

KEEI

MONTHLY KOREA ENERGY TRENDS

KOREA ENERGY ECONOMICS INSTITUTE

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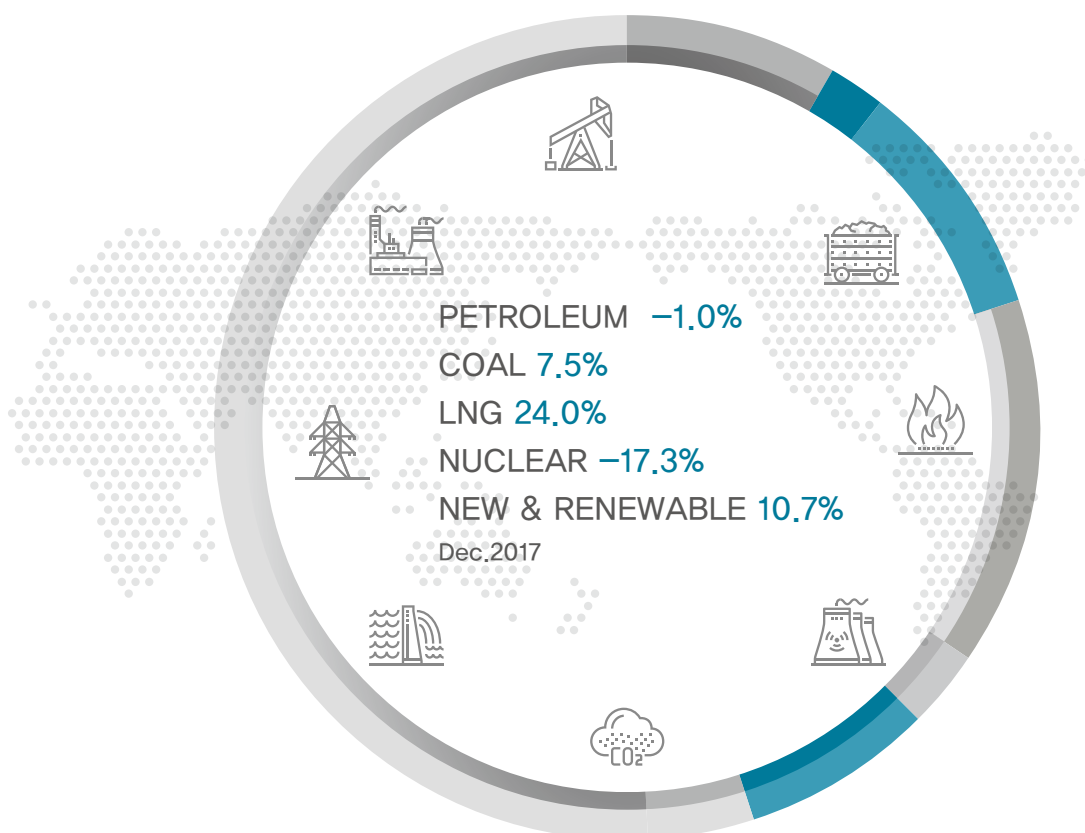


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1. The Economy and the Industry

- **Global domestic product (“GDP”) posted a year-on-year growth of 3.0% in the 4Q 2017, backed by decent growth in private spending and investment.**
 - The private spending rose by 3.4% year-on-year on the back of stronger consumer sentiment and increased spending on winter products and heating devices due to extremely cold weather.
 - Construction investment increased by 4.4% year-on-year, although the growth was slower due to a downturn in the construction industry. Meanwhile, facility investment made a decent growth of 10.0% along with the extension of semiconductor facilities.
- **The total export value increased by 8.8% year-on-year in December, marking 14 consecutive months of growth, driven by growing export demand for semiconductors and petroleum & petrochemical products.**
 - The export value of semiconductors rose by 64.9%, posting the nine consecutive months of over 50% growth, with surging demand leading to the steady increase in memory price.
 - The export value of petroleum and petrochemical products went up by 31.7% and 21.9% respectively, as unit price increased in line with rising oil price and export volume was larger.
 - The export value of iron & steel products was up 8.1%, despite smaller export volume (-5.8%), as the export of high value-added iron & steel products increased.
- **The production index of mining and manufacturing industries fell by 4.6% due to the output reduction in the cement production and automobile industries, while the production index of service industry rose by 1.1%.**
 - The production index of mining and manufacturing industries has been down for three months in a row due to the reduced outputs of automobile (-29.3%), cement (-9.7%) and iron & steel product (-8.5%), although the output increased in the basic petrochemical (4.6%) and ICT (5.1%) industries.

► Trend in major economic and industrial indicators

	2015	2016	2017			2017		
			M10	M11	M12	M10	M11	M12
GDP (trillion won)	1 466.8 (2.8)	1 508.3 (2.8)	-	-	395.9 (2.4)	-	-	407.8 (3.0)
Total export (\$billion, customs clearance basis)	526.8 (-8.0)	495.4 (-5.9)	42.0 (-3.2)	45.3 (2.3)	45.1 (6.3)	44.8 (6.7)	49.7 (9.7)	49.0 (8.8)
Semi-conductors	62.9 (0.4)	62.2 (-1.1)	5.6 (2.5)	5.7 (-2.6)	5.6 (1.7)	8.8 (56.7)	9.7 (69.9)	9.5 (69.6)
Petrochemicals	37.8 (-21.6)	36.2 (-4.3)	3.2 (4.2)	3.1 (-0.3)	3.0 (0.1)	3.7 (17.8)	4.3 (41.6)	3.1 (6.2)
Iron & steel	30.2 (-15.0)	28.5 (-5.5)	2.2 (-1.0)	2.5 (10.7)	2.4 (0.4)	2.3 (4.4)	2.6 (4.2)	2.6 (8.1)
Mining and manufacturing production index (2010=100)	100.0 (-0.3)	102.3 (2.3)	104.9 (-0.7)	109.0 (6.2)	111.3 (5.6)	99.0 (-5.6)	107.8 (-1.1)	106.2 (-4.6)
ICT production index	100.0 (1.4)	107.0 (7.0)	117.7 (-0.7)	117.1 (7.7)	110.8 (9.7)	122.2 (3.8)	114.9 (-1.9)	116.5 (5.1)
Service industry production index (2010=100)	100.0 (2.8)	102.6 (2.6)	103.5 (1.5)	103.3 (2.3)	112.9 (1.7)	102.1 (-1.4)	106.5 (3.1)	114.1 (1.1)

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

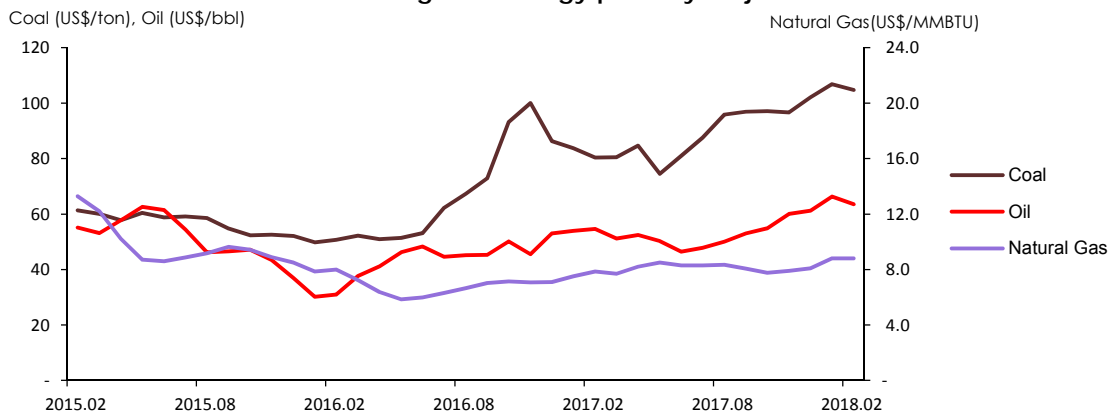
- **Global oil price went down by 4.2% in February from a month earlier due to the prospect of bigger crude oil output in the U.S., and a larger coal inventory.**
 - According to the EIA's February report on short term energy outlook, the U.S. crude oil output is expected to grow by 1.26 million b/d in 2018 compared to the previous year.
 - The recent drop in global oil price was seemingly resulted from increased shale oil production in the U.S. during the time of high oil price and accordingly expanded inventories of crude oil and gasoline.
- **Coal price fell slightly but is still over \$100/ton, and natural gas price has been around \$8/MMBTU.**
 - Global coal price saw a slight decline, as China imported less amount of coal for power generation according to the slower growth of power demand during winter/falling power demand during winter.

► Trend in global energy prices

	2016		2017			2018		
		M12	M1	M2		M12	M1	M2
Crude oil (US\$/bbl)	43.3	53.1	53.9	54.6	53.0	61.2	66.3	63.5
	(-15.2)	(43.2)	(78.6)	(76.1)	(22.4)	(15.4)	(23.0)	(16.3)
Natural gas (US\$/MMBTU)	6.9	7.1	7.5	7.9	8.0	8.1	8.8	8.8
	(-32.6)	(-16.5)	(-4.2)	(-2.0)	(16.9)	(13.8)	(17.0)	(12.1)
Coal (US\$/ton)	65.9	86.3	83.7	80.4	88.4	102.1	106.9	104.7
	(14.7)	(65.6)	(68.1)	(58.6)	(34.1)	(18.3)	(27.6)	(30.2)

Note: Global oil price is the average of the three benchmarks; Brent, Dubai, WTI, Natural gas and coal prices are based on Japan's LNG importing price from Indonesia (CIF) and the price of Australian coal. () is year-on-year growth rates (%)
Source: www.petronet.co.kr, World Bank(Commodity Markets)

► Trend in global energy price by major sources



Domestic energy prices

□ Gasoline and diesel prices went up by 0.8% and 1.2% respectively in February on a year-on-year basis, influenced by the global oil price increase in the prior month

- Domestic prices of gasoline and diesel have steadily increased for seven months since last August, reaching the highest level since July and June 2015 respectively, as the global oil price had continuously increased until January.

□ Domestic propane and butane prices were the same as the previous month in February in line with the global prices.

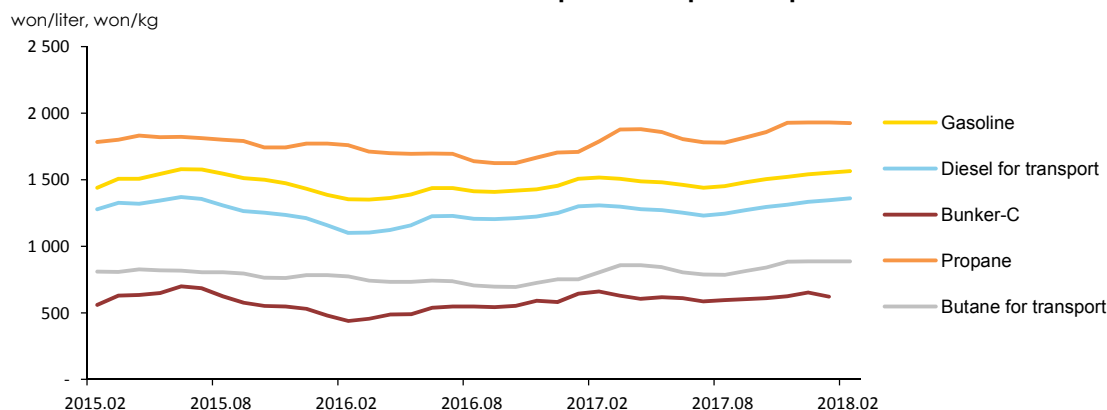
- Global prices of propane and butane (Saudi Aramco's supply price) were \$590/ton and \$570/ton respectively in January, the same as the previous month, and based on those prices, the domestic prices were set in February.

► Trend in domestic energy prices

	2016		2017			2018		
		M12	M1	M2		M12	M1	M2
Gasoline (won/liter)	1 402.9	1 454.6	1 507.9	1 516.7	1 491.4	1 540.3	1 551.8	1 564.6
	(-7.1)	(1.5)	(8.9)	(12.2)	(6.3)	(5.9)	(2.9)	(3.2)
Diesel for transport (won/liter)	1 182.9	1 249.7	1 300.2	1 307.5	1 282.6	1 332.4	1 344.9	1 360.4
	(-9.0)	(3.2)	(12.3)	(18.7)	(8.4)	(6.6)	(3.4)	(4.0)
Bunker-C (won/liter)	521.1	579.8	643.1	660.6	619.4	652.3	621.7	-
	(-14.9)	(9.1)	(33.7)	(50.4)	(18.9)	(12.5)	(-3.3)	-
Propane (won/kg)	1 689.7	1 705.0	1 707.8	1 788.2	1 833.7	1 929.8	1 929.2	1 926.3
	(-6.2)	(-3.7)	(-3.5)	(1.6)	(8.5)	(13.2)	(13.0)	(7.7)
Butane for transport (won/liter)	733.9	751.6	752.1	805.2	826.4	885.1	885.3	886.0
	(-9.0)	(-3.9)	(-3.8)	(4.3)	(12.6)	(17.8)	(17.7)	(10.0)

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

► Trend in domestic petroleum product prices



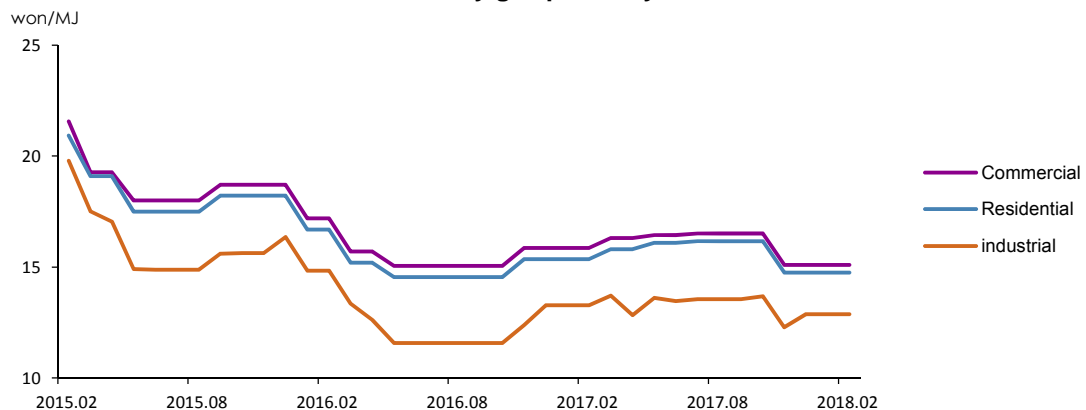
□ **City gas price has been stagnant for four months after it had plunged following the collection of all accounts receivable by Korea Gas Corporation (“KOGAS”) in November, 2017.**

- Under the raw material cost pass-through scheme, city gas price is adjusted bimonthly in every odd month in order to reflect over 3% changes in natural gas import price, which is affected by global oil price and exchange rates.
- The accounts receivable was accumulated with the suspension of the raw material cost pass-through scheme (2008.3~2013.2) in the time of high oil price, and after KOGAS completed the collection of all accounts receivable through rate increase from Sept 2010 until Nov 2017, the rates declined again.

□ **Heat energy price has been also at the same level for the last four months.**

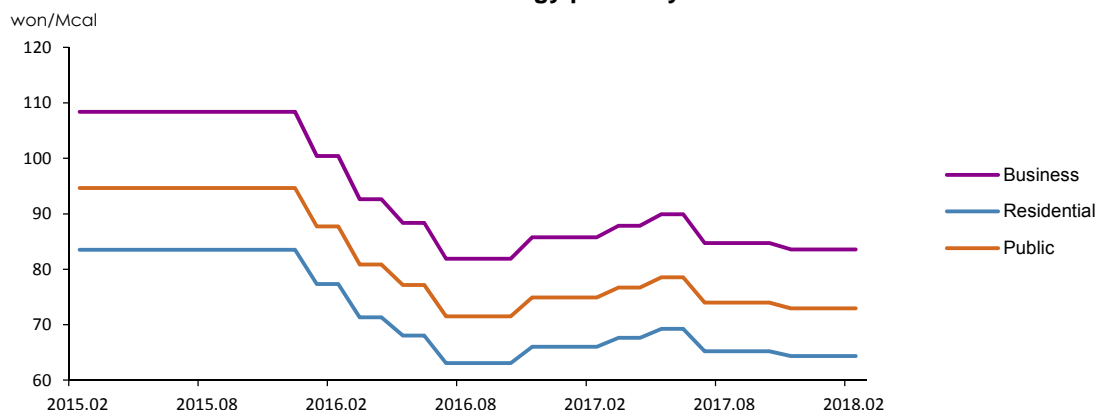
- Korea District Heating Corporation’s heat energy price is linked to city gas price according to the fuel cost pass-through scheme, and the actual fuel cost is reflected in the heat energy price once a year (LNG for over 100MW, city gas for under 100MW).

► Trend in city gas prices by end-use sectors



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

► Trend in heat energy prices by end-use sectors



Note: The rates are based on flat rate for heating (additional tax, base charge excluded)

Source: Korea District Heating Corporation.

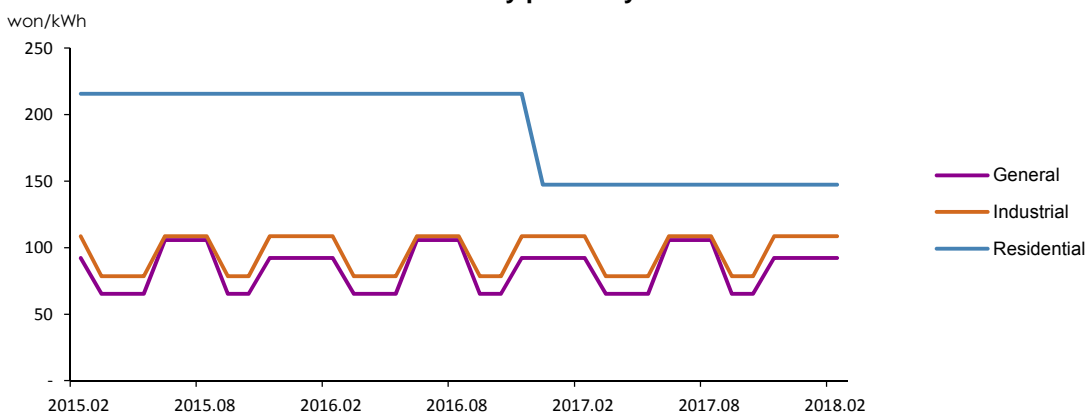
☐ Electricity prices for each end-use¹ were stagnant in December, and the prices have been flat after the seasonal adjustment for industrial and general customers in November, 2017.

- Electricity prices for industrial and general customers rose by 38.2% and 41.6% respectively in November from the previous month, as the prices were adjusted for winter (Nov-Feb) from spring/autumn (Mar-May, Sep-Oct).
- The residential electricity price does not change by season, and it has been stagnant since it had plunged (-31.7%) with the reform of the progressive pricing scheme (2016.12), which was caused by last summer's scorching heatwave.

☐ The unit prices of electricity for industrial and residential customers rose by 0.8% and 5.0% respectively in January, while general customers saw a 2.8% decline.

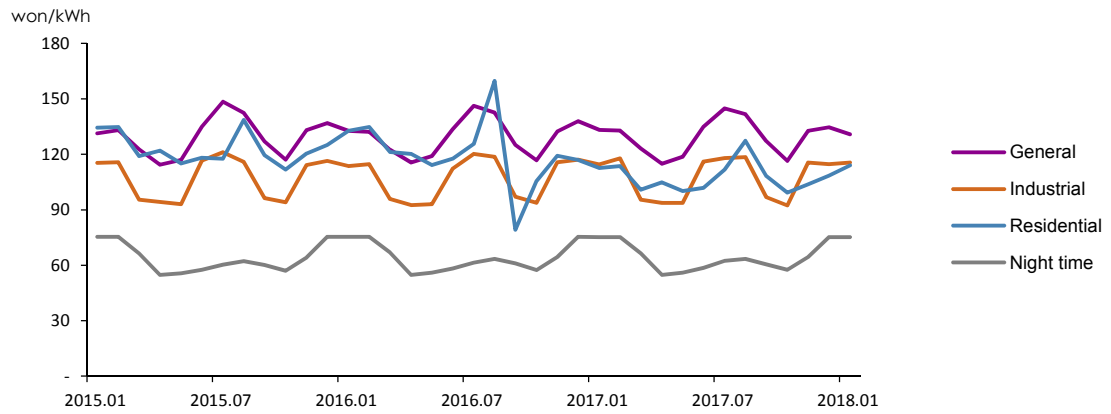
- The unit prices of electricity declined for general use while slightly increased for industrial use, and it rose dramatically for residential use under the progressive pricing scheme, as unusually cold weather drove up the power demand mainly for heating.

► Trend in electricity prices by end-use sectors



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

► Trend in unit price of electricity



3. Energy Supply

□ The import of crude oil and LNG increased in December on a year-on-year basis, while that of petroleum products and bituminous coal declined.

- Crude oil import increased according to bigger crude input to refineries with its higher utilization rates, though the growth of import was not significant, as crude inventory that was accumulated in the prior month was used in December
- The import volume of petroleum products declined more sharply with the 13.6% drop in naphtha import, despite bigger import of bunker-C oil (41.2%).
- The import volume of bituminous coal declined for the first time since November, 2016, as coking coal and steam coal import both declined (-11.2%, -14.8%).
- The LNG import volume increased with KOGAS's continued import of LNG from the U.S. after June, 2017.
- Foreign energy dependency² rose by 1.8%p to 87.1%, posting the largest growth since January, 2017, despite increased renewable generation at home, partly because of bigger LNG import.

► Trend in energy trade and domestic production

	2014	2015	2016	2017p	M10	M11	M12
Import volume							
Crude oil (Mbbl)	927.5 (1.4)	1 026.2 (10.6)	1 078.1 (5.1)	1 118.2 (3.7)	92.8 (9.7)	94.7 (3.3)	99.9 (0.1)
Petroleum product (Mbbl)	326.6 (-0.8)	307.9 (-5.7)	334.6 (8.7)	314.0 (-6.2)	26.6 (-3.2)	24.1 (-17.0)	26.2 (-4.5)
Bituminous coal (Mton)	117.9 (1.4)	119.4 (1.3)	118.5 (-0.8)	131.5 (11.0)	9.8 (6.1)	10.0 (1.1)	11.0 (-13.9)
Anthracite (Mton)	8.3 (-2.2)	8.9 (7.8)	9.4 (5.4)	7.0 (-25.7)	0.3 (-67.9)	0.6 (-37.4)	0.6 (-2.1)
LNG (Mton)	37.1 (-6.9)	33.4 (-10.1)	33.5 (0.3)	37.6 (12.3)	2.8 (-15.3)	3.3 (-2.9)	4.2 (4.1)
Import volume (Mtoe)	309.5 (0.2)	314.8 (1.7)	323.1 (2.7)	338.8 (4.9)	27.9 (3.7)	27.9 (-0.3)	30.7 (-1.5)
Import value (billion US\$, CIF)	174.1 (-2.6)	102.7 (-41.0)	80.9 (-21.2)	109.5 (35.2)	8.9 (24.4)	9.6 (15.3)	11.0 (22.2)
Domestic production							
Hydropower (TWh)	7.8 (-6.8)	5.8 (-25.9)	6.6 (14.5)	7.0 (5.2)	0.6 (19.7)	0.4 (2.5)	0.5 (-3.1)
Anthracite (Mton)	1.7 (-3.7)	1.8 (0.9)	1.7 (-2.2)	1.5 (-13.9)	0.1 (-36.3)	0.1 (-22.6)	0.1 (-19.2)
Natural gas (Mton)	0.2 (-30.5)	0.1 (-41.5)	0.1 (-18.0)	0.3 (120.5)	0.0 (-4.6)	0.0 (-2.7)	0.0 (-12.7)
Renewable energy (Mtoe)	11.0 (21.9)	12.8 (17.2)	13.6 (5.7)	15.0 (10.2)	1.2 (8.0)	1.2 (10.4)	1.3 (10.7)

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's included, the foreign energy dependency fell by 0.2%p year-on-year to 94.8% due to decreased import of nuclear energy (-16.5%).

4. Energy Consumption

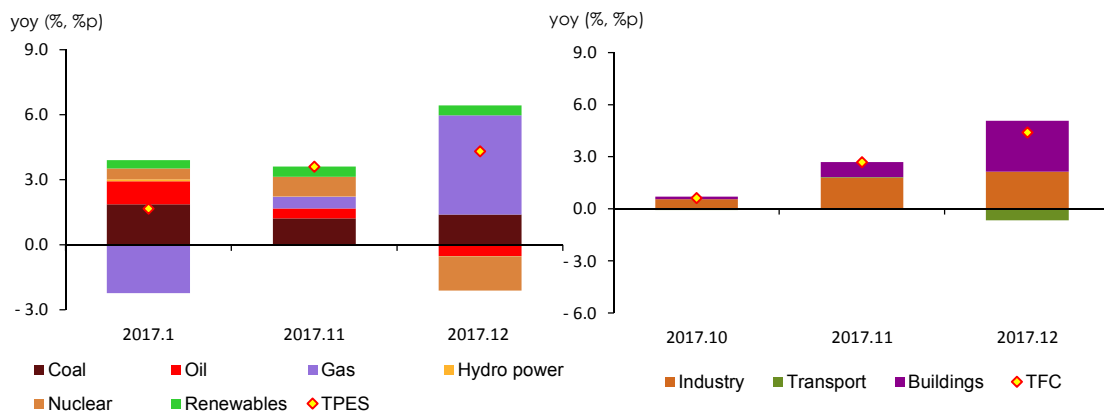
- **Total Primary Energy Supply (“TPES”) increased by 4.3% year-on-year in December due to increased coal and gas consumption, although petroleum and nuclear energy consumption decreased.**
 - Petroleum consumption fell by 1.0%, as increased LPG price led to a sharp drop in the industrial LPG consumption, and transport petroleum use also declined due to higher price.
 - Nuclear generation declined by 17.3%, as capacity factors fell by 11.1%p year-on-year after the restart of some reactors was delayed and planned preventive maintenance surged (3.2GW, 54.0%).
 - Coal consumption went up by 7.5%, as the consumption increased by near 10% in the steelmaking industry partly due to base effect, and increased installed capacity (4.7GW, 14.6%) resulted in increased coal consumption for power generation (7.6%), though the consumption fell sharply in the cement industry (-20.7%)
 - Gas consumption was up 24.0%, led by the power generation and city gas production sectors (28.6%, 20.8%), affected by growing power demand, decreased baseload generation and weather conditions.
- **Total Final Consumption (“TFC”) rose by 4.4% year-on-year in December, as the energy use grew faster in the industrial and buildings sectors due to increased production and lower temperatures.**
 - Industrial energy use increased by 3.7%, as the petrochemical and primary metals industries increased production, and thus, consumed more energy as feedstock.
 - Transport energy use fell by 3.8%, as the consumption declined in all of the road, navigation and aviation sectors due to increased petroleum product prices.
 - Energy consumption in buildings rose by 12.2%, mainly driven by heating demand with higher heating degree days and lower price of heating energy.
 - Electricity consumption was up 5.2% despite fewer work days, as the consumption increased in the industrial (2.8%) and buildings sectors due to bigger outputs of petrochemical products and semiconductors in addition to increased heating degree days.

► Energy consumption trend

	2014	2015	2016	2017p	M10	M11	M12
Total energy (Mtoe)	283.1 (0.9)	287.7 (1.6)	294.6 (2.4)	301.1 (2.2)	23.9 (1.7)	26.1 (3.6)	29.0 (4.3)
Final energy (Mtoe)	213.8 (1.7)	218.4 (2.1)	225.5 (3.3)	232.5 (3.1)	18.4 (0.6)	20.0 (2.7)	22.2 (4.4)

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

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



5. Coal

□ Coal consumption posted a year-on-year growth of 7.5% in December, led by the industrial and power generation sectors.

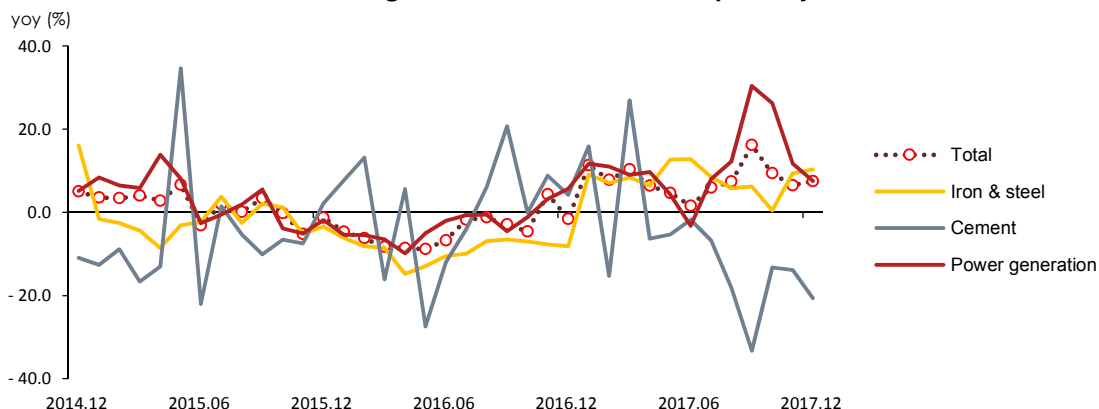
- Coal use for power generation has been continuously increasing, backed by the commissioning of new coal-fired power plants (4.7GW, 14.6%), although such growth slowed down in December due to a surge in preventive maintenance on daily average (2.1GW, 179.2%).
- Industrial coal use posted the most rapid growth since February, 2017, due to increased coal use (10.3%) in the steelmaking industry— the largest coal consumer—although the consumption declined by 20.7% in the cement industry.
- Anthracite consumption in buildings plunged, as the price increase (2017.12) weakened the fuel's price competitiveness.

► Coal consumption trend

	2014	2015	2016	2017p	M10	M11	M12
Coal (Mton)	133.6	135.2	129.4	139.7	11.5	11.8	12.9
	(2.9)	(1.2)	(-4.3)	(7.9)	(9.4)	(6.5)	(7.5)
Industry	51.7	51.3	47.9	49.2	3.7	4.2	4.3
	(7.9)	(-0.8)	(-6.6)	(2.7)	(-13.2)	(-1.0)	(8.8)
Buildings	1.6	1.5	1.3	1.1	0.2	0.2	0.1
	(-15.0)	(-9.6)	(-14.8)	(-14.1)	(-14.4)	(-2.4)	(-23.2)
Power generation	80.3	82.5	80.3	89.4	7.6	7.3	8.4
	(0.3)	(2.8)	(-2.7)	(11.3)	(26.2)	(11.6)	(7.6)

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

► The growth rate of coal consumption by use



6. Petroleum

□ **Petroleum consumption fell by 1.0% year-on-year in December, as the industrial LPG consumption declined, and the transport sector saw faster decline as well.**

- Industrial petroleum consumption rose by mere 0.5%, despite increased use of non-energy oil, owing to decreased use of energy-oil.
- Petroleum consumption in the transport sector has been falling for three straight months partly due to increased prices of petroleum products, largely contributing to the decline of total petroleum consumption.
- Petroleum consumption in the buildings sector has increased for two consecutive months with increased heating degree days (98.4degree days), even though prices were higher.
- Petroleum consumption in the transformation sector maintained its downward trend, as coal and gas-fired generation increased while oil-based generation decreased, affected by higher bunker-C oil price.

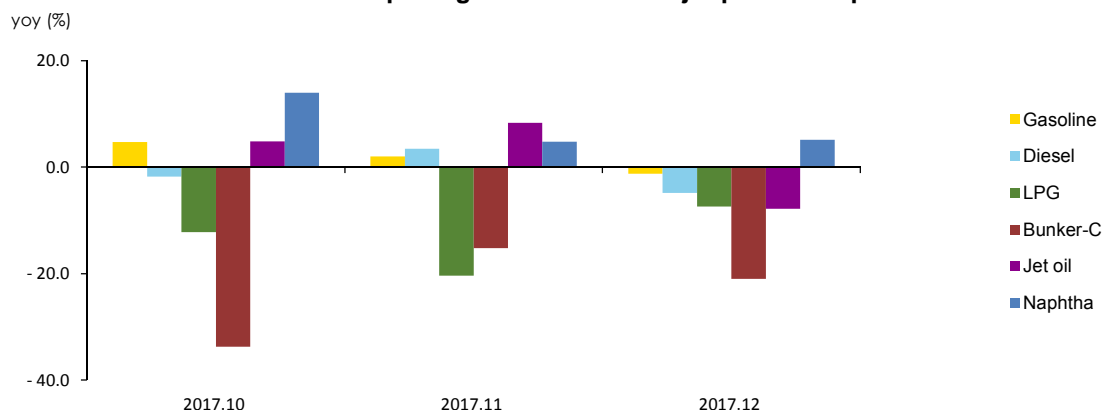
► **Trend in petroleum product consumption by end-use sectors**

	2014	2015	2016	2017p	M10	M11	M12
Petroleum (Mbbbl)	821.5	856.2	924.2	938.2	80.1	80.2	85.2
	(-0.5)	(4.2)	(7.9)	(1.5)	(2.9)	(0.6)	(-1.0)
Industry	491.8	501.0	542.6	566.8	50.1	48.5	50.2
	(2.1)	(1.9)	(8.3)	(4.5)	(7.6)	(2.1)	(0.5)
Transport	268.8	287.1	303.6	304.4	25.1	25.1	25.7
	(0.5)	(6.8)	(5.7)	(0.3)	(-0.4)	(-0.4)	(-4.1)
Buildings	47.9	53.5	56.3	56.9	4.4	6.0	7.6
	(-3.8)	(11.7)	(5.2)	(1.1)	(-0.6)	(5.4)	(7.3)
Power generation	13.0	14.6	21.8	10.1	0.4	0.6	1.6
	(-50.4)	(13.0)	(48.7)	(-53.6)	(-74.8)	(-52.7)	(-24.9)

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

Source: Monthly Energy Statistics

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



7. Gas

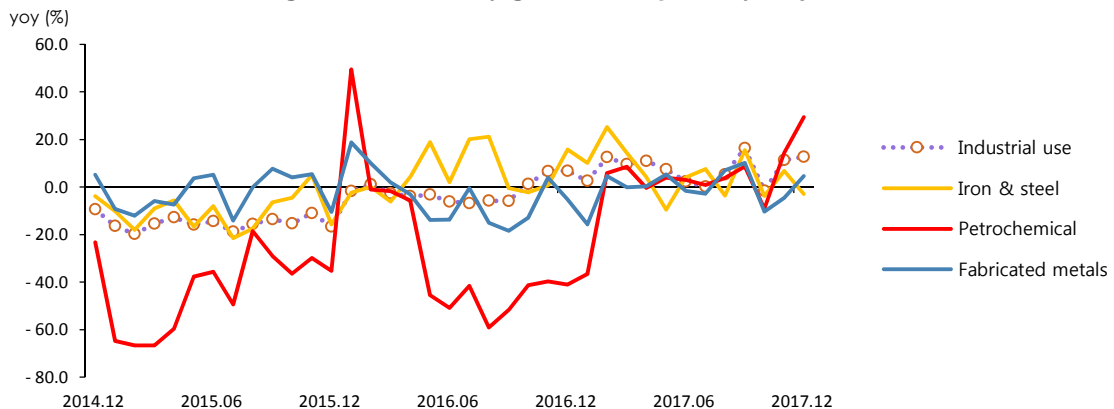
- **Gas consumption went up by 24.0% year-on-year in December, due to dramatically increased gas use for power generation and city gas production.**
 - Gas consumption increased in the power generation sector, affected by bigger power demand (5.2%) and a smaller share of baseload generation (-6.2%) in the total power generation. In addition, the amount of gas used for city gas production grew most rapidly since March 2012 partly due to increased heating demand.
- **City gas consumption was up 17.7% in December on a year-on-year basis, with the consumption posting double-digit growth in the buildings and industrial sectors.**
 - City gas consumption increased by around 20% with much higher heating degree days (98.4degree days, 18.9%), and the consumption growth was led by the residential sector.
 - Industrial city gas consumption grew by over 10%, as the consumption increased in the petrochemical industry (29.4%) due to the base effect of a plunge in the same month last year (-41.1%), and as the fabricated metals industry consumed more city gas (4.6%), affected by growing export demand for semiconductors.

► Trend in natural gas and city gas consumption

	2014	2015	2016	2017p	M10	M11	M12
LNG (Mton)	36.6	33.4	34.9	36.1	2.2	3.6	5.0
	(-9.0)	(-8.7)	(4.4)	(3.5)	(-15.8)	(2.8)	(24.0)
Power generation	16.3	14.6	15.5	15.6	0.9	1.5	1.9
	(-9.5)	(-10.6)	(6.4)	(0.4)	(-30.9)	(-5.7)	(28.6)
City gas production	18.2	16.9	17.4	18.4	1.1	1.9	2.8
	(-7.2)	(-6.9)	(2.7)	(5.8)	(-1.1)	(10.1)	(20.8)
City gas (bm³)	22.1	20.8	21.3	22.6	1.3	2.1	3.1
	(-7.5)	(-5.9)	(2.3)	(6.2)	(0.7)	(7.8)	(17.7)
Industry	8.7	7.3	7.2	7.8	0.6	0.7	0.8
	(-8.8)	(-15.5)	(-1.4)	(7.6)	(-1.5)	(11.3)	(12.8)
Buildings	12.2	12.2	12.8	13.6	0.6	1.2	2.2
	(-7.4)	(0.5)	(5.0)	(5.9)	(4.1)	(6.3)	(20.7)

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 5.2% year-on-year in December, led by the industrial and buildings sectors due to growing exports and weather conditions.

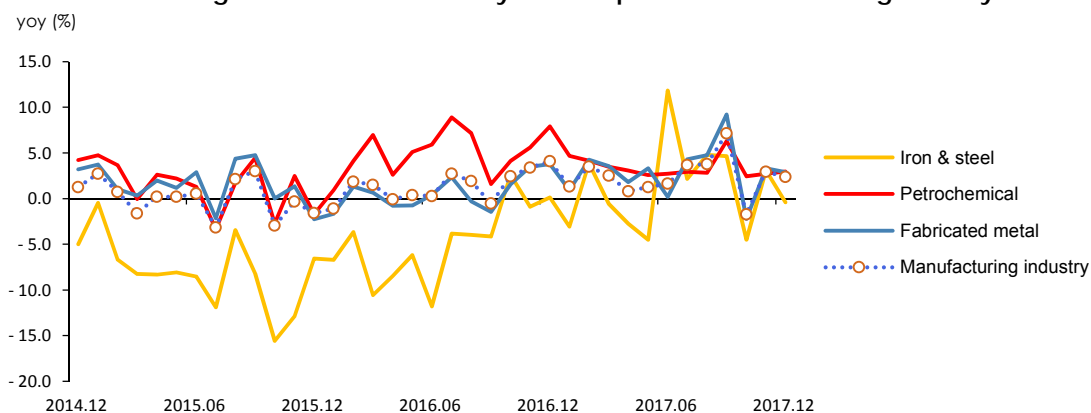
- Industrial electricity consumption rose by near 3% year-on-year, especially in the petrochemical and fabricated metals industries, backed by growing export demand, although the growth was slower partly because of fewer work days (-2 days).
- Electricity consumption in buildings drastically increased by near 8% due to cold weather and stronger production in the service industry.

► Trend in electricity consumption by end-use sectors

	2014	2015	2016	2017p	M10	M11	M12
Electricity (TWh)	477.6 (0.6)	483.7 (1.3)	497.0 (2.8)	507.7 (2.2)	38.4 (-0.5)	41.3 (2.6)	45.8 (5.2)
Industry	264.6 (3.0)	265.6 (0.4)	270.0 (1.6)	276.7 (2.5)	21.8 (-1.7)	23.4 (3.1)	24.2 (2.8)
Transport	2.0 (-7.6)	2.2 (10.7)	2.7 (21.3)	2.8 (4.9)	0.2 (5.6)	0.2 (10.6)	0.3 (14.0)
Buildings	211.0 (-2.3)	215.8 (2.3)	224.4 (4.0)	228.3 (1.7)	16.4 (1.1)	17.7 (1.8)	21.3 (7.9)

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

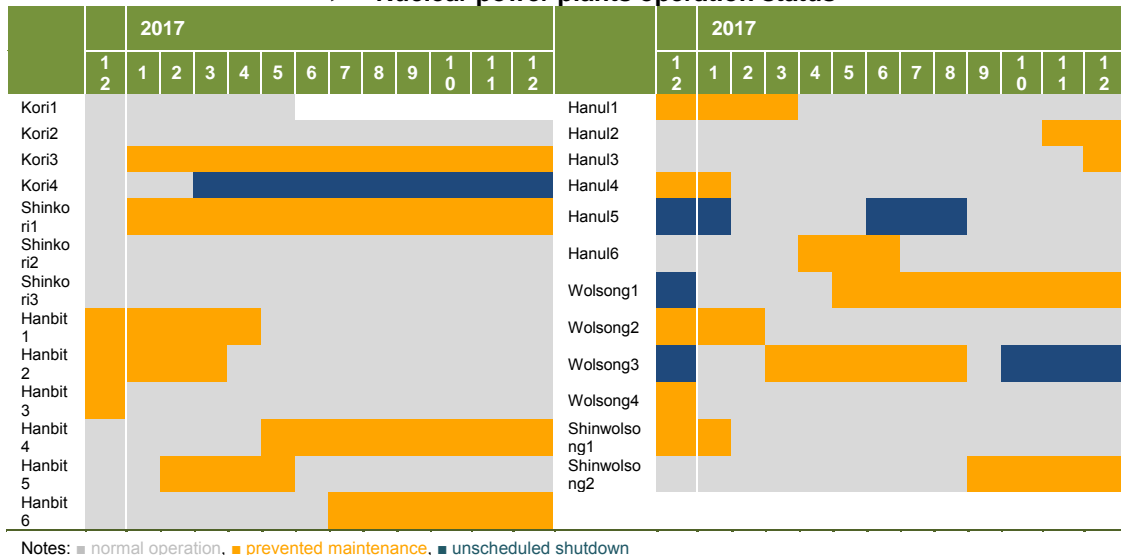
► The growth rate of electricity consumption in manufacturing industry



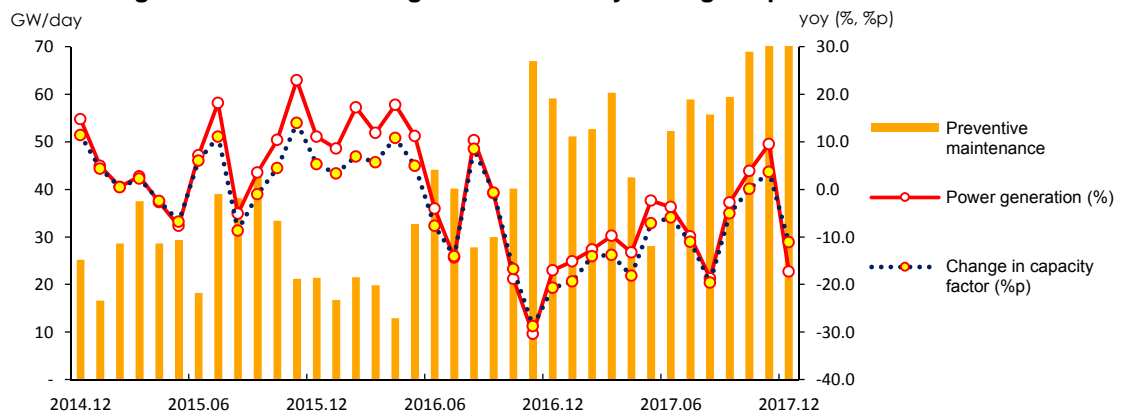
9. Nuclear

- **Nuclear generation declined by 17.3% year-on-year in December, as a sharp increase in preventive maintenance led to lower capacity factors at nuclear power plants.**
 - The average capacity factors fell by 11.1%p year-on-year to 62.3%, as the restart of nuclear reactors was delayed for safety inspections, and planned preventive maintenance surged (3.2GW, 54.0%).
 - Nuclear energy accounted for 20.1% of the total generation, which was a 5.5%p drop from the same month last year.

► **Nuclear power plants operation status**



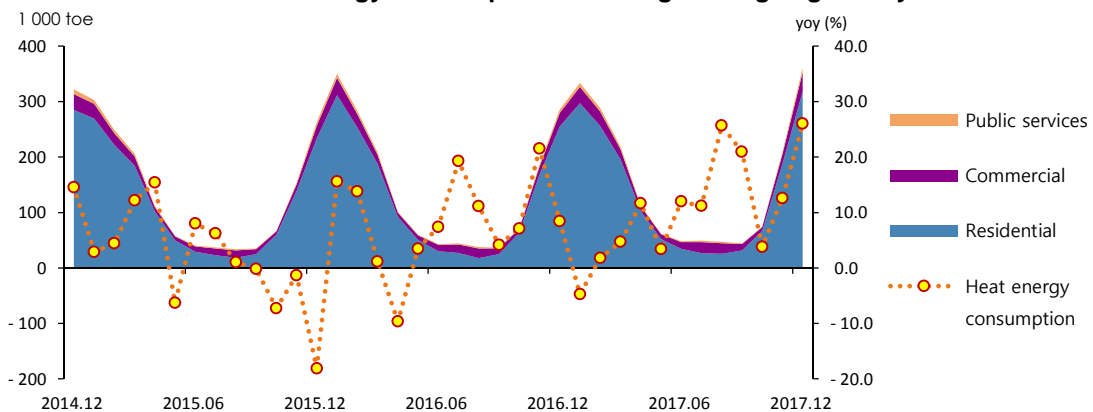
► **The growth rate of nuclear generation & daily average of preventive maintenance**



10. Heat and Renewable energy

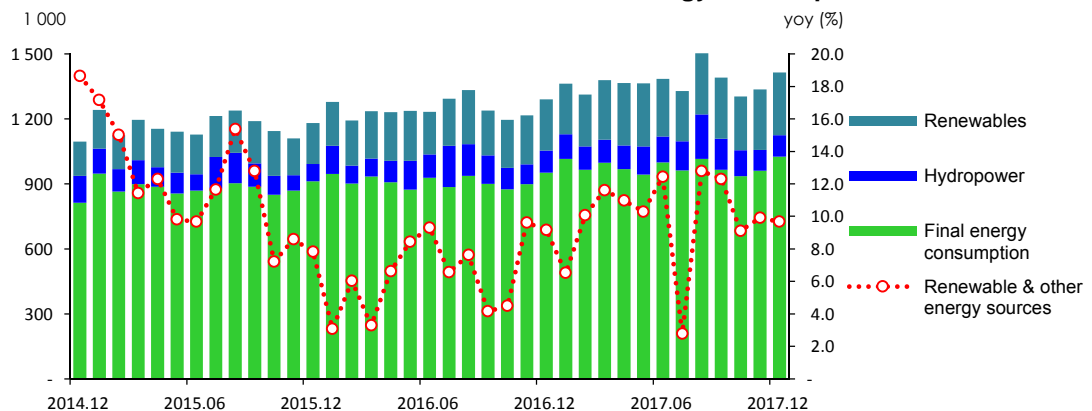
- **Heat energy consumption posted a year-on-year growth of 26.0% in December with much higher heating degree days due to a cold wave in winter.**
 - Heat energy consumption in the residential, commercial and public sectors grew by 24.7%, 40.7% and 23.8% respectively, as the heating degree days rose dramatically (98.4degree days, 18.9%) due to lower average temperature (-3.2°C YoY) during the cold wave that started in December.
- **Renewable & other energy consumption went up by 9.7% year-on-year in December because of increased renewable generation, and the renewable's share of TFC also increased.**
 - Renewable generation (except hydro) rose by 22.7%, backed by a continuous surge in solar PV, wind and bioenergy generation, and renewable's share of TFC increased by 7.7%.
 - Hydropower generation fell by 3.1%, affected by the base effect of a surge during the same period last year (29.2%), although the amount of precipitation was at the average level (21.9mm).

► 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 3.7% in December on a year-on-year basis, driven by growing export in the petrochemical and primary metals industries.

- Energy consumption in the petrochemical industry rose by around 2%, despite fewer work days (-2 days), owing to the growing export demand and bigger outputs.
- Energy consumption in the primary metals industry increased, mainly coking coal, although the production index declined due to fewer work days.
- Energy consumption in the fabricated metals industry grew more slowly, despite growing export demand for semiconductors, partly because of the output reduction in the automobile industry.

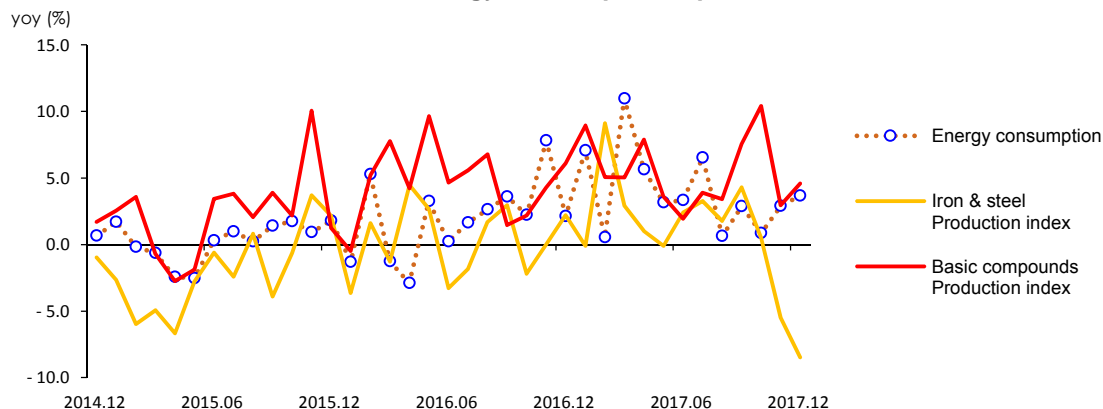
► Trend in the industrial energy consumption

	2014	2015	2016	2017p	M10	M11	M12
Industry (Mtoe)	135.3	135.7	138.3	143.8	11.9	12.4	12.8
	(3.8)	(0.3)	(1.9)	(4.0)	(0.9)	(2.9)	(3.7)
Petrochemical	62.1	61.7	65.9	68.6	6.1	5.7	6.1
	(3.2)	(-0.6)	(6.8)	(4.1)	(8.7)	(1.3)	(2.5)
- Naphtha	48.6	50.4	52.7	56.2	5.0	4.8	5.0
	(3.1)	(3.7)	(4.7)	(6.6)	(14.0)	(4.8)	(5.1)
- Iron & Steel	31.6	30.6	28.1	30.0	2.4	2.5	2.6
	(14.7)	(-3.2)	(-8.0)	(6.7)	(-0.2)	(8.1)	(8.4)
- Fabricated metal	10.7	10.6	10.6	10.9	0.8	0.9	1.0
	(1.7)	(-1.1)	(0.4)	(3.0)	(-4.0)	(2.1)	(1.9)
Share of feedstock (%)	59.1	59.5	58.7	59.9	62.5	59.4	59.7

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

Source: Monthly Energy Statistics

► Industrial energy consumption & production index



12. The Transport Sector

□ **Transport energy use fell by 3.8% year-on-year in December partly due to increased oil price, decreased cargo volume and less traffic on highways.**

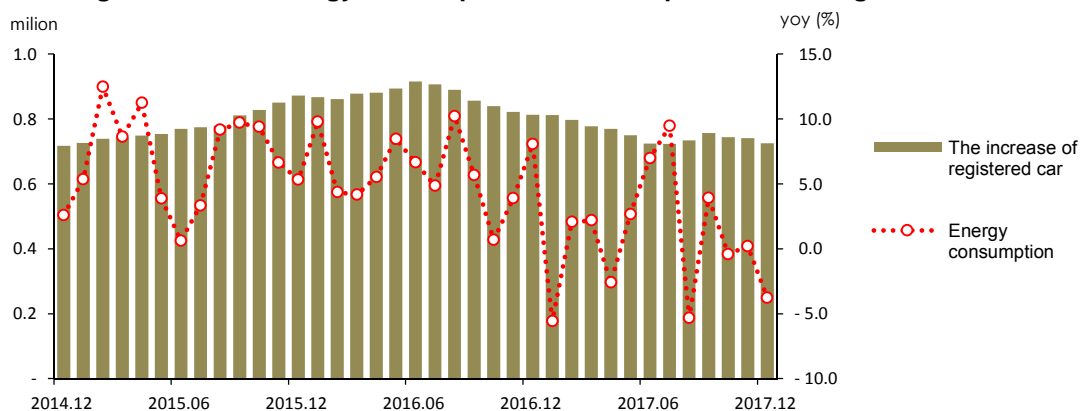
- As for the domestic petroleum product prices, the prices of gasoline, diesel, bunker-C oil and butane for transport increased by 5.9%, 6.6%, 12.5% and 17.8% respectively.
- Energy use for road transport has been falling for three consecutive months, despite increased number of registered cars (3.3%), as the prices of petroleum products increased while highway traffic volume decreased (-1.7%).
- Energy use for navigation started to decline due to higher bunker-C oil price and lower cargo volume in coastal transport, although the export volume increased.

► The growth rate of petroleum consumption in the transport sector

	2014	2015p	2017p				
			M1~12	M12	M10	M11	M12
Transport (Mtoe)	37.6	40.3	42.7	3.6	3.5	3.5	3.6
	(0.8)	(7.1)	(6.0)	(-3.8)	(-0.4)	(0.2)	(-3.8)
Road	31.0	32.8	34.4	3.0	2.8	2.8	3.0
	(0.8)	(5.6)	(4.9)	(-2.0)	(-1.5)	(-1.7)	(-2.0)
Navigation	2.3	2.9	3.4	0.3	0.3	0.3	0.3
	(-4.7)	(27.0)	(13.8)	(-17.3)	(-1.9)	(11.4)	(-17.3)
Aviation	4.0	4.3	4.7	0.4	0.4	0.4	0.4
	(6.1)	(7.5)	(9.1)	(-7.8)	(7.9)	(5.5)	(-7.8)
Rail	0.3	0.3	0.3	0.0	0.0	0.0	0.0
	(-11.6)	(2.2)	(8.3)	(17.9)	(13.4)	(13.1)	(17.9)

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

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



13. The Buildings Sector

□ **Energy consumption in buildings rose by 12.2% year-on-year in December, driven by increased heating demand during cold weather.**

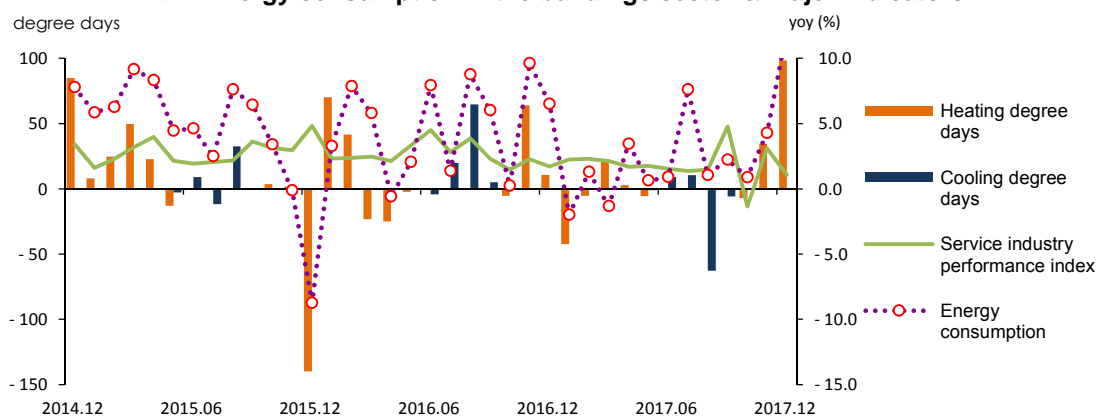
- Energy consumption in buildings posted the highest growth rate of the year, due to the dramatically increased energy use for heating, affected by lower energy prices and higher heating degree days during extremely cold weather in December.
- Energy consumption in residential buildings grew by over 10% for the first time since November 2016, owing to the bigger use of city gas, heat energy, kerosene and electricity (26.4%, 24.7%, 8.8%, 4.2%), although the briquette and diesel consumption declined (-23.2%, -2.3%).
- Energy consumption in commercial buildings was up 7.7%, driven by a surge in electricity, LPG and heat energy consumption (9.2%, 9.5%, 40.7%) because of cold weather, though city gas consumption rose by mere 2.0% due to weaker production in the restaurant & accommodations industries.

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

	2014	2015	2016	2017p	M10	M11	M12
Buildings (Mtoe)	40.9 (-4.0)	42.4 (3.6)	44.5 (5.1)	45.7 (2.6)	2.9 (0.9)	4.1 (4.3)	5.7 (12.2)
Residential	19.7 (-5.9)	20.1 (2.2)	21.3 (5.6)	21.9 (3.0)	1.3 (1.2)	2.1 (5.1)	3.3 (16.5)
Commercial	15.8 (-3.9)	16.5 (4.0)	17.0 (3.3)	17.4 (2.4)	1.2 (1.7)	1.4 (2.8)	1.8 (7.7)
Public · others	5.3 (3.1)	5.8 (7.8)	6.2 (8.4)	6.4 (1.9)	0.5 (-2.0)	0.5 (5.1)	0.6 (5.1)

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

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



14. Transformation

- Total energy input for power generation went up by 2.7% year-on-year in December due to the increased coal and gas-fired generation, although the nuclear and oil-based generation declined.
 - The total energy input increased, mainly coal and gas, according to the growing power demand and the commissioning of a new bituminous coal power plant.

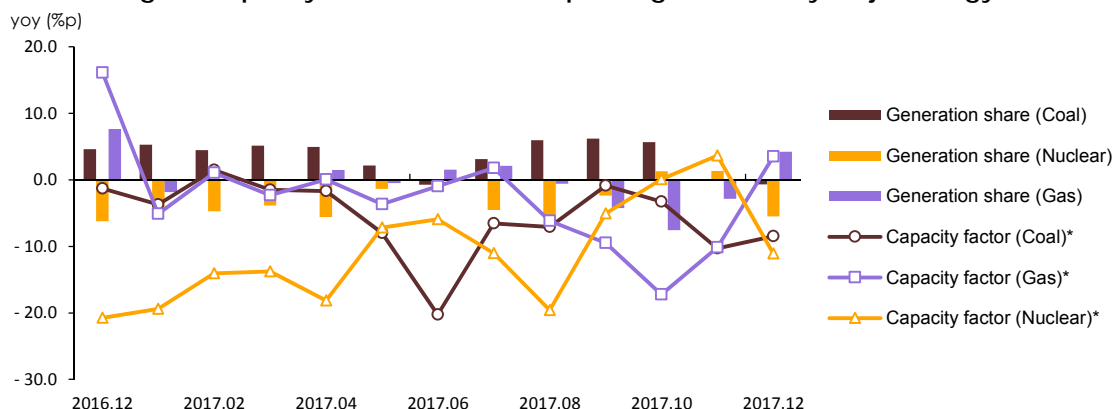
► Energy consumption in the power generation sector

	2014	2015	2016	2017p	M10	M11	M12
Input (Mtoe)	108.9	110.1	110.9	111.1	8.7	9.2	10.3
	(-0.0)	(1.1)	(0.8)	(0.1)	(3.0)	(4.3)	(2.7)
Coal	49.2	50.6	49.2	52.8	4.5	4.3	4.9
	(-0.1)	(2.7)	(-2.8)	(7.4)	(21.8)	(7.9)	(3.8)
Oil	1.7	2.0	3.0	1.2	0.0	0.1	0.2
	(-52.1)	(16.6)	(50.1)	(-59.7)	(-80.5)	(-62.6)	(-29.6)
Gas	21.6	19.3	20.5	20.7	1.3	2.0	2.5
	(-9.5)	(-10.5)	(6.3)	(0.9)	(-30.0)	(-5.1)	(28.9)
Nuclear	33.0	34.8	34.2	31.6	2.6	2.4	2.2
	(12.7)	(5.3)	(-1.7)	(-7.5)	(4.9)	(10.5)	(-16.5)
Hydro/other renewables	3.4	3.4	4.0	4.7	0.4	0.4	0.4
	(15.0)	(0.4)	(17.4)	(16.4)	(14.9)	(18.2)	(15.2)

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

	2015	2016				2017			
			2Q	3Q	4Q		2Q	3Q	4Q
GDP (trillion won)	1 466.8 (2.8)	1 508.3 (2.8)	378.6 (3.4)	378.2 (2.6)	395.9 (2.4)	1 554.8 (3.1)	388.8 (2.7)	392.4 (3.8)	407.8 (3.0)
Private consumption	707.5 (2.2)	725.0 (2.5)	176.6 (3.5)	181.9 (2.7)	184.6 (1.5)	743.5 (2.6)	180.7 (2.3)	186.5 (2.5)	190.8 (3.4)
Facilities investment	140.3 (4.7)	137.0 (-2.3)	35.2 (-2.9)	33.1 (-3.9)	36.8 (2.0)	157.0 (14.6)	41.3 (17.3)	38.8 (17.0)	40.4 (10.0)
Construction investment	211.5 (6.6)	234.2 (10.7)	62.4 (10.6)	62.2 (11.2)	64.9 (11.6)	251.8 (7.5)	67.4 (8.0)	66.9 (7.6)	67.8 (4.4)
Consumer price index (2010=100)	100.0	101.0	100.8	101.0	101.5	102.9	102.7	103.3	103.1
USD to KRW exchange rate (won)	1 131.0	1 160.8	1 163.2	1 121.1	1 156.4	1 131.0	1 129.4	1 132.3	1 107.5
Benchmark rate (%)	1.6	1.4	1.4	1.3	1.3	1.3	1.3	1.3	1.4
Coincident composite index (2010=100)	100.0	103.3	102.7	103.9	104.5	107.0	106.8	107.4	107.9
Mining & manufacturing production index (2010=100)	100.0	102.3	102.1	100.2	108.4	104.2	104.3	104.8	104.3
Manufacturing operation ratio index (2010=100)	100.0	98.2	100.3	95.5	101.4	97.1	98.3	98.1	95.9
Average temperature	13.6	13.6	19.1	25.8	8.0	13.0	18.9	25.0	6.7
- year-on-year difference	0.2	- 0.0	0.5	0.9	- 0.6	- 0.6	- 0.2	- 0.8	- 1.3
Heating degree days	2 459.1 (-1.7)	2 589.7 (5.3)	140.9 (-16.2)	0.3 n.a	935.3 (8.0)	2 687.6 (3.8)	138.6 (-1.6)	0.6 (100.0)	1 060.9 (13.4)
Cooling degree days	151.8 (21.1)	238.1 (56.9)	10.2 (-24.4)	227.9 (64.8)	- n.a	188.1 (-21.0)	18.2 (78.4)	169.9 (-25.5)	- n.a
Energy intensity	0.20 (-1.1)	0.20 (-0.4)	0.18 (-2.2)	0.19 (0.6)	0.19 (-0.0)	0.19 (-0.9)	0.18 (-1.0)	0.19 (-1.5)	0.19 (0.3)
Per capita consumption									
oil (bbl)	16.8 (3.7)	18.0 (7.4)	4.3 (8.0)	4.5 (7.8)	4.8 (6.7)	18.2 (1.2)	4.3 (1.3)	4.6 (1.9)	4.8 (0.4)
Electricity (MWh)	9.5 (0.7)	9.7 (2.3)	2.3 (1.0)	2.5 (3.7)	2.4 (3.0)	9.9 (1.8)	2.3 (0.7)	2.5 (3.4)	2.4 (2.2)
City gas (1 000 m ³)	0.4 (-6.4)	0.4 (1.8)	0.1 (-3.3)	0.1 (-2.6)	0.1 (7.2)	0.4 (5.8)	0.1 (4.9)	0.1 (4.7)	0.1 (10.4)
Total energy (toe)	5.6 (1.1)	5.7 (1.9)	1.3 (0.6)	1.4 (2.7)	1.5 (1.9)	5.9 (1.8)	1.3 (1.3)	1.4 (1.9)	1.5 (2.9)

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)

	2014	2015	2016				2017			
			M10	M11	M12		M10	M11	M12	
Industrial production index										
All industry	98.2 (1.4)	100.0 (1.9)	103.1 (3.2)	104.4 (1.8)	106.3 (4.7)	116.4 (3.6)	105.5 (2.3)	101.3 (-3.0)	107.8 (1.4)	115.6 (-0.7)
Mining & manufacturing	100.3 (0.2)	100.0 (-0.3)	102.3 (2.3)	104.9 (-0.7)	109.0 (6.2)	111.3 (5.6)	104.2 (1.8)	99.0 (-5.6)	107.8 (-1.1)	106.2 (-4.6)
Iron & steel	102.0 (4.5)	100.0 (-2.0)	100.2 (0.2)	101.9 (-2.2)	102.1 -	106.2 (2.2)	101.0 (0.8)	102.4 (0.5)	96.5 (-5.5)	97.2 (-8.5)
Cement	83.7 (-3.4)	100.0 (19.5)	108.3 (8.3)	117.2 (1.9)	126.1 (20.8)	117.1 (8.0)	109.9 (1.4)	100.0 (-14.7)	119.0 (-5.6)	105.8 (-9.6)
Basic compound	97.8 (0.8)	100.0 (2.2)	104.8 (4.8)	102.8 (2.2)	105.1 (4.3)	111.5 (6.1)	110.4 (5.4)	113.5 (10.4)	108.2 (2.9)	116.6 (4.6)
Transport equipment	98.7 (2.7)	100.0 (1.3)	97.7 (-2.3)	97.0 (-7.7)	110.3 (7.0)	116.5 (7.4)	94.9 (-2.9)	80.2 (-17.3)	103.1 (-6.5)	82.4 (-29.3)
Electric & electronic	103.4 (1.9)	100.0 (-3.3)	103.3 (3.3)	109.8 (2.8)	113.8 (6.6)	114.3 (1.2)	106.5 (3.1)	101.9 (-7.2)	120.2 (5.6)	111.7 (-2.3)
Service	97.2 (2.4)	100.0 (2.8)	102.6 (2.6)	103.5 (1.5)	103.3 (2.3)	112.9 (1.7)	104.5 (1.8)	102.1 (-1.4)	106.5 (3.1)	114.1 (1.1)
Operating ratio index										
Manufacturing	102.0 (-0.9)	100.0 (-2.0)	98.2 (-1.8)	99.0 (-6.2)	103.0 (1.2)	102.3 (-1.0)	97.1 (-1.2)	92.0 (-7.1)	100.2 (-2.7)	95.6 (-6.5)
Iron & steel	102.4 (3.5)	100.0 (-2.4)	99.9 (-0.1)	101.4 (-2.7)	101.7 (-0.4)	105.9 (2.1)	100.7 (0.8)	102.1 (0.7)	96.1 (-5.5)	96.8 (-8.6)
Cement	92.3 (-6.1)	100.0 (8.3)	107.0 (7.0)	115.3 (0.4)	124.1 (19.1)	115.2 (6.6)	107.6 (0.5)	97.6 (-15.4)	117.9 (-5.0)	104.8 (-9.0)
Basic compound	101.8 (-1.8)	100.0 (-1.8)	103.6 (3.6)	101.0 (1.1)	103.4 (3.3)	109.2 (4.6)	107.2 (3.4)	109.4 (8.3)	104.3 (0.9)	112.1 (2.7)
Transport equipment	98.5 (1.4)	100.0 (1.6)	94.2 (-5.8)	92.9 (-10.3)	106.4 (4.5)	110.5 (4.0)	89.6 (-4.8)	75.8 (-18.4)	96.6 (-9.2)	76.9 (-30.4)
Electric & electronic	99.0 (0.1)	100.0 (1.0)	102.2 (2.2)	108.8 (2.8)	112.9 (7.6)	112.2 (0.8)	102.9 (0.6)	98.2 (-9.7)	114.7 (1.6)	103.3 (-7.9)

Note: p means provisional
Source: Monthly energy statistics

International Energy Prices

	2014	2015	2016				2017		
			M12	M1	M2		M12	M1	M2
Crude oil (USD/bbl)									
WTI	93.0 (-5.1)	48.8 (-47.5)	37.3 (-37.0)	31.8 (-32.9)	30.6 (-39.6)	43.3 (-11.2)	52.2 (39.8)	52.6 (65.5)	53.5 (74.6)
Dubai	96.7 (-8.2)	50.8 (-47.5)	34.9 (-42.0)	26.9 (-41.3)	28.9 (-48.2)	41.2 (-18.8)	52.1 (49.1)	53.7 (100.0)	54.4 (88.4)
Brent	99.5 (-8.5)	53.6 (-46.1)	38.9 (-38.5)	31.9 (-35.8)	33.5 (-43.0)	45.0 (-16.0)	54.9 (41.2)	55.5 (73.7)	56.0 (67.0)
Unit value of import (C&F)	101.5 (-6.3)	53.3 (-47.5)	40.2 (-43.3)	33.5 (-38.5)	29.3 (-41.0)	41.0 (-23.0)	48.0 (19.5)	52.5 (56.7)	55.1 -
LNG									
From Indonesia (USD/MMBTU)	16.0 (0.5)	10.2 (-36.3)	8.5 (-45.6)	7.9 (-48.1)	8.0 (-39.7)	6.9 (-32.6)	7.1 (-16.5)	7.5 (-4.2)	7.9 (-2.0)
Unit value of import (USD/ton, CIF)	848.0 (10.4)	549.1 (-35.3)	453.2 (-45.8)	416.3 (-43.9)	402.6 (-42.5)	356.7 (-35.0)	379.0 (-16.4)	412.7 (-0.9)	- -
Bituminous coal (USD/ton)									
From Australia	70.1 (-17.1)	57.5 (-18.0)	52.1 (-16.5)	49.8 (-19.8)	50.7 (-17.4)	65.9 (14.5)	86.3 (65.6)	83.7 (68.1)	80.4 (58.6)
Unit value of import (CIF)	92.2 (-9.9)	73.9 (-19.8)	64.4 (-22.4)	62.2 (-26.1)	57.3 (-27.8)	68.9 (-6.8)	99.9 (55.1)	104.2 (67.5)	- -
Petroleum product (USD/bbl)									
Gasoline	111.0 (-6.9)	69.4 (-37.4)	55.3 (-23.3)	50.6 (-11.3)	45.0 (-36.2)	56.2 (-19.1)	66.6 (20.4)	69.5 (37.5)	70.0 (55.4)
Kerosene	112.5 (-8.5)	64.7 (-42.5)	48.0 (-38.9)	37.7 (-40.1)	40.9 (-44.4)	52.8 (-18.3)	64.1 (33.6)	65.1 (72.7)	66.2 (62.0)
Diesel	114.0 (-8.8)	66.6 (-41.6)	48.5 (-38.3)	37.7 (-40.7)	40.0 (-44.6)	53.0 (-20.4)	64.2 (32.5)	66.0 (75.1)	67.3 (68.2)
Bunker-C	86.4 (-9.2)	45.2 (-47.7)	28.3 (-49.6)	22.8 (-45.3)	23.8 (-55.6)	35.4 (-21.6)	50.2 (77.7)	50.8 (122.5)	49.6 (108.3)
Propane	790.8 (-7.8)	416.3 (-47.4)	460.0 (-16.4)	345.0 (-18.8)	285.0 (-36.7)	323.3 (-22.3)	380.0 (-17.4)	435.0 (26.1)	510.0 (78.9)
Butane	810.4 (-8.4)	436.7 (-46.1)	475.0 (-16.7)	390.0 (-17.0)	315.0 (-34.4)	355.8 (-18.5)	420.0 (-11.6)	495.0 (26.9)	600.0 (90.5)
Naphtha	94.3 (-6.7)	52.5 (-44.3)	45.0 (-19.1)	36.9 (-15.9)	33.8 (-40.6)	42.5 (-19.0)	51.3 (13.9)	55.4 (50.1)	56.4 (66.8)

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

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

Total Primary Energy Supply (TPES)

	2014	2015	2016				2017p			
				M10	M11	M12		M10	M11	M12
Coal (Mton)	133.6 (2.9)	135.2 (1.2)	129.4 (-4.3)	10.5 (-4.6)	11.1 (4.3)	12.0 (-1.6)	139.7 (7.9)	11.5 (9.4)	11.8 (6.5)	12.9 (7.5)
- Coking coal excluded	96.0 (-1.8)	98.5 (2.6)	96.0 (-2.5)	7.6 (-3.7)	8.3 (9.1)	9.1 (0.7)	103.5 (7.9)	8.5 (12.8)	8.8 (5.5)	9.7 (6.6)
Oil (Mbbbl)	821.5 (-0.5)	856.2 (4.2)	924.2 (7.9)	77.8 (6.0)	79.7 (7.7)	86.1 (8.1)	938.2 (1.5)	80.1 (2.9)	80.2 (0.6)	85.2 (-1.0)
- Non-energy oil excluded	388.5 (-4.1)	411.7 (6.0)	458.0 (11.2)	38.7 (6.8)	39.6 (6.9)	43.7 (11.6)	446.3 (-2.5)	36.5 (-5.7)	38.0 (-3.8)	41.2 (-5.7)
LNG (Mton)	36.6 (-9.0)	33.4 (-8.7)	34.9 (4.4)	2.6 (8.6)	3.5 (30.1)	4.0 (9.7)	36.1 (3.5)	2.2 (-15.8)	3.6 (2.8)	5.0 (24.0)
Hydro (TWh)	7.8 (-6.8)	5.8 (-25.9)	6.6 (14.5)	0.5 (15.0)	0.4 (32.5)	0.5 (29.2)	7.0 (5.2)	0.6 (19.7)	0.4 (2.5)	0.5 (-3.1)
Nuclear (TWh)	156.4 (12.7)	164.8 (5.3)	162.0 (-1.7)	11.7 (-18.8)	10.3 (-30.4)	12.6 (-17.0)	148.4 (-8.4)	12.1 (3.9)	11.3 (9.5)	10.4 (-17.3)
Others (Mtoe)	11.0 (21.9)	12.8 (17.2)	13.6 (5.7)	1.1 (3.6)	1.1 (8.1)	1.2 (7.7)	15.0 (10.2)	1.2 (8.0)	1.2 (10.4)	1.3 (10.7)
TPES (Mtoe)	283.1 (0.9)	287.7 (1.6)	294.6 (2.4)	23.6 (-0.2)	25.1 (4.7)	27.8 (2.5)	301.1 (2.2)	23.9 (1.7)	26.1 (3.6)	29.0 (4.3)
- Non-energy oil excluded	229.2 (0.5)	232.4 (1.4)	236.6 (1.8)	18.7 (-1.5)	20.1 (3.8)	22.5 (2.1)	240.0 (1.4)	18.5 (-0.8)	20.8 (3.3)	23.5 (4.5)
- Non-energy oil&coal excluded	202.8 (-1.4)	206.7 (1.9)	213.2 (3.2)	16.6 (-0.8)	18.2 (5.2)	20.5 (3.2)	214.8 (0.7)	16.5 (-0.9)	18.7 (2.7)	21.3 (4.0)

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

Share of TPES by Sources

(unit: %)

	2014	2015	2016				2017p			
				M10	M11	M12		M10	M11	M12
Coal	29.9	29.8	27.8	28.2	27.7	27.1	28.7	29.6	27.9	27.4
- Coking coal excluded	20.6	20.8	19.8	19.5	20.0	19.9	20.3	21.0	19.8	19.7
Oil	37.1	38.1	40.1	42.1	40.4	39.7	39.7	42.5	39.4	37.6
- non-energy oil excluded	18.0	18.9	20.4	21.4	20.5	20.7	19.4	19.9	19.3	18.7
LNG	16.9	15.2	15.4	14.2	18.4	18.9	15.7	11.8	18.3	22.5
Hydro	0.6	0.4	0.5	0.4	0.4	0.4	0.5	0.5	0.4	0.3
Nuclear	11.7	12.1	11.6	10.4	8.7	9.6	10.5	10.8	9.2	7.7
Others	3.9	4.5	4.6	4.7	4.5	4.3	5.0	4.9	4.8	4.5
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)

	2014	2015	2016				2017p			
				M10	M11	M12		M10	M11	M12
Industry	135.3 (3.8)	135.7 (0.3)	138.3 (1.9)	11.8 (2.2)	12.0 (7.8)	12.4 (2.1)	143.8 (4.0)	11.9 (0.9)	12.4 (2.9)	12.8 (3.7)
Transport	37.6 (0.8)	40.3 (7.1)	42.7 (6.0)	3.6 (0.7)	3.5 (3.9)	3.8 (8.1)	43.0 (0.7)	3.5 (-0.4)	3.5 (0.2)	3.6 (-3.8)
Residential-commercial	35.5 (-5.0)	36.6 (3.0)	38.3 (4.5)	2.4 (-0.9)	3.4 (10.3)	4.5 (6.2)	39.3 (2.7)	2.4 (1.4)	3.6 (4.2)	5.1 (13.2)
Public	5.3 (3.1)	5.8 (7.8)	6.2 (8.4)	0.5 (6.6)	0.5 (5.1)	0.6 (8.9)	6.4 (1.9)	0.5 (-2.0)	0.5 (5.1)	0.6 (5.1)
TFC	213.8 (1.7)	218.4 (2.1)	225.5 (3.3)	18.2 (1.6)	19.5 (7.4)	21.2 (4.2)	232.5 (3.1)	18.4 (0.6)	20.0 (2.7)	22.2 (4.4)
Coal (Mton)	53.3 (7.1)	52.7 (-1.1)	49.1 (-6.8)	4.5 (-8.9)	4.5 (5.9)	4.2 (-12.8)	50.3 (2.3)	3.9 (-13.3)	4.5 (-1.1)	4.5 (7.3)
Oil (Mbbbl)	808.5 (1.2)	841.6 (4.1)	902.4 (7.2)	76.3 (5.2)	78.4 (9.4)	83.9 (8.7)	928.1 (2.8)	79.7 (4.5)	79.6 (1.5)	83.5 (-0.4)
Electricity (TWh)	477.6 (0.6)	483.7 (1.3)	497.0 (2.8)	38.5 (2.9)	40.3 (3.5)	43.5 (4.2)	507.7 (2.2)	38.4 (-0.5)	41.3 (2.6)	45.8 (5.2)
City gas (Bm³)	22.1 (-7.5)	20.8 (-5.9)	21.3 (2.3)	1.2 (1.1)	1.9 (12.7)	2.7 (7.6)	22.6 (6.2)	1.3 (0.7)	2.1 (7.8)	3.1 (17.7)
Heat-others (1 000 toe)	10.7 (13.4)	12.2 (13.4)	12.6 (3.8)	0.9 (3.2)	1.1 (6.0)	1.2 (5.2)	13.6 (7.5)	1.0 (6.7)	1.2 (7.9)	1.4 (11.9)

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

Source: Monthly energy statistics

Share of the Total Final Consumption by Sources

(unit: %)

	2014	2015	2016				2017p			
				M10	M11	M12		M10	M11	M12
Industry	63.3	62.2	61.3	64.8	61.7	58.3	61.9	64.9	61.9	57.9
Transport	17.6	18.5	18.9	19.5	18.1	17.7	18.5	19.3	17.7	16.3
Residential-commercial	16.6	16.8	17.0	13.2	17.5	21.1	16.9	13.3	17.8	22.9
Public	2.5	2.6	2.8	2.5	2.6	2.8	2.7	2.5	2.7	2.9
Final energy	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Coal	16.6	16.1	14.5	16.2	15.1	13.1	14.4	14.1	14.7	13.4
Oil	48.1	49.1	50.9	53.1	51.0	50.3	50.8	55.1	50.9	47.9
Electricity	19.2	19.0	19.0	18.2	17.8	17.6	18.8	18.0	17.7	17.8
City gas	11.0	10.1	10.1	7.3	10.5	13.2	10.2	7.3	10.9	14.7
Heat-others	5.0	5.6	5.6	5.2	5.6	5.8	5.8	5.5	5.8	6.2

Note: p means provisional

Source: Monthly energy statistics

Statistics on Energy Production Facilities

	2014	2015	2016	2017p		
				M10	M11	M12
Total capacity (GW)	93.2 (7.2)	97.6 (4.8)	105.9 (8.4)	103.1 (5.7)	103.3 (5.8)	105.9 (8.4)
Nuclear	20.7 -	21.7 (4.8)	23.1 (6.4)	21.7 -	21.7 (-0.0)	23.1 (6.4)
Bituminous coal	25.9 (10.7)	26.2 (1.1)	30.9 (18.0)	29.9 (14.7)	29.9 (14.1)	30.9 (18.0)
Gas	30.3 (27.2)	32.2 (6.5)	32.6 (1.2)	32.6 (1.1)	32.6 (1.2)	32.6 (1.2)
Refinery capacity (mil BPSD)	2.9 -	3.1 (3.7)	3.1 -	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		
				M10	M11	M12
The number of household demanding city gas (mil)	16.9 (3.1)	17.4 (3.0)	18.0 (3.4)	17.8 (3.4)	17.9 (3.4)	18.0 (3.4)
Registered cars (mil)	20.1 (3.7)	21.0 (4.3)	21.8 (3.9)	21.7 (4.0)	21.7 (3.9)	21.8 (3.9)
- gasoline	9.6 (2.0)	9.8 (2.3)	10.1 (2.9)	10.0 (2.8)	10.1 (2.8)	10.1 (2.9)
- diesel	7.9 (7.3)	8.6 (8.6)	9.2 (6.4)	9.1 (6.9)	9.1 (6.6)	9.2 (6.4)
- LPG	2.3 (-2.3)	2.3 (-3.4)	2.2 (-4.0)	2.2 (-3.9)	2.2 (-4.0)	2.2 (-4.0)
- hybrid	0.1 (40.0)	0.2 (31.3)	0.2 (37.6)	0.2 (37.3)	0.2 (37.4)	0.2 (37.6)

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

Source: Monthly energy statistics

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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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