

KEEI

MONTHLY KOREA ENERGY TRENDS

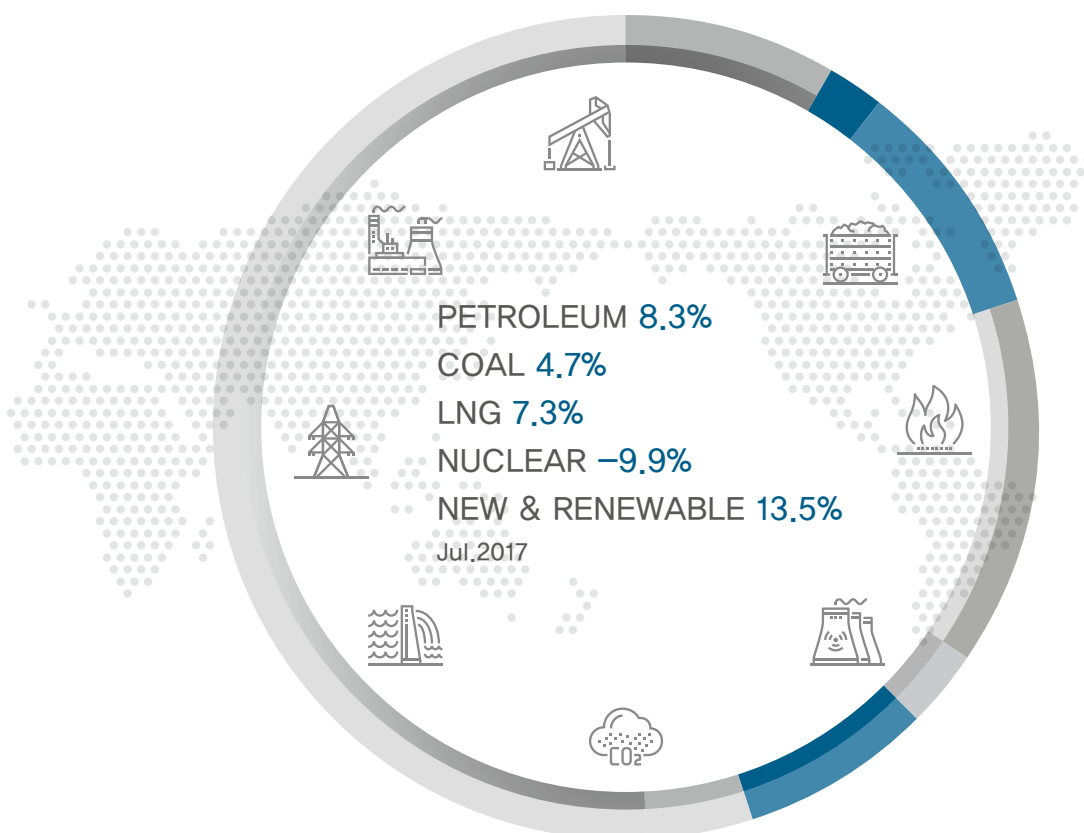


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1. The Economy and the Industry

- **The total export value rose by 19.5% in July on a year-on-year basis thanks to the steadily soaring export of semi-conductors and marine vessels along with the increased prices of major exporting goods.**
 - The export value of semi-conductors has been rising for 10 consecutive months (57.8%) and posting over 50% growth for four months in a row, affected by lower supply and higher price, followed by the shutdown of D Ram manufacturing factory in Taiwan (Inotera, 2017.7.1).
 - The export value of petroleum products has been rising for nine months in a row (1.7%) due to increased unit price (15.1%), the growth rate, however, declined because of the smaller export volume, influenced by the base effect of a surge in export volume during the same period last year (9.7%).
 - The export value of iron & steel products was up 10.5%, with the help of a sharp increase in export to the U.S., Japan and India, although the export to China declined.
- **The production index of mining and manufacturing industry was down 0.2% year-on-year (in July) due to weaker performance of the ICT and cement production industries, while the service industry production index was up 2.2%.**
 - The mining and manufacturing production index has decreased for two months in a row because of the continuously falling index of cement (-4.0%) and ICT (-4.3%), although the index increased in the case of basic petrochemicals (4.8%) and iron & steel products (1.2%).
 - The service industry production index has been growing by around 2% for seven straight months despite the steady downward trend in the restaurant & accommodations sector (-3.9%), due to the stronger result of the wholesale & retail (1.4%), real estate & leasing (5.8%) and health & social welfare (6.6%) sectors.

► Trend in major economic and industrial indicators

	2015	2016				2017		
			M5	M6	M7	M5	M6	M7
GDP (trillion won)	1 466.8 (2.8)	1 508.3 (2.8)	- -	378.6 (3.4)	- -	- -	388.8 (2.7)	- -
Total export (\$billion, customs clearance basis)	526.8 (-8.0)	495.4 (-5.9)	39.7 (-6.1)	45.2 (-2.9)	40.9 (-10.5)	44.9 (13.1)	51.3 (13.4)	48.8 (19.5)
Semi-conductors	62.9 (0.4)	62.2 (-1.1)	4.9 (-4.3)	5.3 (-0.5)	5.0 (-2.6)	7.5 (53.6)	8.0 (52.0)	7.9 (57.7)
Petroleum products	32.0 (-37.0)	26.5 (-17.3)	2.2 (-22.8)	2.3 (-26.5)	2.7 (-12.1)	2.8 (28.2)	2.4 (4.8)	2.7 (1.7)
Mining and manufacturing production index (2010=100)	108.1 (-0.3)	109.2 (1.0)	110.2 (4.4)	111.8 (0.9)	110.8 (1.5)	110.5 (0.3)	111.3 (-0.4)	110.6 (-0.2)
ICT production index	113.1 (1.4)	118.7 (4.9)	118.0 (7.1)	122.7 (14.1)	126.1 (19.6)	118.2 (0.2)	114.1 (-7.0)	120.7 (-4.3)
Service industry performance index (2010=100)	112.1 (2.9)	115.5 (3.0)	115.5 (3.6)	117.3 (4.9)	115.5 (3.2)	118.2 (2.3)	119.8 (2.1)	118.0 (2.2)

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

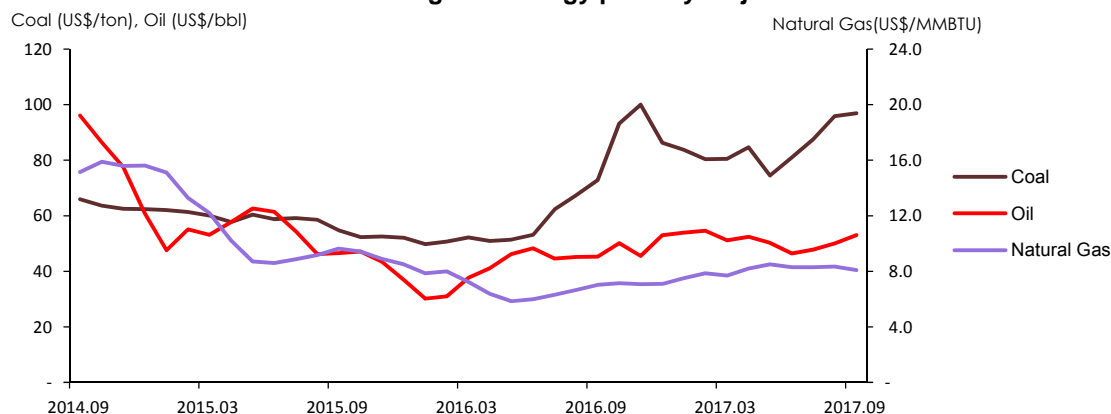
- **Global oil price increased by 5.9% in September from the previous month on a prospect of demand increase and the extended period of oil output reduction by oil producing countries.**
 - The global oil price increased on a news that the Energy Ministers of key OPEC members, including Saudi Arabia, are in favor of the extension of oil output reduction period.
 - IEA raised petroleum demand forecast for 2017 by 100,000 b/d in Oil Market Report (September).
 - Meanwhile, the growth of global oil price was limited by increased crude oil inventory in the U.S., which rose from 4.578Mbbl on August 25 to 4.650Mbbl on September 29.

► Trend in global energy prices

	2015	2016			2017			
			M7	M8	M9	M7	M8	M9
Crude oil (US\$/bbl)	51.0 (-47.0)	43.2 (-15.2)	44.6 (-18.0)	45.2 (-2.3)	45.3 (-2.8)	47.8 (5.8)	50.1 (10.6)	53.0 (5.8)
Natural gas (US\$/MMBTU)	10.2 (-36.3)	6.9 (-32.5)	6.3 (-28.7)	6.7 (-27.3)	7.0 (-27.0)	8.3 (24.3)	8.3 (18.5)	8.1 (13.3)
Coal (US\$/ton)	57.5 (-18.0)	65.9 (14.6)	62.3 (5.3)	67.4 (15.0)	72.9 (33.2)	87.5 (29.9)	95.9 (31.5)	96.9 (4.0)
Uranium (US\$/lb)	36.7 (9.8)	26.3 (-28.5)	25.9 (-28.0)	25.9 (-28.4)	24.7 (-33.2)	- (-100.0)	- (-100.0)	- (-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, IMF (primary commodity price)

► Trend in global energy price by major sources



Domestic energy prices

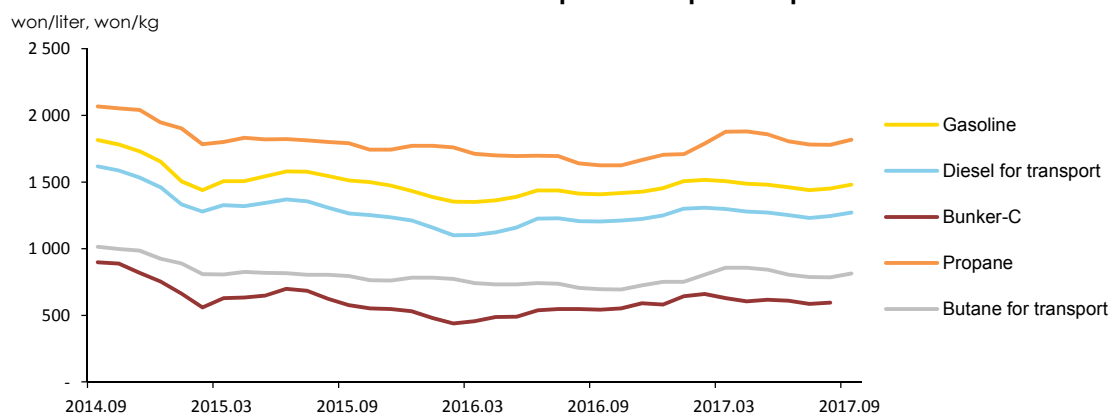
- **Gasoline and diesel prices went up by 1.9% and 2.1% in September from the previous month amid steadily growing global oil price.**
 - Gasoline and diesel prices had declined for five consecutive months from March to July, however, the prices have risen for two months in a row from August until September in line with global oil price increase (July to Sept).
- **Propane and butane prices rose by 2.0% and 3.5% respectively in September from the prior month along with soaring global prices.**
 - Global prices of propane and butane rose by 21.7% and 26.0% respectively in August from the previous month, and based on those prices, domestic LPG price is set in the following month(Sept).

► Trend in domestic energy prices

	2015	2016				2017		
			M7	M8	M9		M7	M8
Gasoline (won/liter)	1 510.4	1 402.7	1 437.2	1 411.7	1 408.2	1 438.6	1 451.8	1 479.7
	(-17.3)	(-7.1)	(-8.8)	(-8.6)	(-6.8)	(0.1)	(2.8)	(5.1)
Diesel for transport (won/liter)	1 299.5	1 182.7	1 228.4	1 207.2	1 203.0	1 229.8	1 244.9	1 271.0
	(-20.6)	(-9.0)	(-9.3)	(-7.7)	(-4.8)	(0.1)	(3.1)	(5.7)
Bunker-C (won/liter)	612.5	520.8	547.4	547.3	541.3	584.6	594.1	-
	(-31.9)	(-15.0)	(-20.0)	(-12.3)	(-6.1)	(6.8)	(8.6)	(-100.0)
Propane (won/kg)	1 801.5	1 689.8	1 693.4	1 637.8	1 625.4	1 780.9	1 779.4	1 815.8
	(-14.8)	(-6.2)	(-6.5)	(-9.1)	(-9.2)	(5.2)	(8.6)	(11.7)
Butane for transport (won/liter)	806.5	734.1	736.0	706.7	696.6	786.6	785.5	813.4
	(-23.3)	(-9.0)	(-8.5)	(-12.1)	(-12.3)	(6.9)	(11.2)	(16.8)

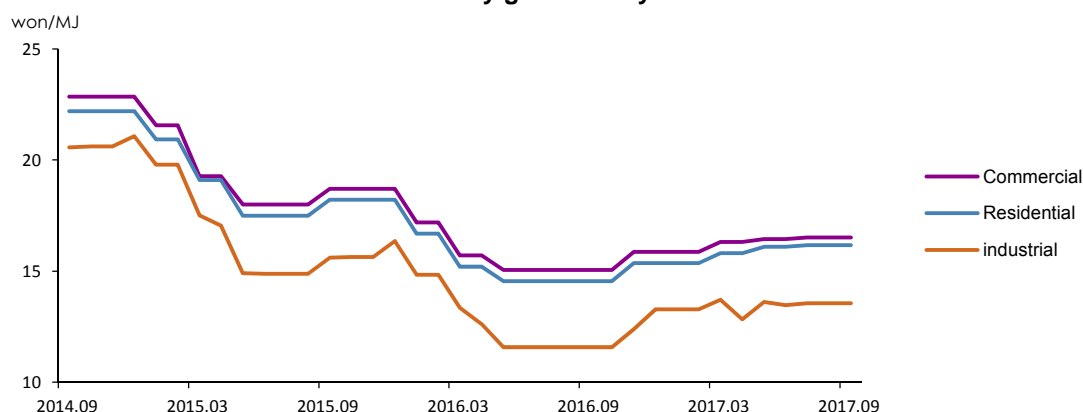
Note: Gasoline, diesel and butane prices are based on charging station prices, Bunker-C oil price is based on dealership price, and propane price is based on sales shop price. () is year-on-year growth rates (%)
Source: www.opinet.co.kr

► Trend in domestic petroleum product prices



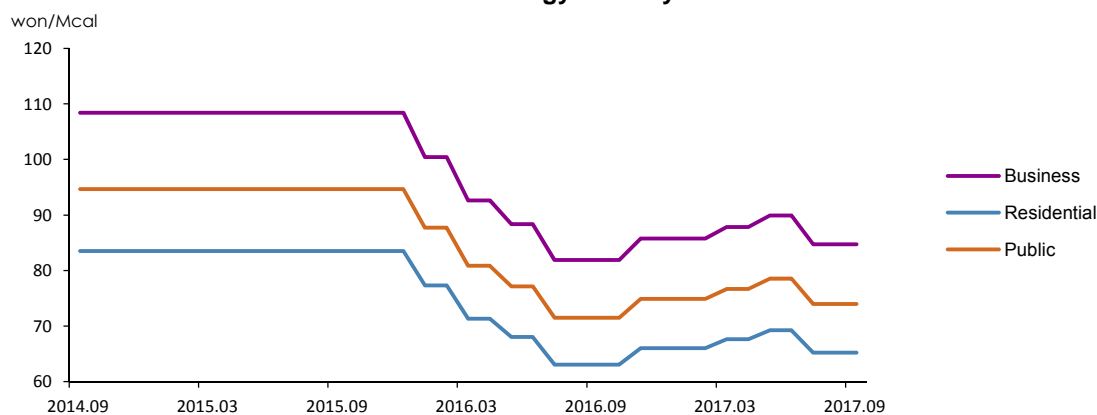
- **City gas rates were flat in September compared to the previous month in line with the stagnant price of natural gas—the base material of city gas.**
 - City gas rates had decently increased until early this year but have been flat recently, as natural gas price stays at \$6 per MMBtu.
- **Heat energy rates for each end-user declined by 5.8% in July from a month earlier through the calculation of fuel cost and has been at the same level until September.**
 - On a year-on-year basis, however, the heat energy rates for residential, business and public customers rose by 3.4% each despite the rate decline in July, as the rates have constantly increased for the past one year.

► Trend in city gas rates by end use sectors



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

► Trend in heat energy rates by end use sectors



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

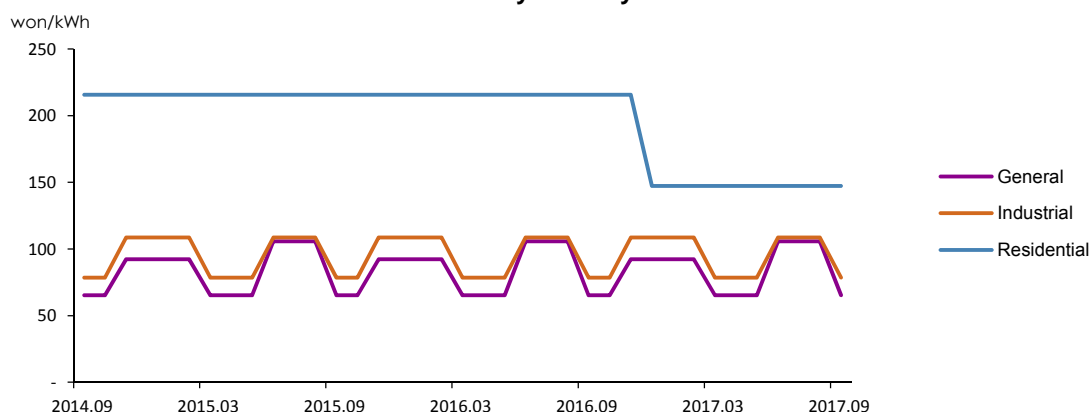
□ **Electricity rates ¹for industrial and general customers plunged in September after the rate was adjusted for spring/autumn season.**

- As the electricity rates for industrial and general customers are adjusted by season, the rates fell by 27.7% and 38.3% respectively in September from a month earlier after the seasonal rate change from summer(June-Aug) to spring/autumn (Mar-May, Sept-Oct).

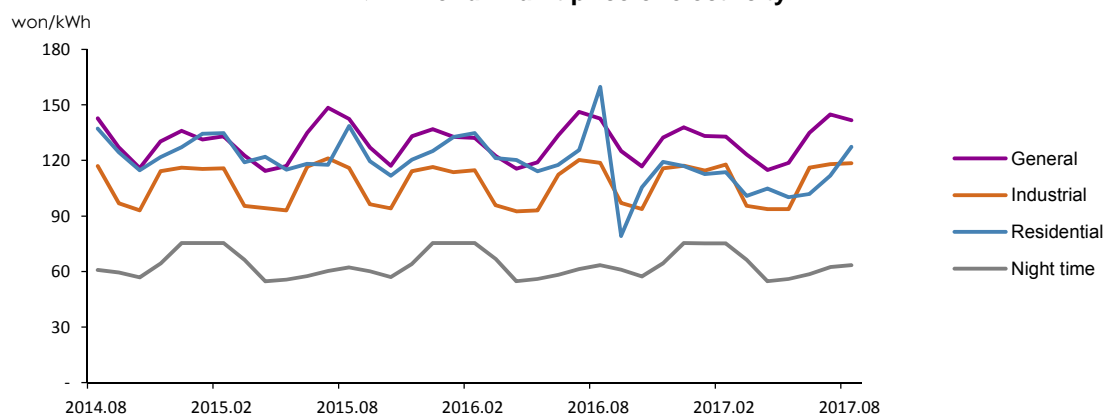
□ **Unit price of electricity declined by 2.2% for general users but increased by 0.3% and 13.9% respectively for industrial and residential users in August compared to the previous month.**

- On a year-on-year basis, the unit price of electricity for general, industrial and residential users fell by 0.6%, 0.2% and 20.3% respectively.

► Trend in electricity rates by end-use sectors



► Trend in unit price of electricity



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

3. Energy Supply

- **Energy import value rose by 18.9% year-on-year in July due to expanding volume of export, marking nine consecutive months of increase.**
 - Energy import volume increased, especially coal and LNG, though the import of petroleum product decreased.
 - Crude oil import also increased as crude input to refineries recovered by 3.9% following the resumed operation of refineries after routine maintenance.
 - Foreign energy dependency ²rose for the first time in three months (1.1%p) to 83.6% because of bigger energy import volume.

► Trend in energy trade and domestic production

	2015	2016p	2017p				
			M1~7	M1~7	M5	M6	M7
Import volume							
Crude oil (Mbbbl)	1 026.2 (10.6)	1 078.1 (5.1)	621.8 (4.4)	636.3 (2.3)	92.7 (-0.1)	87.3 (4.0)	93.6 (3.9)
Petroleum product (Mbbbl)	307.9 (-5.7)	334.6 (8.7)	191.3 (13.4)	184.7 (-3.4)	27.2 (5.9)	27.9 (2.1)	25.5 (-14.0)
Bituminous coal (Mton)	119.4 (1.3)	118.5 (-0.8)	65.7 (-7.7)	76.2 (15.9)	9.8 (13.6)	11.2 (26.0)	10.9 (13.2)
Anthracite (Mton)	8.9 (7.8)	9.4 (5.4)	5.1 (0.7)	4.5 (-13.4)	0.6 (-28.1)	0.5 (-18.7)	0.7 (-32.1)
LNG (Mton)	33.4 (-10.1)	33.4 (0.2)	18.6 (-4.5)	22.4 (20.5)	2.5 (12.2)	3.5 (39.7)	2.7 (41.7)
Import volume (Mtoe)	314.8 (1.7)	323.1 (2.6)	184.1 (1.1)	197.7 (7.4)	26.9 (6.0)	27.9 (10.5)	28.2 (7.4)
Import value (billion US\$, CIF)	102.7 (-41.0)	80.9 (-21.2)	43.0 (-32.6)	62.5 (45.3)	8.8 (38.6)	8.7 (37.6)	8.1 (18.9)
Domestic production							
Hydropower (TWh)	5.8 (-25.9)	6.6 (14.5)	3.9 (11.8)	3.9 (-1.6)	0.6 (-4.9)	0.6 (8.1)	0.6 (-29.6)
Anthracite (Mton)	1.8 (0.9)	1.7 (-2.2)	1.0 (-2.8)	0.9 (-8.2)	0.1 (-17.5)	0.1 (-3.4)	0.1 (-19.0)
Natural gas (Mton)	0.1 (-41.5)	0.1 (-18.0)	0.1 (-38.6)	0.2 (175.5)	0.0 (167.4)	0.0 (391.1)	0.0 (79.1)
Renewable energy (Mtoe)	12.8 (17.2)	15.0 (16.4)	8.7 (17.0)	10.0 (14.2)	1.4 (15.8)	1.4 (16.0)	1.4 (13.5)

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

² This foreign energy dependency (the share of imported energy in TPES) excludes nuclear energy, and when it is included, the foreign energy dependency fell by 0.7%p year-on-year to 93.7% due to lower import of nuclear energy (-9.9%).

4. Energy Consumption

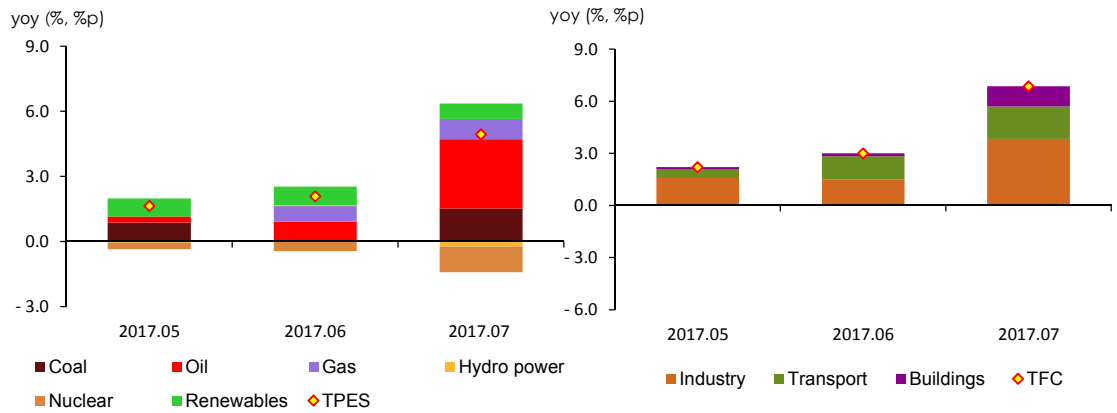
- **Total Primary Energy Supply (“TPES”) grew by 4.9% year-on-year in July despite decreased use of nuclear energy, as petroleum, coal and gas were more used.**
 - Nuclear energy generation has been falling for 11 months in a row and fell by 9.9% (year-on-year in July) due to increased planned preventive maintenance (1.9GW, 46.5%).
 - Coal consumption rose by 4.7% (year-on-year in July), led by the power generation sector with the commissioning of a new coal-fired power plant and thus expanded installed capacity (6.9GW, 24.1%), although industrial coal consumption fell due to less use of anthracite and less demand from the cement industry.
 - Gas consumption rose by 7.3% (year-on-year in July), as the power generation sector consumed 13.3% more gas, although city gas consumption fell slightly (-1.3%) due to less use in the industrial and buildings sectors.
 - Petroleum consumption rose by 8.3% (year-on-year in July), leading the growth of TPES, which was attributable to a surge in naphtha use and increased transport energy use— naphtha use increased following the extension of petrochemical facilities (Hyundai Chemical Mixed xylene, Korea Petrochemical Ind. Co., Ltd., NCC), and the transport energy use increased amid growing demand on travelling
- **Total Final Consumption (“TFC”) recorded the highest growth rate for this year (6.9%) (in July) as all end-use sectors posted growth in TFC.**
 - Industrial energy consumption has increased for 15 months in a row (5.8%), leading the growth of TFC, backed by bigger petroleum consumption in the petrochemical facilities with the extension and increased power use in the fabricated metals industry due to expanded semi-conductor export.
 - Transport energy use was up 9.3%, led by the road transport and aviation sectors along with growing number of cars on the road and increased demand on travelling.
 - Energy use in buildings increased by 8.1%, affected by higher cooling degree days (10.6degree days) and growing cooling demand in the midst of extreme heatwave and tropical night.
 - Electricity consumption posted the largest growth in July (6.5%) since March, 2011 (8.1%), especially in the industrial and buildings sectors, as a result of facility extension, bigger output of semi-conductors, petrochemical and converter steel products along with the reform of the progressive power rate system for households and temperature effect.

► Energy consumption trend

	2015	2016p	2017p				
			M1~7	M1~7	M5	M6	M7
Total energy (Mtoe)	287.5	295.7	170.8	174.7	23.6	23.0	25.2
	(1.6)	(2.9)	(2.5)	(2.3)	(1.6)	(2.1)	(4.9)
Final energy (Mtoe)	218.6	227.1	130.9	135.2	18.3	17.8	18.9
	(2.2)	(3.9)	(3.0)	(3.3)	(2.2)	(3.0)	(6.9)

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

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



5. Coal

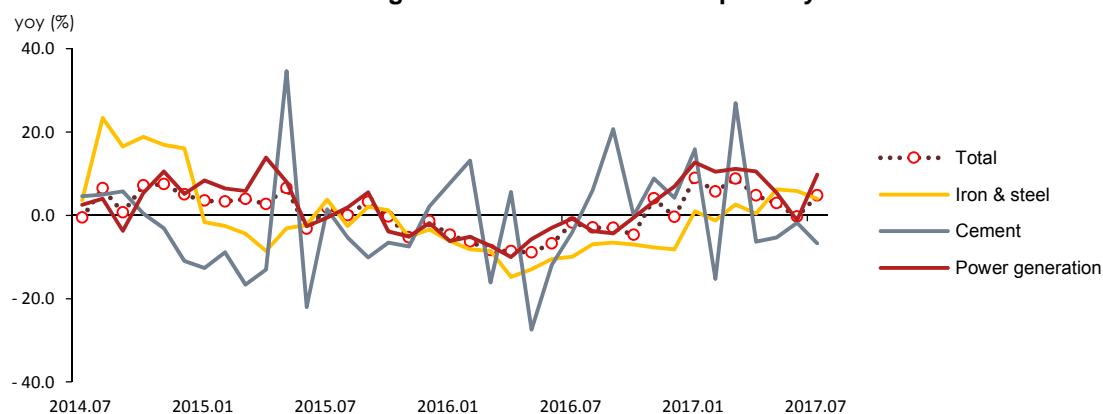
- **Coal consumption increased by 4.7% year-on-year in July, led by the power generation sector due to the commissioning of a new utility scale power plant.**
 - Coal use for power generation grew by almost 10% due to the construction of a large-scale power plant (6.9GW, 24.1%), although daily average of preventive maintenance dramatically increased (1.3GW, 161.8%).
 - Industrial coal use declined (year-on-year in July), especially anthracite and for cement production, even though coal use has grown for five consecutive months in the steelmaking industry.

► Coal consumption trend

	2015	2016p	2017p				
			M1~7	M1~7	M5	M6	M7
Coal (Mton)	134.8	129.0	73.5	77.3	10.5	10.1	12.2
	(1.1)	(-4.4)	(-6.5)	(5.1)	(2.9)	(-0.3)	(4.7)
Industry	50.9	47.7	27.0	27.0	3.9	3.8	4.1
	(-1.0)	(-6.2)	(-8.1)	(-0.2)	(-1.0)	(1.3)	(-3.9)
Buildings	1.5	1.3	0.5	0.4	0.0	0.0	0.0
	(-9.6)	(-14.8)	(-14.2)	(-19.0)	(-29.2)	(-33.3)	(-42.9)
Power generation	82.5	80.0	46.0	49.9	6.6	6.3	8.1
	(2.8)	(-3.0)	(-5.4)	(8.5)	(5.4)	(-1.2)	(9.8)

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 made a year-on-year increase of 8.3% in July as the consumption increased in all end-use sectors except the transformation sector.**

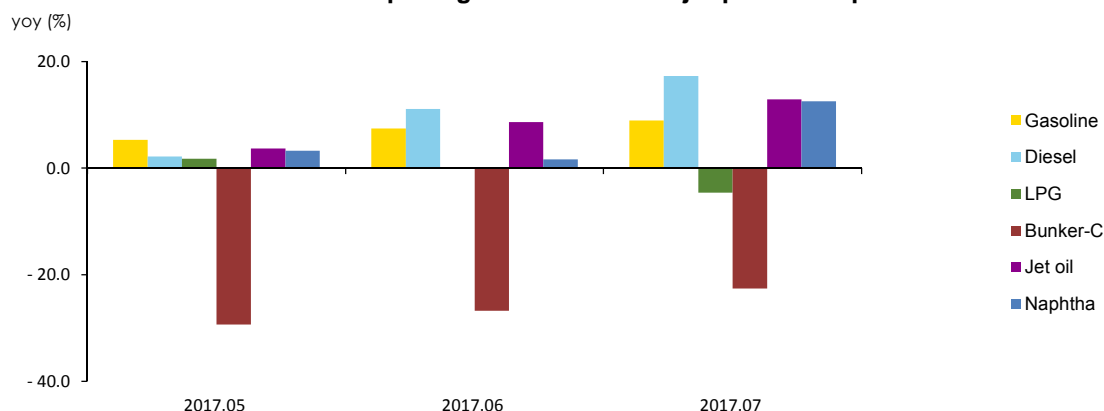
- Industrial petroleum consumption made the largest growth for this year (10.5%), leading the growth of total petroleum consumption, helped by a surge in energy oil (except LPG) and non-energy oil consumption.
- Petroleum consumption for transport was driven up by the road transport and aviation sectors amid growing demand on traveling during summer vacation.
- Petroleum consumption in buildings has soared for two months in a row due to growing use of diesel (22.1%), kerosene (18.3%) and LPG (6.4%).
- Petroleum consumption in the transformation sector has been in downward trend because of higher price of bunker-C oil for power generation and the base effect of a surge during the same month last year.

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

	2015	2016p		2017p			
			M1~7	M1~7	M5	M6	M7
Petroleum (Mbb)	856.2	924.2	524.6	537.6	76.8	74.5	79.2
	(4.2)	(7.9)	(7.9)	(2.5)	(1.1)	(2.3)	(8.3)
Industry	501.0	542.6	305.3	323.9	46.3	45.0	48.3
	(1.9)	(8.3)	(7.1)	(6.1)	(2.4)	(0.9)	(10.5)
Transport	287.1	303.6	172.8	175.8	26.3	25.6	27.1
	(6.8)	(5.7)	(5.8)	(1.7)	(2.1)	(6.8)	(9.0)
Buildings	53.5	56.3	31.9	31.5	3.6	3.5	3.0
	(11.7)	(5.2)	(6.2)	(-1.4)	(1.4)	(13.6)	(12.1)
Power generation	14.6	21.8	14.5	6.5	0.6	0.5	0.8
	(13.0)	(48.7)	(89.4)	(-55.4)	(-58.4)	(-61.9)	(-58.2)

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

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



7. Gas

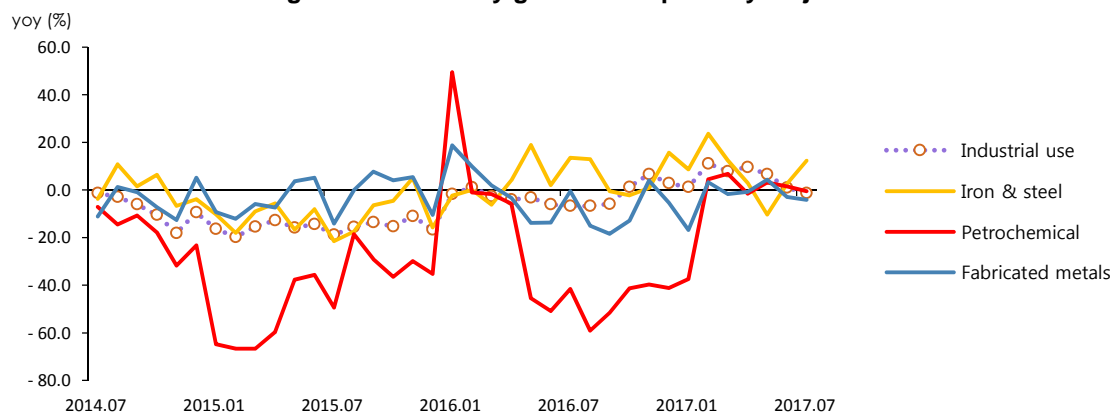
- **Gas consumption went up by 7.3% in July on a year-on-year basis despite lower consumption for city gas production, as the power generation sector posted over 10% growth in gas use.**
 - The power generation sector led the growth of total gas consumption, as near 10% decline in nuclear generation was partially replaced by gas-fired generation amid 6.5% increase in power use.
- **City gas consumption made a year-on-year decline of 0.8% in July as the industrial and buildings sectors consumed less.**
 - Industrial city gas use declined in overall; the consumption fell by 4.1%, 0.5% and 8.1% respectively in the fabricated metals, petrochemical and other manufacturing industries, while it rose by 12.3% in the primary metals industry despite higher city gas rate (17.1%) due to increased production index of the iron & steel industry (1.2%).
 - City gas consumption in buildings fell slightly due to a drop in the residential buildings, though the commercial city gas use increased amid extreme heatwave.

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

	2015	2016p	2017p				
			M1~7	M1~7	M5	M6	M7
LNG (Mton)	33.4	34.9	20.2	21.0	2.1	2.3	2.5
	(-8.7)	(4.2)	(-0.4)	(3.9)	(-0.2)	(5.7)	(7.3)
Power generation	14.6	15.3	8.3	8.9	1.0	1.3	1.5
	(-8.2)	(5.3)	(-4.0)	(6.8)	(-1.9)	(8.6)	(13.3)
City gas production	16.9	17.4	10.6	10.9	1.0	0.9	0.9
	(-6.9)	(2.7)	(1.3)	(2.2)	(1.5)	(1.4)	(-1.3)
City gas (bm³)	20.8	21.3	13.4	13.7	1.3	1.1	1.1
	(-5.9)	(2.3)	(0.9)	(2.6)	(1.7)	(1.1)	(-0.8)
Industry	7.3	7.2	4.3	4.5	0.6	0.5	0.5
	(-15.5)	(-1.9)	(-3.2)	(5.3)	(6.6)	(0.9)	(-1.2)
Buildings	12.2	12.8	8.4	8.6	0.6	0.5	0.5
	(0.5)	(5.1)	(3.3)	(1.5)	(-2.2)	(1.8)	(-0.5)

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

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



8. Electricity

- **Electricity consumption increased by 6.5% year-on-year in July, as the consumption grew rapidly in the industrial and buildings sectors due to increased export and temperature effect.**
 - The industrial sector led the growth of total electricity consumption, posting the highest growth rate for this year, as the consumption continuously rose in the petrochemical industry and also increased in the primary metals and fabricated metals industries.
 - Electricity consumption in buildings soared by near 10%, affected by last year's reform of the progressive power rate system for households and temperature effect.

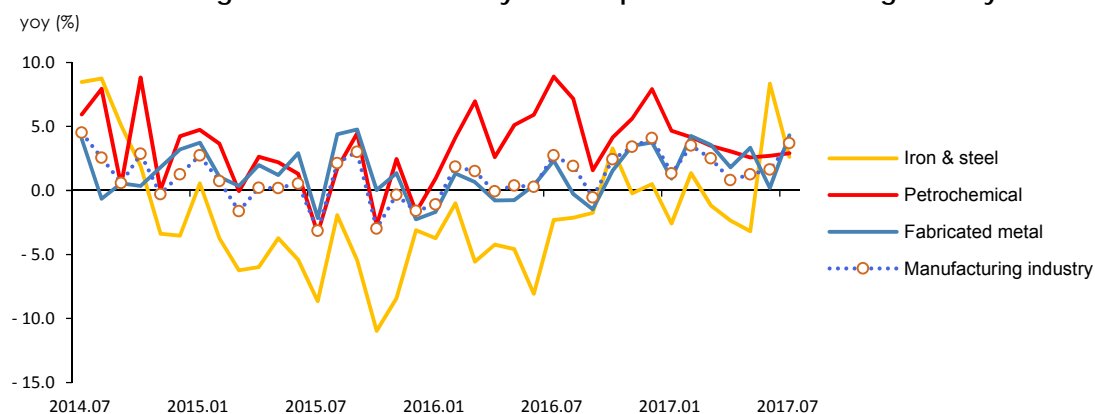
► Trend in electricity consumption by end-use sectors

	2015	2016p	2017p				
			M1~7	M1~7	M5	M6	M7
Electricity (TWh)	483.7	497.0	289.1	294.6	38.7	39.7	43.2
	(1.3)	(2.8)	(1.8)	(1.9)	(1.3)	(0.0)	(6.5)
Industry	265.6	270.0	156.9	160.5	22.3	22.6	23.6
	(0.4)	(1.6)	(1.0)	(2.3)	(1.5)	(2.5)	(3.8)
Transport	2.2	2.7	1.5	1.6	0.2	0.2	0.3
	(10.7)	(21.3)	(23.4)	(3.2)	(5.3)	(5.5)	(9.1)
Buildings	215.8	224.4	130.6	132.5	16.2	16.9	19.3
	(2.3)	(4.0)	(2.7)	(1.4)	(1.0)	(-3.2)	(9.8)

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

Source: Monthly energy statistics

► The growth rate of electricity consumption in manufacturing industry

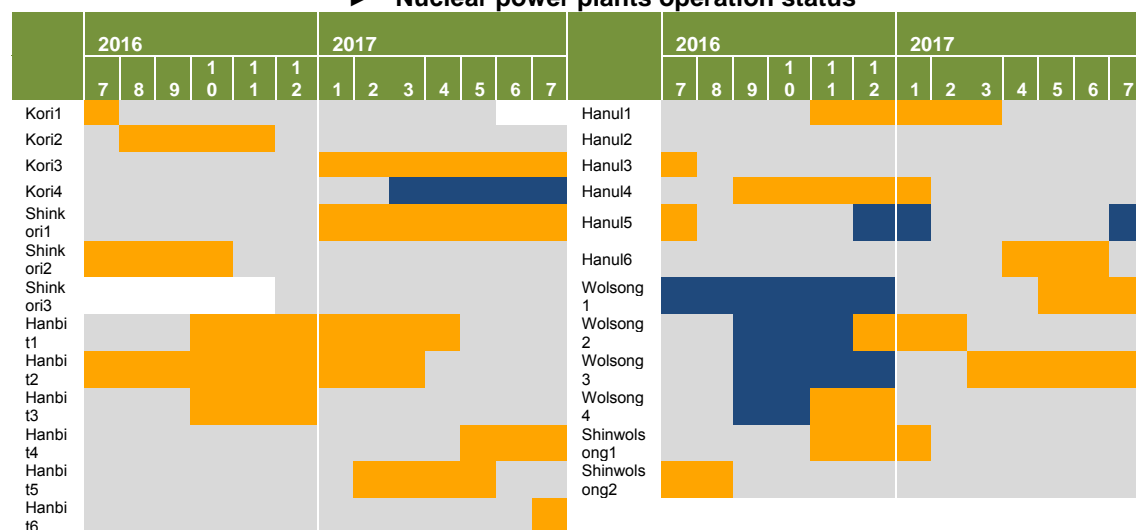


9. Nuclear

☐ Nuclear generation fell by 9.9% year-on-year in July partly because of the increased planned preventive maintenance.

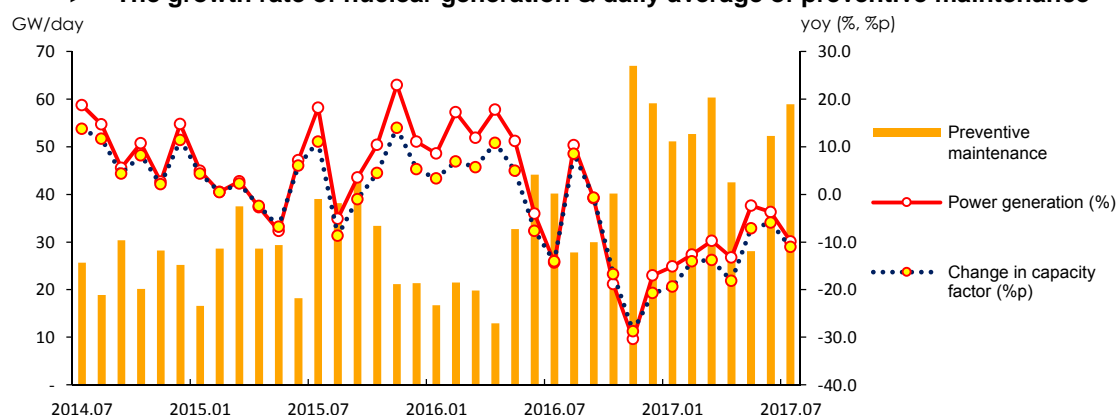
- Nuclear generation has declined for 11 consecutive months until July, affected by the permanent shutdown of Kori unit 1 (587MW) in the previous month and increased planned preventive maintenance (46.5%, 1.9GW) due to a delay in permitting the resumption of power plant operation by a regulatory body.
- The capacity factor at nuclear power plants fell by 11.0%p to 72.9%, this year's lowest level, and nuclear's share of total power generation declined by 4.5%p to 24.3%

► Nuclear power plants operation status



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

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



10. Heat and Renewable energy

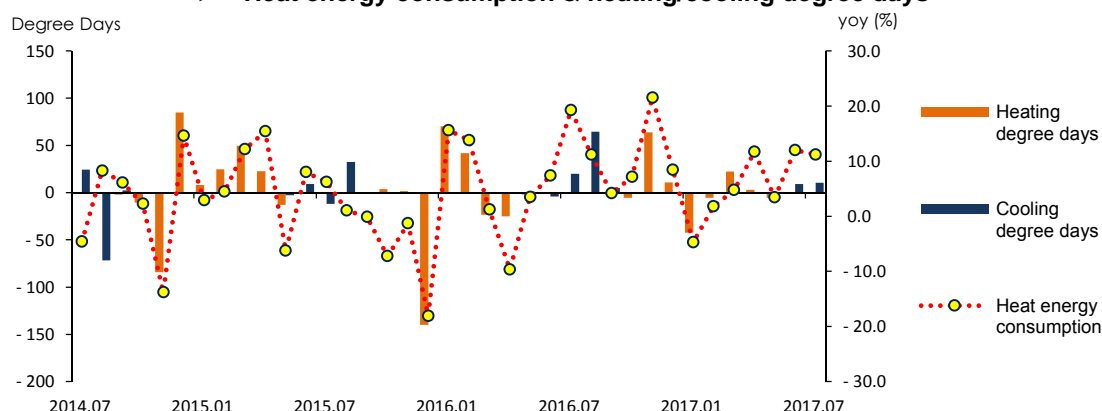
□ **Heat energy consumption went up by 11.2% in July on a year-on-year basis, despite a decline in the residential sector, as the consumption increased in the commercial and public sectors.**

- Heat energy consumption rose by 30.0% and 22.4% in the commercial and public sectors, where heat energy is used for cooling, due to increased cooling degree days (10.6degree days) amid extremely hot weather. Meanwhile, the residential sector consumed 0.4% less heat energy, as it is used mostly for heating.

□ **Renewable and other energy consumption increased by 7.7% year-on-year in July, the growth rate, however, declined due to plunged hydropower generation.**

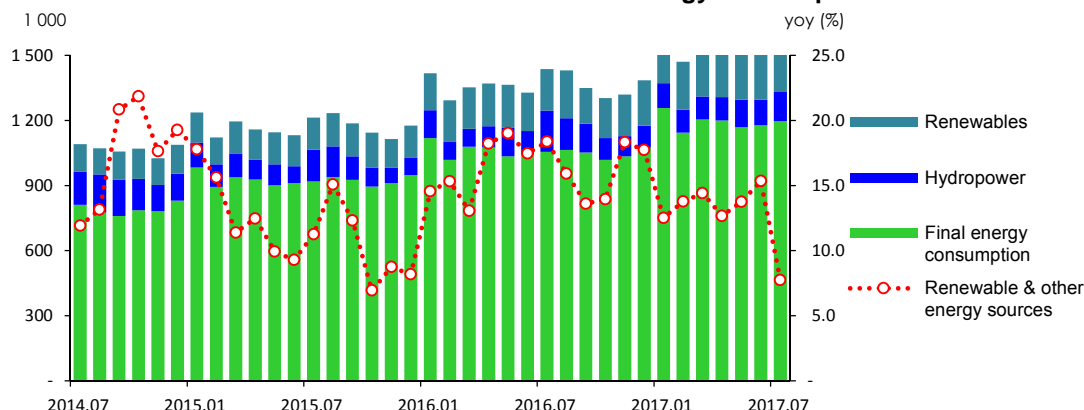
- Hydropower generation fell by 29.6% (637.0GWh), even though the amount of rainfall was similar to the previous year (308.0mm), because of the base effect of a surge during the same month last year (29.9%) in addition to higher unplanned capability loss caused by opening of dammed reservoirs on the “four rivers”.
- Renewable energy generation rose by over 10% due to a surge in solar PV, wind and bioenergy generation, although IGCC generation fell dramatically (-31.8%).

► 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. Industrial

□ Industrial energy use rose by 5.8% year-on-year in July, backed by large consumption growth in the fabricated metals and petrochemical industries.

- The fabricated metals industry consumed 5.4% more energy in July, due to bigger output of semi-conductors and accordingly increased power use (4.3%), contributing to the growth of total industrial energy use; electricity and electronics, automobiles and shipbuilding are also included in the fabricated metals industry.
- The semi-conductor industry saw about 50% year-on-year growth in export value, affected by so called “super-cycle” for semi-conductors, which started from H2 2016, and consequently, the industry’s power consumption increased, leading the growth of total energy use by the fabricated metals industry.

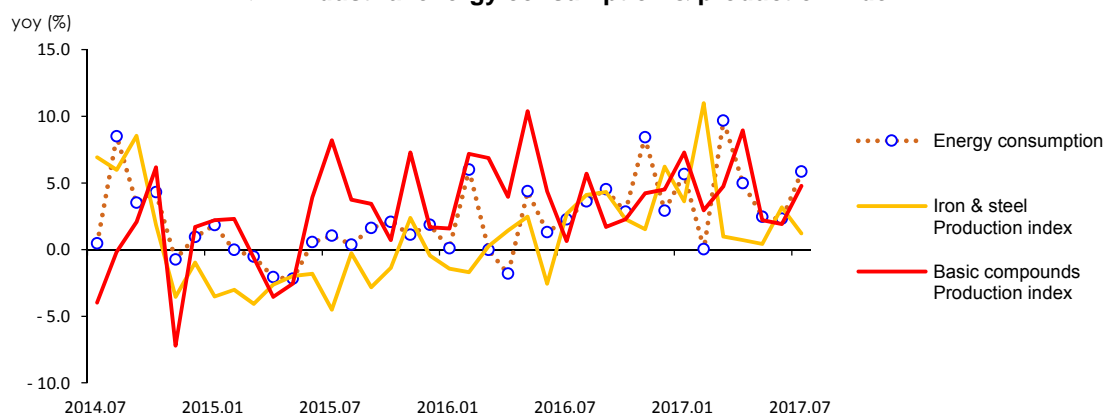
► Trend in the industrial energy consumption

	2015	2016p	2017p				
			M1~7	M1~7	M5	M6	M7
Industry (Mtoe)	136.7	140.6	80.2	83.7	11.9	11.6	12.3
	(0.5)	(2.8)	(1.7)	(4.4)	(2.5)	(2.3)	(5.8)
Petrochemical	61.7	65.8	37.4	39.4	5.6	5.4	5.9
	(-0.6)	(6.7)	(6.3)	(5.4)	(2.5)	(-0.2)	(8.4)
- Naphtha	50.4	52.7	30.1	32.1	4.5	4.3	4.8
	(3.7)	(4.7)	(3.8)	(6.8)	(3.3)	(1.7)	(12.5)
Iron & Steel	31.4	29.0	16.6	17.0	2.4	2.5	2.6
	(-2.6)	(-7.6)	(-8.8)	(2.5)	(3.9)	(5.8)	(4.1)
Fabricated metal	10.6	10.6	6.2	6.4	0.9	0.9	0.9
	(-1.1)	(0.4)	(0.6)	(3.2)	(5.0)	(2.6)	(5.4)
Share of feedstock (%)	59.0	57.7	57.6	57.9	58.5	58.2	59.0

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

Source: Monthly energy statistics

► Industrial energy consumption & production index



12. Transport

□ Transport energy use rose by 9.3% year-on-year in July due to a surge in use of gasoline, diesel and jet oil.

- Global oil price rebounded by 7.1% year-on-year in July, and domestic prices of gasoline, diesel, bunker-C oil and butane for transport went up by 0.1%, 0.1%, 6.8% and 6.9% respectively, although the growth rate fell dramatically.
- The road transport sector was the main driver of the energy consumption growth in the transport sector, affected by much slower growth of fuel prices, bigger demand on traveling during the summer vacation season, increased number of registered cars and heavier traffic.
- Aviation energy use has increased for four consecutive months (14.5%), despite a decline in international passengers, due to growing demand on air freight and flights.
- As for the contribution to the energy consumption growth by type of transport, road transport took up the largest part of 7.6%p, followed by aviation 1.6%p, domestic navigation 0.1%p and railways 0.0%p.

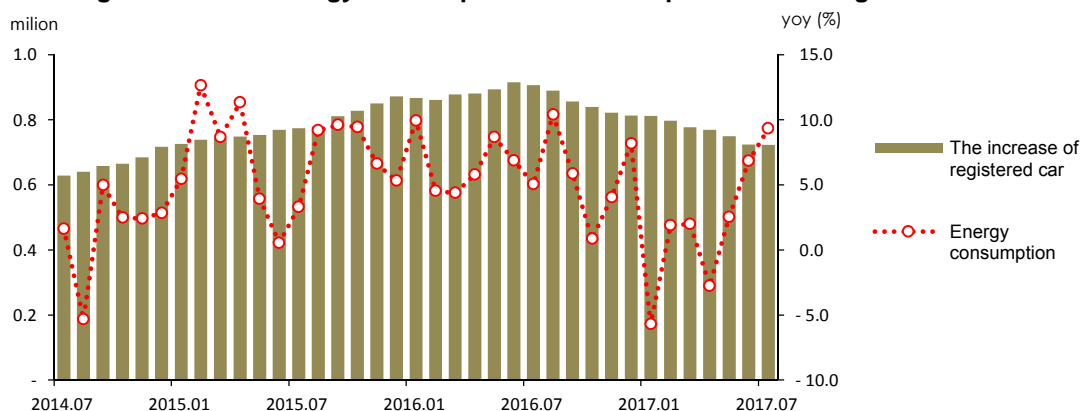
► The growth rate of petroleum consumption in the transport sector

	2015	2016p	2017p				
			M1~7	M7	M5	M6	M7
Transport (Mtoe)	40.3	42.8	24.4	3.8	3.7	3.6	3.8
	(7.1)	(6.2)	(6.4)	(9.3)	(2.5)	(6.8)	(9.3)
Road	32.8	34.4	19.6	3.1	3.0	3.0	3.1
	(5.6)	(5.1)	(5.5)	(9.6)	(3.2)	(7.8)	(9.6)
Navigation	2.9	3.4	1.9	0.3	0.3	0.2	0.3
	(27.0)	(13.8)	(14.1)	(1.3)	(-0.9)	(-4.8)	(1.3)
Aviation	4.3	4.7	2.7	0.4	0.4	0.4	0.4
	(7.5)	(9.1)	(7.8)	(14.5)	(0.2)	(8.5)	(14.5)
Rail	0.3	0.3	0.2	0.0	0.0	0.0	0.0
	(2.2)	(8.3)	(11.9)	(2.8)	(1.4)	(1.2)	(2.8)

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

Source: Monthly energy statistics

► The growth rate of energy consumption in the transport sector & registered car status



13. Buildings

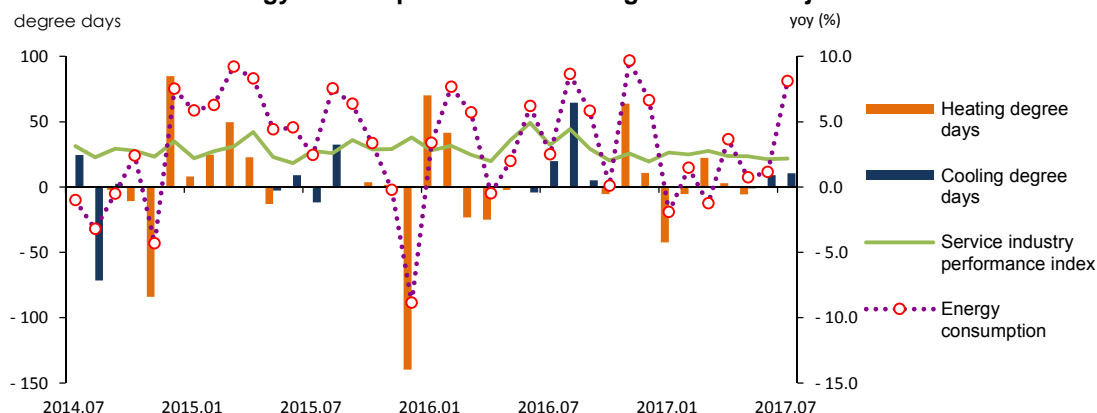
- **Energy consumption in buildings rose by 8.1% year-on-year in July, affected by growing cooling demand and soaring use of diesel and kerosene.**
 - Energy consumption in buildings grew faster, despite increased prices of major energy sources, as electricity consumption grew amid increased cooling degree days (10.6degree days) due to extreme heatwave and tropical night, and diesel and kerosene consumption surged in all end-use sectors.
 - In terms of residential energy use by energy sources, city gas and heat energy consumption fell by 5.3% and 0.4% respectively due to increased prices; briquette consumption has declined for 11 consecutive months; electricity and petroleum consumption rose by 7.2% and 11.7% respectively.
 - Commercial energy use went up by 6.9% year-on-year in July amid growing energy demand for cooling and cooking.
 - Energy consumption in public buildings rebounded along with soaring use of kerosene (137.9%), diesel (28.2%) and electricity (34.3%) due to the base effect of a sharp decline during the same month last year.

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

	2015	2016p		2017p			
			M1~7	M1~7	M5	M6	M7
Buildings (Mtoe)	41.6	43.7	26.3	26.6	2.7	2.6	2.7
	(3.6)	(5.0)	(4.1)	(1.1)	(0.7)	(1.1)	(8.1)
Residential	20.1	21.2	13.1	13.1	1.1	1.0	0.9
	(1.7)	(5.7)	(5.0)	(0.2)	(-1.3)	(3.5)	(4.3)
Commercial	16.4	17.0	10.0	10.2	1.1	1.2	1.4
	(4.0)	(3.6)	(2.2)	(1.6)	(0.5)	(2.7)	(6.9)
Public-others	5.2	5.5	3.2	3.3	0.4	0.4	0.4
	(10.1)	(6.7)	(6.8)	(3.1)	(7.4)	(-7.4)	(21.4)

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

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



14. Transformation

- Energy input for power generation recorded a year-on-year growth of 2.3% in July, despite decreased nuclear generation, as gas and coal-fired generation increased.
 - Total power generation rose by 6.9% due to growing power demand, and among energy sources, coal and gas were more consumed for power generation.

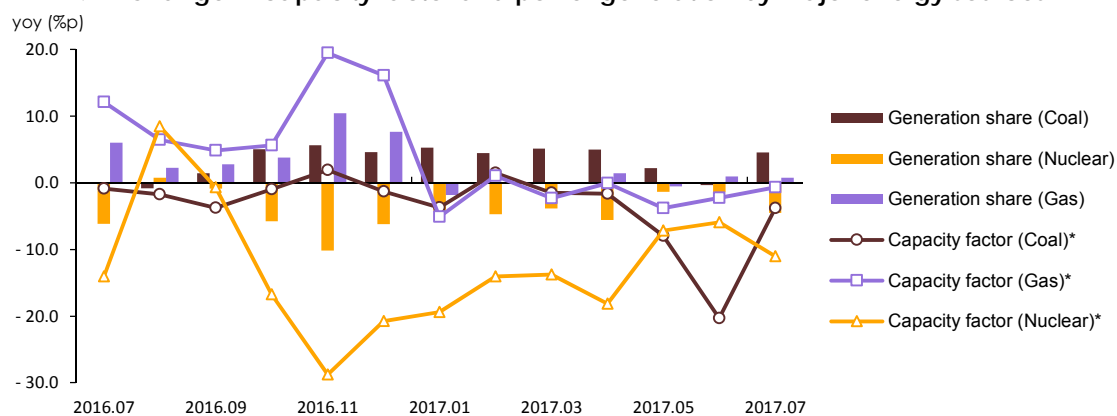
► Energy consumption in the power generation sector

	2015	2016p	2017p				
			M1~7	M1~7	M5	M6	M7
Input (Mtoe)	109.6	110.2	64.5	64.7	8.7	8.6	10.0
	(1.4)	(0.5)	(0.9)	(0.3)	(0.5)	(-0.6)	(2.3)
Coal	50.6	49.0	28.2	30.6	4.0	3.9	5.0
	(2.7)	(-3.1)	(-5.4)	(8.6)	(5.6)	(-1.1)	(10.1)
Oil	2.0	3.0	2.0	0.8	0.1	0.1	0.1
	(16.6)	(50.1)	(98.2)	(-61.3)	(-67.1)	(-67.8)	(-60.9)
Gas	19.3	20.3	11.0	11.8	1.3	1.7	2.0
	(-8.1)	(5.2)	(-4.1)	(7.1)	(-1.4)	(9.0)	(13.6)
Nuclear	34.8	34.2	21.1	19.1	2.9	2.6	2.6
	(5.3)	(-1.7)	(6.1)	(-9.7)	(-2.4)	(-3.7)	(-9.9)
Hydro/other renewables	3.0	3.7	2.1	2.4	0.4	0.4	0.4
	(-5.5)	(24.2)	(23.7)	(14.0)	(16.2)	(23.8)	(-8.2)

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

Source: Monthly energy statistics

► Change in capacity factor and 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

	2014	2015	2016				2017		
			4Q	1Q	2Q		4Q	1Q	2Q
GDP (trillion won)	1 427.0 (3.3)	1 466.8 (2.8)	386.6 (3.2)	355.5 (2.9)	378.6 (3.4)	1 508.3 (2.8)	395.9 (2.4)	365.8 (2.9)	388.8 (2.7)
Private consumption	692.2 (1.7)	707.5 (2.2)	181.8 (3.4)	181.9 (2.3)	176.6 (3.5)	725.0 (2.5)	184.6 (1.5)	185.6 (2.0)	180.5 (2.2)
Facilities investment	134.0 (6.0)	140.3 (4.7)	36.0 (3.1)	31.9 (-4.6)	35.2 (-2.9)	137.0 (-2.3)	36.8 (2.0)	36.5 (14.4)	41.3 (17.3)
Construction investment	198.5 (1.1)	211.5 (6.6)	58.2 (9.6)	44.7 (9.0)	62.4 (10.6)	234.2 (10.7)	64.9 (11.6)	49.7 (11.3)	67.4 (8.0)
Consumer price index (2010=100)	99.3	100.0	100.1	100.6	100.8	101.0	101.5	102.7	102.7
USD to KRW exchange rate (won)	1 052.8	1 131.0	1 157.5	1 202.4	1 163.2	1 160.8	1 156.4	1 154.9	1 129.4
Benchmark rate (%)	2.3	1.6	1.5	1.5	1.4	1.4	1.3	1.3	1.3
Coincident composite index (2010=100)	113.6	117.3	119.2	119.5	120.5	121.1	122.7	124.2	125.2
Mining & manufacturing production index (2010=100)	108.4	108.1	111.7	105.6	109.7	109.2	114.8	109.5	110.3
Manufacturing operation ratio index (2010=100)	94.3	92.4	93.9	89.1	92.3	90.4	93.5	88.2	91.2
Average temperature	13.3	13.6	8.7	1.3	19.1	13.6	8.0	1.4	18.9
- year-on-year difference	0.9	0.2	1.4	- 0.8	0.5	- 0.0	- 0.6	0.1	- 0.2
Heating degree days	2 501.6 (-13.5)	2 459.1 (-1.7)	866.1 (-13.5)	1 513.2 (6.2)	140.9 (-16.2)	2 589.7 (5.3)	935.3 (8.0)	1 487.5 (-1.7)	138.6 (-1.6)
Cooling degree days	125.4 (-35.6)	151.8 (21.1)	- n.a	- n.a	10.2 (-24.4)	238.1 (56.9)	- n.a	- n.a	18.2 (78.4)
Energy intensity	0.20 (-2.4)	0.20 (-1.1)	0.19 (-2.1)	0.22 (0.4)	0.18 (-1.7)	0.20 (0.0)	0.19 (0.5)	0.22 (-1.0)	0.18 (-0.8)
Per capita consumption									
oil (bbl)	16.2 (-1.1)	16.8 (3.7)	4.5 (6.5)	4.5 (7.2)	4.3 (8.0)	18.0 (7.5)	4.8 (6.8)	4.6 (1.0)	4.3 (1.3)
Electricity (MWh)	9.4 (-0.1)	9.5 (0.7)	2.3 (-1.4)	2.5 (1.4)	2.3 (1.0)	9.7 (2.3)	2.4 (3.1)	2.6 (0.9)	2.3 (0.6)
City gas (1 000 m ³)	0.4 (-8.1)	0.4 (-6.4)	0.1 (-11.6)	0.2 (2.7)	0.1 (-3.2)	0.4 (1.8)	0.1 (6.9)	0.2 (1.9)	0.1 (3.5)
Total energy (toe)	5.6 (0.3)	5.6 (1.1)	1.5 (0.5)	1.5 (2.8)	1.3 (1.2)	5.8 (2.4)	1.5 (2.4)	1.5 (1.5)	1.4 (1.4)

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

(2010=100)

	2015	2016					2017			
			M1-7	M5	M6	M7	M1-7	M5	M6	M7
Industrial production index										
All industry	110.0 (1.9)	113.3 (3.0)	111.3 (2.8)	112.4 (4.7)	117.0 (4.4)	113.2 (3.2)	114.7 (3.0)	115.3 (2.6)	119.0 (1.7)	115.5 (2.0)
Mining & manufacturing	108.1 (-0.3)	109.2 (1.0)	108.1 (0.5)	110.2 (4.4)	111.8 (0.9)	110.8 (1.5)	110.0 (1.8)	110.5 (0.3)	111.3 (-0.4)	110.6 (-0.2)
Iron & steel	110.9 (-2.0)	112.7 (1.6)	111.0 (0.2)	116.5 (2.5)	110.7 (-2.6)	115.1 (2.7)	114.2 (2.8)	117.0 (0.4)	114.2 (3.2)	116.5 (1.2)
Cement	125.8 (19.4)	134.3 (6.8)	128.5 (6.5)	148.7 (6.8)	152.2 (8.3)	129.4 (-0.4)	135.3 (5.3)	158.4 (6.5)	133.9 (-12.0)	124.2 (-4.0)
Basic compound	115.5 (2.2)	120.5 (4.4)	119.7 (4.9)	122.2 (10.4)	119.4 (4.4)	123.7 (0.7)	125.3 (4.7)	124.9 (2.2)	121.7 (1.9)	129.6 (4.8)
Transport equipment	120.8 (1.2)	117.4 (-2.8)	120.1 (-2.4)	119.9 (3.1)	126.5 (-4.0)	120.0 (-5.9)	120.0 (-0.1)	116.6 (-2.8)	123.4 (-2.5)	121.0 (0.8)
Electric & electronic	95.6 (-3.3)	96.6 (1.1)	94.5 (-0.9)	95.2 (5.5)	96.9 (-4.2)	94.8 (-3.3)	93.5 (-1.1)	92.8 (-2.5)	98.0 (1.1)	91.0 (-4.0)
Service	112.1 (2.9)	115.5 (3.0)	113.7 (3.2)	115.5 (3.6)	117.3 (4.9)	115.5 (3.2)	116.5 (2.4)	118.2 (2.3)	119.8 (2.1)	118.0 (2.2)
Operating ratio index										
Manufacturing	92.4 (-2.0)	90.4 (-2.1)	90.9 (-2.3)	93.1 (1.1)	93.4 (-4.1)	92.1 (-3.1)	90.0 (-1.0)	91.2 (-2.0)	92.0 (-1.5)	91.4 (-0.8)
Iron & steel	100.2 (-2.4)	103.4 (3.2)	101.2 (2.0)	105.9 (3.0)	99.9 (-2.3)	105.9 (3.3)	105.6 (4.3)	108.5 (2.5)	104.4 (4.5)	107.8 (1.8)
Cement	108.8 (8.3)	129.8 (19.4)	124.4 (17.3)	144.1 (14.5)	147.6 (20.5)	124.4 (12.6)	130.2 (4.7)	154.0 (6.9)	128.8 (-12.7)	119.9 (-3.6)
Basic compound	91.1 (-1.8)	94.1 (3.3)	94.0 (3.8)	95.8 (9.7)	93.3 (2.5)	97.2 (-0.7)	96.1 (2.2)	95.5 (-0.3)	93.6 (0.3)	98.4 (1.2)
Transport equipment	105.0 (1.5)	97.2 (-7.4)	101.0 (-5.8)	100.3 (-0.9)	108.3 (-8.1)	99.1 (-11.4)	100.7 (-0.3)	98.7 (-1.6)	105.6 (-2.5)	103.1 (4.0)
Electric & electronic	91.4 (1.0)	92.2 (0.8)	89.9 (-1.0)	89.3 (3.7)	90.2 (-5.1)	91.8 (-3.3)	89.3 (-0.8)	90.9 (1.8)	93.3 (3.4)	86.5 (-5.8)

Note: p means provisional
Source: Monthly energy statistics

International Energy Prices

	2015	2016					2017			
			M1~9	M7	M8	M9	M1~9	M7	M8	M9
Crude oil (USD/bbl)										
WTI	48.8 (-47.5)	43.3 (-11.2)	41.3 (-19.0)	44.8 (-12.0)	44.8 (4.5)	45.2 (-0.5)	49.5 (19.7)	46.7 (4.2)	48.1 (7.3)	49.9 (10.3)
Dubai	50.8 (-47.5)	41.2 (-18.8)	38.9 (-28.1)	42.5 (-23.5)	43.6 (-8.6)	43.3 (-5.3)	51.1 (31.5)	47.6 (11.9)	50.2 (15.1)	53.7 (23.8)
Brent	53.6 (-46.1)	45.0 (-16.0)	43.0 (-24.0)	46.5 (-18.0)	47.2 (-2.2)	47.2 (-2.7)	52.6 (22.3)	49.2 (5.6)	51.9 (10.0)	55.5 (17.5)
Unit value of import (C&F)	53.3 (-47.5)	41.0 (-23.0)	39.0 (-30.7)	46.0 (-24.5)	43.8 (-19.8)	43.8 (-10.7)	45.9 (17.6)	47.4 (3.1)	48.7 (11.2)	- -
LNG										
From Indonesia (USD/MMBTU)	10.2 (-36.3)	6.9 (-32.6)	6.8 (-36.0)	6.3 (-28.7)	6.7 (-27.3)	7.0 (-27.0)	8.1 (18.7)	8.3 (31.2)	8.3 (25.0)	8.1 (15.1)
Unit value of import (USD/ton, CIF)	549.1 (-35.3)	356.9 (-35.0)	348.6 (-38.9)	306.5 (-33.5)	330.9 (-31.2)	352.9 (-29.3)	415.6 (19.2)	408.5 (33.3)	425.6 (28.6)	- -
Bituminous coal (USD/ton)										
From Australia	57.5 (-18.0)	65.9 (14.5)	56.8 (-4.2)	62.3 (5.3)	67.4 (15.0)	72.9 (33.2)	85.0 (49.8)	87.5 (40.5)	95.9 (42.3)	96.9 (32.9)
Unit value of import (CIF)	73.9 (-19.8)	68.8 (-6.8)	61.8 (-19.2)	62.2 (-13.1)	63.6 (-8.2)	66.8 (-2.7)	106.0 (71.5)	101.5 (63.2)	92.6 (45.4)	- -
Petroleum product (USD/bbl)										
Gasoline	69.4 (-37.4)	56.2 (-19.1)	53.9 (-25.9)	51.8 (-32.6)	54.2 (-18.3)	58.1 (-10.3)	66.2 (22.8)	61.8 (19.2)	67.5 (24.5)	70.5 (21.5)
Kerosene	64.7 (-42.5)	52.8 (-18.3)	50.3 (-26.2)	54.5 (-18.5)	53.6 (-5.7)	54.9 (-5.8)	62.9 (25.1)	59.8 (9.6)	63.1 (17.8)	68.1 (24.1)
Diesel	66.6 (-41.6)	53.0 (-20.4)	50.4 (-28.2)	55.0 (-20.9)	54.1 (-11.1)	55.2 (-8.9)	64.1 (27.2)	61.5 (11.7)	64.3 (18.9)	69.4 (25.7)
Bunker-C	45.2 (-47.7)	35.4 (-21.6)	32.1 (-34.7)	37.3 (-23.9)	37.3 (-4.5)	39.5 (7.6)	47.9 (49.4)	46.1 (23.7)	47.3 (26.9)	50.7 (28.4)
Propane	416.3 (-47.4)	323.3 (-22.3)	307.8 (-26.7)	295.0 (-25.3)	285.0 (-21.9)	295.0 (-6.3)	430.0 (39.7)	345.0 (16.9)	420.0 (47.4)	480.0 (62.7)
Butane	436.7 (-46.1)	355.8 (-18.5)	337.8 (-23.3)	310.0 (-27.1)	290.0 (-27.5)	320.0 (-7.2)	476.7 (41.1)	365.0 (17.7)	460.0 (58.6)	500.0 (56.3)
Naphtha	52.5 (-44.3)	42.5 (-19.0)	40.6 (-25.4)	41.6 (-23.0)	39.9 (-14.9)	42.4 (-7.8)	51.0 (25.7)	45.7 (9.8)	50.3 (26.1)	54.9 (29.6)

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

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

Total Primary Energy Supply (TPES)

	2015	2016p					2017p			
			M1~7	M5	M6	M7	M1~7	M5	M6	M7
Coal (Mton)	134.8 (1.1)	129.0 (-4.4)	73.5 (-6.5)	10.2 (-8.9)	10.1 (-6.8)	11.6 (-1.8)	77.3 (5.1)	10.5 (2.9)	10.1 (-0.3)	12.2 (4.7)
- Coking coal excluded	98.1 (2.5)	95.5 (-2.6)	54.4 (-5.1)	7.5 (-7.4)	7.4 (-5.4)	8.7 (1.2)	57.7 (6.0)	7.6 (1.7)	7.2 (-2.6)	9.2 (5.0)
Oil (Mbbbl)	856.2 (4.2)	924.2 (7.9)	524.6 (7.9)	75.9 (14.2)	72.9 (8.9)	73.1 (6.6)	537.6 (2.5)	76.8 (1.1)	74.5 (2.3)	79.2 (8.3)
- Non-energy oil excluded	411.7 (6.0)	458.0 (11.2)	258.9 (11.7)	36.8 (13.6)	34.7 (14.2)	35.7 (9.2)	257.0 (-0.7)	36.8 (-0.2)	36.2 (4.1)	37.6 (5.4)
LNG (Mton)	33.4 (-8.7)	34.9 (4.2)	20.2 (-0.4)	2.1 (-6.2)	2.1 (-0.6)	2.4 (14.1)	21.0 (3.9)	2.1 (-0.2)	2.3 (5.7)	2.5 (7.3)
Hydro (TWh)	5.8 (-25.9)	6.6 (14.5)	3.9 (11.8)	0.6 (38.3)	0.5 (43.7)	0.9 (29.9)	3.9 (-1.6)	0.6 (-4.9)	0.6 (8.1)	0.6 (-29.6)
Nuclear (TWh)	164.8 (5.3)	162.0 (-1.7)	100.1 (6.1)	14.0 (11.2)	13.0 (-4.0)	13.6 (-14.3)	90.3 (-9.7)	13.7 (-2.4)	12.5 (-3.7)	12.2 (-9.9)
Others (Mtoe)	12.8 (17.2)	15.0 (16.4)	8.7 (17.0)	1.2 (17.2)	1.2 (15.6)	1.2 (16.8)	10.0 (14.2)	1.4 (15.8)	1.4 (16.0)	1.4 (13.5)
TPES (Mtoe)	287.5 (1.6)	295.7 (2.9)	170.8 (2.5)	23.2 (4.0)	22.6 (1.6)	24.0 (2.4)	174.7 (2.3)	23.6 (1.6)	23.0 (2.1)	25.2 (4.9)
- Non-energy oil excluded	232.2 (1.4)	237.6 (2.4)	137.7 (2.0)	18.3 (1.4)	17.8 (0.8)	19.4 (2.0)	139.8 (1.5)	18.6 (1.5)	18.3 (2.5)	20.1 (3.5)
- Non-energy oil&coal excluded	206.4 (1.9)	214.2 (3.8)	124.3 (3.5)	16.4 (3.4)	15.9 (2.3)	17.4 (3.6)	126.1 (1.4)	16.6 (1.0)	16.3 (2.1)	18.0 (3.4)

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

Share of TPES by Sources

(unit: %)

	2015	2016p					2017p			
			M1~7	M5	M6	M7	M1~7	M5	M6	M7
Coal	29.7	27.6	27.3	27.8	28.5	30.6	28.0	28.2	27.9	30.6
- Coking coal excluded	20.8	19.7	19.4	19.8	20.1	22.2	20.2	19.8	19.2	22.3
Oil	38.1	39.9	39.3	41.9	41.2	38.7	39.2	41.5	41.2	40.0
- non-energy oil excluded	18.9	20.3	20.0	20.8	20.1	19.4	19.2	20.3	20.4	19.5
LNG	15.2	15.4	15.4	11.7	12.4	12.8	15.7	11.5	12.8	13.1
Hydro	0.4	0.5	0.5	0.6	0.5	0.8	0.5	0.5	0.5	0.5
Nuclear	12.1	11.6	12.4	12.7	12.1	11.9	10.9	12.2	11.4	10.2
Others	4.5	5.1	5.1	5.3	5.4	5.2	5.7	6.0	6.1	5.6
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)

	2015	2016p					2017p			
			M1~7	M5	M6	M7	M1~7	M5	M6	M7
Industry	136.7 (0.5)	140.6 (2.8)	80.2 (1.7)	11.6 (4.4)	11.3 (1.3)	11.6 (2.3)	83.7 (4.4)	11.9 (2.5)	11.6 (2.3)	12.3 (5.8)
Transport	40.3 (7.1)	42.8 (6.2)	24.4 (6.4)	3.6 (8.7)	3.4 (6.9)	3.5 (5.0)	24.9 (2.0)	3.7 (2.5)	3.6 (6.8)	3.8 (9.3)
Residential-commercial	36.4 (2.7)	38.2 (4.8)	23.1 (3.8)	2.3 (1.7)	2.1 (3.2)	2.2 (4.5)	23.3 (0.8)	2.3 (-0.4)	2.2 (3.1)	2.3 (5.8)
Public	5.2 (10.1)	5.5 (6.7)	3.2 (6.8)	0.4 (3.5)	0.5 (21.8)	0.4 (-7.7)	3.3 (3.1)	0.4 (7.4)	0.4 (-7.4)	0.4 (21.4)
TFC	218.6 (2.2)	227.1 (3.9)	130.9 (3.0)	17.9 (4.8)	17.3 (3.1)	17.7 (2.8)	135.2 (3.3)	18.3 (2.2)	17.8 (3.0)	18.9 (6.9)
Coal (Mton)	52.4 (-1.3)	49.0 (-6.4)	27.5 (-8.2)	3.9 (-13.5)	3.7 (-12.7)	4.3 (-3.6)	27.4 (-0.5)	3.9 (-1.2)	3.8 (1.1)	4.1 (-4.0)
Oil (Mbbbl)	841.6 (4.1)	902.4 (7.2)	510.0 (6.6)	74.5 (13.4)	71.6 (7.8)	71.3 (4.5)	531.1 (4.1)	76.1 (2.3)	74.1 (3.4)	78.4 (10.0)
Electricity (TWh)	483.7 (1.3)	497.0 (2.8)	289.1 (1.8)	38.2 (0.9)	39.7 (3.4)	40.6 (3.0)	294.6 (1.9)	38.7 (1.3)	39.7 (0.0)	43.2 (6.5)
City gas (Bm ³)	20.8 (-5.9)	21.3 (2.3)	13.4 (0.9)	1.3 (-1.5)	1.1 (-1.4)	1.1 (-1.1)	13.7 (2.6)	1.3 (1.7)	1.1 (1.1)	1.1 (-0.8)
Heat others (1 000 toe)	12.7 (14.7)	14.4 (13.6)	8.5 (13.8)	1.1 (14.1)	1.1 (14.0)	1.1 (15.0)	9.5 (11.2)	1.2 (12.5)	1.2 (13.0)	1.2 (13.4)

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

Source: Monthly energy statistics

Share of the Total Final Consumption by Sources

(unit: %)

	2015	2016p					2017p			
			M1~7	M5	M6	M7	M1~7	M5	M6	M7
Industry	62.5	61.9	61.3	64.7	65.5	65.8	61.9	64.9	65.1	65.2
Transport	18.4	18.8	18.6	20.3	19.6	19.9	18.4	20.4	20.4	20.4
Residential-commercial	16.7	16.8	17.6	12.8	12.1	12.2	17.2	12.5	12.1	12.1
Public	2.4	2.4	2.5	2.1	2.7	2.1	2.5	2.2	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	16.0	14.4	14.0	14.7	14.5	16.2	13.6	14.3	14.3	14.7
Oil	49.1	50.5	49.6	53.0	52.6	51.1	49.9	53.0	52.9	52.8
Electricity	19.0	18.8	19.0	18.4	19.7	19.8	18.7	18.2	19.1	19.7
City gas	10.1	9.9	10.9	7.8	7.0	6.7	10.8	7.8	6.9	6.3
Heat others	5.8	6.3	6.5	6.1	6.3	6.2	7.0	6.7	6.9	6.6

Note: p means provisional

Source: Monthly energy statistics

Statistics on Energy Production Facilities

	2014	2015	2016				2017p		
				M5	M6	M7	M5	M6	M7
Total capacity (GW)	93.2 (7.2)	97.6 (4.8)	105.9 (13.6)	98.9 (12.9)	98.9 (12.3)	100.2 (12.0)	111.3 (16.3)	113.7 (18.8)	113.4 (17.1)
Nuclear	20.7 -	21.7 (4.8)	23.1 (11.6)	21.7 (4.8)	21.7 (4.8)	21.7 (4.8)	23.1 (11.6)	22.5 (8.8)	22.5 (3.7)
Bituminous coal	25.9 (10.7)	26.2 (1.1)	30.9 (19.3)	26.4 (9.5)	26.4 (5.6)	27.3 (9.4)	31.7 (22.4)	34.7 (34.0)	34.7 (34.0)
Gas	30.3 (27.2)	32.2 (6.5)	32.6 (7.8)	32.6 (22.9)	32.6 (22.9)	32.6 (16.5)	36.6 (14.9)	36.6 (14.9)	36.7 (15.1)
Refinery capacity (mil BPSD)	2.9 -	3.1 (3.7)	3.1 (3.7)	3.1 (3.7)	3.1 (3.7)	3.1 (3.7)	3.1 -	3.1 -	3.1 -

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

Source: The monthly report on major electric power statistics

Statistics on Energy Consumption

	2014	2015	2016				2017p		
				M5	M6	M7	M5	M6	M7
The number of household demanding city gas (mil)	16.9 (3.1)	17.4 (3.0)	18.0 (3.4)	17.6 (3.3)	17.6 (3.3)	17.6 (3.4)	18.1 (3.2)	18.2 (3.3)	18.2 (3.2)
Registered cars (mil)	20.1 (3.7)	21.0 (4.3)	21.8 (3.9)	21.4 (4.4)	21.5 (4.5)	21.5 (4.4)	22.1 (3.5)	22.2 (3.4)	22.3 (3.4)
- gasoline	9.6 (2.0)	9.8 (2.3)	10.1 (2.9)	9.9 (0.6)	10.0 (2.7)	10.0 (2.8)	10.2 (3.0)	10.3 (2.9)	10.3 (2.8)
- diesel	7.9 (7.3)	8.6 (8.6)	9.2 (6.4)	8.9 (8.3)	8.9 (8.2)	9.0 (7.8)	9.3 (5.1)	9.4 (4.8)	9.4 (4.8)
- LPG	2.3 (-2.3)	2.3 (-3.4)	2.2 (-4.0)	2.2 (-3.7)	2.2 (-3.6)	2.2 (-3.6)	2.1 (-3.5)	2.1 (-3.4)	2.1 (-3.3)
- hybrid	0.1 (40.0)	0.2 (31.3)	0.2 (37.6)	0.2 (32.3)	0.2 (34.8)	0.2 (35.8)	0.2 (35.2)	0.3 (34.3)	0.3 (34.6)

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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