

KEEI

MONTHLY KOREA ENERGY TRENDS

KOREA ENERGY ECONOMICS INSTITUTE

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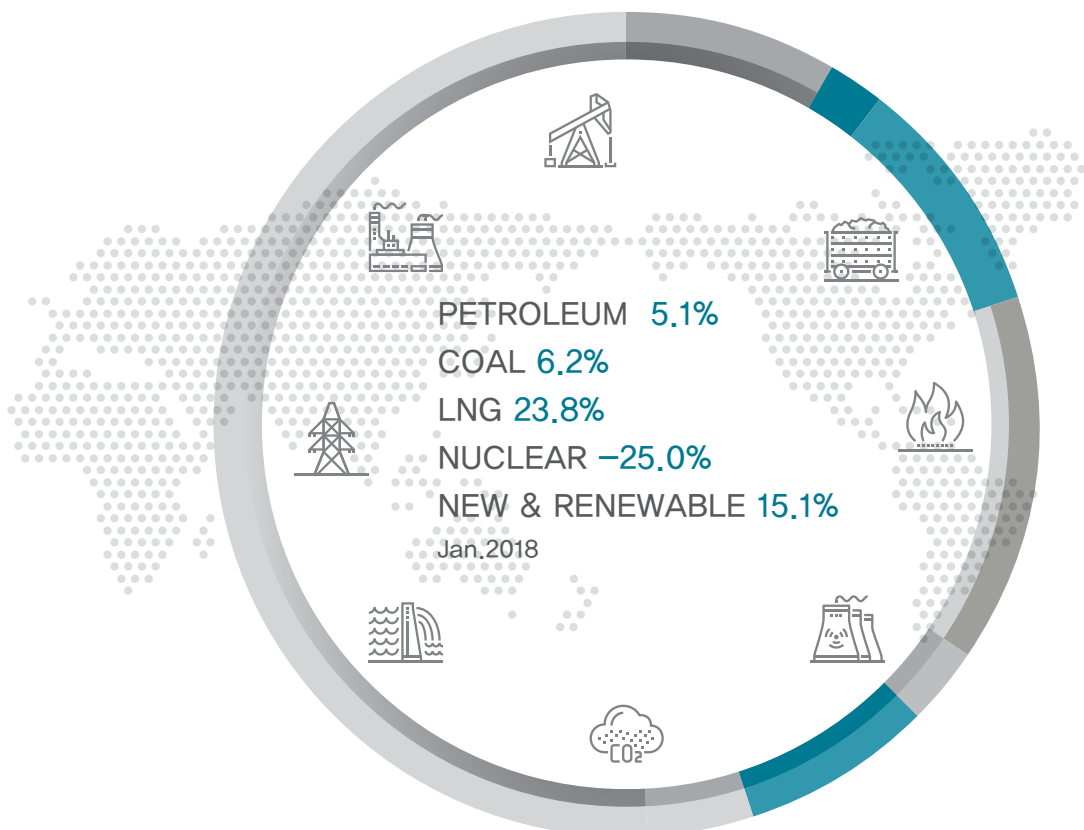


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1. The Economy and the Industry

- **The total export value rose by 22.3% year-on-year in January, as the export value of semiconductors, petrochemical products and computer devices posted the highest January record ever.**
 - The export value of semiconductors increased by 53.3% year-on-year, marking 10 consecutive months of over 50% growth, on the back of strong demand for high-capacity server DRAM and NAND flash for smartphones and SSD.
 - The export value of petroleum and petrochemical products went up by 30.2% and 18.4% respectively, influenced by higher unit prices, as a result of increased oil prices, and continuously growing export volume.
 - The export value of iron & steel products was up 17.2% year-on-year in January and has been growing for 10 months in a row, even though its export volume declined (-4.0%), because the unit prices increased after the Chinese government reduced iron & steel production capacity to improve environmental conditions.
 - The export value of automobiles rose by 13.3%, due to the strong demand from Europe and the Middle East, although the auto export to the U.S. has been plunging.
- **The production index of mining & manufacturing industries went up by 4.3% (year-on-year in January) due to more work days and growing automobile export, and the production index of the service industry rose by 3.6%.**
 - The production index of mining & manufacturing industries rebounded for the first time in four months with more work days, led by the automobile (1.5%), ICT (0.6%) and basic chemical materials (3.0%) sectors, although the index declined in the cement (-9.7%) and iron & steel (-2.8%) sectors.
 - The service industry production index has been up for two months in a row, led by the financial & insurance (12.5%), health & social welfare (2.3%) and wholesale & retail (0.6%) businesses, although the index declined in the restaurant & accommodations business (-1.1%).

► **Trend in major economic and industrial indicators**

	2016			2017p				2018p
		M11	M12	M1		M11	M12	M1
GDP (trillion won)	1 508.3 (2.8)	- (-)	395.9 (2.4)	- (-)	1 554.8 (3.1)	- (-)	407.8 (3.0)	- (-)
Total export (\$billion, customs clearance basis)	495.4 (-5.9)	45.3 (2.3)	45.1 (6.3)	40.3 (11.0)	573.7 (15.8)	49.7 (9.7)	49.0 (8.8)	49.2 (22.3)
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)
Petroleum products	26.5 (-17.3)	2.4 (1.0)	2.6 (16.6)	2.8 (68.1)	35.0 (32.3)	3.4 (43.8)	3.4 (31.7)	3.6 (31.1)
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	28.5 (-5.5)	2.5 (10.7)	2.4 (0.4)	2.3 (8.1)	34.2 (19.9)	2.6 (4.2)	2.6 (8.1)	2.7 (17.2)
Mining and manufacturing production index (2015=100)	102.3 (2.3)	109.0 (6.2)	111.3 (5.6)	100.3 (1.5)	104.2 (1.8)	107.8 (-1.1)	106.0 (-4.8)	104.6 (4.3)
Cement	108.3 (8.3)	126.1 (20.8)	117.1 (8.0)	86.7 (9.9)	109.9 (1.4)	119.0 (-5.6)	105.9 (-9.6)	78.3 (-9.7)
Service industry production index (2015=100)	102.6 (2.6)	103.3 (2.3)	112.9 (1.7)	99.6 (2.3)	104.5 (1.8)	106.5 (3.1)	114.1 (1.1)	103.2 (3.6)

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

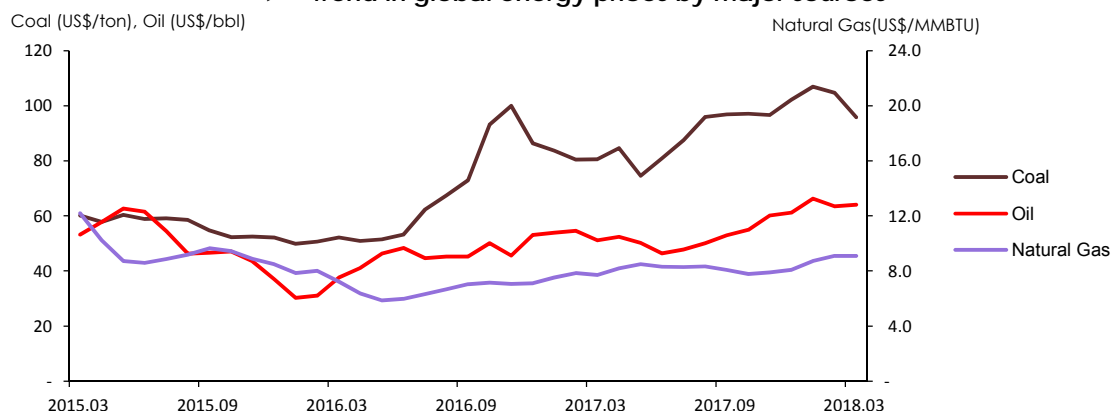
- **The global oil price increased by 0.8% in March than a month earlier partly due to the lower crude inventory level and escalating geopolitical risks in the Middle East.**
 - According to EIA, the U.S. crude inventory was flat in March, compared to the previous month, however, the gasoline inventory declined by 5.3% from 251.8 mbbl as of Feb. 23 to 238.5 mbbl as of Mar. 30, contributing to the rise in oil prices.
 - The tension has been escalating in the Middle East after Yemen's Houthi rebels launched short-range missile attacks on Saudi Arabia's oil production facilities.
 - The global oil price increase, however, was limited by several factors for price decline, including the EIA's forecast of growing U.S. crude oil production and concerns over a trade war between the U.S. and China triggered by the Trump administration's tariff hikes on steel and aluminum.
- **The coal price plunged to lower than \$100/ton, and the natural gas price hovered around \$9/MMBTU.**
 - The global coal price fell by 8.5% from the previous month, as China imported less amount of coal for power generation to improve air quality, while its coal production improved after the Chinese government eased its restrictions on coal production.

► Trend in global energy prices

	2016	2017	2018		
			M1	M2	M3
Crude oil (US\$/bbl)	43.3	53.0	53.9	54.6	51.1
	(-15.2)	(22.4)	(78.6)	(76.1)	(35.8)
Natural gas (US\$/MMBTU)	6.9	8.0	7.5	7.9	7.7
	(-32.6)	(16.9)	(-4.2)	(-2.0)	(6.5)
Coal (US\$/ton)	65.9	88.4	83.7	80.4	80.6
	(14.7)	(34.1)	(68.1)	(58.6)	(54.3)

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 prices by major sources



Domestic energy prices

- The prices of gasoline and diesel fell by 0.4% respectively in March compared to the previous month according to the global oil price decline in February.
 - The domestic prices of gasoline and diesel slightly declined in March after seven consecutive months of growth (Aug-Feb), as global oil prices started a downward move in February after several months of the steady growth.
- The prices of propane and butane decreased by 2.0% and 3.2% respectively in March from the prior month in line with falling global prices.
 - The global prices of propane and butane (Saudi Aramco's supply price)— based on which the domestic prices are set in the following month— dropped by 11.0% to \$525/ton and 11.4% to \$505/ton in February compared to the previous month.

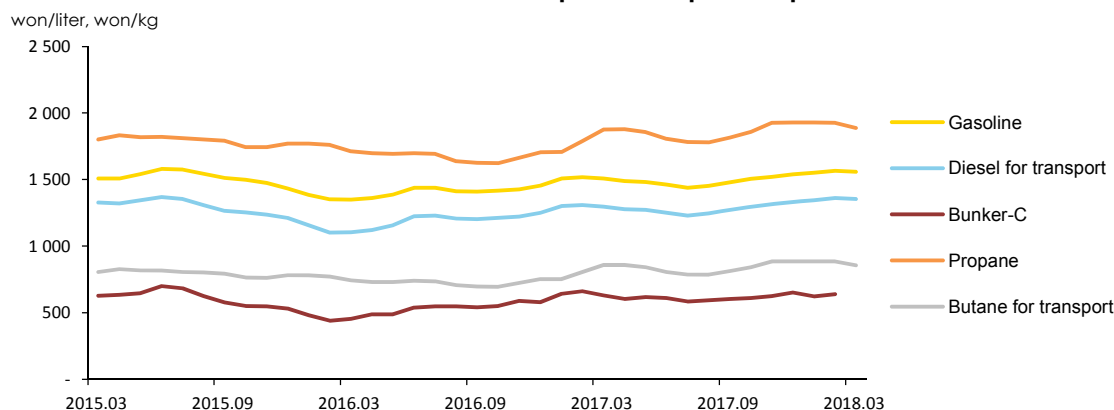
► Trend in domestic energy prices

	2016	2017				2018		
			M1	M2	M3	M1	M2	M3
Gasoline (won/liter)	1 402.9 (-7.1)	1 491.4 (6.3)	1 507.9 (8.9)	1 516.7 (12.2)	1 506.8 (11.6)	1 551.8 (2.9)	1 564.6 (3.2)	1 557.9 (3.4)
Diesel for transport (won/liter)	1 182.9 (-9.0)	1 282.6 (8.4)	1 300.2 (12.3)	1 307.5 (18.7)	1 297.3 (17.6)	1 344.9 (3.4)	1 360.4 (4.0)	1 354.6 (4.4)
Bunker-C (won/liter)	521.1 (-14.9)	619.4 (18.9)	643.1 (33.7)	660.6 (50.4)	630.0 (38.3)	621.7 (-3.3)	638.7 (-3.3)	- -
Propane (won/kg)	1 689.7 (-6.2)	1 833.7 (8.5)	1 707.8 (-3.5)	1 788.2 (1.6)	1 875.9 (9.6)	1 929.2 (13.0)	1 926.3 (7.7)	1 886.8 (0.6)
Butane for transport (won/liter)	733.9 (-9.0)	826.4 (12.6)	752.1 (-3.8)	805.2 (4.3)	858.5 (15.7)	885.3 (17.7)	886.0 (10.0)	857.2 (-0.2)

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

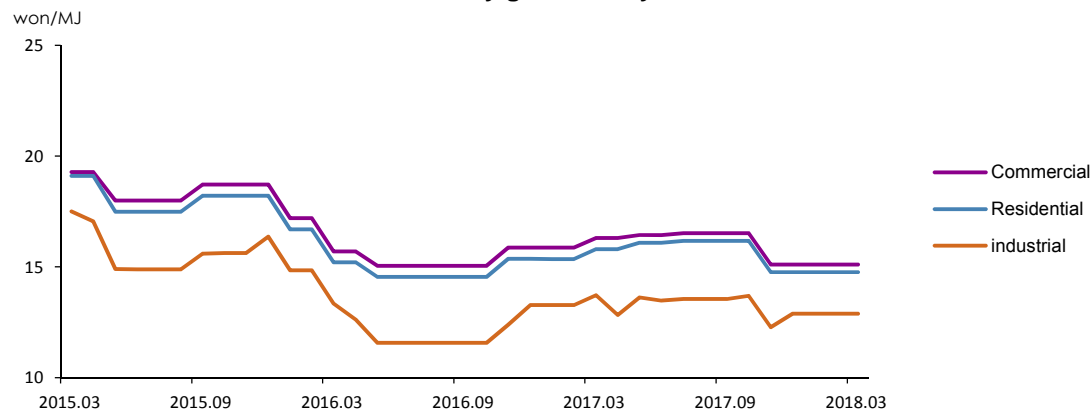
Source: www.opinet.co.kr

► Trend in domestic petroleum product prices



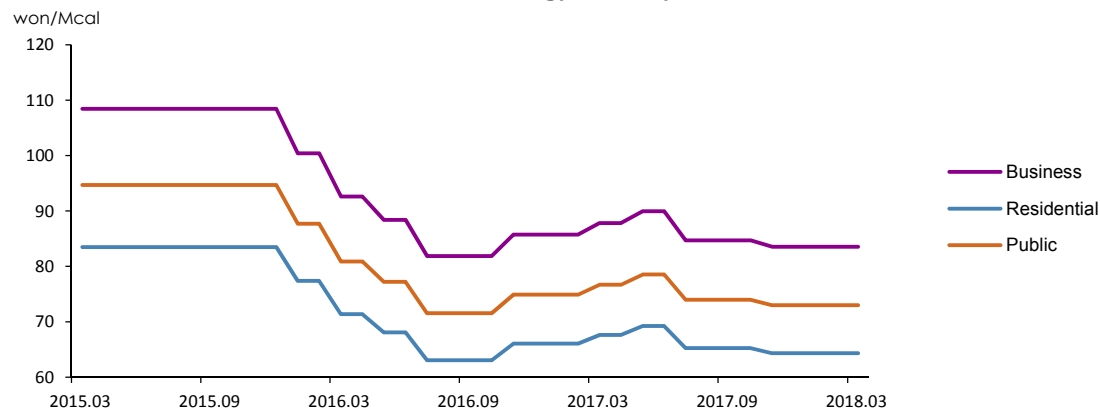
- ☐ The city gas price has been stagnant for five months since it had plunged after the collection of all accounts receivable by Korea Gas Corporation (“KOGAS”) in November, 2017.
- ☐ The heat energy price has also been flat for five month, as in the case of city gas.

► 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 pricing 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.

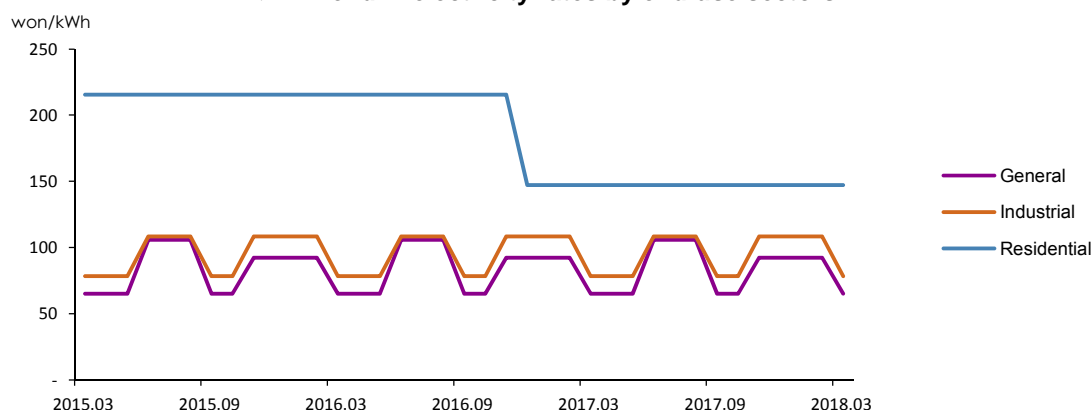
□ **The electricity prices¹ fell dramatically in March as the prices for industrial and general customers were adjusted for the spring/autumn season.**

- The electricity prices for industrial and general users fell by 27.7% and 29.4% respectively in March from the previous month according to the price adjustment from winter (Nov-Feb) to spring/autumn (Mar-May, Sep-Oct).

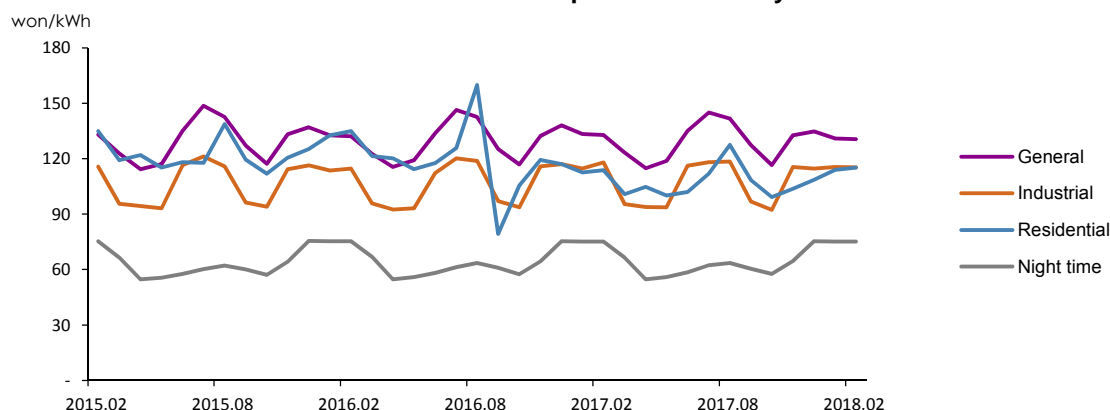
□ **The unit price of electricity for general and industrial users dropped by 0.3% each in February from a month earlier, while the price for residential users rose by 1.0%.**

- The unit price of residential electricity went up as a result of a slight increase in power supply, which is subject to the progressive pricing scheme. Meanwhile, the general and industrial customers saw a slight decline on their bills.

► Trend in electricity rates by end-use sectors



► Trend in unit price of electricity



¹ The electricity prices 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).

3. Energy Supply

- **The import volume of crude oil and petroleum products increased in January on a year-on-year basis, while that of LNG and bituminous coal declined.**
- The crude oil import increased due to the bigger crude input to refineries (1.6%) with higher utilization rates.
 - The import volume of petroleum products rose by 4.1%, owing to the growing import of bunker-C oil and naphtha (9.7%, 10.1%), although the LPG import declined (-10.7%).
 - The LNG import declined on a year-on-year basis due to the base effect of near 30% growth during the same month last year. The bituminous coal import has also declined for two straight months due to decreased steam coal import, although the pace was slower as coking coal import bounced back.
 - The foreign energy dependency rose by 2.7%p to 87.4%, marking two consecutive months of growth, largely because of the increased petroleum product import.
 - The energy import value accounted for 28.0% of the total import value, which was 2.8%p increase on a year-on-year basis and 13 consecutive months of growth, partly affected by higher energy import prices.

► Trend in energy trade and domestic production

	2015	2016	2017p				2018p
			M1			M11	
Import volume							
Crude oil (Mbbbl)	1 026.2 (10.6)	1 078.1 (5.1)	93.7 (13.2)	1 118.2 (3.7)	94.7 (3.3)	99.9 (0.1)	99.8 (6.6)
Petroleum product (Mbbbl)	307.9 (-5.7)	334.6 (8.7)	26.5 (-8.5)	314.0 (-6.2)	24.1 (-17.0)	26.2 (-4.5)	27.5 (4.1)
Bituminous coal (Mton)	119.4 (1.3)	118.5 (-0.8)	12.0 (14.3)	131.5 (11.0)	10.0 (1.1)	11.0 (-13.9)	11.7 (-2.8)
Anthracite (Mton)	8.9 (7.8)	9.4 (5.4)	0.8 (20.6)	7.0 (-25.7)	0.6 (-37.4)	0.6 (-2.1)	0.6 (-19.8)
LNG (Mton)	33.4 (-10.1)	33.5 (0.3)	4.3 (27.3)	37.6 (12.3)	3.3 (-2.9)	4.2 (4.1)	4.1 (-3.5)
Import volume (Mtoe)	314.8 (1.7)	323.1 (2.7)	31.1 (10.3)	338.8 (4.9)	27.9 (-0.3)	30.7 (-1.5)	31.1 (-0.0)
Import value (billion US\$, CIF)	102.7 (-41.0)	80.9 (-21.2)	9.5 (55.1)	109.5 (35.2)	9.6 (15.3)	11.0 (22.2)	11.7 (22.7)
Domestic production							
Hydropower (TWh)	5.8 (-25.9)	6.6 (14.5)	0.5 (-12.2)	7.0 (5.2)	0.4 (2.5)	0.5 (-3.1)	0.5 (-8.9)
Anthracite (Mton)	1.8 (0.9)	1.7 (-2.2)	0.1 (-9.3)	1.5 (-13.9)	0.1 (-22.6)	0.1 (-19.2)	0.1 (-1.6)
Natural gas (Mton)	0.1 (-41.5)	0.1 (-18.0)	0.0 (145.1)	0.3 (120.5)	0.0 (-2.7)	0.0 (-12.7)	0.0 (-6.3)
Renewable energy (Mtoe)	12.8 (17.2)	13.6 (5.7)	1.2 (8.5)	15.0 (10.2)	1.2 (10.4)	1.3 (10.7)	1.4 (15.1)

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

Source: Monthly Energy statistics

4. Energy Consumption

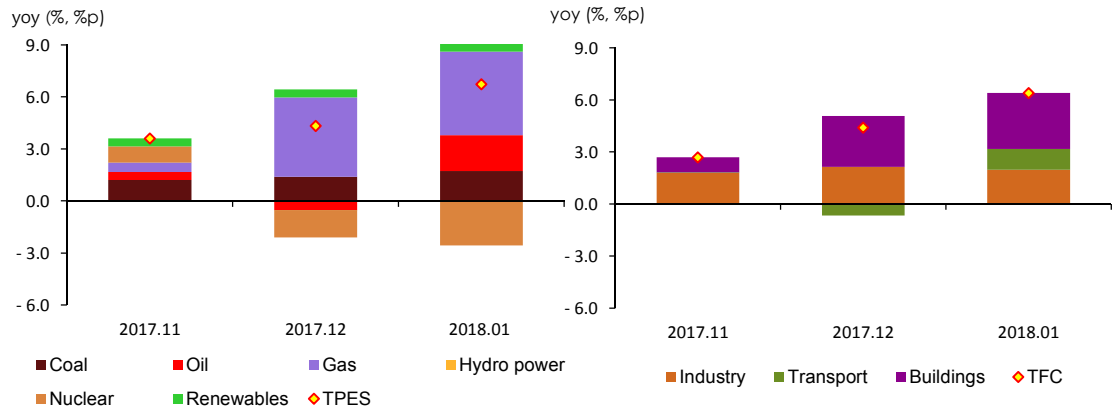
- **Total Primary Energy Supply (“TPES”) was up 6.7% year-on-year in January, posting the highest growth rate since February 2012 (8.9%).**
 - Nuclear generation fell by 25.0%, and the average capacity factors went down by 15.8%p year-on-year, as preventive maintenance dramatically increased (4.7GW, 92.3%) with delayed permission on the power plant restart.
 - Petroleum consumption rebounded by 5.1%, as most of the petroleum products were more consumed, except LPG, due to the extension of petrochemical facilities, increased number of cars and higher heating degree days. LPG consumption, however, declined owing to the price increase and falling number of LPG cars.
 - Coal consumption rose by 6.2% due to the increased coal-fired power generation (10.5%) with expanded installed capacity (4.6GW, 14.3%), although the industrial sector consumed less amount of coal, especially in the steelmaking and cement production sectors.
 - Gas consumption went up by 23.8%, led by the power generation and city gas production sectors, because of growing power use, smaller share of baseload generation, cold weather and relatively lower price compared to naphtha and LPG.
- **Total Final Consumption (“TFC”) increased by 4.4% with faster consumption growth in the industrial and buildings sectors due to the increased production and lower temperatures.**
 - Industrial energy consumption maintained the growth rate of around 3%, on the back of soaring energy use in the fabricated metals industry with growing export of semiconductors and automobiles.
 - Transport energy consumption was up 7.8% despite higher prices, largely because of the bigger cargo volume and increased number of cars and air flights.
 - Energy consumption in buildings rose by 12.3%, mainly for heating, along with higher heating degree days and lower energy prices for heating.
 - Electricity consumption was up 7.0%, as the consumption grew faster in the industrial sector (5.1%) because of the increased production of petrochemical products, semiconductors and electric furnace steel, and as the consumption grew faster in the buildings sector (9.0%) with higher heating degree days.

► Energy consumption trend

	2015	2016	2017p				2018p
			M1		M11	M12	M1
Total energy (Mtoe)	287.7	294.6	27.7	301.1	26.1	29.0	29.6
	(1.6)	(2.4)	(0.3)	(2.2)	(3.6)	(4.3)	(6.7)
Final energy (Mtoe)	218.4	225.5	21.3	232.5	20.0	22.2	22.6
	(2.1)	(3.3)	(2.5)	(3.1)	(2.7)	(4.4)	(6.4)

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 sources and end-use sectors



5. Coal

- Coal consumption increased by 6.2% year-on-year in January, led by the transformation sector, although the consumption declined in the industrial sector.

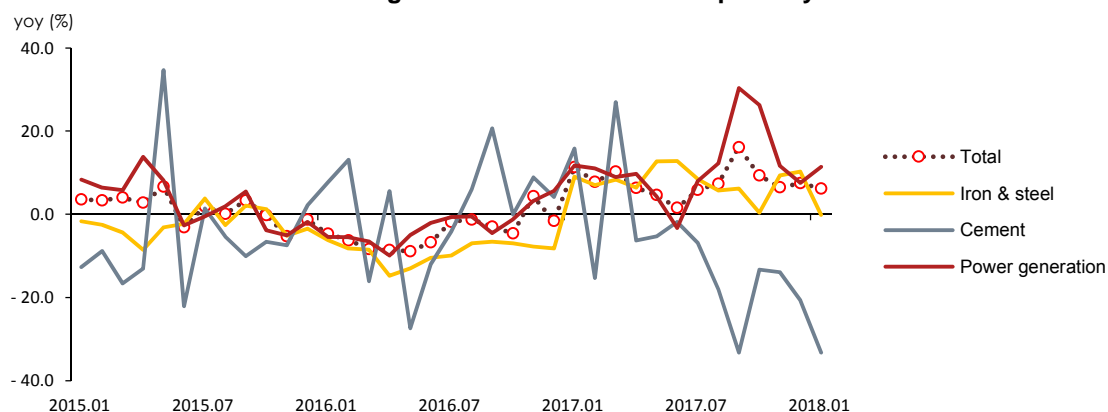
- Coal consumption has been steadily growing in the transformation sector despite increased preventive maintenance at coal-fired power plants on daily average (1.2GW, 11.0%), due to a surge in new installations (4.6GW, 14.3%).
- Industrial coal consumption decreased, owing to a sharp drop in the cement industry, though the consumption was flat in the steelmaking industry compared to the same month last year.

► Coal consumption trend

	2015	2016	2017p				2018p
			M1		M11	M12	M1
Coal (Mton)	135.2 (1.2)	129.4 (-4.3)	12.7 (11.3)	139.7 (7.9)	11.8 (6.5)	12.9 (7.5)	13.5 (6.2)
Industry	51.3 (-0.8)	47.9 (-6.6)	4.4 (12.2)	49.2 (2.7)	4.2 (-1.0)	4.3 (8.8)	4.3 (-3.2)
Buildings	1.5 (-9.6)	1.3 (-14.8)	0.1 (-25.3)	1.1 (-14.1)	0.2 (-2.4)	0.1 (-23.2)	0.1 (-6.3)
Power generation	82.5 (2.8)	80.3 (-2.7)	8.2 (11.7)	89.4 (11.3)	7.3 (11.6)	8.4 (7.6)	9.1 (11.4)

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 rebounded by 5.1% year-on-year in January, as most of the petroleum products were more consumed except LPG.**

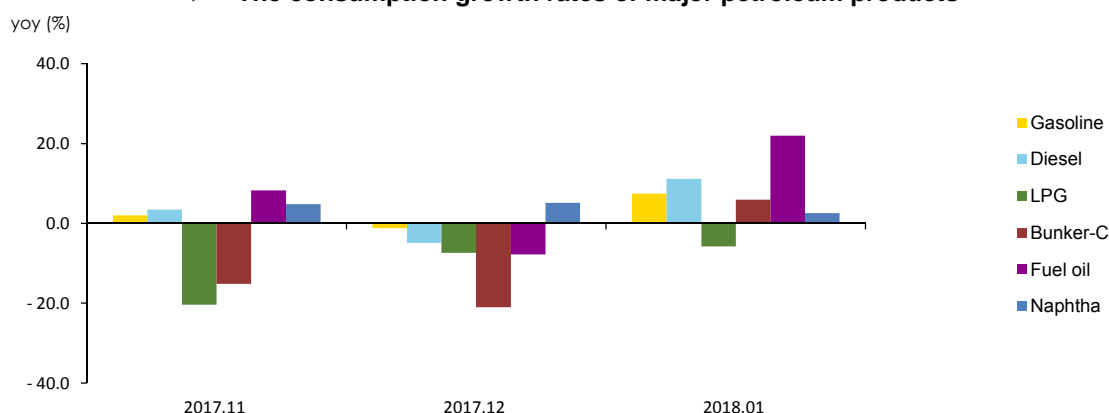
- Industrial petroleum consumption has been up for five consecutive months due to the increased use of energy & non-energy oil, although LPG consumption was down 7.0%.
- Petroleum consumption in the transport sector rallied by 7.3% despite price increase, due to the rise in the number of cars and traffic.
- Petroleum consumption in buildings has been growing for three months in a row with higher heating degree days (66.6degree days), even though the prices of petroleum products increased.
- Petroleum consumption in the transformation sector bounced back, affected by the lower bunker-C oil price and the base effect of a sharp drop during the same month last year.

► Trend in petroleum product consumption by end-use sectors

	2015	2016	2017p				2018p
			M1		M11	M12	M1
Petroleum (Mbbbl)	856.2	924.2	79.9	938.2	80.2	85.2	84.0
	(4.2)	(7.9)	(1.2)	(1.5)	(0.6)	(-1.0)	(5.1)
Industry	501.0	542.6	48.3	566.8	48.5	50.2	49.4
	(1.9)	(8.3)	(8.8)	(4.5)	(2.1)	(0.5)	(2.4)
Transport	287.1	303.6	23.3	304.4	25.1	25.7	25.0
	(6.8)	(5.7)	(-5.8)	(0.3)	(-0.4)	(-4.1)	(7.3)
Buildings	53.5	56.3	6.5	56.9	6.0	7.6	7.6
	(11.7)	(5.2)	(-7.3)	(1.1)	(5.4)	(7.3)	(16.3)
Power generation	14.6	21.8	1.8	10.1	0.6	1.6	2.0
	(13.0)	(48.7)	(-35.3)	(-53.6)	(-52.7)	(-24.9)	(8.4)

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

► The consumption growth rates of major petroleum products



7. Gas

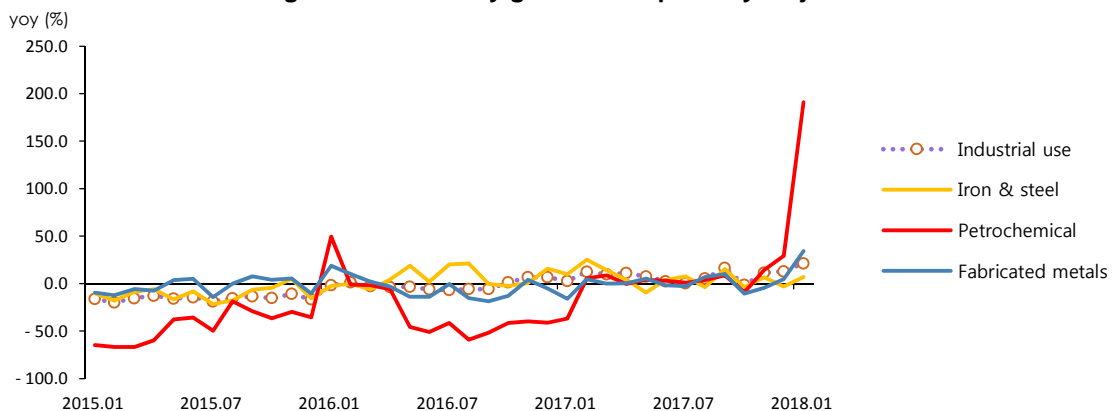
- **Gas consumption went up by 23.8% year-on-year in January, as the consumption dramatically increased in the power generation and city gas production sectors.**
 - Gas use for power generation surged, as electricity consumption grew by 7.0%, while nuclear generation fell by 25.0%.
- **City gas consumption recorded a year-on-year growth of 14.9% (in January) due to the extremely cold weather and improved price competitiveness compared to petroleum.**
 - City gas consumption in commercial buildings declined by 0.8%, affected by a slowdown in the restaurants & accommodations business, while the consumption increased by 13.3% in residential buildings due to the increased heating demand (17.0%) during extremely cold weather.
 - Industrial city gas consumption rose by over 20%, as the consumption exponentially increased in the petrochemical industry (190.9%) with stronger price competitiveness.

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

	2015	2016	2017p				2018p
			M1		M11	M12	M1
LNG (Mton)	33.4	34.9	4.3	36.1	3.6	5.0	5.3
	(-8.7)	(4.4)	(-2.8)	(3.5)	(2.8)	(24.0)	(23.8)
Power generation	14.6	15.5	1.4	15.6	1.5	1.9	1.9
	(-10.6)	(6.4)	(-3.8)	(0.4)	(-5.7)	(28.6)	(34.4)
City gas production	16.9	17.4	2.6	18.4	1.9	2.8	3.0
	(-6.9)	(2.7)	(-2.7)	(5.8)	(10.1)	(20.8)	(18.4)
City gas (bm³)	20.8	21.3	3.0	22.6	2.1	3.1	3.5
	(-5.9)	(2.3)	(0.9)	(6.2)	(7.8)	(17.7)	(14.9)
Industry	7.3	7.2	0.8	7.8	0.7	0.8	0.9
	(-15.5)	(-1.4)	(2.6)	(7.6)	(11.3)	(12.8)	(21.2)
Buildings	12.2	12.8	2.2	13.6	1.2	2.2	2.5
	(0.5)	(5.0)	(0.5)	(5.9)	(6.3)	(20.7)	(13.3)

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

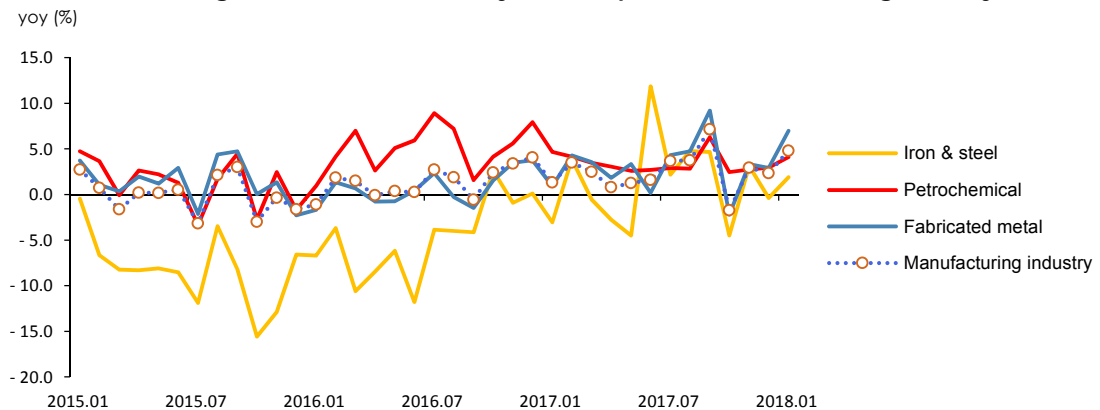
- Electricity consumption went up by 7.0% year-on-year in January, as the consumption increased in both of the industrial and buildings sectors on growing export demand and lower temperatures.
 - Industrial electricity consumption grew rapidly by over 5%, as there were more work days (+2.5days), and energy-intensive industrial sectors consumed more electricity due to the increased production in line with growing export demand, especially semiconductors.
 - Electricity consumption in buildings grew fast with growing heating demand and the increased service industry production index.

► Trend in electricity consumption by end-use sectors

	2015	2016	2017p				2018p
			M1		M11	M12	M1
Electricity (TWh)	483.7	497.0	45.2	507.7	41.3	45.8	48.4
	(1.3)	(2.8)	(1.2)	(2.2)	(2.6)	(5.2)	(7.0)
Industry	265.6	270.0	23.5	276.7	23.4	24.2	24.7
	(0.4)	(1.6)	(1.4)	(2.5)	(3.1)	(2.8)	(5.1)
Transport	2.2	2.7	0.2	2.8	0.2	0.3	0.3
	(10.7)	(21.3)	(0.9)	(4.9)	(10.6)	(14.0)	(12.2)
Buildings	215.8	224.4	21.4	228.3	17.7	21.3	23.4
	(2.3)	(4.0)	(1.0)	(1.7)	(1.8)	(7.9)	(9.0)

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

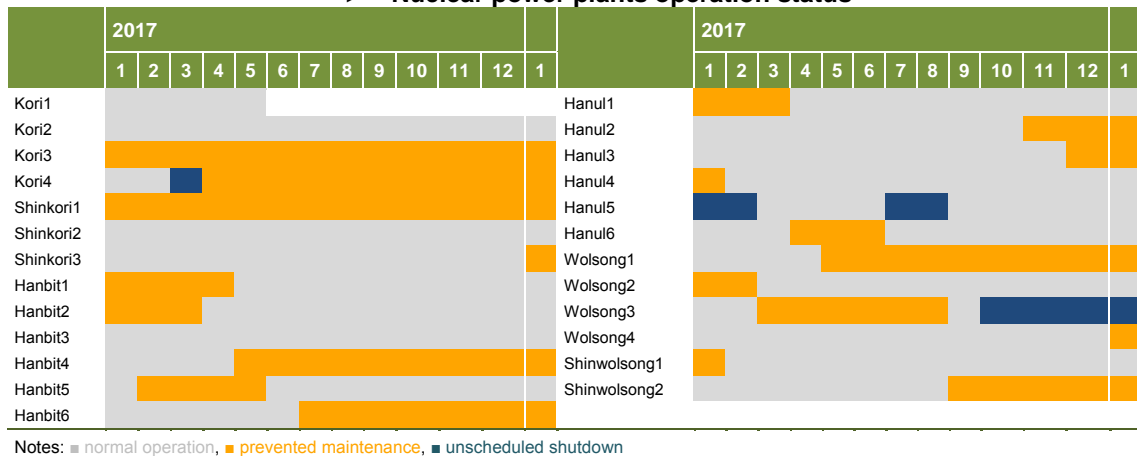
► The growth rate of electricity consumption in manufacturing industry



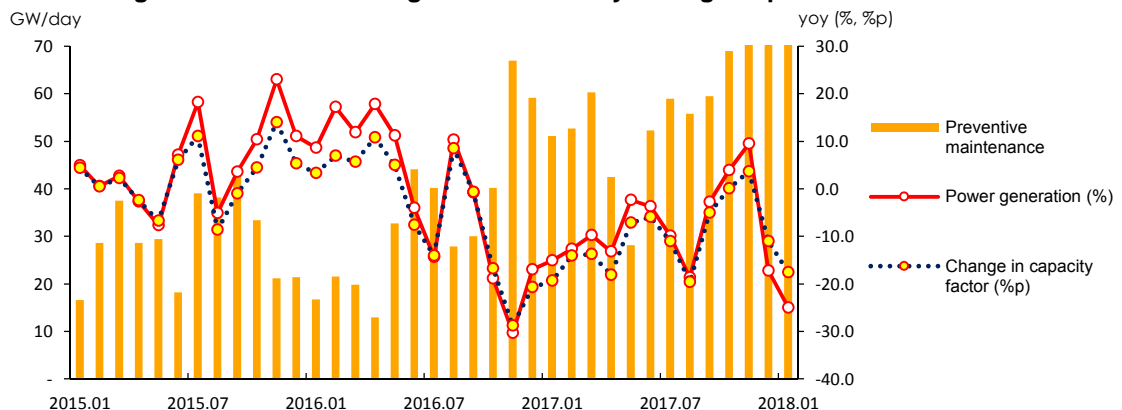
9. Nuclear

- **Nuclear generation fell by 25.0% year-on-year in January because of the stronger safety regulation for nuclear power plants and the exclusion of Wolsong unit1 from installed capacity.**
 - The average capacity factors at nuclear power plants fell to the lowest point ever (58.6%) with much increased preventive maintenance on daily average (4.7GW, 92.3%), as the restart of some reactors was delayed due to the safety inspections, and Wolsong unit1 was closed and excluded from installed capacity.²
 - With such a sharp drop in capacity factors (YoY 17.6%), nuclear energy share of the total generation also declined by 8.0%p to 18.4%.

► Nuclear power plants operation status



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



² Wolsong unit1 was excluded from the installed capacity from 2018 according to the 8th Electricity Supply & Demand Plan, and it is currently subject to preventive maintenance.

10. Heat and Renewable energy

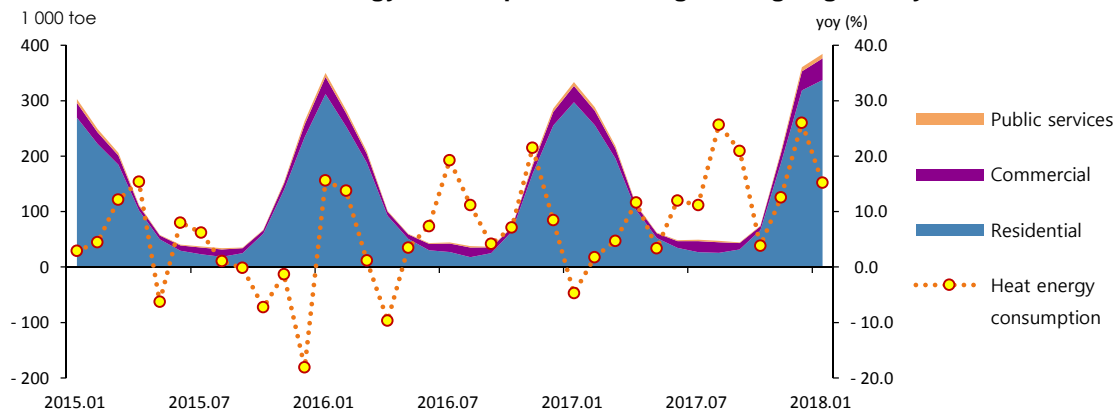
□ **Heat energy consumption recorded a year-on-year growth of 15.2% in January, as prolonged cold spell led to a rapid increase in the number of heating degree days.**

- The residential, commercial and public use of heat energy increased by 13.5%, 32.0% and 16.6% respectively, affected by the extremely cold weather since last December and significantly increased heating degree days (66.6degree days, 10.8%).

□ **Renewable & other energy consumption was up 13.1% on the back of increased renewable generation, and renewable's share of TFC increased, although hydropower generation declined.**

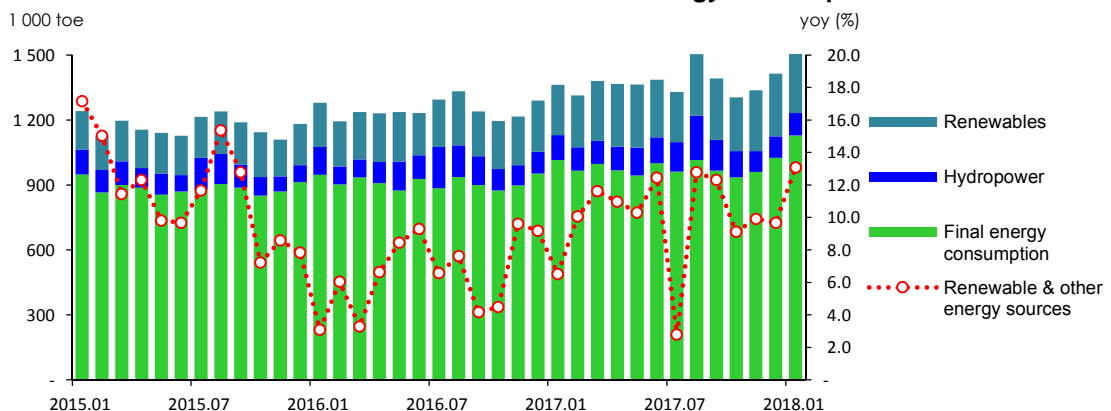
- Renewable energy generation (except hydropower) was up 32.0%, driven by the rapid growth in solar PV, wind and bioenergy generation, and the renewable's share of TFC rose by 11.2%.
- Hydropower generation declined by 8.9% (489.9GWh), as rivers were frozen during extremely cold weather and thus, the water discharge rate declined, although the amount of precipitation was at the average level (21.1mm) and was bigger compared to the same month 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 rose by 3.4% year-on-year in January, led by the petrochemical and fabricated metals industries.

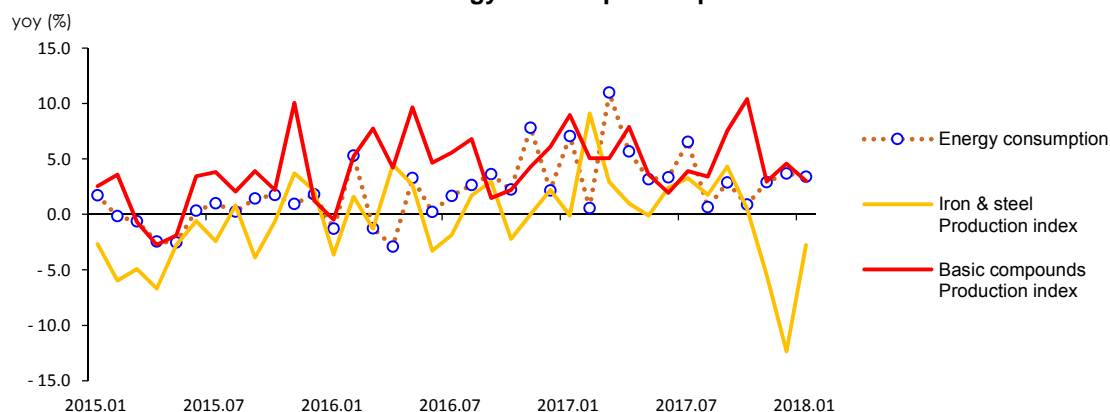
- The industrial energy consumption posted over 3% growth rates for two months in a row, on the back of accelerating export demand, mainly for semiconductors, in addition to more work days (+2.5days), as the Lunar New Year holiday was in January last year and in February this year.
- Energy use as raw material declined by 0.8%p on a year-on-year basis, as naphtha consumption grew more slowly and coking coal consumption was stagnant.

► Trend in the industrial energy consumption

	2015	2016	2017p				2018p
			M1		M11	M12	M1
Industry (Mtoe)	135.7	138.3	12.4	143.8	12.4	12.8	12.9
	(0.3)	(1.9)	(7.1)	(4.0)	(2.9)	(3.7)	(3.4)
Petrochemical	61.7	65.9	5.9	68.6	5.7	6.1	6.2
	(-0.6)	(6.8)	(6.6)	(4.1)	(1.3)	(2.5)	(5.2)
- Naptha	50.4	52.7	4.8	56.2	4.8	5.0	4.9
	(3.7)	(4.7)	(6.1)	(6.6)	(4.8)	(5.1)	(2.6)
Iron & Steel	30.6	28.1	2.6	30.0	2.5	2.6	2.6
	(-3.2)	(-8.0)	(7.0)	(6.7)	(8.1)	(8.4)	(0.3)
Fabricated metal	10.6	10.6	1.0	10.9	0.9	1.0	1.1
	(-1.1)	(0.4)	(-2.4)	(3.0)	(2.1)	(1.9)	(11.9)
Share of feedstock (%)	59.5	58.7	58.8	59.9	59.4	59.7	58.0

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 consumption rose by 7.8% year-on-year in January despite higher oil prices, partly due to the increased number of cars and cargo volume.**

- The prices of gasoline, diesel and butane for transport increased by 2.9%, 3.4% and 17.7% respectively, while the price of bunker-C oil decreased by 3.3%.
- Energy use for road transport rebounded by 6.2% as a result of the increased number of cars (3.2%) and bigger cargo volume.
- Energy use for navigation rebounded on the back of lower bunker-C oil price and bigger export volume, although the cargo volume in coastal transport decreased.
- Energy use for aviation rose dramatically with an increase in air flights, air freight and the number of passengers in addition to the construction of a new passenger terminal (Terminal 2) at Incheon International Airport.
- The largest contribution to the total transport energy consumption came from the road transport sector (4.9%p), followed by aviation (2.5%p), navigation (0.2%p) and railway (0.1%p) sectors.

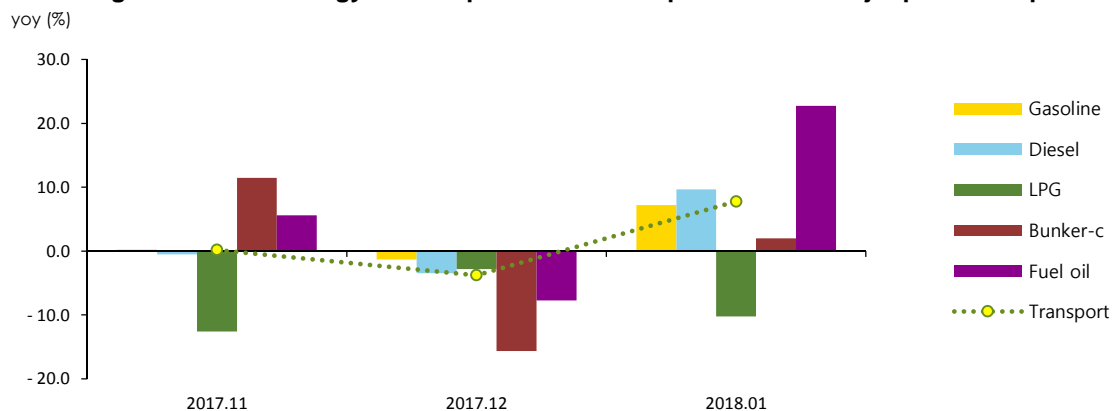
► **The growth rate of petroleum consumption in the transport sector**

	2015	2016	2017p				2018p
			M1		M11	M12	M1
Transport (Mtoe)	40.3	42.7	3.3	3.6	3.5	3.6	3.5
	(7.1)	(6.0)	(-5.6)	(-3.8)	(0.2)	(-3.8)	(7.8)
Road	32.8	34.4	2.6	3.0	2.8	3.0	2.8
	(5.6)	(4.9)	(-6.9)	(-2.0)	(-1.7)	(-2.0)	(6.2)
Navigation	2.9	3.4	0.3	0.3	0.3	0.3	0.3
	(27.0)	(13.8)	(4.6)	(-17.3)	(11.4)	(-17.3)	(2.7)
Aviation	4.3	4.7	0.4	0.4	0.4	0.4	0.4
	(7.5)	(9.1)	(-3.5)	(-7.8)	(5.5)	(-7.8)	(22.7)
Rail	0.3	0.3	0.0	0.0	0.0	0.0	0.0
	(2.2)	(8.3)	(-3.6)	(17.9)	(13.1)	(17.9)	(12.3)

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

Source: Monthly Energy Statistics

► **The growth rate of energy consumption in the transport sector & major petroleum products**



13. The Buildings Sector

□ **Energy consumption in buildings posted a year-on-year growth of 12.3% in January, as the ongoing cold spell led to an increase in heating demand.**

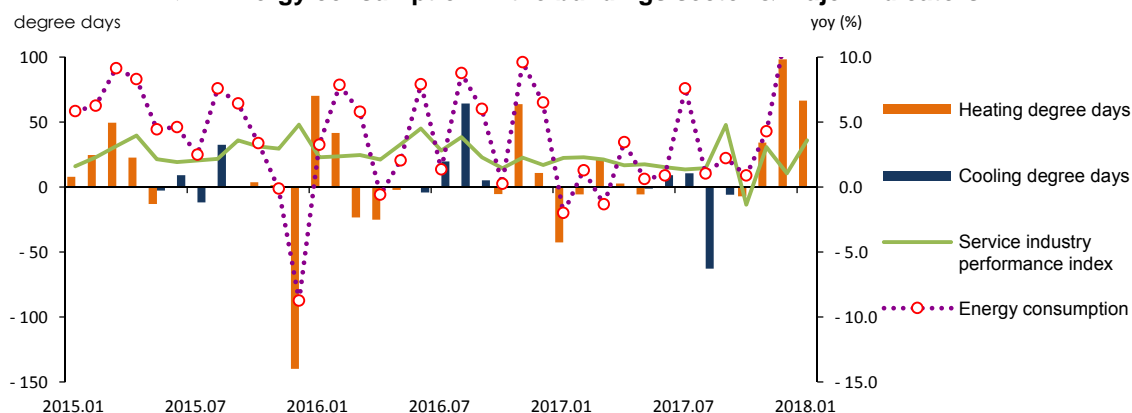
- Energy use in buildings recorded two consecutive months of over 10% growth, as the number of heating degree days surged with lower temperature, and much more energy was consumed for heating with lower prices of city gas and heat energy.
- Energy use in residential buildings posted double-digit growth rates for two months in a row, because all the major energy sources were more consumed, except briquette (-6.3%), mainly for heating.
- Energy use in commercial buildings went up by 8.1%, as electricity, kerosene and heat energy consumption grew rapidly (10.5%, 25.6%, 32.0%) amid lower temperatures, although city gas consumption declined by 0.8%, affected by lackluster performance of the restaurant & accommodations businesses.
- Energy use in public buildings posted a double-digit growth rate for the first time in six months, as all the major energy sources were more consumed due to the cold weather.
- As for the contribution of each energy source to the total energy consumption growth in the buildings sector, city gas took the first place (5.4%p), followed by electricity (3.0%p) and petroleum (2.6%p).

► Energy consumption trend in the buildings sector

	2015	2016	2017p				2018p
			M1		M11	M12	M1
Buildings (Mtoe)	42.4	44.5	5.5	45.7	4.1	5.7	6.2
	(3.6)	(5.1)	(-2.0)	(2.6)	(4.3)	(12.2)	(12.3)
Residential	20.1	21.3	3.1	21.9	2.1	3.3	3.5
	(2.2)	(5.6)	(-3.3)	(3.0)	(5.1)	(16.5)	(14.7)
Commercial	16.5	17.0	1.9	17.4	1.4	1.8	2.0
	(4.0)	(3.3)	(-0.4)	(2.4)	(2.8)	(7.7)	(8.1)
Public-others	5.8	6.2	0.6	6.4	0.5	0.6	0.7
	(7.8)	(8.4)	(0.2)	(1.9)	(5.1)	(5.1)	(13.2)

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

► Energy consumption in the buildings sector & major indicators



14. Transformation

- The total energy input for power generation rose by 6.0% year-on-year in January because of the increased coal and gas generation, although nuclear generation declined.

- The growth in energy input, mainly coal and gas, was attributable to the growing electricity consumption and the commissioning of a new bituminous coal power plant.

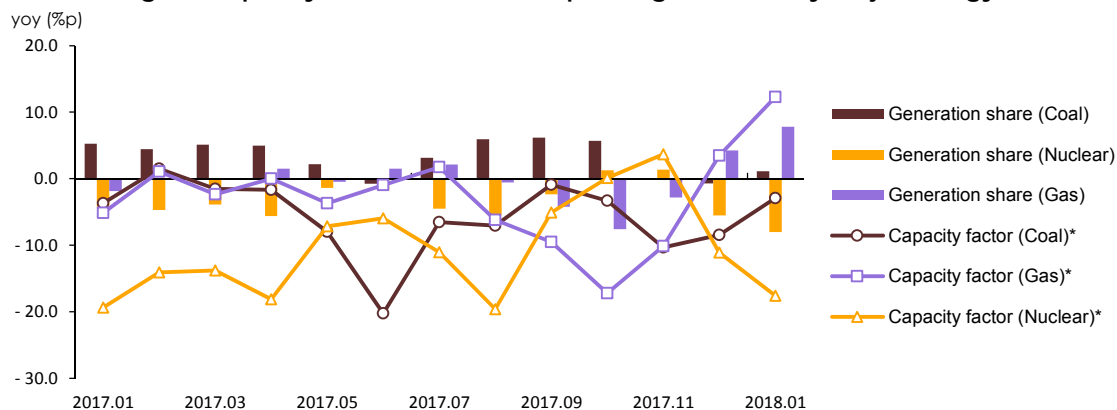
► Energy consumption in the power generation sector

	2015	2016	2017p				2018p
			M1		M11	M12	M1
Input (Mtoe)	110.1	110.9	10.1	111.1	9.2	10.3	10.7
	(1.1)	(0.8)	(-3.2)	(0.1)	(4.3)	(2.7)	(6.0)
Coal	50.6	49.2	4.8	52.8	4.3	4.9	5.4
	(2.7)	(-2.8)	(7.6)	(7.4)	(7.9)	(3.8)	(11.7)
Oil	2.0	3.0	0.2	1.2	0.1	0.2	0.3
	(16.6)	(50.1)	(-40.5)	(-59.7)	(-62.6)	(-29.6)	(12.3)
Gas	19.3	20.5	1.9	20.7	2.0	2.5	2.6
	(-10.5)	(6.3)	(-3.2)	(0.9)	(-5.1)	(28.9)	(34.0)
Nuclear	34.8	34.2	2.8	31.6	2.4	2.2	2.1
	(5.3)	(-1.7)	(-14.3)	(-7.5)	(10.5)	(-16.5)	(-25.0)
Hydro/other renewables	3.4	4.0	0.3	4.7	0.4	0.4	0.4
	(0.4)	(17.4)	(4.5)	(16.4)	(18.2)	(15.2)	(18.6)

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 m³)	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

(2015=100)

	(2015=100)								
	2015	2016			2017			2018	
			M11	M12	M1		M11	M12	M1
Industrial production index									
All industry	100.0 (1.9)	103.1 (3.2)	106.3 (4.7)	116.4 (3.6)	99.3 (2.4)	105.5 (2.3)	107.8 (1.4)	115.5 (-0.8)	103.7 (4.4)
Mining & manufacturing	100.0 (-0.3)	102.3 (2.3)	109.0 (6.2)	111.3 (5.6)	100.3 (1.5)	104.2 (1.8)	107.8 (-1.1)	106.0 (-4.8)	104.6 (4.3)
Iron & steel	100.0 (-2.0)	100.2 (0.2)	102.1 -	106.2 (2.2)	98.1 (-0.1)	100.7 (0.4)	96.5 (-5.5)	93.1 (-12.3)	95.4 (-2.8)
Cement	100.0 (19.5)	108.3 (8.3)	126.1 (20.8)	117.1 (8.0)	86.7 (9.9)	109.9 (1.4)	119.0 (-5.6)	105.9 (-9.6)	78.3 (-9.7)
Basic compound	100.0 (2.2)	104.8 (4.8)	105.1 (4.3)	111.5 (6.1)	113.2 (9.0)	110.4 (5.4)	108.2 (2.9)	116.6 (4.6)	116.6 (3.0)
Transport equipment	100.0 (1.3)	97.7 (-2.3)	110.3 (7.0)	116.5 (7.4)	87.3 (-9.5)	94.9 (-2.9)	103.1 (-6.5)	82.5 (-29.2)	88.6 (1.5)
Electric & electronic	100.0 (-3.3)	103.3 (3.3)	113.8 (6.6)	114.3 (1.2)	94.0 (-3.9)	106.4 (3.0)	120.2 (5.6)	110.7 (-3.1)	102.9 (9.5)
Service	100.0 (2.8)	102.6 (2.6)	103.3 (2.3)	112.9 (1.7)	99.6 (2.3)	104.5 (1.8)	106.5 (3.1)	114.1 (1.1)	103.2 (3.6)
Operating ratio index									
Manufacturing	100.0 (-2.0)	98.2 (-1.8)	103.0 (1.2)	102.3 (-1.0)	92.7 (-3.2)	97.1 (-1.2)	100.2 (-2.7)	95.8 (-6.4)	94.7 (2.2)
Iron & steel	100.0 (-2.4)	99.9 (-0.1)	101.7 (-0.4)	105.9 (2.1)	97.8 (-0.3)	101.0 (1.0)	96.1 (-5.5)	99.9 (-5.7)	102.2 (4.5)
Cement	100.0 (8.3)	107.0 (7.0)	124.1 (19.1)	115.2 (6.6)	85.1 (8.3)	107.6 (0.5)	117.9 (-5.0)	104.9 (-8.9)	78.0 (-8.3)
Basic compound	100.0 (-1.8)	103.6 (3.6)	103.4 (3.3)	109.2 (4.6)	110.8 (7.3)	107.2 (3.4)	104.3 (0.9)	111.8 (2.4)	112.0 (1.1)
Transport equipment	100.0 (1.6)	94.2 (-5.8)	106.4 (4.5)	110.5 (4.0)	83.2 (-11.7)	89.7 (-4.8)	96.6 (-9.2)	77.8 (-29.6)	84.9 (2.0)
Electric & electronic	100.0 (1.0)	102.2 (2.2)	112.9 (7.6)	112.2 (0.8)	93.3 (-3.2)	102.8 (0.5)	114.7 (1.6)	102.3 (-8.8)	97.1 (4.1)

Note: p means provisional
Source: Monthly Energy Statistics

International Energy Prices

	2016	2017					2018			
			M1~3	M1	M2	M3	M1~3	M1	M2	M3
Crude oil (USD/bbl)										
WTI	43.3 (-11.2)	51.0 (17.6)	51.9 (55.2)	52.6 (65.5)	53.5 (74.6)	49.7 (30.8)	62.9 (21.1)	63.7 (21.0)	62.2 (16.3)	62.8 (26.4)
Dubai	41.2 (-18.8)	53.2 (28.9)	53.1 (75.1)	53.7 (100.0)	54.4 (88.4)	51.2 (45.3)	63.9 (20.3)	66.2 (23.3)	62.7 (15.3)	62.7 (22.5)
Brent	45.0 (-16.0)	54.8 (21.7)	54.7 (55.8)	55.5 (73.7)	56.0 (67.0)	52.5 (32.0)	67.2 (22.9)	69.1 (24.6)	65.7 (17.4)	66.7 (27.0)
Unit value of import (C&F)	41.0 (-23.0)	53.3 (29.9)	53.9 (70.5)	52.5 (56.7)	55.1 (88.3)	54.2 (68.8)	43.9 (-18.5)	64.9 (23.8)	66.9 (21.4)	- -
LNG										
From Indonesia (USD/MMBTU)	6.9 (-32.6)	8.0 (16.8)	7.7 (-0.1)	7.5 (-4.2)	7.9 (-2.0)	7.7 (6.5)	9.0 (16.7)	8.7 (16.1)	9.1 (15.9)	9.1 (18.2)
Unit value of import (USD/ton, CIF)	356.7 (-35.0)	416.3 (16.7)	412.9 (3.6)	412.7 (-0.9)	418.3 (3.9)	407.6 (8.3)	485.3 (17.5)	452.3 (9.6)	516.6 (23.5)	487.0 (19.5)
Bituminous coal (USD/ton)										
From Australia	65.9 (14.5)	88.4 (34.2)	81.6 (60.2)	83.7 (68.1)	80.4 (58.6)	80.6 (54.3)	102.5 (25.6)	106.9 (27.6)	104.7 (30.2)	95.9 (19.0)
Unit value of import (CIF)	68.9 (-6.8)	104.3 (51.5)	106.9 (77.5)	104.2 (67.5)	106.1 (85.2)	110.4 (80.3)	113.0 (5.7)	109.8 (5.4)	109.7 (3.4)	119.5 (8.3)
Petroleum product (USD/bbl)										
Gasoline	56.2 (-19.1)	68.1 (21.2)	67.9 (37.3)	69.5 (37.5)	70.0 (55.4)	64.3 (21.6)	77.6 (14.2)	78.7 (13.2)	77.0 (10.0)	77.1 (20.0)
Kerosene	52.8 (-18.3)	65.3 (23.6)	64.4 (52.8)	65.1 (72.7)	66.2 (62.0)	61.9 (29.3)	80.0 (24.2)	81.0 (24.3)	80.0 (20.9)	79.0 (27.6)
Diesel	53.0 (-20.4)	66.4 (25.1)	65.5 (57.6)	66.0 (75.1)	67.3 (68.2)	63.1 (34.6)	79.4 (21.3)	81.9 (24.1)	78.1 (15.9)	78.4 (24.2)
Bunker-C	35.4 (-21.6)	49.7 (40.2)	48.8 (98.6)	50.8 (122.5)	49.6 (108.3)	46.2 (70.0)	57.6 (17.9)	58.9 (15.9)	57.0 (15.0)	57.0 (23.4)
Propane	323.3 (-22.3)	468.8 (45.0)	475.0 (54.9)	435.0 (26.1)	510.0 (78.9)	480.0 (65.5)	531.7 (11.9)	590.0 (35.6)	525.0 (2.9)	480.0 -
Butane	355.8 (-18.5)	500.8 (40.7)	565.0 (65.4)	495.0 (26.9)	600.0 (90.5)	600.0 (87.5)	513.3 (-9.1)	570.0 (15.2)	505.0 (-15.8)	465.0 (-22.5)
Naphtha	42.5 (-19.0)	53.8 (26.6)	54.1 (48.2)	55.4 (50.1)	56.4 (66.8)	50.7 (30.3)	63.4 (17.1)	66.1 (19.4)	61.2 (8.7)	62.9 (24.1)

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		2017p		2017p		2018p
			M11	M12	M1		M11	M12	M1
Coal (Mton)	135.2 (1.2)	129.4 (-4.3)	11.1 (4.3)	12.0 (-1.6)	12.7 (11.3)	139.7 (7.9)	11.8 (6.5)	12.9 (7.5)	13.5 (6.2)
- Coking coal excluded	98.5 (2.6)	96.0 (-2.5)	8.3 (9.1)	9.1 (0.7)	9.5 (12.1)	103.5 (7.9)	8.8 (5.5)	9.7 (6.6)	10.3 (8.3)
Oil (Mbbbl)	856.2 (4.2)	924.2 (7.9)	79.7 (7.7)	86.1 (8.1)	79.9 (1.2)	938.2 (1.5)	80.2 (0.6)	85.2 (-1.0)	84.0 (5.1)
- Non-energy oil excluded	411.7 (6.0)	458.0 (11.2)	39.6 (6.9)	43.7 (11.6)	38.4 (-2.6)	446.3 (-2.5)	38.0 (-3.8)	41.2 (-5.7)	41.3 (7.6)
LNG (Mton)	33.4 (-8.7)	34.9 (4.4)	3.5 (30.1)	4.0 (9.7)	4.3 (-2.8)	36.1 (3.5)	3.6 (2.8)	5.0 (24.0)	5.3 (23.8)
Hydro (TWh)	5.8 (-25.9)	6.6 (14.5)	0.4 (32.5)	0.5 (29.2)	0.5 (-12.2)	7.0 (5.2)	0.4 (2.5)	0.5 (-3.1)	0.5 (-8.9)
Nuclear (TWh)	164.8 (5.3)	162.0 (-1.7)	10.3 (-30.4)	12.6 (-17.0)	13.1 (-15.1)	148.4 (-8.4)	11.3 (9.5)	10.4 (-17.3)	9.8 (-25.0)
Others (Mtoe)	12.8 (17.2)	13.6 (5.7)	1.1 (8.1)	1.2 (7.7)	1.2 (8.5)	15.0 (10.2)	1.2 (10.4)	1.3 (10.7)	1.4 (15.1)
TPES (Mtoe)	287.7 (1.6)	294.6 (2.4)	25.1 (4.7)	27.8 (2.5)	27.7 (0.3)	301.1 (2.2)	26.1 (3.6)	29.0 (4.3)	29.6 (6.7)
- Non-energy oil excluded	232.4 (1.4)	236.6 (1.8)	20.1 (3.8)	22.5 (2.1)	22.6 (-0.7)	240.0 (1.4)	20.8 (3.3)	23.5 (4.5)	24.3 (7.6)
- Non-energy oil&coal excluded	206.7 (1.9)	213.2 (3.2)	18.2 (5.2)	20.5 (3.2)	20.4 (-1.6)	214.8 (0.7)	18.7 (2.7)	21.3 (4.0)	22.1 (8.5)

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

Share of TPES by Sources

(unit: %)

	2015	2016	2017p		2017p		2017p		2018p
			M11	M12	M1		M11	M12	M1
Coal	29.8	27.8	27.7	27.1	28.2	28.7	27.9	27.4	28.0
- Coking coal excluded	20.8	19.8	20.0	19.9	20.3	20.3	19.8	19.7	20.6
Oil	38.1	40.1	40.4	39.7	36.6	39.7	39.4	37.6	36.2
- non-energy oil excluded	18.9	20.4	20.5	20.7	18.1	19.4	19.3	18.7	18.4
LNG	15.2	15.4	18.4	18.9	20.2	15.7	18.3	22.5	23.4
Hydro	0.4	0.5	0.4	0.4	0.4	0.5	0.4	0.3	0.4
Nuclear	12.1	11.6	8.7	9.6	10.1	10.5	9.2	7.7	7.1
Others	4.5	4.6	4.5	4.3	4.5	5.0	4.8	4.5	4.9
TPES	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	2016			2017p				2018p
			M11	M12	M1		M11	M12	M1
Industry	135.7 (0.3)	138.3 (1.9)	12.0 (7.8)	12.4 (2.1)	12.4 (7.1)	143.8 (4.0)	12.4 (2.9)	12.8 (3.7)	12.9 (3.4)
Transport	40.3 (7.1)	42.7 (6.0)	3.5 (3.9)	3.8 (8.1)	3.3 (-5.6)	43.0 (0.7)	3.5 (0.2)	3.6 (-3.8)	3.5 (7.8)
Residential-commercial	36.6 (3.0)	38.3 (4.5)	3.4 (10.3)	4.5 (6.2)	4.9 (-2.3)	39.3 (2.7)	3.6 (4.2)	5.1 (13.2)	5.5 (12.2)
Public	5.8 (7.8)	6.2 (8.4)	0.5 (5.1)	0.6 (8.9)	0.6 (0.2)	6.4 (1.9)	0.5 (5.1)	0.6 (5.1)	0.7 (13.2)
TFC	218.4 (2.1)	225.5 (3.3)	19.5 (7.4)	21.2 (4.2)	21.3 (2.5)	232.5 (3.1)	20.0 (2.7)	22.2 (4.4)	22.6 (6.4)
Coal (Mton)	52.7 (-1.1)	49.1 (-6.8)	4.5 (5.9)	4.2 (-12.8)	4.5 (10.7)	50.3 (2.3)	4.5 (-1.1)	4.5 (7.3)	4.4 (-3.3)
Oil (Mbbl)	841.6 (4.1)	902.4 (7.2)	78.4 (9.4)	83.9 (8.7)	78.1 (2.6)	928.1 (2.8)	79.6 (1.5)	83.5 (-0.4)	82.0 (5.0)
Electricity (TWh)	483.7 (1.3)	497.0 (2.8)	40.3 (3.5)	43.5 (4.2)	45.2 (1.2)	507.7 (2.2)	41.3 (2.6)	45.8 (5.2)	48.4 (7.0)
City gas (Bm³)	20.8 (-5.9)	21.3 (2.3)	1.9 (12.7)	2.7 (7.6)	3.0 (0.9)	22.6 (6.2)	2.1 (7.8)	3.1 (17.7)	3.5 (14.9)
Heat-others (1 000 toe)	12.2 (13.4)	12.6 (3.8)	1.1 (6.0)	1.2 (5.2)	1.3 (4.0)	13.6 (7.5)	1.2 (7.9)	1.4 (11.9)	1.5 (12.2)

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

Source: Monthly Energy Statistics

Share of the Total Final Consumption by Sources

(unit: %)

	2015	2016			2017p				2018p
			M11	M12	M1		M11	M12	M1
Industry	62.2	61.3	61.7	58.3	58.5	61.9	61.9	57.9	56.8
Transport	18.5	18.9	18.1	17.7	15.4	18.5	17.7	16.3	15.6
Residential-commercial	16.8	17.0	17.5	21.1	23.3	16.9	17.8	22.9	24.5
Public	2.6	2.8	2.6	2.8	2.8	2.7	2.7	2.9	3.0
Final energy	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Coal	16.1	14.5	15.1	13.1	14.1	14.4	14.7	13.4	12.9
Oil	49.1	50.9	51.0	50.3	46.4	50.8	50.9	47.9	46.0
Electricity	19.0	19.0	17.8	17.6	18.3	18.8	17.7	17.8	18.4
City gas	10.1	10.1	10.5	13.2	14.9	10.2	10.9	14.7	16.0
Heat-others	5.6	5.6	5.6	5.8	6.3	5.8	5.8	6.2	6.7

Note: p means provisional

Source: Monthly Energy Statistics

Statistics on Energy Production Facilities

	2015	2016			2017p				2018p
			M11	M12	M1		M11	M12	M1
Total capacity (GW)	97.6 (4.8)	105.9 (8.4)	103.3 (5.8)	105.9 (8.4)	106.2 (12.9)	116.9 (19.7)	116.3 (19.1)	116.9 (19.7)	116.4 (18.6)
Nuclear	21.7 (4.8)	23.1 (6.4)	21.7 (-0.0)	23.1 (6.4)	23.1 (11.6)	22.5 (3.7)	22.5 (3.7)	22.5 (3.7)	22.5 (3.7)
Bituminous coal	26.2 (1.1)	30.9 (18.0)	29.9 (14.1)	30.9 (18.0)	31.0 (19.6)	36.1 (37.8)	36.2 (38.3)	36.1 (37.8)	36.1 (37.7)
Gas	32.2 (6.5)	32.6 (1.2)	32.6 (1.2)	32.6 (1.2)	32.6 (5.2)	37.8 (17.3)	37.5 (16.2)	37.8 (17.3)	37.4 (16.4)
Refinery capacity (mil BPSD)	3.1 (3.7)	3.1 -	3.1 -	3.1 -	3.1 -	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

	2015	2016			2017p				2018p
			M11	M12	M1		M11	M12	M1
The number of household demanding city gas (mil)	17.4 (3.0)	18.0 (3.4)	17.9 (3.4)	18.0 (3.4)	18.0 (3.3)	18.6 (3.3)	18.4 (3.0)	18.6 (3.3)	18.6 (3.0)
Registered cars (mil)	21.0 (4.3)	21.8 (3.9)	21.7 (3.9)	21.8 (3.9)	21.9 (3.9)	22.5 (3.3)	22.5 (3.4)	22.5 (3.3)	22.6 (3.2)
- gasoline	9.8 (2.3)	10.1 (2.9)	10.1 (2.8)	10.1 (2.9)	10.1 (3.0)	10.4 (2.7)	10.4 (2.9)	10.4 (2.7)	10.4 (2.7)
- diesel	8.6 (8.6)	9.2 (6.4)	9.1 (6.6)	9.2 (6.4)	9.2 (6.1)	9.6 (4.4)	9.5 (4.6)	9.6 (4.4)	9.6 (4.3)
- LPG	2.3 (-3.4)	2.2 (-4.0)	2.2 (-4.0)	2.2 (-4.0)	2.2 (-3.9)	2.1 (-2.9)	2.1 (-2.9)	2.1 (-2.9)	2.1 (-3.0)
- hybrid	0.2 (31.3)	0.2 (37.6)	0.2 (37.4)	0.2 (37.6)	0.2 (37.8)	0.3 (37.6)	0.3 (37.6)	0.3 (37.6)	0.3 (37.5)

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.

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>