

2017/07

KEEI

MONTHLY KOREA ENERGY TRENDS

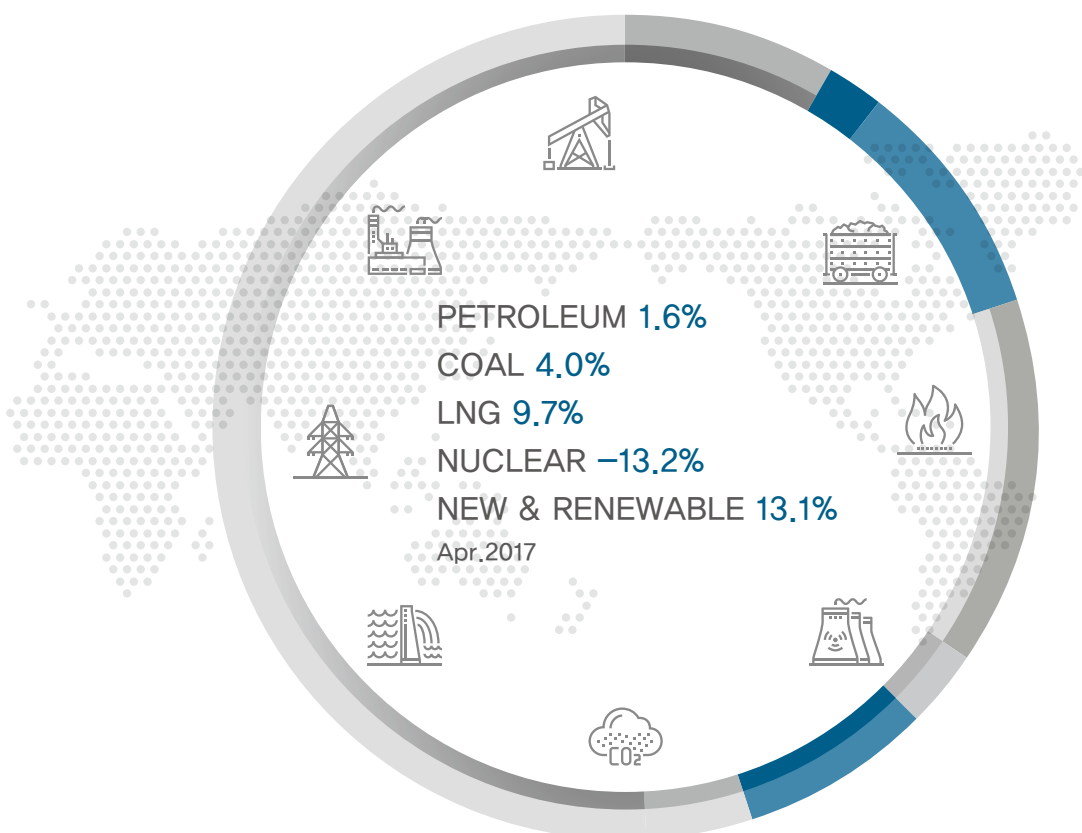


Table of Contents

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

1. The Economy and the Industry

□ The total export value increased by 24.1% year-on-year in April due to picking up export of semi-conductors, ships and iron & steel products.

- The export value of semi-conductors posted the largest growth (56.9%) since August 2010, marking seven consecutive months of increase, backed by steadily rising unit price of memory chips, the launch of a new smart phone and expanded memory chip capacity in addition to the year-on-year base effect.
- The export value of ships rose by 102.9%, hitting a record high of \$7.13 billion, with 24 ships sold abroad including two offshore plants.
- The export value of iron & steel products rebounded (35.9%) as a result of increased unit prices amid ongoing restructuring of iron and steel industry in China and the export of offshore platform frames (\$510 million, Norway).

□ The mining and manufacturing production index increased by 1.7% year-on-year in April, recording a slower growth rate than in the prior month. The service industry production index rose by 2.5% year-on-year in April.

- The growth rate of mining and manufacturing production index fell by 1.6%p from a month earlier as the index declined in the semi-conductor industry and grew at slower pace in the cement and iron & steel industries, although the index grew faster in the basic chemical materials sector (9.2%) and also increased in the automobile sector (1.4%).
- The growth rate of service industry production index declined by 0.3%p from the previous month due to a decrease in the restaurant & accommodations business (-3.6%) even though the index started to increase in the wholesale & retail business (1.1%) and continued a fast rise in the health & social welfare business (10.2%).

► Trend in major economic and industrial indicators

	2015	2016				2017		
			M2	M3	M4	M2	M3	M4
GDP (trillion won)	1 466.8 (2.8)	1 508.3 (2.8)	-	355.5 (2.9)	-	-	365.8 (2.9)	-
Total export (\$billion, customs clearance basis)	526.8 (-8.0)	495.4 (-5.9)	35.9 (-13.4)	43.0 (-8.2)	41.1 (-11.1)	43.2 (20.2)	48.7 (13.2)	51.0 (24.1)
Semi-conductors	62.9 (0.4)	62.2 (-1.1)	4.2 (-12.8)	5.3 (-1.9)	4.6 (-11.8)	6.4 (54.1)	7.5 (41.7)	7.1 (56.9)
Ships, marine structures & components	40.1 (0.6)	34.3 (-14.6)	2.7 (-49.3)	2.6 (-28.5)	3.5 (24.1)	1.9 (-29.4)	2.9 (11.1)	7.1 (102.9)
Mining and manufacturing production index (2010=100)	108.1 (-0.3)	109.2 (1.0)	98.3 (2.3)	112.7 (-0.5)	107.2 (-2.7)	104.9 (6.7)	116.4 (3.3)	109.0 (1.7)
ICT production index	113.1 (1.4)	118.7 (4.9)	106.2 (5.6)	107.9 (-2.8)	108.7 (-0.2)	108.2 (1.9)	120.4 (11.6)	109.6 (0.8)
Service industry performance index (2010=100)	112.1 (2.9)	115.5 (3.0)	108.0 (3.2)	115.8 (2.5)	113.8 (2.0)	110.7 (2.5)	119.0 (2.8)	116.6 (2.5)

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

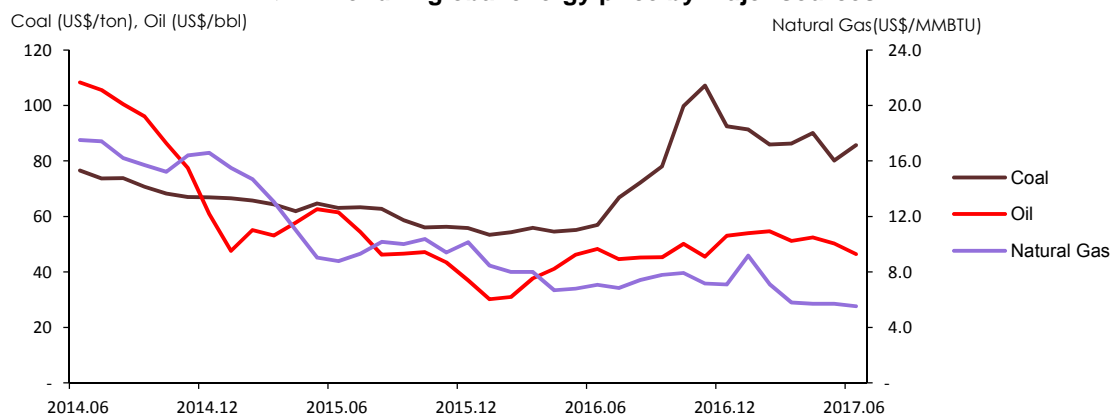
- **Global oil prices declined by 7.6% in June from the previous month affected by the instability in the Middle East and a likely increase in crude oil supply from the U.S.**
 - Several countries including Bahrain, UAE, Egypt and Saudi Arabia in particular announced the end of diplomatic ties with Qatar, accusing the country of assisting a terrorist group, and isolated the country with economic sanctions such as the closure of transport routes.
 - International Energy Agency expressed skeptical views on the effect of OECD's oil output reduction with the prospect of bigger crude oil production by non-OPEC countries. Energy Information Administration also forecasted OECD's crude inventory would increase in 2018 from the previous year (2017).
- **Global natural gas price fell by 3.4% (in June) from a month earlier while coal price rose by 6.9%**
 - Global coal price increased as prolonged rainy season in Indonesia had negative impact on the bituminous coal production.

► Trend in global energy prices

	2015	2016				2017			
			M4	M5	M6		M4	M5	M6
Crude oil (US\$/bbl)	51.0 (-47.0)	43.2 (-15.2)	41.2 (-28.8)	46.2 (-26.2)	48.4 (-21.3)	52.4 (13.4)	50.2 (3.8)	46.4 (4.0)	
Natural gas (US\$/MMBTU)	10.9 (-35.6)	7.4 (-32.0)	6.7 (-39.4)	6.8 (-24.7)	7.1 (-19.5)	5.7 (-16.2)	5.7 (-19.2)	5.5 (-19.4)	
Coal (US\$/ton)	61.6 (-18.0)	70.6 (14.6)	54.5 (-11.9)	55.2 (-14.8)	57.0 (-9.6)	90.1 (63.4)	80.1 (40.6)	85.7 (28.4)	
Uranium (US\$/lb)	36.7 (9.8)	26.3 (-28.5)	27.6 (-28.6)	27.8 (-21.9)	27.2 (-24.9)	23.2 (-16.6)	21.6 (-20.6)	19.7 (-24.1)	

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 declined by 1.3% and 1.6% respectively in June from the prior month affected by lower global oil prices.

- Gasoline and diesel prices have declined for four consecutive months since March amid continuous downward movement of global oil prices.

□ Propane and butane prices fell by 2.8% and 4.5% in June from the previous month due to falling global prices.

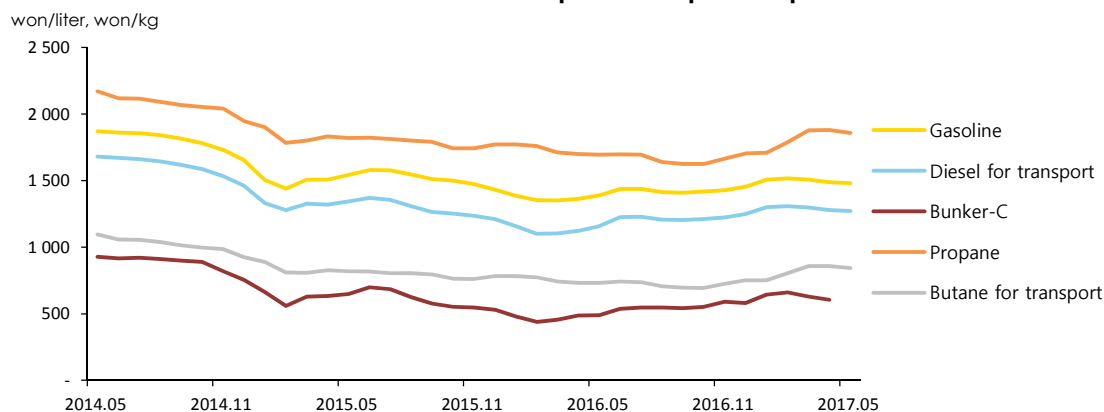
- Global prices of propane and butane (Saudi Aramco's supply price) plunged by 10.5% and 20.4% in May from a month earlier as LPG consumption seasonally declined.
- Domestic prices of propane and butane fell slightly despite the sharp decline in global prices, considering accumulated global price increase that has not been reflected in domestic price until recently.

► Trend in domestic energy prices

	2015	2016				2017		
			M4	M5	M6	M4	M5	M6
Crude oil (US\$/bbl)	51.0	43.2	41.2	46.2	48.4	52.4	50.2	46.4
	(-47.0)	(-15.2)	(-28.8)	(-26.2)	(-21.3)	(13.4)	(3.8)	(4.0)
Natural gas (US\$/MMBTU)	10.9	7.4	6.7	6.8	7.1	5.7	5.7	5.5
	(-35.6)	(-32.0)	(-39.4)	(-24.7)	(-19.5)	(-16.2)	(-19.2)	(-19.4)
Coal (US\$/ton)	61.6	70.6	54.5	55.2	57.0	90.1	80.1	85.7
	(-18.0)	(14.6)	(-11.9)	(-14.8)	(-9.6)	(63.4)	(40.6)	(28.4)
Uranium (US\$/lb)	36.7	26.3	27.6	27.8	27.2	23.2	21.6	19.7
	(9.8)	(-28.5)	(-28.6)	(-21.9)	(-24.9)	(-16.6)	(-20.6)	(-24.1)

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 domestic petroleum product prices

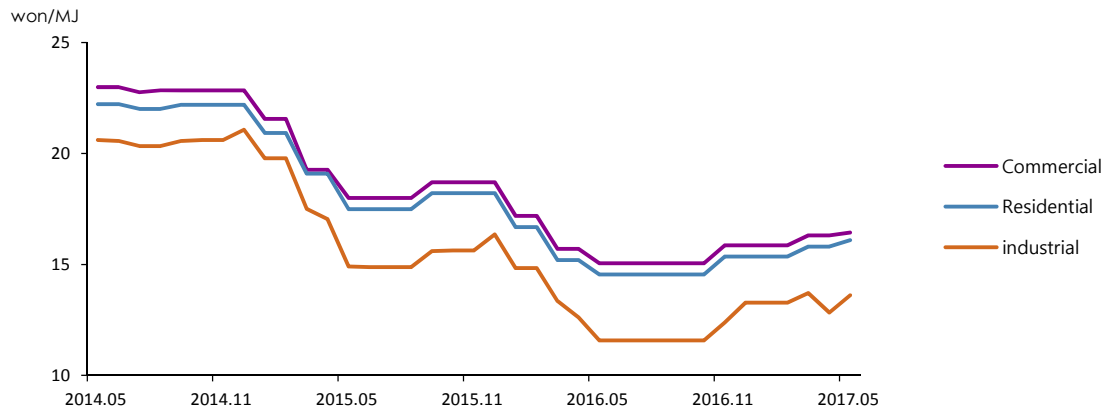


□ **City gas rates increased in May according to the raw material cost pass-through system and stayed at the same level in June.**

- City gas rates for residential, commercial and industrial use increased month-on-month by 1.8%, 0.8% and 6.1% respectively in May with the reflection of global LNG price increase at the beginning of 2017.

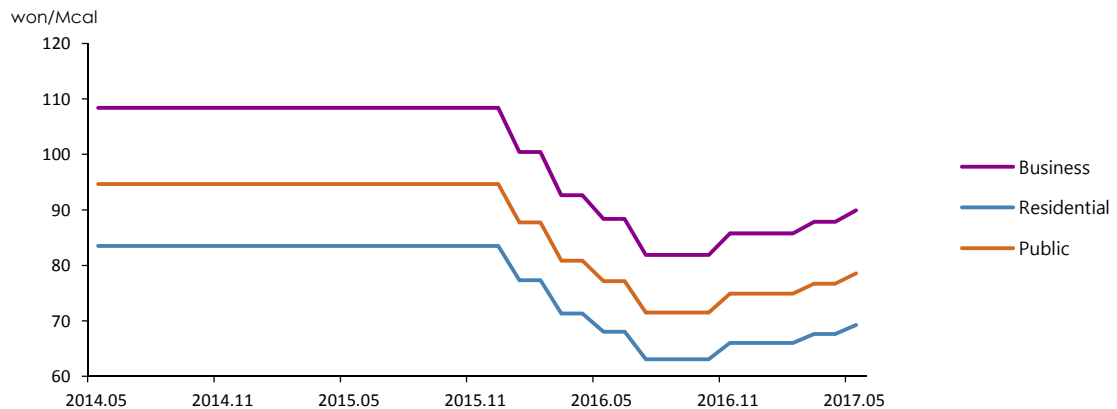
□ **Heat energy rates for residential, business and public use rose by 2.4% respectively in May and has been at the same level ever since.**

► 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.

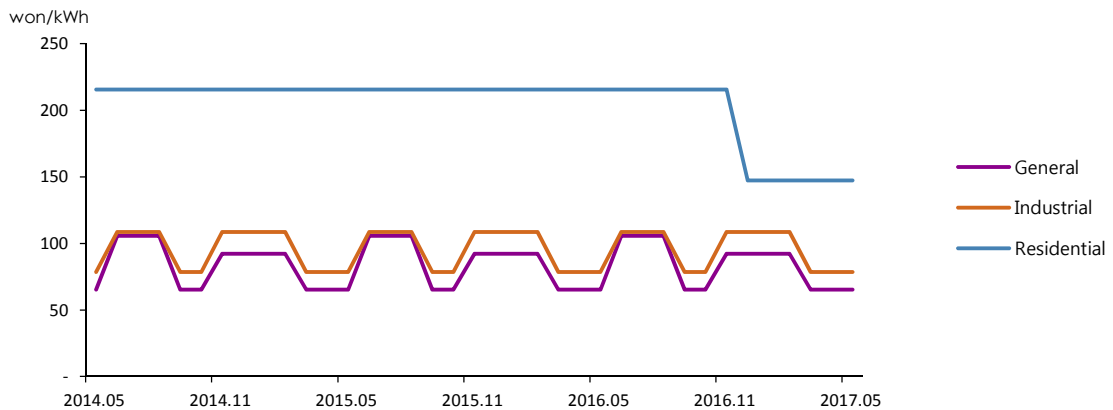
□ **Electricity rates for general and industrial customers dramatically increased from a month earlier as the rates were adjusted for the summer season.**

- Electricity rates for industrial and general customers increased by 38.2% and 62.1% respectively from the previous month according to the seasonal rate adjustment from spring/autumn (Mar-May, Sept-Oct) to summer (Jun-Aug).

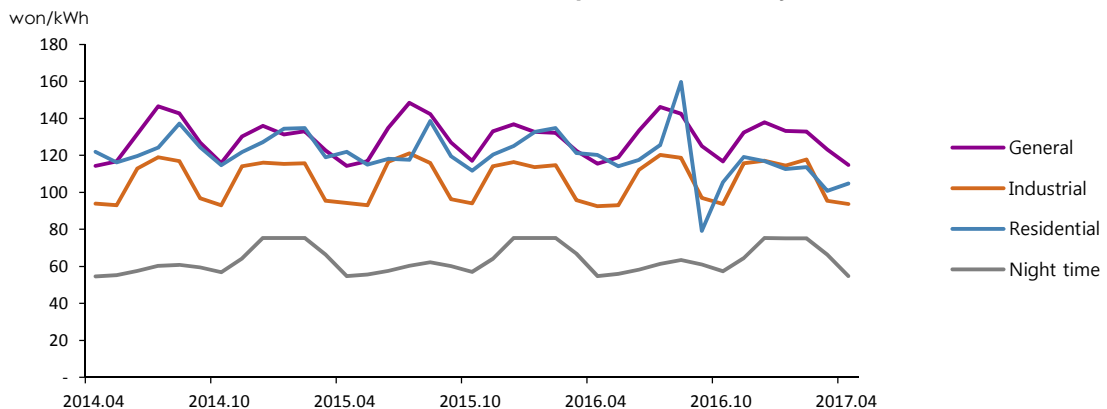
□ **Unit sales price of electricity rose by 3.4% for general customers while fell by 4.5% and 0.2% for residential and industrial customers in May compared to the prior month.**

- In terms of the year-on-year changes, the unit sales price of electricity fell by 12.4% and 0.2% for residential and general customers and rose by 0.6% for industrial customers.

► **Trend in electricity rates by end use sectors**



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



3. Energy Supply

□ **Foreign energy dependency increased by 1.3%p to 81.0% in April on a year-on-year basis due to expanded energy import volume.**

- The amount of energy imported grew by 4.8% (in April) due to increased import of bituminous coal and LNG, although the import of petroleum products declined.
- Crude oil import decreased (in April) despite a slight increase in crude input to refineries (1.0%), due to the drawdown of crude inventories that soared (30.7%) in the previous month and higher import price (43.6%) as well.

► Trend in energy trade and domestic production

	2015	2016p	2017p				
			M1~4	M1~4	M2	M3	M4
Import volume							
Crude oil (Mbbbl)	1 026.2 (10.6)	1 078.1 (5.1)	355.0 (9.1)	362.7 (2.2)	88.6 (-8.3)	95.9 (11.7)	84.5 (-5.8)
Petroleum product (Mbbbl)	307.9 (-5.7)	334.6 (8.7)	108.6 (9.3)	104.1 (-4.2)	24.8 (-0.1)	27.5 (-1.7)	25.4 (-5.9)
Bituminous coal (Mton)	119.4 (1.3)	118.5 (-0.8)	38.6 (-6.4)	44.8 (15.8)	11.1 (32.6)	11.0 (7.3)	10.5 (9.8)
Anthracite (Mton)	8.9 (7.8)	9.4 (5.4)	2.7 (-0.4)	2.3 (-15.6)	0.4 (-12.9)	0.7 (-4.4)	0.6 (-30.1)
LNG (Mton)	33.4 (-10.1)	33.4 (0.2)	12.0 (-8.4)	13.7 (14.7)	3.6 (19.6)	3.5 (2.7)	2.3 (6.9)
Import volume (Mtoe)	314.8 (1.7)	323.1 (2.6)	107.2 (1.0)	115.0 (7.2)	28.2 (9.0)	29.3 (3.9)	26.2 (4.8)
Import value (billion US\$, CIF)	102.7 (-41.0)	80.9 (-21.2)	23.5 (-36.3)	36.9 (57.0)	9.4 (64.2)	9.8 (68.2)	8.2 (41.1)
Domestic production							
Hydropower (TWh)	5.8 (-25.9)	6.6 (14.5)	1.9 (-6.4)	2.0 (9.0)	0.5 (29.4)	0.5 (25.9)	0.5 (9.9)
Anthracite (Mton)	1.8 (0.9)	1.7 (-2.2)	0.6 (-4.4)	0.5 (-4.3)	0.1 (6.5)	0.1 (-6.5)	0.1 (-6.3)
Natural gas (Mton)	0.1 (-41.5)	0.1 (-18.0)	0.0 (-45.4)	0.1 (182.4)	0.0 (140.1)	0.0 (155.8)	0.0 (394.0)
Renewable energy (Mtoe)	12.8 (17.2)	15.0 (16.4)	5.0 (17.4)	5.7 (13.1)	1.4 (12.1)	1.4 (13.5)	1.4 (13.1)

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

4. Energy Consumption

□ **Total Primary Energy Supply(TPES) went up by 1.7% in April along with growing consumption of coal and gas for power generation and petroleum as feedstock, though the use of nuclear energy declined.**

- Coal consumption has increased for four months in a row due to growing coal use (10.2%) in the power generation sector amid expanded installed capacity and diminished effect of maximum output reduction, although industrial coal consumption declined especially anthracite and in cement production.
- Petroleum consumption has grown for two consecutive months led by the industrial sector (8.7%) as expanded petrochemical facilities boosted naphtha consumption (9.2%). Meanwhile, the transport, buildings and power generation sectors consumed less affected by higher prices of petroleum products.
- Gas consumption increased both for power generation (15.8%) and city gas production (7.3%), leading the growth of TPES, influenced by increased power demand, decreased nuclear and oil-fired generation and growing city gas demand from the industrial and buildings sectors.
- Nuclear generation has declined for eight straight months owing to the increased preventive maintenance and consequently lower capacity factors.

□ **Total Final Consumption (“TFC”) rose by 2.8% year-on-year (in April) despite decreased consumption in the transport sector, as the industrial and buildings sectors consumed more energy.**

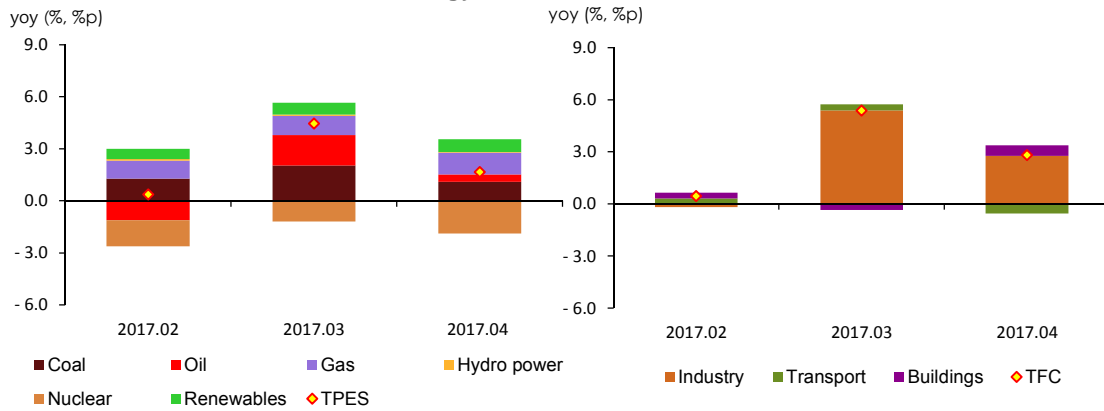
- Industrial energy consumption has grown for two months in a row due to increased use of naphtha as feedstock in the petrochemical industry and petroleum as fuel in the fabricated metals industry, although the iron & steel industry consumed less amount of electricity amid sluggish production activity.
- Energy consumption decreased by 2.8% in the transport sector despite increased number of cars, because of higher (petroleum products) prices and less traffic on highways.
- Energy consumption grew by 3.3% in the buildings sector as increased heating degree days and the reform of progressive power rate system boosted the use of electricity, city gas and heat energy.
- Electricity consumption has increased for 15 consecutive months led by the buildings sector affected by the reform of progressive power rate system and increased heating degree days, even though industrial electricity consumption grew at slower pace especially in the fabricated metals and iron & steel industries.

► Energy consumption trend

	2015	2016p	2017p				
			M1~4	M1~4	M2	M3	M4
Total energy (Mtoe)	287.5	295.7	101.0	102.6	25.4	26.3	23.1
	(1.6)	(2.9)	(2.4)	(1.6)	(0.4)	(4.5)	(1.7)
Final energy (Mtoe)	218.6	227.1	78.0	79.9	19.9	20.5	18.3
	(2.2)	(3.9)	(2.7)	(2.4)	(0.5)	(5.4)	(2.8)

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 4.0% year-on-year in April, led by a surge in the power generation sector, although industrial coal consumption declined.**

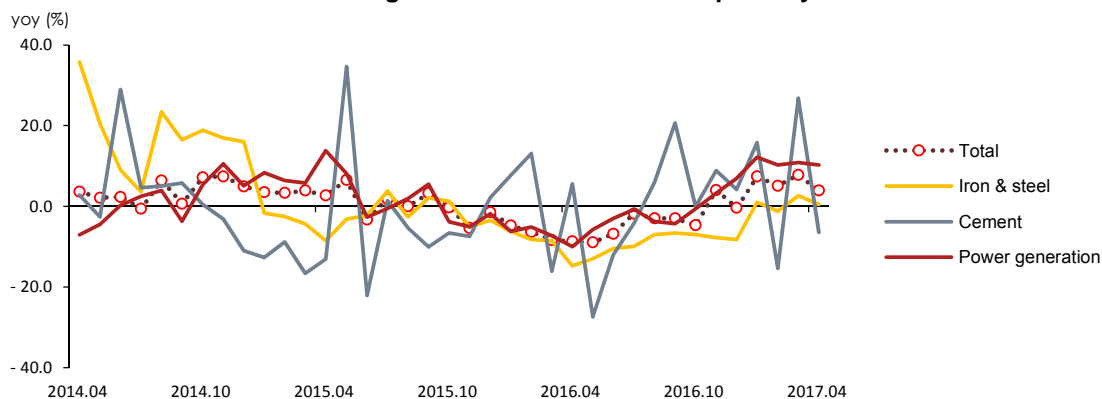
- Coal consumption went up by more than 10% in the power generation (transformation) sector, due to expanded installed capacity following the commissioning of large-scale coal-fired generators.
- Industrial coal consumption declined, especially anthracite and in the cement production, although the steelmaking industry consumed slightly more.
- Anthracite consumption in buildings has fallen for eight months in a row even amid increased heating degree days (2.9degree days, 2.4%), due to the continuous replacement of the fuel with other energy sources in addition to higher anthracite prices (14.6%, 2016.10).

► **Coal consumption trend**

	2015	2016p	2017p				
			M1~4	M1~4	M2	M3	M4
Coal (Mton)	134.8	129.0	41.6	44.2	10.6	11.3	10.0
	(1.1)	(-4.4)	(-7.0)	(6.2)	(5.1)	(7.8)	(4.0)
Industry	50.9	47.7	15.2	14.9	3.4	4.0	3.6
	(-1.0)	(-6.2)	(-6.5)	(-1.4)	(-3.5)	(3.1)	(-5.4)
Buildings	1.5	1.3	0.4	0.4	0.1	0.1	0.0
	(-9.6)	(-14.8)	(-15.7)	(-16.9)	(-11.1)	(-13.3)	(-7.7)
Power generation	82.5	80.0	26.0	28.8	7.1	7.3	6.4
	(2.8)	(-3.0)	(-7.1)	(10.9)	(10.2)	(10.8)	(10.2)

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

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



6. Petroleum

□ **Petroleum consumption rose by 1.6% year-on-year in April led by the industrial sector, although the consumption fell in the transport and buildings sector.**

- Industrial petroleum consumption increased fast partly due to the construction of new petrochemical facilities, driving up petroleum consumption in total.
- Petroleum consumption started to decline in the transport sector for the first time in three months as higher prices led to the decreased petroleum use for road transport (-4.4%).
- Petroleum consumption fell in the buildings sector due to higher prices even amid increased heating degree days (2.9degree days, 2.4%).
- Petroleum consumption continuously plunged in the transformation sector because of higher price of bunker-C oil for power generation in addition to the base effect from a surge in consumption during the same period last year.

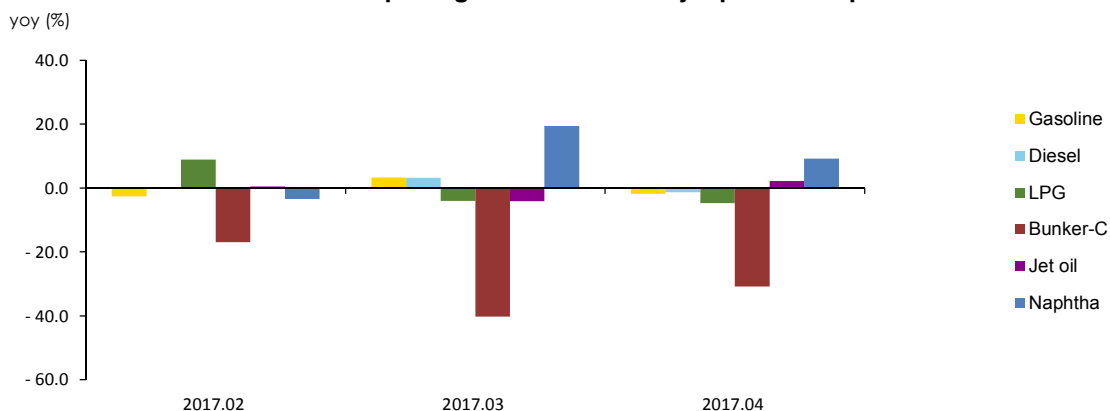
► Trend in petroleum product consumption by end use sectors

	2015	2016p	2017p				
			M1~4	M1~4	M2	M3	M4
Petroleum (Mbbbl)	856.2	924.2	302.7	307.1	74.6	80.6	72.0
	(4.2)	(7.9)	(6.5)	(1.5)	(-2.4)	(5.5)	(1.6)
Industry	501.0	542.6	171.9	184.4	43.8	49.3	43.0
	(1.9)	(8.3)	(4.5)	(7.3)	(-2.7)	(14.9)	(8.7)
Transport	287.1	303.6	98.2	96.7	23.3	25.5	24.6
	(6.8)	(5.7)	(5.5)	(-1.5)	(1.4)	(1.7)	(-3.0)
Buildings	53.5	56.3	22.6	21.4	5.9	5.1	3.9
	(11.7)	(5.2)	(10.2)	(-5.5)	(-1.4)	(-9.3)	(-3.0)
Power generation	14.6	21.8	10.0	4.6	1.6	0.7	0.5
	(13.0)	(48.7)	(65.0)	(-53.6)	(-35.2)	(-74.4)	(-74.3)

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

Source: Monthly Energy Statistics

► The consumption growth rates of major petroleum products



7. Gas

☐ **Gas consumption increased by 9.7% in April on a year-on-year basis due to a surge in gas use for power generation and city gas production.**

- Gas consumption dramatically increased in the power generation sector as gas generation made up for part of the decline in nuclear and oil-fired generation (-13.2%, -47.8%) amid growing power demand (1.7%).

☐ **City gas consumption has increased for three consecutive months in the industrial and buildings sectors and the sector-wide consumption recorded a year-on-year increase of 6.6%.**

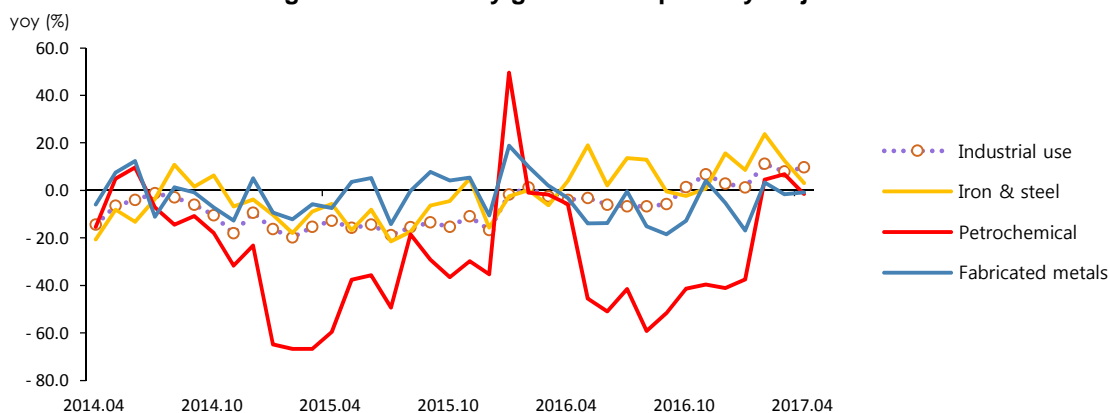
- Industrial city gas consumption stayed at the same level on a year-on-year basis in the petrochemical and fabricated metals industries while soared (41.0%) in other manufacturing industries with a record of seven consecutive months of growth.
- City gas consumption has grown for three straight months in the buildings sector backed by growing consumption in residential buildings, although the consumption declined in commercial buildings.

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

	2015	2016p	2017p				
			M1~4	M1~4	M2	M3	M4
LNG (Mton)	33.4	34.9	13.6	14.1	3.9	3.5	2.5
	(-8.7)	(4.2)	(-1.6)	(3.7)	(5.5)	(6.4)	(9.7)
Power generation	14.6	15.3	4.8	5.1	1.3	1.3	1.0
	(-8.2)	(5.3)	(-9.9)	(6.4)	(9.3)	(7.6)	(15.8)
City gas production	16.9	17.4	7.9	8.1	2.3	2.0	1.3
	(-6.9)	(2.7)	(2.2)	(2.7)	(3.8)	(6.0)	(7.3)
City gas (bm³)	20.8	21.3	9.9	10.2	2.9	2.5	1.8
	(-5.9)	(2.3)	(1.8)	(3.0)	(5.1)	(2.4)	(6.6)
Industry	7.3	7.2	2.6	2.8	0.7	0.7	0.7
	(-15.5)	(-1.9)	(-1.8)	(7.3)	(11.2)	(7.9)	(9.7)
Buildings	12.2	12.8	6.8	7.0	2.1	1.6	1.0
	(0.5)	(5.1)	(3.4)	(1.7)	(3.4)	(0.4)	(5.6)

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

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



8. Electricity

- **Electricity consumption went up by 1.7% year-on-year in April due to growing consumption in the buildings sector, although the consumption grew at slower pace in the industrial sector.**
 - Industrial electricity consumption grew by a mere 1% despite bigger electricity use in the petrochemical and fabricated metals industries, as the iron & steel industry consumed less.
 - Electricity consumption increased by 2.5% in the buildings sector and for all of the residential, commercial and public use.

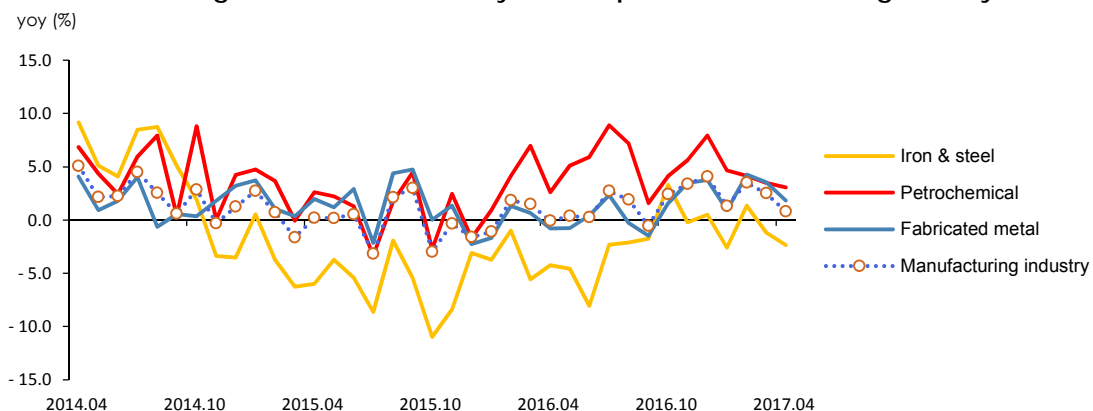
► Trend in electricity consumption by end use sectors

	2015	2016p	2017p				
			M1~4	M1~4	M2	M3	M4
Electricity (TWh)	483.7	497.0	170.6	173.0	44.4	42.6	40.8
	(1.3)	(2.8)	(1.4)	(1.4)	(2.0)	(0.7)	(1.7)
Industry	265.6	270.0	90.2	92.1	22.4	23.5	22.6
	(0.4)	(1.6)	(0.8)	(2.1)	(3.5)	(2.5)	(1.1)
Transport	2.2	2.7	0.9	0.9	0.2	0.2	0.2
	(10.7)	(21.3)	(25.6)	(0.5)	(2.9)	(-4.5)	(2.7)
Buildings	215.8	224.4	79.5	80.0	21.7	18.9	18.0
	(2.3)	(4.0)	(1.9)	(0.6)	(0.4)	(-1.3)	(2.5)

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

Source: Monthly energy statistics

► The growth rate of electricity consumption in manufacturing industry

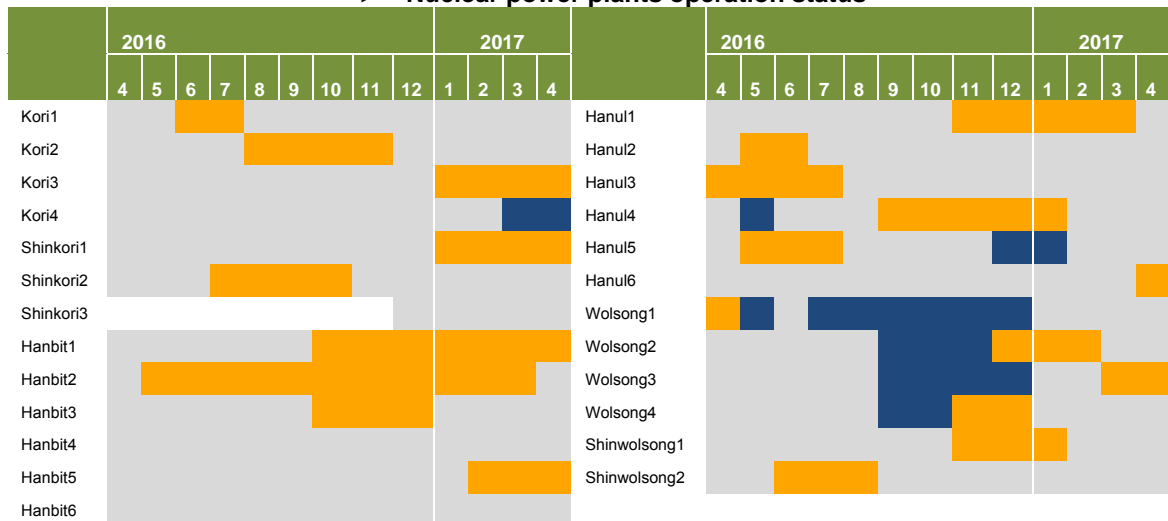


9. Nuclear

☐ Nuclear generation fell by 13.2% year-on-year in April as seven reactors ceased operation for safety inspection.

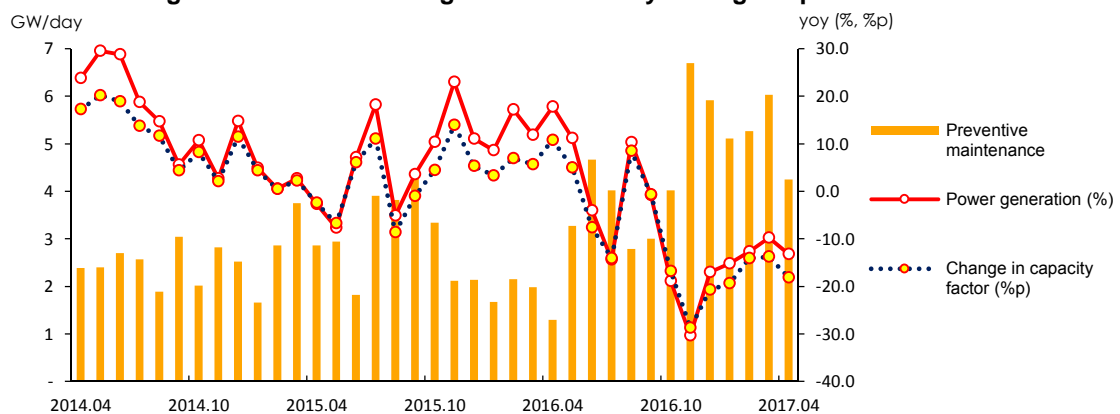
- Capacity factor of nuclear power plants declined by 18.1% to 79.9% (in April) on a year-on-year basis affected by a surge in planned preventive maintenance (228.4%, 29.6GW).
- Nuclear generation has decreased for eight months in a row due to lower capacity factor, and thus, the share of nuclear energy in the total power generation fell by 5.6%p to 31.7% (in April) on a year-on-year basis.

► 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

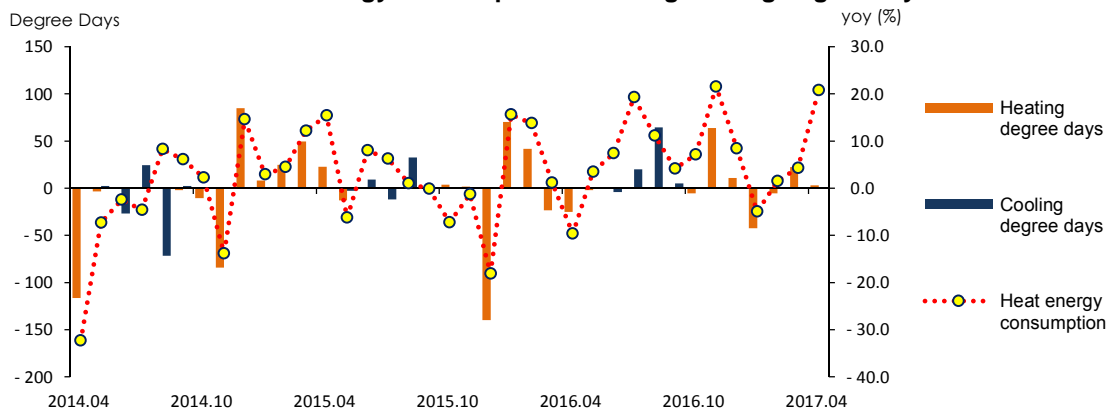
□ **Heat energy consumption rose by 20.7% year-on-year in April, influenced by increased heating degree days, decreased heat energy rates along with base effect.**

- Heat energy consumption posted the most rapid growth since November 2016 due to increased heating degree days (2.9degree days) amid lower average temperature (-0.1°C in Seoul), lower heat energy rates (-5.2%) and base effect from a sharp decline in heat energy consumption (-9.7%) during the same period last year.

□ **Renewable and other energy consumption was up 12.9% in April on a year-on-year basis, backed by steadily growing consumption in the renewable power generation and industrial sector.**

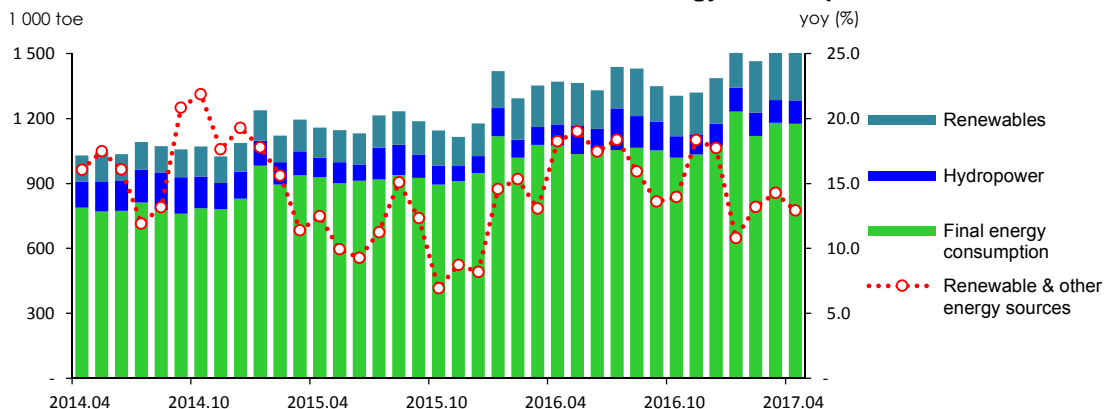
- Renewable generation kept growing fast following the commissioning of new Integrated Gasification Combined Cycle(IGCC) facilities and the expansion of solar and wind power facilities.
- Hydropower generation increased by 9.9% (512.0 GWh) despite smaller amount of rainfall (65.0mm, 41.1% of the record in the same month last year) due to the base effect of slow recovery in hydropower generation during the same period last year.

► 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. The Industrial Sector

□ **Industrial energy consumption went up by 4.5% year-on-year in April, backed by continued consumption growth in the petrochemical industry.**

- The petrochemical industry led the growth of industrial energy consumption with rapidly growing naphtha use.
- Energy consumption grew in the iron & steel industry due to a slight increase (0.5%) in coking coal consumption as feedstock for pig iron production.
- Energy consumption has risen for three consecutive months in the fabricated metals industry due to expanded production of automobiles and semi-conductors.

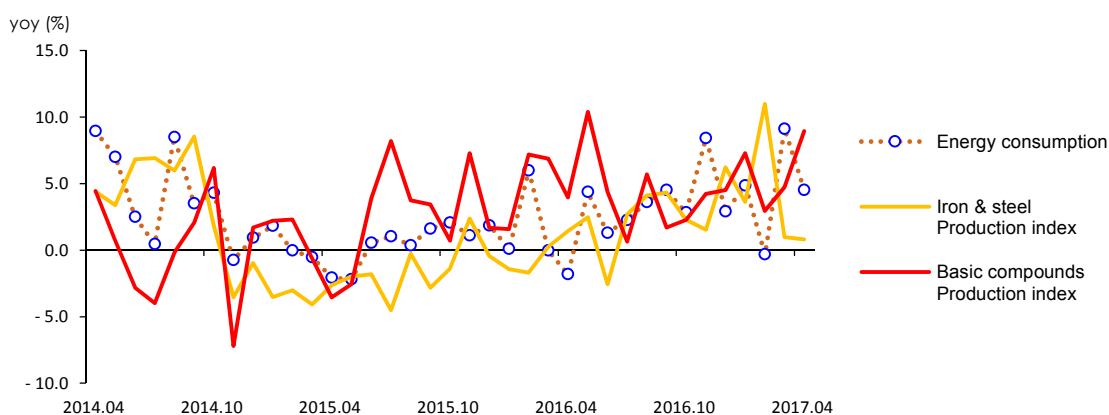
► Trend in the industrial energy consumption

	2015	2016p	2017p				
			M1~4	M1~4	M2	M3	M4
Industry (Mtoe)	136.7	140.6	45.6	47.7	11.3	12.5	11.4
	(0.5)	(2.8)	(1.0)	(4.6)	(-0.3)	(9.1)	(4.5)
Petrochemical	61.7	65.8	21.2	22.6	5.4	6.0	5.2
	(-0.6)	(6.7)	(4.6)	(6.8)	(-2.1)	(15.9)	(7.3)
- Naptha	50.4	52.7	17.2	18.5	4.5	5.0	4.2
	(3.7)	(4.7)	(1.0)	(7.5)	(-3.4)	(19.4)	(9.2)
Iron & Steel	31.4	29.0	9.5	9.6	2.3	2.5	2.3
	(-2.6)	(-7.6)	(-8.3)	(0.9)	(-0.2)	(2.5)	(0.3)
Fabricated metal	10.6	10.6	3.7	3.8	0.9	1.0	0.9
	(-1.1)	(0.4)	(1.3)	(2.4)	(5.5)	(3.8)	(3.2)
Share of feedstock (%)	59.0	57.7	57.5	57.6	57.9	58.6	56.5

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

Source: Monthly energy statistics

► Industrial energy consumption & production index



12. The Transport Sector

□ Energy consumption fell by 2.8% year-on-year in April in the transport sector as higher price of petroleum products led to decreased consumption for road transport.

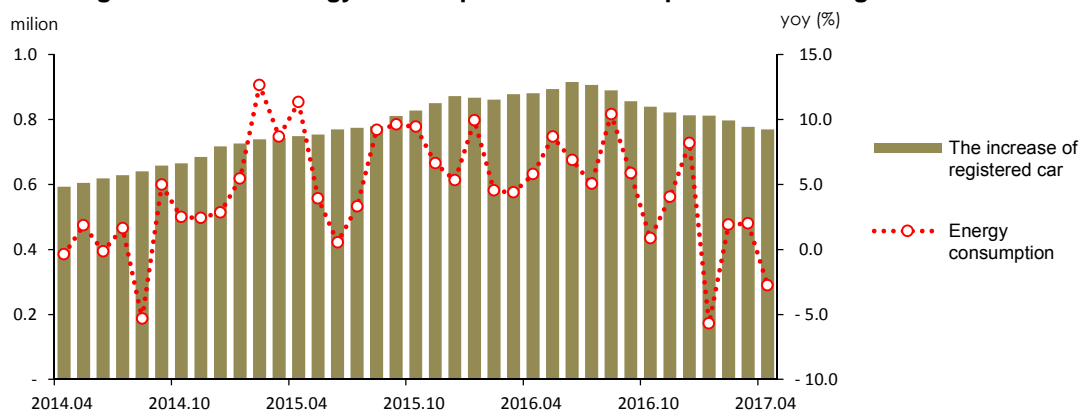
- Energy consumption declined by 4.3% in the road transport sector despite increased number of cars (3.6%), due to higher petroleum product prices and decreased traffic (-0.5%, highway based), driving down the total energy consumption by the transport sector.
- Energy consumption has grown for five consecutive months in the domestic navigation sector backed by increased export volume (12.3%), although coastal transport declined (-4.1%).
- Energy consumption started to increase after three consecutive months of decrease due to the growing demand for air travel from/to Jeju Island, Japan, Southeast Asia and on other domestic routes along with expanded air cargo volume including semi-conductors.

► The growth rate of petroleum consumption in the transport sector

	2015	2016p	2017p				
			M1~4	M4	M2	M3	M4
Transport (Mtoe)	40.3	42.8	13.8	3.5	3.3	3.6	3.5
	(7.1)	(6.2)	(6.1)	(-2.8)	(1.9)	(2.0)	(-2.8)
Road	32.8	34.4	11.1	2.8	2.6	2.9	2.8
	(5.6)	(5.1)	(5.7)	(-4.3)	(0.7)	(2.3)	(-4.3)
Navigation	2.9	3.4	1.1	0.3	0.3	0.3	0.3
	(27.0)	(13.8)	(7.9)	(7.7)	(19.3)	(6.3)	(7.7)
Aviation	4.3	4.7	1.5	0.4	0.4	0.4	0.4
	(7.5)	(9.1)	(7.6)	(2.0)	(-1.1)	(-2.8)	(2.0)
Rail	0.3	0.3	0.1	0.0	0.0	0.0	0.0
	(2.2)	(8.3)	(12.6)	(-0.0)	(0.3)	(-11.8)	(-0.0)

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. The Buildings Sector

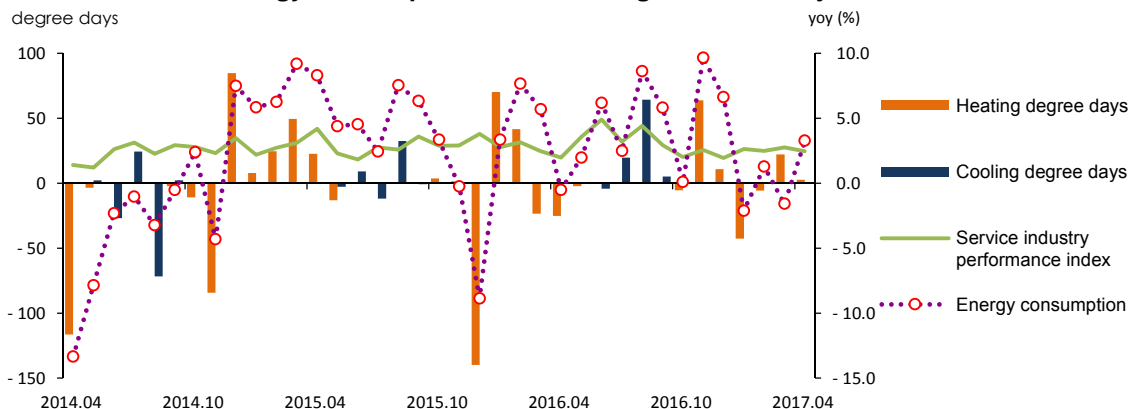
- **Energy consumption in buildings went up by 3.3% in April on a year-on-year basis backed by increased use of electricity, city gas and heat energy, although coal and petroleum consumption declined.**
 - Energy consumption in buildings increased after having declined in the previous month as the reform of the progressive power rate system and increased heating degree days (2.9degree days, 2.4%) boosted electricity, city gas and heat energy consumption, although coal and petroleum consumption declined due to the price increase.
 - Residential energy consumption rose by 5.1% despite less use of kerosene and LPG, as electricity, city gas and heat energy consumption increased.
 - As for the commercial energy consumption, the use of LPG and city gas, main fuel for cooking, fell by 7.1% and 3.2% due to price increase and sluggish production activities in the restaurant & accommodations and service industries. Meanwhile, electricity and heat energy consumption rose by 3.4% and 11.4% respectively.

► Energy consumption trend in the buildings sector

	2015	2016p	2017p				
			M1~4	M1~4	M2	M3	M4
Buildings (Mtoe)	41.6	43.7	18.6	18.5	5.3	4.4	3.4
	(3.6)	(5.0)	(4.4)	(-0.1)	(1.3)	(-1.6)	(3.3)
Residential	20.1	21.2	10.1	10.1	3.0	2.4	1.7
	(1.7)	(5.7)	(5.7)	(-0.2)	(1.4)	(-1.5)	(5.1)
Commercial	16.4	17.0	6.4	6.4	1.8	1.5	1.3
	(4.0)	(3.6)	(1.5)	(0.2)	(1.0)	(-1.2)	(1.8)
Public-others	5.2	5.5	2.0	2.0	0.5	0.5	0.4
	(10.1)	(6.7)	(7.4)	(-0.3)	(1.5)	(-3.2)	(0.8)

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 consumption for power generation declined by 0.2% year-on-year in April despite increased coal and gas consumption, as nuclear generation declined more sharply.

- Total power generation increased (2.1%) on a year-on-year basis. Meanwhile, the amount of energy used for power generation declined because of higher generation efficiency as highly efficient gas generation increased instead of reduced nuclear generation.

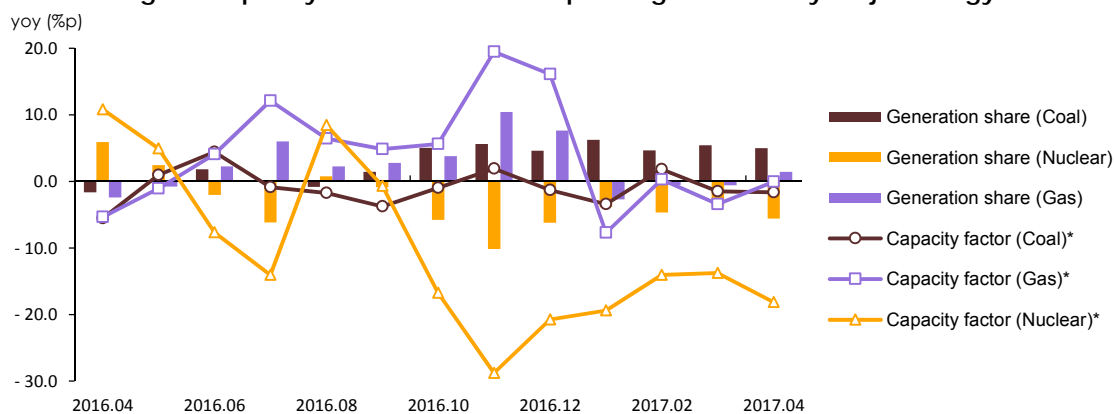
► Energy consumption in the power generation sector

	2015	2016p	2017p				
			M1~4	M1~4	M2	M3	M4
Input (Mtoe)	109.6	110.2	37.4	37.4	9.3	9.4	8.5
	(1.4)	(0.5)	(0.9)	(0.1)	(1.2)	(0.4)	(-0.2)
Coal	50.6	49.0	15.9	17.7	4.4	4.4	3.9
	(2.7)	(-3.1)	(-7.1)	(11.0)	(10.3)	(10.9)	(10.4)
Oil	2.0	3.0	1.4	0.6	0.2	0.1	0.1
	(16.6)	(50.1)	(69.1)	(-59.7)	(-40.5)	(-81.5)	(-78.1)
Gas	19.3	20.3	6.3	6.8	1.8	1.8	1.3
	(-8.1)	(5.2)	(-9.9)	(6.6)	(9.4)	(7.9)	(15.9)
Nuclear	34.8	34.2	12.6	11.0	2.6	2.8	2.8
	(5.3)	(-1.7)	(13.7)	(-12.7)	(-12.6)	(-9.8)	(-13.2)
Hydro/other renewables	3.0	3.7	1.1	1.4	0.3	0.4	0.4
	(-5.5)	(24.2)	(17.7)	(24.2)	(25.3)	(33.0)	(26.0)

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

Source: Monthly energy statistics

► Change in capacity factor and share of power generation by major energy sources



*Capacity factor is the ratio of actual energy produced to the amount of energy produced from continuous operation at full rated power

<Appendix> Major Indicators & Statistics of Energy Supply and Demand

Major Statistics & Indicators of the Economy

	2014	2015			2016				2017
			3Q	4Q	1Q		3Q	4Q	1Q
GDP (trillion won)	1 427.0 (3.3)	1 466.8 (2.8)	368.5 (3.0)	386.6 (3.2)	355.5 (2.9)	1 508.3 (2.8)	378.2 (2.6)	395.9 (2.4)	365.8 (2.9)
Private consumption	692.2 (1.7)	707.5 (2.2)	177.1 (2.2)	181.8 (3.4)	181.9 (2.3)	725.0 (2.5)	181.9 (2.7)	184.6 (1.5)	185.6 (2.0)
Facilities investment	134.0 (6.0)	140.3 (4.7)	34.5 (6.0)	36.0 (3.1)	31.9 (-4.6)	137.0 (-2.3)	33.1 (-3.9)	36.8 (2.0)	36.5 (14.4)
Construction investment	198.5 (1.1)	211.5 (6.6)	55.9 (7.6)	58.2 (9.6)	44.7 (9.0)	234.2 (10.7)	62.2 (11.2)	64.9 (11.6)	49.7 (11.3)
Consumer price index (2010=100)	99.3	100.0	100.2	100.1	100.6	101.0	101.0	101.5	102.7
USD to KRW exchange rate (won)	1 052.8	1 131.0	1 169.0	1 157.5	1 202.4	1 160.8	1 121.1	1 156.4	1 154.9
Benchmark rate (%)	2.3	1.6	1.5	1.5	1.5	1.4	1.3	1.3	1.3
Coincident composite index (2010=100)	113.6	117.3	117.6	119.2	119.5	121.1	122.0	122.7	124.2
Mining & manufacturing production index (2010=100)	108.4	108.1	106.0	111.7	105.6	109.2	106.5	114.8	109.5
Manufacturing operation ratio index (2010=100)	94.3	92.4	90.1	93.9	89.1	90.4	86.9	93.5	88.2
Average temperature	13.3	13.6	24.8	8.7	1.3	13.6	25.8	8.0	1.4
- year-on-year difference	0.9	0.2	0.4	1.4	- 0.8	- 0.0	0.9	- 0.6	0.1
Heating degree days	2 501.6 (-13.5)	2 459.1 (-1.7)	n.a	866.1 (-13.5)	1 513.2 (6.2)	2 589.7 (5.3)	0.3 n.a	935.3 (8.0)	1 487.5 (-1.7)
Cooling degree days	125.4 (-35.6)	151.8 (21.1)	138.3 (16.9)	- n.a	- n.a	238.1 (56.9)	227.9 (64.8)	- n.a	- n.a
Energy intensity	0.20 (-2.4)	0.20 (-1.1)	0.19 (-0.7)	0.19 (-2.1)	0.22 (0.4)	0.20 (0.0)	0.19 (0.9)	0.19 (0.5)	0.22 (-1.3)
Per capita consumption									
oil (bbl)	16.2 (-1.1)	16.8 (3.7)	4.1 (2.8)	4.5 (6.5)	4.5 (7.2)	18.0 (7.5)	4.5 (7.8)	4.8 (6.8)	4.6 (1.0)
Electricity (MWh)	9.4 (-0.1)	9.5 (0.7)	2.4 (1.9)	2.3 (-1.4)	2.5 (1.4)	9.7 (2.3)	2.5 (3.8)	2.4 (3.1)	2.6 (0.9)
City gas (1 000 m ³)	0.4 (-8.1)	0.4 (-6.4)	0.1 (-8.6)	0.1 (-11.6)	0.2 (2.7)	0.4 (1.8)	0.1 (-2.6)	0.1 (6.9)	0.2 (1.9)
Total energy (toe)	5.6 (0.3)	5.6 (1.1)	1.4 (1.8)	1.5 (0.5)	1.5 (2.8)	5.8 (2.4)	1.4 (3.0)	1.5 (2.4)	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

(2010=100)

2010=100

	2015	2016					2017			
			M1~5	M3	M4	M5	M1~5	M3	M4	M5
Industrial production index										
All industry	110.0 (1.9)	113.3 (3.0)	109.8 (2.3)	115.7 (2.3)	110.3 (0.7)	112.4 (4.7)	113.6 (3.5)	120.5 (4.1)	114.2 (3.5)	115.1 (2.4)
Mining & manufacturing	108.1 (-0.3)	109.2 (1.0)	106.9 (0.2)	112.7 (-0.5)	107.2 (-2.7)	110.2 (4.4)	109.6 (2.6)	116.4 (3.3)	109.1 (1.8)	110.3 (0.1)
Iron & steel	110.9 (-2.0)	112.7 (1.6)	110.3 (0.3)	113.2 (0.3)	112.8 (1.4)	116.5 (2.5)	113.7 (3.1)	114.3 (1.0)	113.7 (0.8)	116.9 (0.3)
Cement	125.8 (19.4)	134.3 (6.8)	123.6 (7.7)	145.3 (14.2)	145.7 (8.3)	148.7 (6.8)	137.9 (11.5)	159.3 (9.6)	151.7 (4.1)	158.6 (6.7)
Basic compound	115.5 (2.2)	120.5 (4.4)	119.0 (5.9)	122.7 (6.9)	113.0 (4.0)	122.2 (10.4)	125.1 (5.2)	128.5 (4.7)	123.1 (8.9)	124.8 (2.1)
Transport equipment	120.8 (1.2)	117.4 (-2.8)	118.9 (-1.3)	133.8 (2.8)	120.3 (-8.6)	119.9 (3.1)	119.0 (0.1)	132.8 (-0.7)	122.5 (1.8)	116.8 (-2.6)
Electric & electronic	95.6 (-3.3)	96.6 (1.1)	94.0 (0.3)	102.9 (-0.4)	94.1 (-5.7)	95.2 (5.5)	93.1 (-0.9)	99.9 (-2.9)	93.9 (-0.2)	93.0 (-2.3)
Service	112.1 (2.9)	115.5 (3.0)	112.6 (2.8)	115.8 (2.5)	113.8 (2.0)	115.5 (3.6)	115.4 (2.5)	119.0 (2.8)	116.6 (2.5)	117.9 (2.1)
Operating ratio index										
Manufacturing	92.4 (-2.0)	90.4 (-2.1)	90.1 (-1.8)	96.2 (-0.3)	90.4 (-5.9)	93.1 (1.1)	89.3 (-1.0)	95.5 (-0.7)	90.6 (0.2)	91.1 (-2.1)
Iron & steel	100.2 (-2.4)	103.4 (3.2)	100.6 (2.6)	101.8 (1.3)	101.4 (3.6)	105.9 (3.0)	105.4 (4.8)	106.6 (4.7)	104.4 (3.0)	108.5 (2.5)
Cement	108.8 (8.3)	129.8 (19.4)	119.8 (17.6)	140.2 (22.6)	142.5 (28.1)	144.1 (14.5)	132.5 (10.7)	153.6 (9.6)	145.6 (2.2)	154.0 (6.9)
Basic compound	91.1 (-1.8)	94.1 (3.3)	93.6 (5.0)	97.2 (6.6)	89.4 (4.8)	95.8 (9.7)	96.2 (2.8)	98.4 (1.2)	94.6 (5.8)	95.5 (-0.3)
Transport equipment	105.0 (1.5)	97.2 (-7.4)	99.9 (-4.1)	114.8 (1.3)	101.3 (-13.8)	100.3 (-0.9)	99.2 (-0.6)	113.0 (-1.6)	106.3 (4.9)	98.7 (-1.6)
Electric & electronic	91.4 (1.0)	92.2 (0.8)	89.5 (0.4)	101.1 (1.8)	86.3 (-11.4)	89.3 (3.7)	89.0 (-0.5)	95.3 (-5.7)	91.0 (5.4)	91.1 (2.0)

Note: p means provisional
Source: Monthly energy statistics

International Energy Prices

	2015	2016					2017			
			M1~6	M4	M5	M6	M1~6	M4	M5	M6
Crude oil (USD/bbl)										
WTI	48.8 (-47.5)	43.3 (-11.2)	39.5 (-25.8)	41.1 (-24.7)	46.8 (-21.2)	48.9 (-18.4)	50.1 (26.8)	51.1 (24.3)	48.5 (3.7)	45.2 (-7.5)
Dubai	50.8 (-47.5)	41.2 (-18.8)	36.8 (-34.7)	39.0 (-32.5)	44.3 (-29.8)	46.3 (-23.9)	51.5 (40.0)	52.3 (34.1)	50.7 (14.6)	46.5 (0.4)
Brent	53.6 (-46.1)	45.0 (-16.0)	41.0 (-30.9)	43.3 (-29.1)	47.7 (-27.4)	49.9 (-21.7)	52.8 (28.7)	53.8 (24.2)	51.4 (7.8)	47.6 (-4.8)
Unit value of import (C&F)	53.3 (-47.5)	41.0 (-23.0)	36.3 (-36.5)	36.7 (-36.1)	41.2 (-33.6)	45.0 (-29.1)	44.5 (22.6)	52.7 (43.7)	52.4 (27.3)	- -
LNG										
From Indonesia (USD/MMBTU)	11.0 (-35.5)	7.4 (-32.1)	7.5 (-37.5)	6.7 (-39.4)	6.8 (-24.7)	7.1 (-19.5)	6.5 (-13.3)	5.7 (-14.5)	5.7 (-16.0)	5.5 (-22.0)
Unit value of import (USD/ton, CIF)	549.1 (-35.3)	356.9 (-35.0)	357.8 (-41.9)	342.7 (-43.4)	311.1 (-37.1)	296.9 (-37.3)	416.7 (16.5)	415.3 (21.2)	432.4 (39.0)	- -
Bituminous coal (USD/ton)										
From Australia	61.6 (-18.0)	70.6 (14.5)	55.0 (-14.5)	54.5 (-11.9)	55.2 (-14.8)	57.0 (-9.6)	86.6 (57.3)	90.1 (65.2)	80.1 (45.3)	85.7 (50.4)
Unit value of import (CIF)	73.9 (-19.8)	68.8 (-6.8)	60.6 (-24.0)	60.3 (-24.9)	62.0 (-18.8)	60.6 (-20.2)	549.9 (807.4)	103.0 (70.8)	113.6 (83.3)	- -
Petroleum product (USD/bbl)										
Gasoline	69.4 (-37.4)	56.2 (-19.1)	53.5 (-28.1)	54.5 (-28.3)	59.1 (-30.0)	59.1 (-30.2)	66.0 (23.3)	67.7 (24.2)	64.8 (9.6)	59.8 (1.2)
Kerosene	64.7 (-42.5)	52.8 (-18.3)	48.3 (-32.8)	49.6 (-31.1)	55.1 (-28.6)	58.4 (-21.6)	62.6 (29.6)	63.9 (28.9)	61.1 (10.7)	57.0 (-2.2)
Diesel	66.6 (-41.6)	53.0 (-20.4)	48.2 (-34.3)	49.6 (-32.9)	56.1 (-30.4)	59.1 (-24.0)	63.6 (32.0)	65.0 (31.2)	62.0 (10.6)	58.4 (-1.2)
Bunker-C	45.2 (-47.7)	35.4 (-21.6)	29.1 (-44.9)	29.6 (-45.0)	34.3 (-42.1)	37.0 (-34.5)	47.9 (64.5)	48.0 (62.4)	47.3 (37.9)	45.3 (22.6)
Propane	416.3 (-47.4)	323.3 (-22.3)	315.8 (-29.9)	320.0 (-30.4)	325.0 (-30.1)	330.0 (-18.5)	437.5 (38.5)	430.0 (34.4)	385.0 (18.5)	385.0 (16.7)
Butane	436.7 (-46.1)	355.8 (-18.5)	353.3 (-24.2)	350.0 (-25.5)	380.0 (-20.0)	365.0 (-17.0)	494.2 (39.9)	490.0 (40.0)	390.0 (2.6)	390.0 (6.8)
Naphtha	52.5 (-44.3)	42.5 (-19.0)	40.2 (-29.6)	42.3 (-29.9)	44.0 (-30.4)	45.3 (-24.8)	51.3 (27.7)	52.2 (23.3)	48.6 (10.6)	44.8 (-1.2)

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

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

Total Primary Energy Supply (TPES)

	2015	2016					2017p			
			M1~4	M2	M3	M4	M1~4	M2	M3	M4
Coal (Mton)	134.8 (1.1)	129.0 (-4.4)	41.6 (-7.0)	10.1 (-6.3)	10.5 (-8.4)	9.6 (-8.7)	44.2 (6.2)	10.6 (5.1)	11.3 (7.8)	10.0 (4.0)
- Coking coal excluded	98.1 (2.5)	95.5 (-2.6)	30.7 (-6.1)	7.5 (-5.7)	7.7 (-8.3)	7.0 (-6.2)	33.2 (8.1)	8.0 (7.4)	8.5 (9.6)	7.4 (5.2)
Oil (Mbbbl)	856.2 (4.2)	924.2 (7.9)	302.7 (6.5)	76.5 (12.1)	76.4 (4.8)	70.8 (2.7)	307.1 (1.5)	74.6 (-2.4)	80.6 (5.5)	72.0 (1.6)
- Non-energy oil excluded	411.7 (6.0)	458.0 (11.2)	151.6 (11.3)	36.4 (7.9)	39.2 (9.6)	36.6 (12.2)	146.5 (-3.4)	36.2 (-0.8)	37.2 (-5.1)	34.8 (-4.9)
LNG (Mton)	33.4 (-8.7)	34.9 (4.2)	13.6 (-1.6)	3.7 (3.7)	3.3 (-4.3)	2.2 (-13.5)	14.1 (3.7)	3.9 (5.5)	3.5 (6.4)	2.5 (9.7)
Hydro (TWh)	5.8 (-25.9)	6.6 (14.5)	1.9 (-6.4)	0.4 (-19.9)	0.4 (-24.8)	0.5 (8.4)	2.0 (9.0)	0.5 (29.4)	0.5 (25.9)	0.5 (9.9)
Nuclear (TWh)	164.8 (5.3)	162.0 (-1.7)	59.5 (13.7)	14.2 (17.2)	14.6 (11.9)	15.3 (17.8)	52.0 (-12.7)	12.4 (-12.6)	13.2 (-9.8)	13.3 (-13.2)
Others (Mtoe)	12.8 (17.2)	15.0 (16.4)	5.0 (17.4)	1.2 (18.9)	1.3 (16.9)	1.3 (19.1)	5.7 (13.1)	1.4 (12.1)	1.4 (13.5)	1.4 (13.1)
TPES (Mtoe)	287.5 (1.6)	295.7 (2.9)	101.0 (2.4)	25.3 (5.8)	25.2 (0.6)	22.7 (-0.6)	102.6 (1.6)	25.4 (0.4)	26.3 (4.5)	23.1 (1.7)
- Non-energy oil excluded	232.2 (1.4)	237.6 (2.4)	82.2 (2.4)	20.3 (3.6)	20.6 (0.6)	18.5 (0.6)	82.6 (0.6)	20.6 (1.4)	20.9 (1.8)	18.5 (0.1)
- Non-energy oil&coal excluded	206.4 (1.9)	214.2 (3.8)	74.6 (3.8)	18.5 (5.0)	18.6 (1.6)	16.6 (2.6)	75.0 (0.5)	18.8 (1.7)	19.0 (1.7)	16.6 (0.1)

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

Share of TPES by Sources

(unit: %)

	2015	2016					2017p			
			M1~4	M2	M3	M4	M1~4	M2	M3	M4
Coal	29.7	27.6	26.1	25.4	26.4	26.9	27.2	26.5	27.2	27.5
- Coking coal excluded	20.8	19.7	18.6	18.1	18.7	18.9	19.8	19.3	19.7	19.6
Oil	38.1	39.9	38.5	38.7	39.0	40.0	38.1	37.5	39.0	39.7
- non-energy oil excluded	18.9	20.3	19.9	19.1	20.6	21.2	18.7	18.7	18.5	19.7
LNG	15.2	15.4	17.6	19.0	17.1	12.9	18.0	19.9	17.4	13.9
Hydro	0.4	0.5	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.5
Nuclear	12.1	11.6	12.4	11.8	12.2	14.2	10.7	10.3	10.6	12.2
Others	4.5	5.1	5.0	4.8	5.0	5.6	5.6	5.3	5.5	6.2
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			
			M1~4	M2	M3	M4	M1~4	M2	M3	M4
Industry	136.7 (0.5)	140.6 (2.8)	45.6 (1.0)	11.4 (6.0)	11.5 (-0.0)	10.9 (-1.8)	47.7 (4.6)	11.3 (-0.3)	12.5 (9.1)	11.4 (4.5)
Transport	40.3 (7.1)	42.8 (6.2)	13.8 (6.1)	3.2 (4.5)	3.5 (4.4)	3.6 (5.8)	13.7 (-1.2)	3.3 (1.9)	3.6 (2.0)	3.5 (-2.8)
Residential-commercial	36.4 (2.7)	38.2 (4.8)	16.5 (4.0)	4.7 (7.2)	3.9 (5.1)	2.9 (-1.1)	16.5 (-0.0)	4.8 (1.3)	3.9 (-1.4)	3.0 (3.7)
Public	5.2 (10.1)	5.5 (6.7)	2.0 (7.4)	0.5 (12.2)	0.5 (10.4)	0.4 (3.5)	2.0 (-0.3)	0.5 (1.5)	0.5 (-3.2)	0.4 (0.8)
TFC	218.6 (2.2)	227.1 (3.9)	78.0 (2.7)	19.8 (6.2)	19.5 (2.0)	17.8 (-0.1)	79.9 (2.4)	19.9 (0.5)	20.5 (5.4)	18.3 (2.8)
Coal (Mton)	52.4 (-1.3)	49.0 (-6.4)	15.6 (-6.8)	3.7 (-8.3)	3.9 (-10.1)	3.9 (-6.6)	15.3 (-1.8)	3.5 (-3.8)	4.1 (2.7)	3.6 (-5.5)
Oil (Mbbbl)	841.6 (4.1)	902.4 (7.2)	292.7 (5.2)	74.0 (10.5)	73.6 (4.4)	68.9 (1.8)	302.5 (3.4)	73.0 (-1.3)	79.9 (8.5)	71.5 (3.7)
Electricity (TWh)	483.7 (1.3)	497.0 (2.8)	170.6 (1.4)	43.6 (4.2)	42.2 (3.3)	40.1 (0.1)	173.0 (1.4)	44.4 (2.0)	42.6 (0.7)	40.8 (1.7)
City gas (Bm³)	20.8 (-5.9)	21.3 (2.3)	9.9 (1.8)	2.8 (8.1)	2.4 (1.0)	1.7 (-4.6)	10.2 (3.0)	2.9 (5.1)	2.5 (2.4)	1.8 (6.6)
Heat-others (1 000 toe)	12.7 (14.7)	14.4 (13.6)	5.2 (13.5)	1.3 (13.8)	1.3 (12.5)	1.2 (13.1)	5.7 (8.3)	1.4 (8.1)	1.4 (8.7)	1.3 (10.3)

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			
			M1~4	M2	M3	M4	M1~4	M2	M3	M4
Industry	62.5	61.9	58.5	57.4	59.0	61.3	59.7	56.9	61.1	62.3
Transport	18.4	18.8	17.7	16.3	18.2	20.2	17.1	16.5	17.6	19.1
Residential-commercial	16.7	16.8	21.2	23.7	20.2	16.1	20.7	23.9	18.9	16.2
Public	2.4	2.4	2.6	2.6	2.7	2.4	2.5	2.6	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	13.3	12.4	13.5	14.4	12.8	11.9	13.2	13.4
Oil	49.1	50.5	47.8	47.4	48.2	49.4	48.0	46.5	49.5	49.9
Electricity	19.0	18.8	18.8	18.9	18.6	19.4	18.6	19.2	17.8	19.2
City gas	10.1	9.9	13.4	14.8	13.1	10.1	13.5	15.4	12.7	10.5
Heat-others	5.8	6.3	6.7	6.6	6.6	6.6	7.1	7.1	6.8	7.1

Note: p means provisional
Source: Monthly energy statistics

Statistics on Energy Production Facilities

	2014	2015	2016				2017p		
				M2	M3	M4	M2	M3	M4
Total capacity (GW)	93.2 (7.2)	97.6 (4.8)	105.9 (13.6)	98.8 (13.3)	98.8 (13.3)	98.9 (12.2)	107.1 (13.8)	109.5 (14.8)	110.7 (16.0)
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)	23.1 (11.6)	23.1 (11.6)
Bituminous coal	25.9 (10.7)	26.2 (1.1)	30.9 (19.3)	26.4 (9.3)	26.4 (9.3)	26.4 (9.5)	31.0 (19.6)	31.6 (21.9)	31.6 (21.9)
Gas	30.3 (27.2)	32.2 (6.5)	32.6 (7.8)	32.5 (26.2)	32.5 (26.2)	32.6 (20.7)	33.5 (8.0)	35.2 (10.4)	36.2 (13.6)
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		
				M2	M3	M4	M2	M3	M4
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 (3.2)	18.1 (3.2)	18.2 (3.2)	18.2 (3.3)
Registered cars (mil)	20.1 (3.7)	21.0 (4.3)	21.8 (3.9)	21.1 (4.2)	21.2 (4.3)	21.3 (4.3)	21.9 (3.8)	22.0 (3.7)	22.1 (3.6)
- gasoline	9.6 (2.0)	9.8 (2.3)	10.1 (2.9)	9.9 (2.3)	9.9 (2.4)	9.9 (2.4)	10.2 (3.0)	10.2 (3.0)	10.2 (3.1)
- diesel	7.9 (7.3)	8.6 (8.6)	9.2 (6.4)	8.7 (8.4)	8.8 (8.4)	8.8 (8.4)	9.2 (5.9)	9.3 (5.5)	9.3 (5.3)
- LPG	2.3 (-2.3)	2.3 (-3.4)	2.2 (-4.0)	2.2 (-3.6)	2.2 (-3.6)	2.2 (-3.7)	2.2 (-3.9)	2.2 (-3.8)	2.1 (-3.6)
- hybrid	0.1 (40.0)	0.2 (31.3)	0.2 (37.6)	0.2 (29.0)	0.2 (28.9)	0.2 (30.9)	0.2 (37.5)	0.2 (37.6)	0.2 (31.2)

Note: () is year-on-year growth rates (%)
Source: Monthly energy statistics

KEEI

MONTHLY **KOREA ENERGY TRENDS** [2017, NO.64]



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 or call +82-52-714-2270.

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

Phone: +82-52-714-2270

Fax: +82-52-714-2025

Email: webmaster@keei.re.kr

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