6	0.9	0.9
	(11.5)	(9.9)	(9.3)	(8.1)	(5.9)	(8.0)	(3.3)

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 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		
				1Q	2Q	3Q	1Q	2Q	3Q
GDP (trillion won)	1 706.9 (2.9)	1 299.0 (3.3)	1 807.7 (2.7)	428.7 (2.8)	450.8 (2.9)	453.0 (2.1)	435.8 (1.7)	460.1 (2.0)	462.3 (2.0)
Private consumption	825.7 (2.6)	630.4 (2.6)	872.3 (2.8)	218.8 (3.6)	212.2 (2.9)	217.8 (2.3)	222.8 (1.9)	216.5 (2.0)	221.7 (1.8)
Facilities investment	146.2 (2.6)	126.3 (18.8)	166.2 (-2.4)	44.1 (10.2)	43.2 (-4.3)	37.3 (-9.4)	36.4 (-17.4)	40.2 (-7.0)	36.3 (-2.6)
Construction investment	263.7 (10.0)	207.3 (8.9)	270.9 (-4.3)	57.1 (1.2)	74.4 (-2.5)	68.0 (-8.7)	53.0 (-7.2)	71.8 (-3.5)	65.5 (-3.7)
Consumer price index (2015=100)	101.0	102.9	104.5	103.9	104.3	104.8	104.5	104.9	104.9
USD to KRW exchange rate (won)	1 160.8	1 138.8	1 100.2	1 072.7	1 079.0	1 121.5	1 125.1	1 166.6	1 193.9
Benchmark rate (%)	1.4	1.3	1.5	1.5	1.5	1.5	1.8	1.8	1.5
Coincident composite index (2015=100)	103.3	106.9	109.4	108.7	109.4	109.6	109.8	110.4	111.0
Mining & manufacturing production index (2015=100)	102.2	104.4	106.1	102.3	106.9	105.2	100.2	106.2	104.4
Manufacturing operation ratio index (2015=100)	98.9	98.4	98.4	94.6	100.6	97.0	92.8	100.2	98.0
Average temperature	13.6	15.0	13.0	2.0	17.8	24.8	3.4	17.3	24.3
- year-on-year difference	0.2	- 0.2	- 0.1	- 0.7	- 0.3	0.7	1.4	- 0.5	- 0.6
Heating degree days	2 386.8 (3.9)	1 523.2 (-0.8)	2 597.8 (3.2)	1 437.2 (4.4)	179.7 (25.1)	5.0 (72.4)	1 310.4 (-8.8)	201.1 (11.9)	0.9 (-82.0)
Cooling degree days	154.1 (87.2)	132.7 (-13.9)	209.0 (57.5)	- -	3.5 (45.8)	205.5 (57.7)	- -	- (-100.0)	120.4 (-41.4)
Energy intensity	0.17 (-0.5)	0.17 (-0.9)	0.17 (-0.8)	0.19 (-0.6)	0.16 (0.8)	0.17 (0.3)	0.18 (-2.7)	0.15 (-3.6)	0.16 (-3.0)
Per capita consumption									
oil (bbl)	18.0 (7.5)	13.5 (1.7)	18.1 (-1.0)	4.6 (0.1)	4.5 (2.8)	4.5 (-1.3)	4.5 (-1.0)	4.3 (-4.6)	4.5 (0.7)
Electricity (MWh)	9.7 (2.4)	7.4 (1.7)	10.2 (3.1)	2.7 (3.9)	2.4 (3.2)	2.7 (4.4)	2.6 (-1.6)	2.4 (-0.1)	2.6 (-2.5)
City gas (1 000 m <sup>3</sup> )	0.4 (1.9)	0.3 (4.2)	0.5 (6.9)	0.2 (9.5)	0.1 (7.5)	0.1 (8.0)	0.2 (-6.4)	0.1 (4.1)	0.1 (-3.9)
Total energy (toe)	5.7 (2.0)	4.3 (2.1)	6.0 (1.3)	1.6 (1.7)	1.4 (3.3)	1.5 (1.9)	1.5 (-1.3)	1.4 (-1.8)	1.5 (-1.2)

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)

	2017	2018					2019			
		M1~9	M7	M8	M9	M1~9	M7	M8	M9	
Industrial production index										
All industry	105.7 (2.6)	107.2 (1.4)	105.8 (0.9)	107.0 (2.5)	105.4 (2.0)	104.8 (-4.5)	105.8 (0.1)	107.8 (0.7)	105.4 -	105.3 (0.5)
Mining & manufacturing	104.7 (2.5)	106.1 (1.3)	104.8 (0.3)	108.2 (3.2)	105.2 (4.0)	102.1 (-6.7)	103.6 (-1.1)	108.9 (0.6)	101.7 (-3.3)	102.5 (0.4)
Iron & steel	102.9 (1.7)	99.8 (-3.1)	99.8 (-3.2)	102.1 (-2.2)	98.9 (-4.4)	93.3 (-9.2)	97.4 (-2.3)	101.0 (-1.1)	94.2 (-4.8)	91.5 (-1.9)
Cement	110.0 (1.7)	100.1 (-9.0)	98.7 (-10.7)	102.7 (0.2)	90.0 (-12.1)	92.3 (-23.5)	91.0 (-7.8)	95.1 (-7.4)	89.8 (-0.2)	76.8 (-16.8)
Basic compound	110.4 (5.5)	-	(2.0)	(2.1)	(0.4)	(-0.8)	(-4.8)	(-2.2)	(-1.9)	(-0.8)
Transport equipment	95.0 (-2.7)	93.7 (-1.4)	90.4 (-6.8)	88.0 (-11.8)	87.3 (10.9)	84.8 (-14.3)	91.6 (1.3)	100.4 (14.1)	76.4 (-12.5)	82.3 (-2.9)
Electric & electronic	105.5 (2.6)	105.2 (-0.3)	102.4 (-1.8)	103.5 (1.1)	104.1 (1.4)	100.0 (-13.5)	101.2 (-1.1)	107.1 (3.5)	96.5 (-7.3)	102.2 (2.2)
Service	104.5 (1.8)	106.7 (2.1)	105.4 (1.8)	106.3 (2.6)	105.6 (1.5)	105.8 (-1.8)	106.8 (1.3)	107.9 (1.5)	108.1 (2.4)	106.9 (1.0)
Operating ratio index										
Manufacturing	98.1 (-0.9)	98.4 (0.3)	97.4 (-1.0)	100.0 (1.0)	97.2 (2.3)	93.8 (-8.8)	97.0 (-0.4)	102.9 (2.9)	95.1 (-2.2)	96.0 (2.3)
Iron & steel	102.3 (1.5)	98.8 (-3.4)	98.6 (-3.7)	101.0 (-2.7)	97.7 (-5.1)	92.4 (-9.6)	97.6 (-1.1)	101.2 (0.2)	94.2 (-3.6)	91.5 (-1.0)
Cement	107.4 (0.4)	108.9 (1.4)	106.6 (-0.9)	113.0 (13.3)	99.5 (-0.2)	101.6 (-13.7)	102.3 (-4.1)	104.9 (-7.2)	99.1 (-0.4)	84.9 (-16.4)
Basic compound	107.1 (3.6)	104.9 (-2.0)	106.3 (-0.2)	108.2 (0.4)	106.6 (-1.8)	104.6 (-3.0)	100.5 (-5.5)	105.1 (-2.9)	104.6 (-1.9)	103.6 (-1.0)
Transport equipment	87.6 (-6.6)	90.2 (2.9)	87.0 (-2.9)	84.9 (-7.4)	84.9 (16.6)	81.8 (-10.2)	91.5 (5.1)	100.4 (18.3)	76.9 (-9.4)	82.8 (1.2)
Electric & electronic	102.5 (0.7)	100.3 (-2.1)	98.1 (-3.3)	99.0 (-0.4)	98.7 (-0.6)	93.8 (-15.2)	98.0 (-0.0)	103.5 (4.5)	93.5 (-5.3)	98.7 (5.2)

Note: p means provisional  
Source: Monthly Energy Statistics

## International Energy Prices

	2017	2018					2019			
			M1~11	M9	M10	M11	M1~11	M9	M10	M11
Crude oil (USD/bbl)										
WTI	51.0 (17.6)	64.8 (27.1)	66.2 (31.6)	70.1 (40.5)	70.8 (37.2)	56.7 (0.1)	56.8 (-14.2)	57.0 (-18.7)	54.0 (-23.7)	57.1 (0.7)
Dubai	53.2 (28.9)	69.4 (30.5)	70.5 (34.5)	77.2 (43.9)	79.4 (42.9)	65.6 (7.8)	63.4 (-10.1)	61.1 (-20.8)	59.4 (-25.2)	62.0 (-5.4)
Brent	54.8 (21.7)	71.5 (30.5)	72.8 (34.8)	79.1 (42.5)	80.6 (39.9)	66.0 (4.9)	64.1 (-12.0)	62.3 (-21.3)	59.6 (-26.0)	62.7 (-4.9)
Unit value of import (C&F)	53.3 (29.9)	71.4 (34.0)	71.8 (36.8)	76.5 (47.4)	79.2 (44.6)	76.2 (31.5)	65.5 (-8.9)	63.1 (-17.5)	64.1 (-19.0)	64.1 (-15.9)
LNG										
From Indonesia (USD/MMBTU)	8.6 (16.7)	10.7 (24.0)	10.5 (22.6)	11.3 (30.8)	11.7 (40.3)	11.7 (38.5)	10.6 (0.5)	10.1 (-10.3)	10.0 (-14.4)	10.0 (-14.7)
Unit value of import (USD/ton, CIF)	416.3 (16.7)	526.3 (26.4)	521.9 (25.8)	561.9 (33.3)	579.9 (37.6)	584.2 (45.9)	509.9 (-2.3)	509.9 (-9.3)	479.0 (-17.4)	453.9 (-22.3)
Bituminous coal (USD/ton)										
From Australia	88.5 (33.9)	107.0 (20.9)	107.5 (23.0)	114.2 (16.7)	108.7 (12.0)	100.7 (4.2)	78.9 (-26.6)	66.0 (-42.2)	68.9 (-36.6)	67.0 (-33.5)
Unit value of import (CIF)	104.3 (51.5)	113.6 (8.9)	113.5 (8.5)	116.4 (23.3)	114.3 (11.5)	111.2 (3.9)	102.1 (-10.1)	85.0 (-26.9)	92.1 (-19.4)	87.5 (-21.3)
Petroleum product (USD/bbl)										
Gasoline	68.1 (21.2)	79.9 (17.4)	81.8 (21.3)	89.5 (26.9)	87.7 (25.1)	68.6 (-9.3)	72.3 (-11.6)	74.7 (-16.6)	74.0 (-15.6)	76.3 (11.1)
Kerosene	65.3 (23.6)	84.8 (29.8)	86.0 (33.6)	91.7 (34.6)	95.1 (39.2)	82.9 (12.0)	77.2 (-10.3)	77.7 (-15.2)	75.4 (-20.8)	74.9 (-9.7)
Diesel	66.4 (25.2)	84.9 (27.9)	86.3 (31.6)	93.8 (35.2)	97.2 (38.4)	82.3 (11.1)	78.1 (-9.5)	78.1 (-16.8)	77.1 (-20.7)	76.0 (-7.6)
Bunker-C	49.7 (40.2)	65.2 (31.3)	66.0 (34.5)	70.7 (39.5)	76.8 (47.9)	68.3 (20.4)	58.8 (-10.9)	61.3 (-13.2)	47.4 (-38.3)	39.4 (-42.3)
Propane	467.5 (44.6)	542.1 (16.0)	550.9 (20.7)	600.0 (25.0)	655.0 (13.9)	540.0 (-6.1)	434.1 (-21.2)	350.0 (-41.7)	420.0 (-35.9)	430.0 (-20.4)
Butane	501.7 (41.0)	539.2 (7.5)	550.5 (11.1)	635.0 (27.0)	655.0 (12.9)	525.0 (-9.5)	440.5 (-20.0)	360.0 (-43.3)	435.0 (-33.6)	445.0 (-15.2)
Naphtha	53.8 (26.6)	67.0 (24.5)	68.4 (29.5)	75.2 (36.9)	74.7 (29.7)	56.8 (-11.9)	56.3 (-17.7)	54.0 (-28.1)	56.8 (-23.9)	59.5 (4.8)

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	2018					2019p			
			M1~9	M7	M8	M9	M1~9	M7	M8	M9
Coal (Mton)	139.8 (8.1)	141.0 (0.9)	106.2 (2.6)	12.6 (1.9)	13.3 (6.5)	11.4 (-6.7)	99.6 (-6.2)	12.4 (-1.9)	12.7 (-4.3)	11.5 (0.8)
- Coking coal excluded	103.5 (7.9)	106.4 (2.8)	80.3 (4.9)	9.5 (3.4)	10.3 (10.1)	8.5 (-7.7)	73.5 (-8.5)	9.4 (-1.3)	9.7 (-6.1)	8.7 (1.9)
Oil (Mbbbl)	937.1 (1.7)	931.8 (-0.6)	698.8 (1.0)	77.4 (-2.2)	77.8 (-0.0)	76.9 (-0.1)	688.8 (-1.4)	79.3 (2.4)	82.2 (5.7)	72.7 (-5.5)
- Non-energy oil excluded	443.7 (-2.5)	445.5 (0.4)	332.5 (1.2)	35.8 (-4.2)	37.3 (2.8)	35.6 (-2.9)	331.4 (-0.3)	35.6 (-0.3)	41.2 (10.5)	32.6 (-8.6)
LNG (Mton)	36.4 (4.3)	42.3 (16.2)	30.7 (20.3)	2.9 (13.7)	2.9 (23.9)	2.3 (11.9)	29.5 (-3.9)	2.8 (-2.8)	2.8 (-2.4)	2.4 (6.3)
Hydro (TWh)	7.0 (5.5)	7.3 (3.9)	5.6 (2.2)	0.8 (26.6)	0.7 (-27.7)	0.7 (5.8)	4.7 (-15.9)	0.6 (-30.3)	0.6 (-14.7)	0.6 (-21.2)
Nuclear (TWh)	148.4 (-8.4)	133.5 (-10.1)	96.8 (-15.5)	13.1 (6.8)	12.8 (7.0)	11.1 (-10.2)	114.0 (17.8)	11.7 (-10.5)	12.2 (-4.4)	10.3 (-6.8)
Others (Mtoe)	15.8 (16.7)	17.1 (8.0)	12.9 (8.3)	1.5 (11.6)	1.5 (9.9)	1.5 (6.6)	13.5 (4.8)	1.5 (5.6)	1.7 (7.9)	1.5 (4.9)
<b>TPES (Mtoe)</b>	<b>302.1</b> (2.8)	<b>307.5</b> (1.8)	<b>228.8</b> (2.8)	<b>25.8</b> (3.0)	<b>26.2</b> (5.7)	<b>23.8</b> (-1.6)	<b>226.0</b> (-1.2)	<b>25.6</b> (-1.0)	<b>26.2</b> (0.2)	<b>23.2</b> (-2.3)
- Non-energy oil excluded	240.7 (2.1)	247.1 (2.6)	183.3 (3.3)	20.6 (3.8)	21.2 (8.0)	18.7 (-2.5)	181.5 (-1.0)	20.0 (-3.0)	21.1 (-0.0)	18.3 (-2.2)
- Non-energy oil&coal excluded	215.4 (1.4)	222.9 (3.5)	165.3 (4.2)	18.5 (4.5)	19.1 (9.5)	16.6 (-2.4)	163.3 (-1.2)	18.0 (-2.9)	19.1 (-0.2)	16.3 (-2.1)

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

## Share of TPES by Sources

(unit: %)

	2017	2018					2019p			
			M1~9	M7	M8	M9	M1~9	M7	M8	M9
Coal	28.5	28.2	28.5	30.0	31.1	29.7	27.2	29.7	29.7	30.6
- Coking coal excluded	20.2	20.3	20.6	21.7	23.2	21.1	19.1	21.7	21.7	22.1
Oil	39.5	38.5	38.8	38.2	37.8	41.1	38.6	39.6	39.6	39.2
- non-energy oil excluded	19.2	18.9	18.9	18.1	18.6	19.5	18.9	17.9	20.2	17.7
LNG	15.7	18.0	17.5	14.7	14.3	12.5	17.0	14.4	14.0	13.6
Hydro	0.5	0.5	0.5	0.7	0.6	0.6	0.4	0.5	0.5	0.5
Nuclear	10.5	9.2	9.0	10.8	10.4	9.9	10.7	9.7	9.9	9.5
Others	5.2	5.6	5.6	5.6	5.9	6.1	6.0	6.0	6.3	6.6
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)

	2017	2018					2019p			
			M1~9	M7	M8	M9	M1~9	M7	M8	M9
Industry	141.9 (5.0)	142.9 (0.7)	106.8 (1.5)	12.1 (0.1)	12.0 (1.6)	11.7 (-0.1)	106.4 (-0.4)	12.5 (3.2)	12.2 (1.9)	11.6 (-0.5)
Transport	42.8 (1.2)	43.0 (0.4)	32.2 (0.5)	3.7 (-2.7)	3.8 (3.5)	3.6 (-1.6)	31.9 (-1.1)	3.5 (-5.6)	4.1 (7.5)	2.9 (-18.4)
Residential-commercial	39.9 (2.9)	41.3 (3.7)	30.3 (6.0)	2.3 (0.7)	2.7 (8.7)	2.4 (1.4)	29.7 (-2.1)	2.3 (-0.3)	2.7 (-2.7)	2.5 (1.3)
Public	5.5 (4.1)	5.6 (2.0)	4.2 (3.7)	0.4 (-4.5)	0.5 (2.6)	0.5 (9.2)	4.1 (-3.2)	0.4 (3.7)	0.5 (2.3)	0.4 (-7.5)
<b>TFC</b>	<b>230.0</b> (3.9)	<b>232.7</b> (1.2)	<b>173.5</b> (2.1)	<b>18.5</b> (-0.5)	<b>19.0</b> (3.0)	<b>18.1</b> (-0.0)	<b>172.0</b> (-0.9)	<b>18.7</b> (1.0)	<b>19.4</b> (2.4)	<b>17.4</b> (-4.0)
Coal (Mton)	50.4 (2.7)	49.2 (-2.3)	36.3 (-3.0)	4.1 (-7.2)	4.1 (1.6)	3.7 (-9.2)	35.8 (-1.2)	4.0 (-2.6)	4.1 (0.2)	3.6 (-3.8)
Oil (Mbbbl)	926.6 (3.0)	920.0 (-0.7)	689.1 (0.7)	76.5 (-2.5)	76.8 (-0.7)	76.5 (-0.1)	682.6 (-1.0)	78.7 (2.9)	81.6 (6.3)	72.3 (-5.5)
Electricity (TWh)	507.7 (2.2)	526.1 (3.6)	398.9 (4.4)	44.0 (1.9)	49.5 (9.2)	43.7 (3.3)	394.0 (-1.2)	43.0 (-2.4)	47.6 (-4.0)	43.6 (-0.2)
City gas (Bm <sup>3</sup> )	22.6 (6.3)	24.3 (7.4)	17.6 (9.1)	1.3 (12.9)	1.2 (9.8)	1.2 (2.9)	17.1 (-2.9)	1.2 (-3.4)	1.1 (-4.0)	1.1 (-3.6)
Heat-others (1 000 toe)	11.1 (18.4)	11.8 (6.4)	8.7 (7.7)	0.9 (5.6)	0.9 (9.5)	0.8 (4.9)	8.6 (-1.0)	0.9 (2.7)	0.9 (3.6)	0.8 (1.3)

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

## Share of the Total Final Consumption by Sources

(unit: %)

	2017	2018					2019p			
			M1~9	M7	M8	M9	M1~9	M7	M8	M9
Industry	61.7	61.4	61.5	65.3	63.0	64.3	61.8	66.7	62.7	66.6
Transport	18.6	18.5	18.6	19.9	20.2	19.8	18.5	18.6	21.2	16.9
Residential-commercial	17.3	17.8	17.5	12.6	14.4	13.4	17.3	12.4	13.7	14.1
Public	2.4	2.4	2.4	2.2	2.4	2.5	2.4	2.3	2.4	2.4
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	13.9	13.8	14.7	14.4	13.9	13.8	14.2	14.1	14.0
Oil	51.2	50.2	50.4	52.4	51.3	53.6	50.3	53.6	53.0	52.0
Electricity	19.0	19.4	19.8	20.4	22.4	20.7	19.7	19.7	21.1	21.6
City gas	10.5	11.4	11.0	7.8	7.2	7.3	11.2	7.8	7.0	7.7
Heat-others	4.8	5.1	5.0	4.6	4.7	4.5	5.0	4.7	4.8	4.8

Note: p means provisional  
Source: Monthly Energy Statistics

### Statistics on Energy Production Facilities

	2016	2017	2018				2019p		
				M7	M8	M9	M7	M8	M9
Total capacity (GW)	105.9	116.9	119.1	117.5	118.0	118.0	121.1	123.0	122.5
	-	(10.4)	(1.9)	(3.6)	(3.3)	(2.4)	(3.1)	(4.2)	(3.8)
Nuclear	23.1	22.5	21.9	21.9	21.9	21.9	21.9	23.3	23.3
	-	(-2.5)	(-3.0)	(-3.0)	(-3.0)	(-3.0)	-	(6.4)	(6.4)
Bituminous coal	30.9	36.1	36.4	36.4	36.4	36.4	36.4	36.4	36.4
	-	(16.8)	(0.7)	(4.8)	(3.0)	(0.4)	(0.1)	(0.1)	(0.1)
Gas	32.6	37.9	37.9	37.9	37.9	37.9	38.2	38.2	38.2
	-	(16.0)	(-0.0)	(3.2)	(3.2)	(3.3)	(1.0)	(1.0)	(1.0)
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		
				M7	M8	M9	M7	M8	M9
The number of household demanding city gas (mil)	18.0	18.6	19.1	18.8	18.8	18.8	19.3	19.3	19.4
	(3.4)	(3.3)	(3.1)	(3.3)	(3.0)	(3.0)	(2.9)	(2.9)	(2.9)
Registered cars (mil)	21.8	22.5	23.2	22.9	23.0	23.0	23.5	23.5	23.6
	(3.9)	(3.3)	(3.0)	(3.1)	(3.1)	(3.0)	(2.4)	(2.4)	(2.3)
- gasoline	10.1	10.4	10.6	10.5	10.5	10.6	10.8	10.8	10.9
	(2.9)	(2.7)	(2.5)	(2.5)	(2.5)	(2.4)	(2.6)	(2.7)	(2.8)
- diesel	9.2	9.6	9.9	9.8	9.8	9.9	10.0	10.0	10.0
	(6.4)	(4.4)	(3.7)	(4.1)	(4.1)	(3.9)	(1.9)	(1.8)	(1.4)
- 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)	(-3.3)	(-3.3)	(-3.3)	(-2.6)	(-2.5)	(-2.3)
- hybrid	0.2	0.3	0.4	0.3	0.4	0.4	0.4	0.5	0.5
	(37.6)	(37.6)	(30.9)	(33.3)	(32.5)	(30.9)	(29.4)	(28.7)	(28.5)

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

Source: Monthly Energy Statistics

# KEEI

MONTHLY **KOREA ENERGY TRENDS** [2019, NO.93]



---

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)

---

405-11, Jongga-ro, Jung-gu, Ulsan, Korea, 44543

Phone: +82-52-714-2270

Fax: +82-52-714-2025

Email: [webmaster@keei.re.kr](mailto:webmaster@keei.re.kr)

Homepage: <http://www.keei.re.kr>