

KEEI

MONTHLY KOREA ENERGY TRENDS

2019 / 05
KOREA ENERGY ECONOMICS INSTITUTE

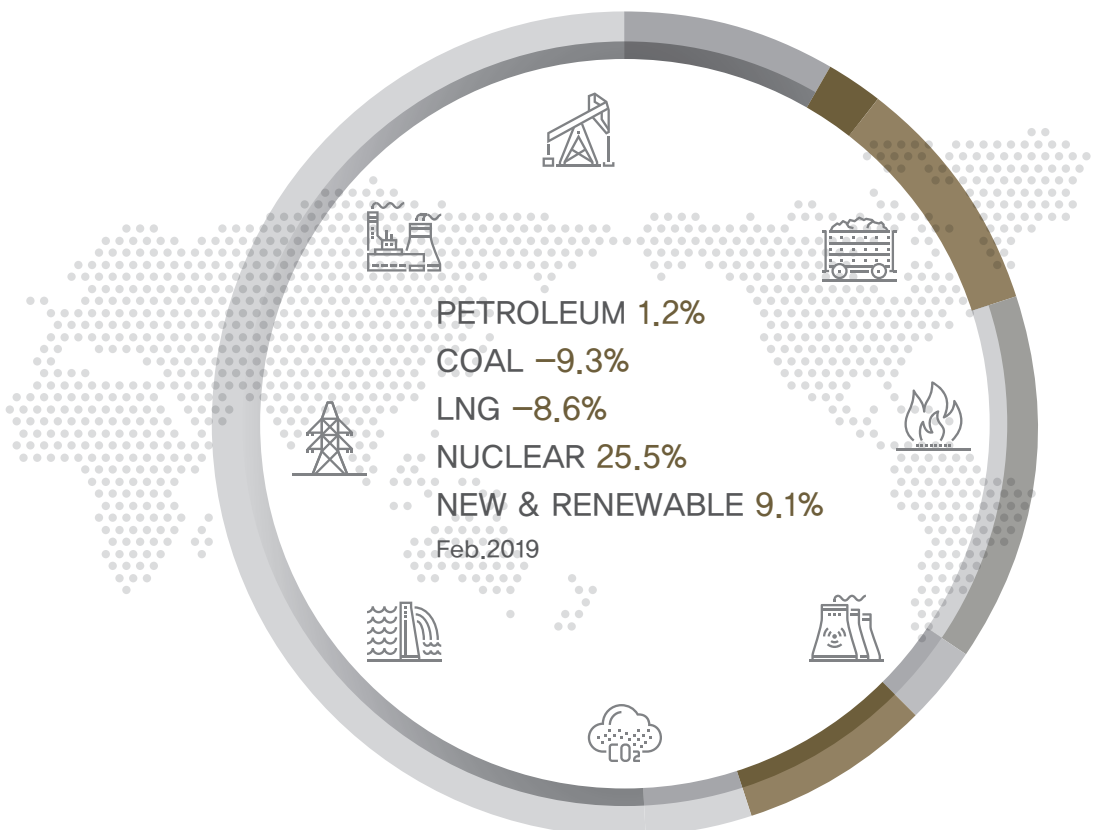


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1. The Economy and the Industry

- **The mining and manufacturing production index went down by 3.4% year-on-year in February due to the weak performance of major industries except the semiconductor sector.**
 - The production index of refined petroleum products and basic chemical materials posted a year-on-year drop of 0.5% and 3.0% respectively, as the export value and volume declined owing to the increased supply from the competitors including the U.S., which resulted in lower unit prices.
 - The production index of iron & steel products dropped by 4.1% year-on-year, as the export volume declined amid global trade regulations, while its import increased, and as the production of steel plates declined with weak domestic demand.
 - The production index of automobiles went up by 0.4% in line with increased export values, especially a new SUV and eco-friendly vehicles. The number of vehicles produced, however, went down by 7.1% year-on-year, after some manufacturers went on strike.
- **The service production index decreased for the first time in five months, because the index fell by 4.0% year-on-year in the wholesale & retail sector and fell by 1.9% in the restaurant & accommodation sector.**

► Trend in major economic and industrial indicators

	2017	2018p				2019p	
		M1	M2		M12	M1	M2
GDP (trillion won)	1 556.0 (3.1)	- -	- -	1 597.5 (2.7)	420.2 (3.1)	- -	- -
Total export (\$billion, customs clearance basis)	573.7 (15.8)	49.2 (22.3)	44.5 (3.1)	604.9 (5.4)	48.2 (-1.7)	46.2 (-6.2)	39.5 (-11.4)
Industrial production index (2015=100)	104.6 (2.2)	103.7 (4.9)	91.5 (-6.1)	105.9 (1.2)	106.8 (1.2)	103.7 -	88.3 (-3.5)
Semi-conductors	138.9 (10.8)	137.3 (-2.7)	134.9 (9.9)	167.0 (20.3)	170.3 (10.9)	150.0 (9.3)	142.9 (5.9)
Basic compound	110.4 (5.5)	116.5 (2.6)	103.9 (-0.1)	110.4 -	110.4 (-5.6)	112.7 (-3.3)	100.8 (-3.0)
Steel	102.9 (1.7)	105.6 (2.9)	91.7 (-6.3)	99.8 (-3.1)	97.5 (-5.8)	103.0 (-2.5)	87.9 (-4.1)
Cars	95.0 (-2.7)	88.9 (2.0)	76.9 (-19.3)	93.7 (-1.4)	98.9 (20.3)	96.3 (8.3)	77.2 (0.4)
Service production index (2015=100)	104.5 (1.8)	103.0 (3.5)	99.6 (2.2)	106.7 (2.1)	115.4 (1.4)	105.5 (2.4)	99.2 (-0.4)
Wholesale & Retail	103.3 (0.8)	101.6 (1.1)	96.0 (2.3)	104.8 (1.4)	109.4 -	104.9 (3.2)	92.2 (-4.0)
Restaurant & Accommodation	100.4 (-1.9)	95.6 (-2.6)	88.6 (-5.7)	98.5 (-1.9)	108.9 (0.6)	96.6 (1.0)	86.9 (-1.9)

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

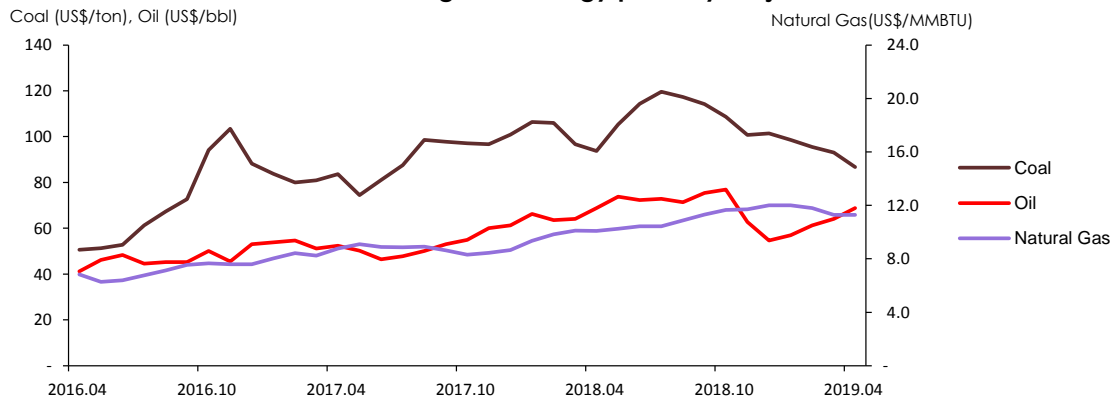
- **Global oil price went up by 7.4% in April from the previous month, following the OPEC's oil output reduction and stronger US sanctions against Venezuela and Iran.**
 - OPEC's oil production fell by 2.8 million b/d than the beginning of the output reduction (2018.10) to 29.5 million b/d in April, the lowest level since Nov, 2014.
 - After the U.S. government intensified sanctions against Venezuela and announced (4.22) the end of the exemption for eight nations from the Iranian sanctions (5.2), concerns grew over potential oil supply disruptions in Venezuela and Iran, which led to the oil price increase.
 - Meanwhile, such oil price increase was partly offset, as the Russian government statement implied the end of oil output cuts and the U.S. crude inventory rose by 21.1 million barrels in April from the previous month.
- **Global coal price was down 6.8% in April than a month earlier, marking the fourth consecutive month of decrease, while natural gas price remained the same as the previous month.**
 - The coal price decrease was partly attributed to falling demand from China and India, where the inventory of thermal coal increased.

► Trend in global energy prices

	2017	2018				2019			
			M2	M3	M4	M2	M3	M4	
Crude oil (US\$/bbl)	53.0 (22.4)	68.6 (29.5)	63.5 (16.3)	64.1 (25.3)	68.8 (31.2)	61.3 (-3.5)	64.0 (-0.0)	68.8 (0.0)	
Natural gas (US\$/MMBTU)	8.6 (16.8)	10.7 (24.0)	9.8 (16.8)	10.1 (22.6)	10.1 (15.1)	11.8 (20.2)	11.3 (11.7)	11.3 (11.9)	
Coal (US\$/ton)	88.6 (33.8)	107.0 (20.9)	106.0 (32.5)	96.7 (19.5)	93.7 (12.0)	95.4 (-9.9)	93.1 (-3.7)	86.8 (-7.4)	

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 4.0% and 3.7% respectively in April from the previous month, as the global oil price grew more rapidly.**
 - Gasoline and diesel prices increased from the previous month in line with continuously rising global oil prices.
- **Global propane and butane prices went up by 11.4% and 10.6% respectively in March than a month earlier, but domestic prices have been stagnant for four months in a row, because domestic LPG importers such as E1 and SK fixed supply prices.¹**

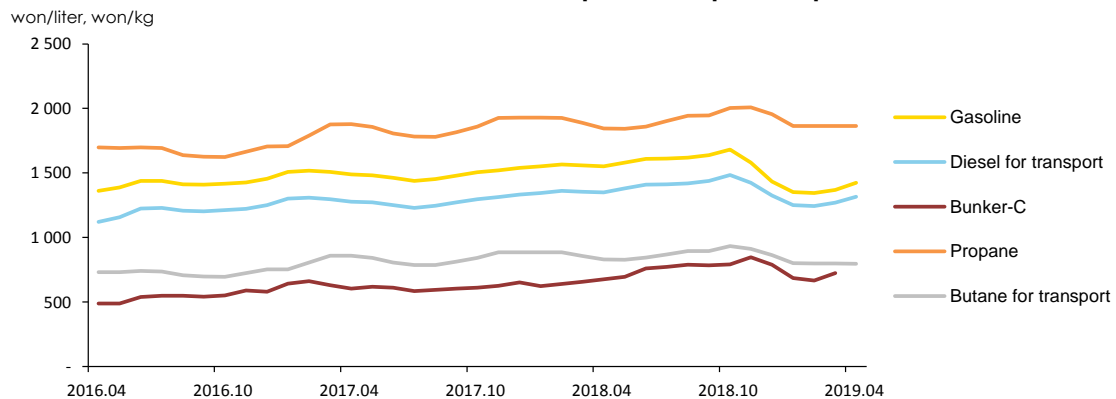
► Trend in domestic energy prices

s	2017	2018				2019		
			M2	M3	M4	M2	M3	M4
Gasoline (won/liter)	1 491.3 (6.3)	1 581.3 (6.0)	1 564.6 (3.2)	1 557.9 (3.4)	1 551.3 (4.3)	1 343.8 (-14.1)	1 369.5 (-12.1)	1 424.4 (-8.2)
Diesel for transport (won/liter)	1 282.5 (8.4)	1 391.9 (8.5)	1 360.4 (4.0)	1 354.6 (4.4)	1 349.1 (5.6)	1 242.9 (-8.6)	1 269.2 (-6.3)	1 316.4 (-2.4)
Bunker-C (won/liter)	619.3 (18.9)	735.0 (18.7)	638.7 (-3.3)	656.5 (4.2)	674.6 (11.7)	665.8 (4.3)	724.0 (10.3)	-
Propane (won/kg)	1 833.8 (8.5)	1 920.5 (4.7)	1 926.3 (7.7)	1 886.8 (0.6)	1 845.1 (-1.8)	1 863.3 (-3.3)	1 864.7 (-1.2)	1 863.6 (1.0)
Butane for transport (won/liter)	826.5 (12.6)	874.6 (5.8)	886.0 (10.0)	857.2 (-0.2)	828.7 (-3.4)	798.7 (-9.9)	797.5 (-7.0)	796.5 (-3.9)

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



¹Domestic LPG importers determine domestic LPG price based on the global price of the previous month and also after consideration of other factors including the exchange rates and relative prices of competing fuels.

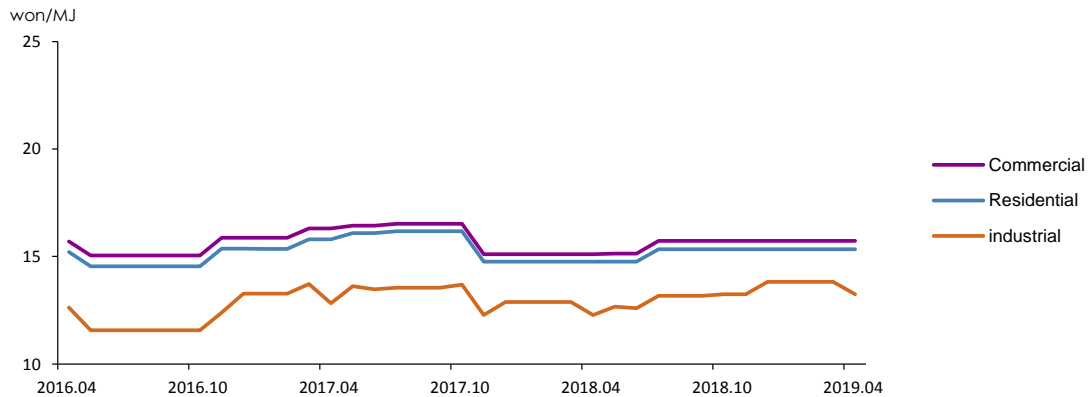
☐ **City gas price was fixed in April for the fourth time since July, 2018, and the price has remained at the same level for the last ten months.**

- Global LNG price, which is linked to global oil price in a few months' interval, held steady recently, and city gas price has been flat for 10 months with the fourth price freeze in April.

☐ **Heat energy price was the same as the previous month, as city gas price was fixed again.**

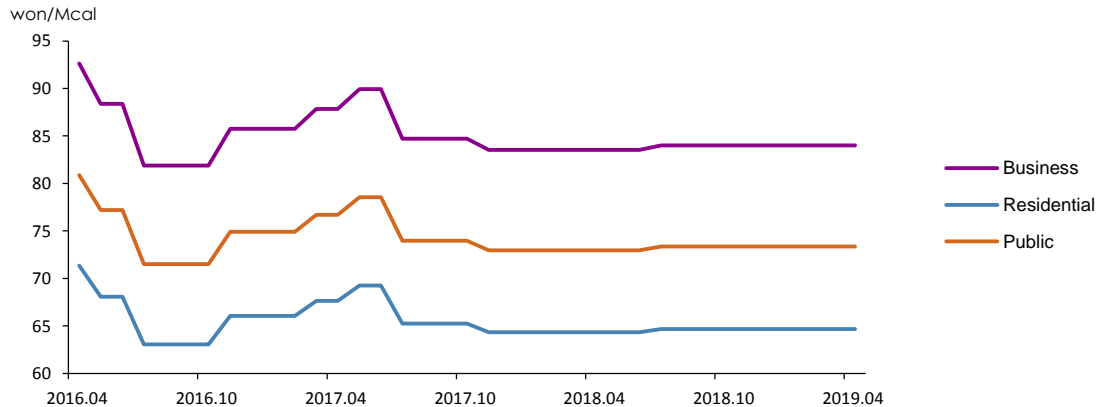
- Korea District Heating Corporation's heat energy price is linked to city gas price according to the fuel cost pass-through scheme, and the actual fuel cost is reflected in the heat energy price once a year (LNG for over 100MW, city gas for under 100MW).

► 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 rate 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.

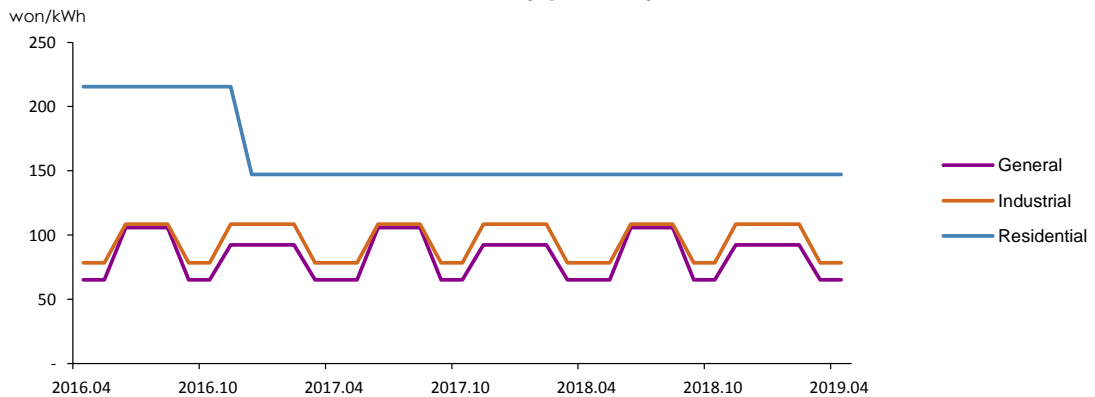
□ Electricity prices² remained stagnant (in April), after the prices for industrial and general use declined in March with the seasonal price adjustment (spring/winter).

- Electricity prices for industrial and general use were flat in April, following the price adjustment in March from winter (Nov-Feb) to spring/autumn (Mar-May/Sept-Oct) season.
- Electricity price for residential use has been flat since the reform of the progressive pricing scheme, which was implemented after 2016's extreme heatwaves.

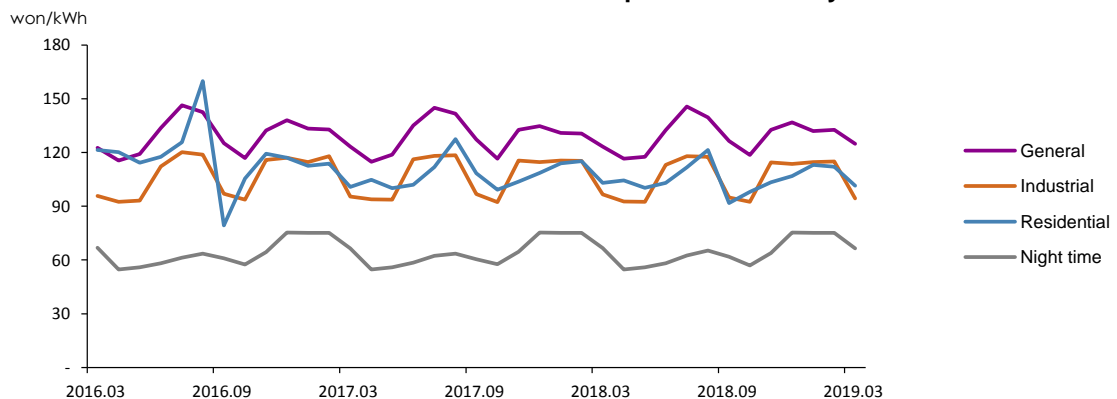
□ In March, the unit sales price of electricity for industrial, residential and general use dropped by 18.0%, 9.3% and 5.9% respectively.

- The unit sales price of electricity for residential use, which is progressively priced, decreased from the previous month due to falling heating demand along with the change of season, and that for industrial and general use decreased, after the prices were adjusted for the spring/autumn season.

► Trend in electricity prices by end-use sectors



► Trend in unit sales price of electricity



² The electricity prices by end-use sectors refer to the prices 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 total energy import volume declined by 3.7% year-on-year in February despite increased import of crude oil and bituminous coal, as the import of petroleum products and LNG decreased.**
 - The import volume of crude oil went up by 4.2% on a year-on-year basis because of surging import from the U.S., although the import from the Middle East decreased.
 - The import volume of petroleum products posted a year-on-year drop of 22.8%, as the imports of naphtha, LNG and bunker-C dramatically decreased.
 - The import volume of LNG fell by 16.8% owing to the increased global prices and inventory build-up as well as the base effect of the surge in import volume during the same month last year.
 - The foreign energy dependence including nuclear energy stood at 93.1%, and the energy share of the total import value went up by 1.3%p year-on-year to 30.2%.

► Trend in energy trade and domestic production

	2017	2018p				2019p	
		M1	M2		M12	M1	M2
Import volume							
Crude oil (Mbbbl)	1 118.2 (3.7)	99.8 (6.6)	94.4 (6.6)	1 116.3 (-0.2)	93.0 (-6.9)	93.1 (-6.7)	98.5 (4.2)
Petroleum product (Mbbbl)	314.5 (-6.0)	27.5 (4.1)	29.3 (17.2)	341.2 (8.5)	32.1 (22.6)	30.2 (9.5)	22.6 (-22.8)
Bituminous coal (Mton)	131.5 (11.0)	11.6 (-3.4)	10.4 (-5.7)	131.5 (0.0)	10.4 (-5.7)	12.9 (11.3)	10.7 (3.2)
Anthracite (Mton)	7.0 (-25.7)	0.6 (-19.8)	0.6 (18.3)	8.1 (16.0)	0.8 (27.6)	0.5 (-15.6)	0.8 (34.0)
LNG (Mton)	37.5 (12.2)	4.1 (-3.8)	4.5 (26.9)	44.0 (17.3)	4.7 (13.1)	3.8 (-7.5)	3.8 (-16.8)
Import volume (Mtoe)	339.7 (5.5)	31.0 (-0.5)	29.6 (5.4)	354.1 (4.2)	31.6 (2.7)	32.3 (4.1)	28.5 (-3.7)
Import value (billion US\$, CIF)	109.5 (35.2)	11.7 (23.4)	12.1 (28.2)	146.0 (33.3)	12.4 (12.2)	11.2 (-4.8)	11.0 (-8.6)
Energy share of total import value (%)	22.9	25.6	28.9	27.3	28.2	24.8	30.2
Foreign energy dependence (%)*	93.9	94.5	93.8	93.5	94.2	93.8	93.1
Domestic production							
Hydropower (TWh)	7.0 (5.5)	0.5 (-8.9)	0.4 (-13.4)	7.3 (4.0)	0.6 (27.9)	0.6 (14.6)	0.5 (6.7)
Anthracite (Mton)	1.5 (-14.0)	0.1 (-1.6)	0.1 (-25.2)	1.2 (-19.2)	0.1 (-36.1)	0.1 (-20.0)	0.1 (-17.3)
Natural gas (Mton)	0.3 (120.5)	0.0 (-6.3)	0.0 (-6.4)	0.2 (-10.4)	0.0 (-17.5)	0.0 (-75.7)	0.0 (-16.5)
Renewable energy (Mtoe)	15.8 (16.7)	1.4 (7.5)	1.4 (12.9)	17.5 (10.5)	1.5 (3.5)	1.6 (11.2)	1.6 (9.1)

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

4. Energy Consumption

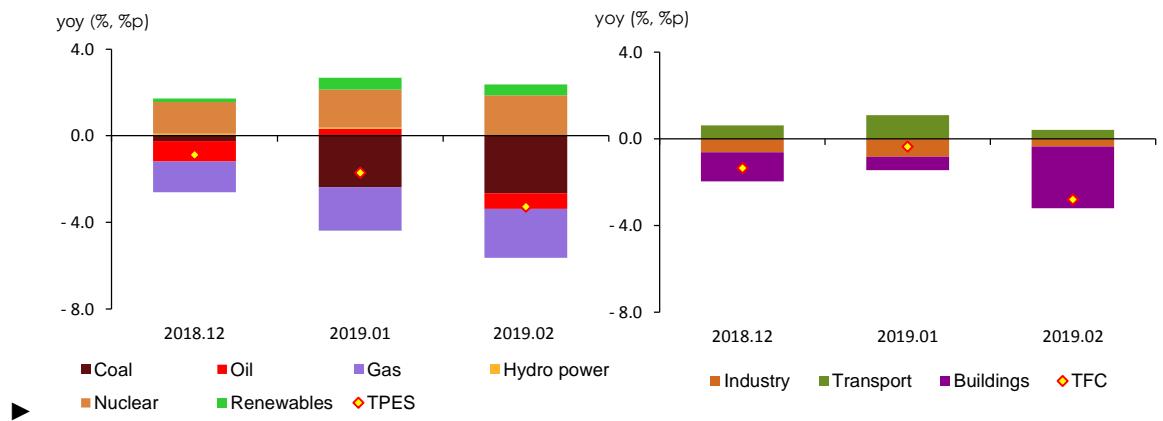
- **Total Primary Energy Supply (“TPES”) went down by 3.3% year-on-year in February despite increased use of nuclear energy, as petroleum, coal and gas use all declined.**
 - Petroleum consumption rose by 1.2% year-on-year, led by the transport and commercial sectors on the back of the fuel tax cut and oil prices decline, although the industrial petroleum consumption decreased, especially naphtha.
 - Coal consumption plunged by 9.3% year-on-year, as bituminous coal use for steel-making decreased due to sluggish business, and coal use also declined in the power generation sector owing to the rapidly increased preventive maintenance at coal-fired power plants, maximum power limits for fine dust reduction and the shutdown of some plants for safety issues.
 - Gas consumption declined in the power generation sector due to falling power demand and increased nuclear generation, and it also declined in the city gas production sector due to warm weather and higher prices. Consequently, the total gas consumption fell by 8.6% year-on-year.
- **Total Final Consumption (“TFC”) fell by 2.8% year-on-year, despite increased energy use in the transport sector, as the industrial and buildings sectors consumed less energy.**
 - Industrial energy use dropped by 0.6% owing to the sluggish production and decreased number of work days.
 - Transport energy use increased by 2.7% year-on-year, led by the road transport sector, as a result of the temporary fuel tax cut.
 - Energy use in buildings plunged by 9.7% amid decreased number of heating degree days (-14.3%, -72.9degree days) and because of increased city gas and heat energy prices compared to the same month last year, contributing to the slowdown in TFC.

► Energy consumption trend

	2017	2018p				2019p	
		M1	M2		M12	M1	M2
Total energy (Mtoe)	302.1	29.5	26.0	307.3	28.8	29.0	25.2
	(2.9)	(6.3)	(2.6)	(1.7)	(-0.9)	(-1.7)	(-3.3)
- Non-energy oil & coal excluded	215.4	22.1	19.3	221.4	21.4	21.8	18.5
	(1.6)	(8.0)	(3.6)	(2.8)	(0.2)	(-1.4)	(-3.9)
Final energy (Mtoe)	233.9	22.8	20.9	237.9	22.1	22.7	20.3
	(3.9)	(6.5)	(3.9)	(1.7)	(-1.3)	(-0.3)	(-2.8)

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

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



5. Coal

□ **Coal consumption went down by 9.3% year-on-year in February due to the sharp fall in coal-fired power generation, although the industrial coal consumption increased.**

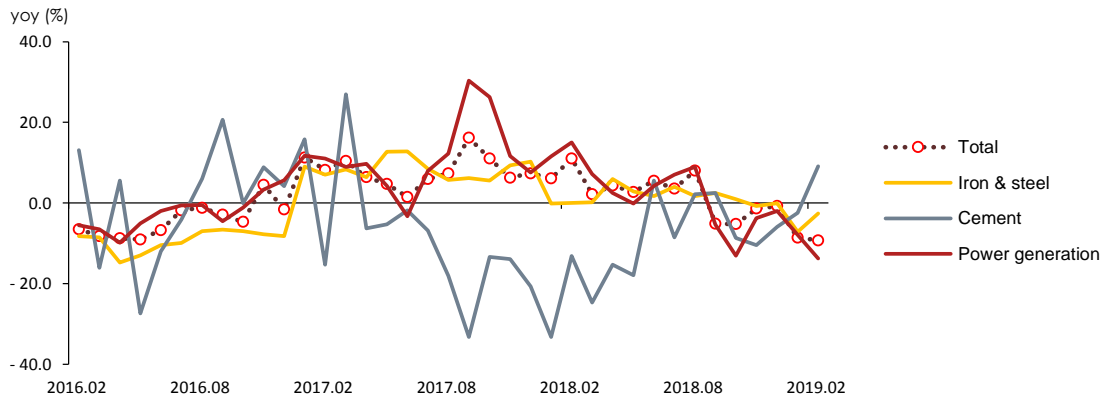
- Coal use decreased in the power generation sector as a result of increased preventive maintenance on daily average (3.8GW, 439.2%) and find dust reduction measures during springtime.
- Industrial coal use increased despite decreased use of bituminous coal for steel-making, as coal use for cement production and anthracite use increased.
- Coal use in buildings declined, as it has been continuously replaced by other energy sources (petroleum, gas) in addition to the decreased number of heating degree days.

► Coal consumption trend

	2017	2018p				2019p	
		M1	M2		M12	M1	M2
Coal (Mton)	139.8	13.5	12.1	143.2	12.7	12.3	11.0
	(8.1)	(6.1)	(11.0)	(2.5)	(-0.8)	(-8.6)	(-9.3)
Industry	49.3	4.2	3.8	50.5	4.4	3.8	3.9
	(3.2)	(-3.6)	(4.0)	(2.6)	(2.2)	(-9.6)	(1.0)
Buildings	1.1	0.1	0.1	0.9	0.1	0.1	0.1
	(-14.0)	(-6.3)	(-13.3)	(-15.7)	(-16.8)	(-21.0)	(-41.8)
Power generation	89.4	9.1	8.2	91.8	8.2	8.4	7.1
	(11.3)	(11.5)	(15.0)	(2.6)	(-2.0)	(-7.9)	(-13.8)

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

► The growth rate of coal consumption by use



6. Petroleum

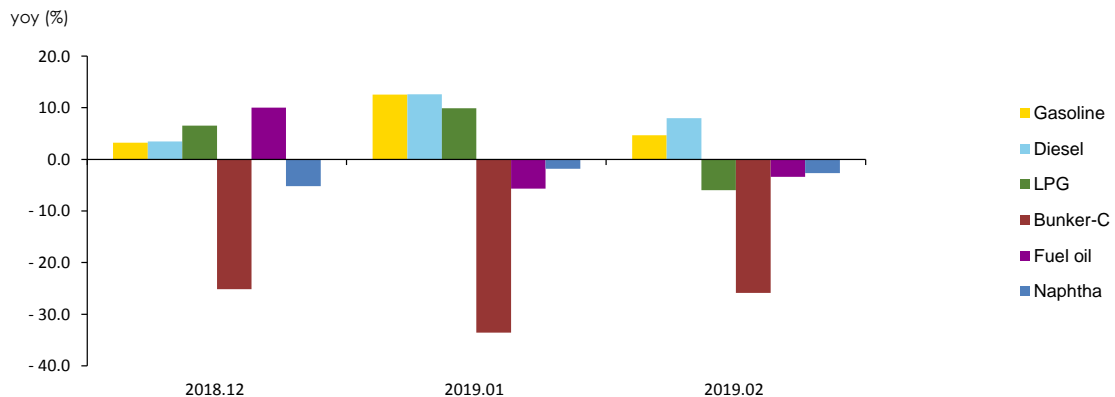
- **Petroleum consumption decreased by 2.2% year-on-year in February, especially in the industrial and buildings sectors, although the transport sector consumed more petroleum.**
 - Industrial petroleum use fell by 0.5% despite increased use of energy oil (5.2%), as the use of non-energy oil such as naphtha decreased by 1.4%.
 - Transport petroleum use has been up for four consecutive months backed by decreased global oil prices in addition to the fuel tax cut.
 - Petroleum use in buildings was down 13.3% amid warm winter weather and sharply decreased heating degree days (-14.3%).

► Trend in petroleum product consumption by end-use sectors

	2017	2018p				2019p	
		M1	M2		M12	M1	M2
Petroleum (Mbbl)	937.1 (1.7)	83.8 (4.9)	74.7 (0.1)	83.2 (-2.2)	83.2 (-2.2)	84.8 (1.2)	73.0 (-2.2)
Industry	567.0 (4.5)	49.5 (2.4)	44.4 (1.4)	49.1 (-2.6)	49.1 (-2.6)	49.7 (0.4)	44.2 (-0.5)
Transport	303.2 (0.9)	24.8 (6.5)	22.1 (-4.7)	26.6 (3.4)	26.6 (3.4)	26.7 (7.6)	22.8 (3.2)
Buildings	56.4 (0.3)	7.5 (16.8)	6.2 (6.1)	6.7 (-7.0)	6.7 (-7.0)	7.5 (-0.4)	5.4 (-13.3)
Power generation	10.5 (-51.9)	2.0 (8.2)	1.9 (11.1)	0.8 (-53.4)	0.8 (-53.4)	1.0 (-50.9)	0.6 (-67.0)

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

► The growth rates of petroleum product consumption & the consumption by end-use sectors



7. Gas

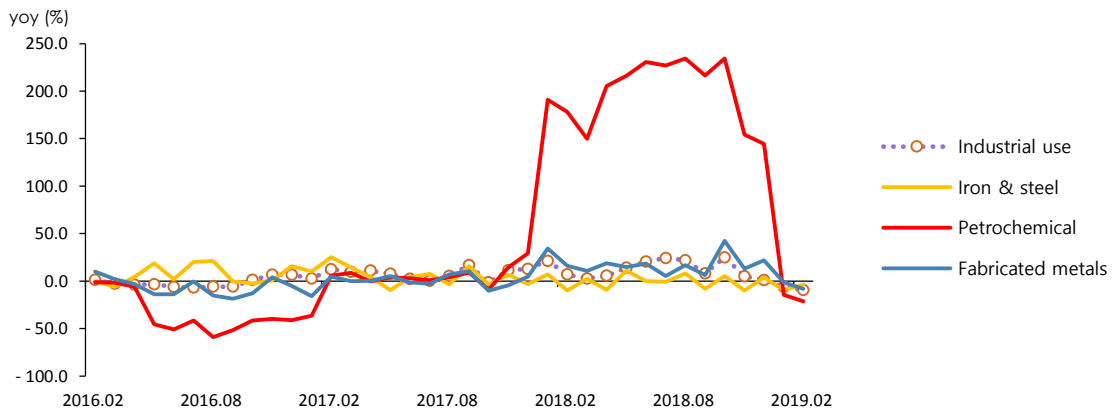
- **Natural gas consumption dropped by 10.3% year-on-year in February, as the consumption decreased in both of the power generation and city gas production sectors.**
 - Gas use for power generation decreased due to falling power demand (-5.1%) and surging nuclear generation (25.5%), and its use for city gas production has been down for three months in a row because of the base effect of the surge during the same month last year and decreased city gas use.
- **City gas use decreased in the industrial and buildings sectors because of base effect, thereby driving down the total consumption by 11.0% on a year-on-year basis.**
 - Industrial city gas consumption decreased compared to the same period last year, and the decrease was remarkable in the petrochemical, primary metals and fabricated metals sectors.
 - Residential city gas use fell by 11.6% because of base effect and lower heating demand amid decreased number of heating degree, and commercial city gas use fell by 12.6% owing to the sluggish production in the wholesale & retail and restaurant & accommodation sectors.

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

	2017	2018p			2019p	M1	M2
		M1	M2				
LNG (Mton)	36.4	5.3	4.4	40.9	4.7	4.9	3.9
	(4.3)	(24.0)	(11.9)	(12.4)	(-6.2)	(-8.6)	(-10.3)
Power generation	15.6	1.9	1.4	18.0	1.7	1.7	1.4
	(0.6)	(30.3)	(6.8)	(15.6)	(-10.3)	(-8.2)	(-6.0)
City gas production	18.4	3.0	2.5	19.8	2.7	2.8	2.3
	(5.8)	(17.6)	(11.6)	(7.7)	(-3.0)	(-7.7)	(-11.0)
City gas (bm³)	22.6	3.5	3.2	24.2	3.0	3.4	2.9
	(6.3)	(16.6)	(10.2)	(7.2)	(-4.9)	(-4.6)	(-11.0)
Industry	7.8	0.9	0.8	8.7	0.8	0.9	0.7
	(7.7)	(21.2)	(7.0)	(12.1)	(1.2)	(-6.2)	(-9.3)
Buildings	13.6	2.5	2.4	14.3	2.0	2.4	2.1
	(6.0)	(15.7)	(11.9)	(5.2)	(-7.3)	(-4.2)	(-11.8)

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

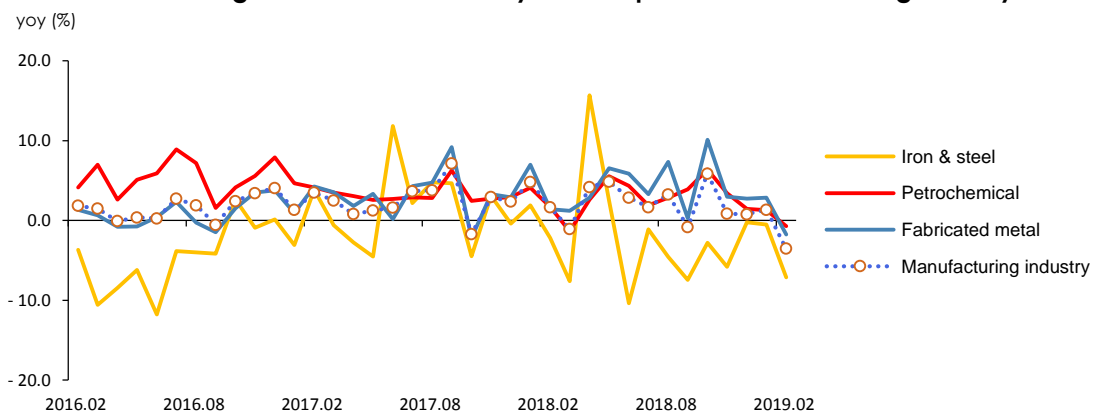
- **Electricity consumption went down by 5.1% year-on-year in February, as the consumption decreased in both of the industrial and buildings sectors as a result of a slowdown in production and base effect.**
 - Electricity consumption decreased in the three biggest power-consuming sectors due to sluggish production and fewer work days (0.5), driving down the total consumption.
 - Electricity consumption in buildings fell by 6.7% year-on-year, as residential and commercial power use decreased owing to the base effect of the fast growth during the same month last year, decreased number of heating degree days (-72.9degree days, -14.3%) and sluggish production in the wholesale & retail sector.

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

	2017	2018p				2019p	
		M1	M2		M12	M1	M2
Electricity (TWh)	507.7 (2.2)	48.4 (7.0)	46.7 (5.2)	526.1 (3.6)	45.3 (-1.0)	48.6 (0.6)	44.4 (-5.1)
Industry	276.7 (2.5)	24.7 (5.1)	22.9 (2.2)	283.7 (2.5)	24.4 (0.7)	25.1 (1.5)	22.1 (-3.5)
Transport	2.9 (6.5)	0.3 (11.1)	0.3 (8.5)	3.0 (3.6)	0.3 (-2.1)	0.3 (-1.0)	0.2 (-3.6)
Buildings	228.2 (1.7)	23.4 (9.0)	23.6 (8.4)	239.5 (4.9)	20.7 (-2.9)	23.3 (-0.4)	22.0 (-6.7)
Residential	66.5 (0.5)	6.1 (5.5)	6.2 (5.3)	70.7 (6.3)	5.7 (1.0)	6.2 (1.8)	6.1 (-1.3)
Commercial	130.4 (2.3)	14.0 (10.5)	14.2 (9.3)	136.4 (4.6)	11.9 (-4.5)	13.9 (-1.2)	13.0 (-8.4)

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

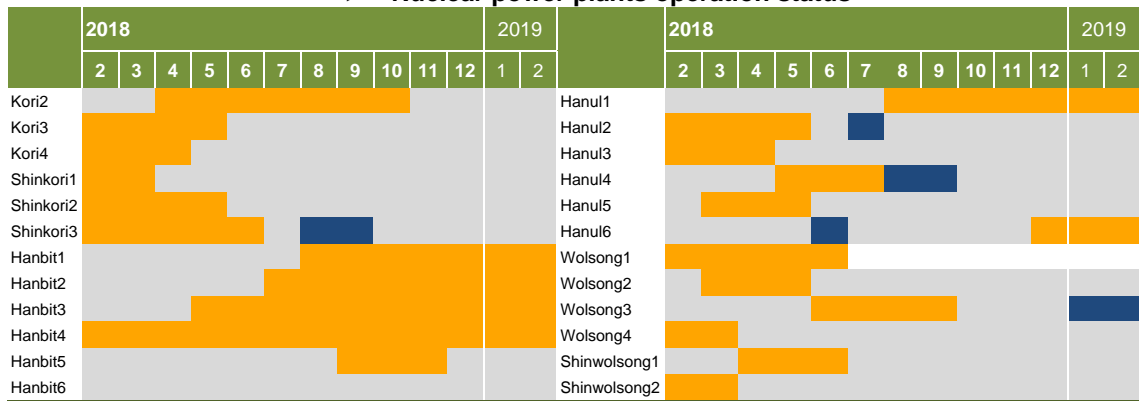
► **The growth rate of electricity consumption in manufacturing industry**



9. Nuclear

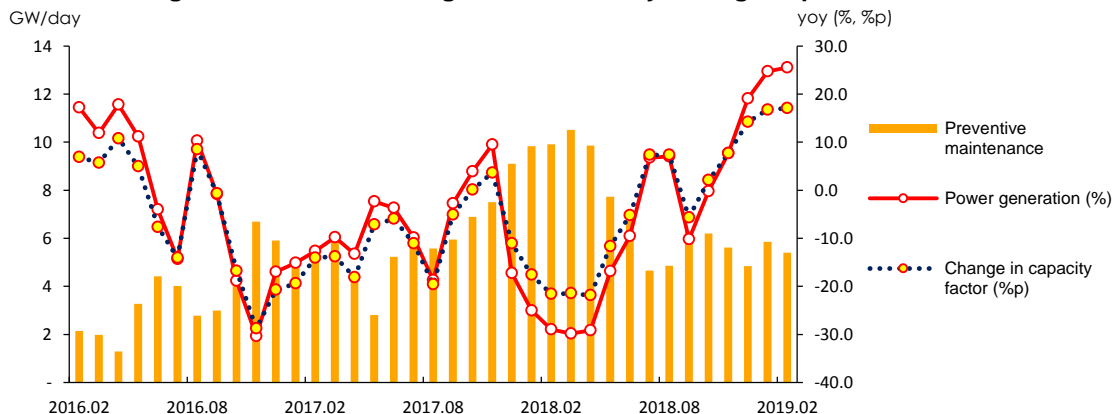
- The total nuclear generation posted a year-on-year growth of 25.5% in February along with the increased capacity factors at nuclear power plants.
 - The average capacity factor rose dramatically (17.1%p) on a year-on-year basis, standing at 75.1%, as the number of reactors halted for maintenance work decreased following the restart of the reactors that had been shut down in the previous year due to the enhanced safety checks.
 - Nuclear energy's share of the total generation went up by 5.9%p to 24.8% owing to the much-increased nuclear generation.

► Nuclear power plants operation status



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

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



10. Heat and Renewable energy

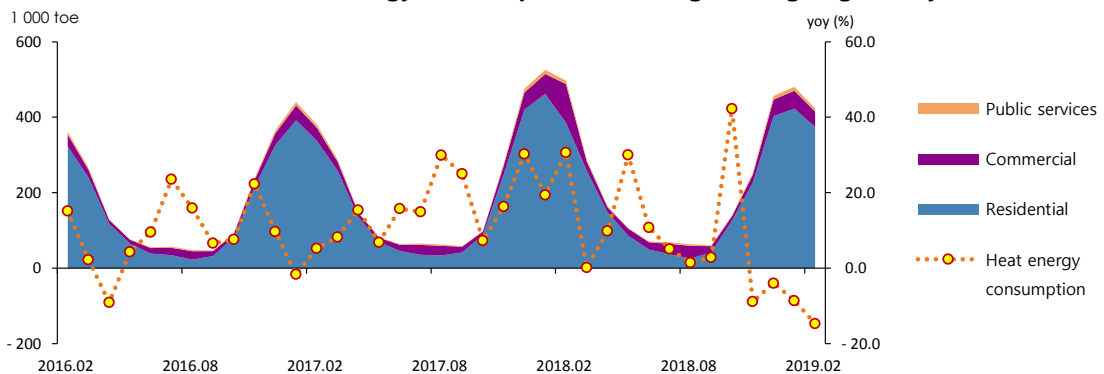
□ Heat energy consumption dropped by 14.7% year-on-year in February due to warm winter weather.

- Heat energy consumption has been down for four consecutive months, despite the construction of a new heat supply facility (a fuel cell power plant in Dongtan, 2019.1, 8.8Gcal/h), as this winter was warmer than last year, which led to a continued sharp fall in heating degree days (-79.2degree days, -14.3%).

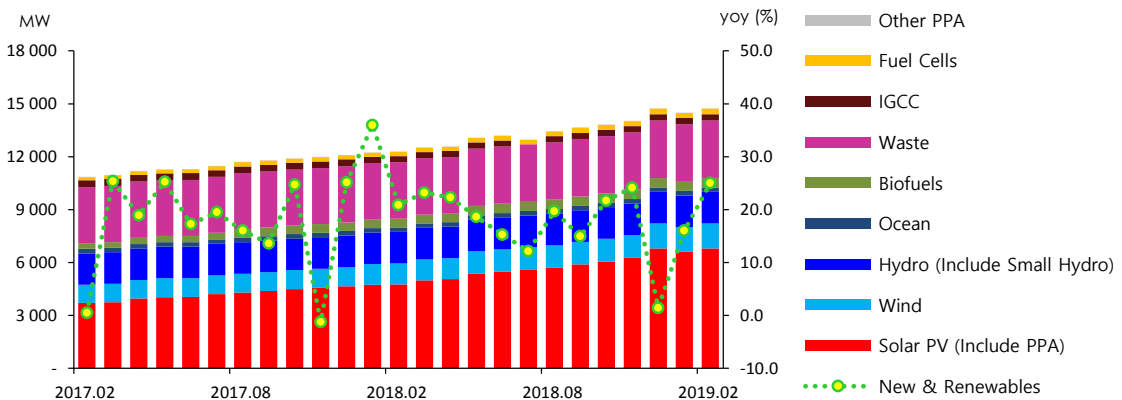
□ Renewable & other energy consumption rose by 9.1% year-on-year backed by increased power generation from solar PV and fuel cells, although the operation of some IGCC plants were halted.

- Renewable generation went up by 8.8% from the same period last year despite the shutdown of IGCC plants and decreased wind power generation, as solar PV, fuel cell and waste-to-energy generation increased.
- The final use of renewable energy continued its upward trend, led by the buildings and industrial sectors, although it declined in the transport sector.

► Heat energy consumption & heating/cooling degree days



► Trend in renewable and other energy consumption



11. Industry

□ Industrial energy consumption declined by 0.6% year-on-year in February owing to the sluggish production in large energy-consuming industries.

- Industrial energy use decreased, because the production slowed in line with falling export demand, and the number of work days fell by 0.5 day from the same month last year with Lunar New Year's holiday.

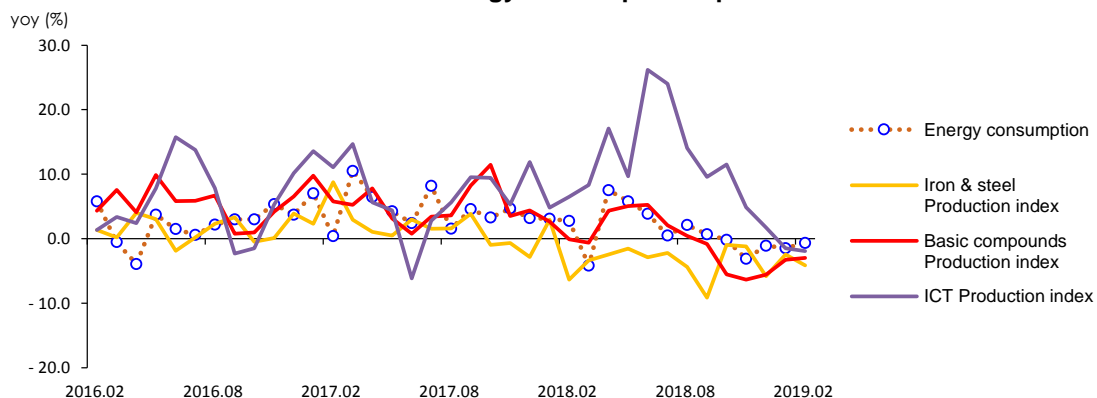
► Industrial energy consumption trend

	2017	2018p				2019p	
		M1	M2		M12	M1	M2
Industry (Mtoe)	144.3 (4.7)	12.8 (3.1)	11.6 (2.7)	146.3 (1.4)	12.8 (-1.1)	12.6 (-1.5)	11.5 (-0.6)
Petrochemical	70.4 (6.7)	6.3 (4.3)	5.7 (3.4)	71.4 (1.4)	6.2 (-1.3)	6.3 (-0.9)	5.6 (-3.0)
- Naphtha	56.2 (6.6)	4.9 (2.6)	4.5 (0.5)	55.3 (-1.6)	4.8 (-5.2)	4.9 (-1.8)	4.4 (-2.7)
Iron & Steel	35.0 (24.4)	2.6 (-13.4)	2.3 (-14.8)	30.4 (-13.1)	2.6 (-14.2)	2.4 (-6.5)	2.3 (-3.4)
-Coking coal	25.3 (8.0)	2.2 (-0.1)	2.0 (-0.0)	25.7 (1.6)	2.2 (-0.0)	2.0 (-7.1)	1.9 (-2.6)
Fabricated metal	10.8 (1.9)	1.1 (12.9)	1.0 (3.9)	11.5 (6.2)	1.1 (7.2)	1.1 (2.1)	0.9 (-3.1)
Share of feedstock (%)	59.9	58.1	57.8	58.6	58.0	57.4	57.4

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

Source: Monthly Energy Statistics

► Industrial energy consumption & production index



12. Transport

□ **Transport energy use went up by 2.7% year-on-year in February, led by the road transport sector, although other transport sectors consumed less energy.**

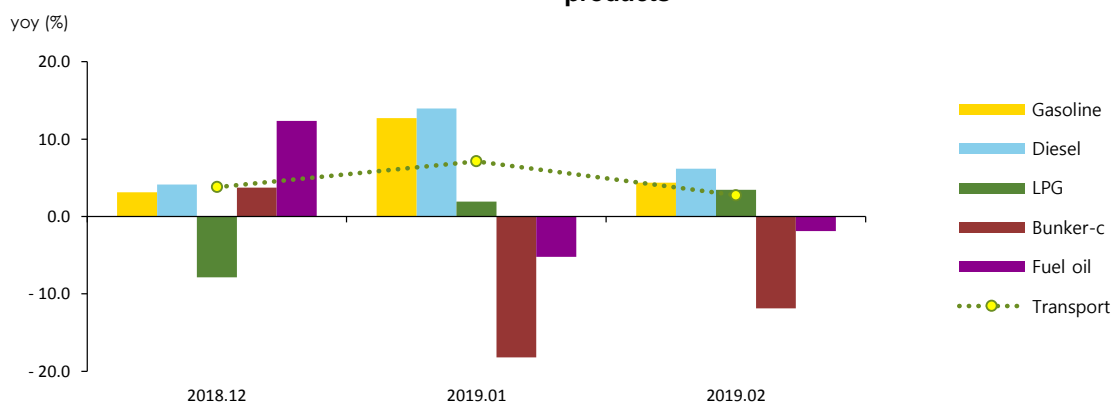
- Energy use has rapidly increased for four months in a row, because petroleum product prices fell sharply on a year-on-year basis due to plunged global oil prices and the fuel tax cut.
- Energy use for aviation sector has been down for two consecutive months, which was attributed to the decreased domestic and international cargo volume (-3.3%, -5.4%).
- Energy use for domestic navigation fell by nearly 10% year-on-year despite increased transshipment volume (11.5%), because coastal transport decreased (-11.7%), and the import volume plunged (-15.9%, national flag vessels).

► The growth rate of petroleum consumption in the transport sector

	2017	2018p				2019p	
		M1	M2		M12	M1	M2
Transport (Mtoe)	42.8	3.5	3.1	3.8	3.8	3.8	3.2
	(1.2)	(7.1)	(-4.3)	(3.8)	(3.8)	(7.1)	(2.7)
Road	34.1	2.7	2.5	3.0	3.0	3.0	2.6
	(0.5)	(5.8)	(-3.3)	(2.9)	(2.9)	(11.6)	(4.8)
Navigation	3.5	0.3	0.3	0.3	0.3	0.3	0.2
	(5.8)	(-1.1)	(-16.4)	(3.0)	(3.0)	(-14.7)	(-9.3)
Aviation	4.8	0.4	0.4	0.4	0.4	0.4	0.4
	(3.2)	(22.6)	(-1.9)	(12.3)	(12.3)	(-5.2)	(-1.9)
Rail	0.3	0.0	0.0	0.0	0.0	0.0	0.0
	(2.5)	(12.3)	(5.3)	(-4.7)	(-4.7)	(0.2)	(-4.2)

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

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



13. Buildings

□ **Energy consumption in buildings dropped by 9.7% in February on a year-on-year basis due to warm weather and price effect.**

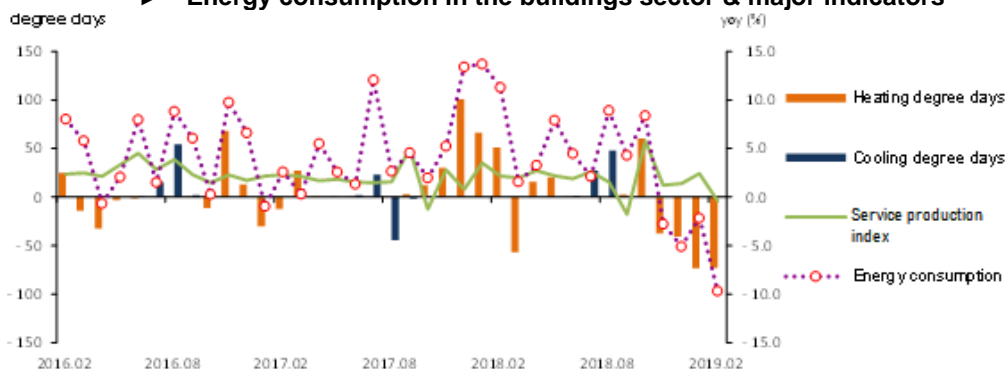
- Energy consumption in buildings has been down for four consecutive months, which was affected by increased city gas and heat energy prices in addition to warm weather; city gas, electricity and petroleum use fell by 11.8%, 6.7% and 14.5% respectively.
- In residential buildings, kerosene, city gas, electricity and heat energy use decreased by -26.6%, -11.6%, -1.3%, -2.9% respectively due to warm weather, and briquet use fell by 41.8% after the price increase (2018.11, 19.6%).
- Energy consumption in commercial buildings fell more sharply because of sluggish production in the wholesale & retail and restaurant & accommodation sectors in addition to higher temperatures; the use of major energy sources except LPG declined including kerosene, city gas, electricity and heat energy (-26.3%, -12.6%, -8.4%, -60.0%).

► Energy consumption trend in the buildings sector

	2017	2018p				2019p	
		M1	M2		M12	M1	M2
Buildings (Mtofe)	46.8 (4.2)	6.5 (13.7)	6.1 (11.3)	49.1 (4.8)	5.6 (-5.1)	6.3 (-2.2)	5.6 (-9.7)
Residential	22.5 (3.7)	3.7 (15.1)	3.4 (11.3)	23.5 (4.7)	3.1 (-7.0)	3.6 (-3.1)	3.1 (-9.8)
Commercial	17.4 (2.2)	2.1 (11.8)	2.0 (11.8)	18.1 (4.1)	1.8 (-3.0)	2.0 (-2.7)	1.8 (-11.7)
Public-others	6.9 (11.0)	0.7 (12.5)	0.7 (10.1)	7.4 (6.6)	0.7 (-1.5)	0.8 (4.4)	0.7 (-3.0)
Heating degree days	2 517.1 (5.5)	621.7 (12.0)	509.9 (11.1)	2 597.8 (3.2)	522.3 (-7.2)	548.4 (-11.8)	437.0 (-14.3)
Cooling degree days	132.7 (-13.9)	-	-	209.0 (57.5)	-	-	-

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

► Energy consumption in the buildings sector & major indicators



14. Transformation

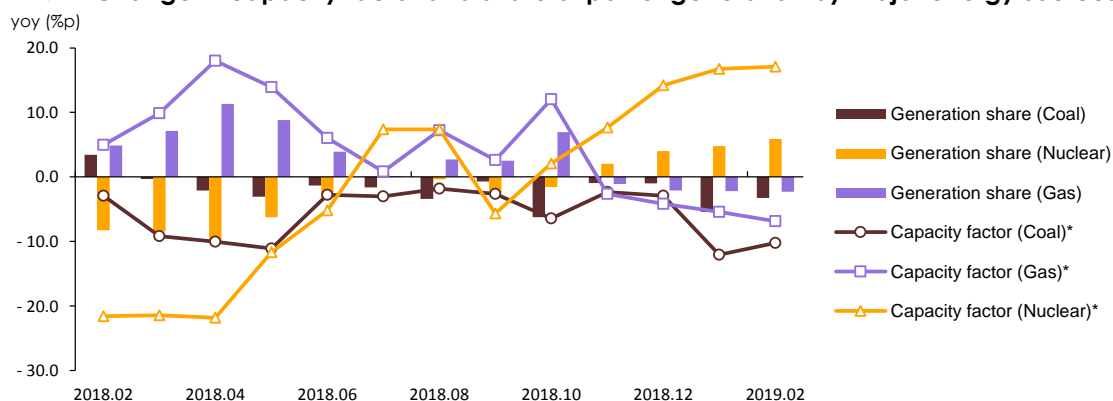
- The total energy input for power generation fell by 4.3% year-on-year in February due to decreased power generation from major energy sources except nuclear and renewable energy.
 - Baseload power generation accounted for the larger share compared to the same month last year despite decreased coal-fired power generation, owing to the increased nuclear generation. Gas and oil-fired generation decreased as a result of decreased electricity use and increased baseload and renewable & other energy generation.
 - The average capacity factors at nuclear, coal and gas-fired power plants recorded 75.1%, 74.8% and 45.4% respectively.

► Energy consumption in the power generation sector

	2017	2018p				2019p	
		M1	M2		M12	M1	M2
Input (Mtoe)	111.2	10.6	9.2	113.3	10.2	10.4	8.8
	(0.2)	(5.0)	(-0.1)	(1.9)	(-0.1)	(-2.0)	(-4.3)
Coal	52.8	5.4	4.8	54.2	4.8	4.9	4.2
	(7.4)	(11.8)	(15.3)	(2.7)	(-2.1)	(-8.1)	(-13.9)
Oil	1.2	0.3	0.2	1.3	0.1	0.1	0.0
	(-59.5)	(12.3)	(-24.0)	(4.0)	(-66.9)	(-62.2)	(-69.0)
Gas	20.7	2.5	1.9	23.9	2.2	2.3	1.8
	(0.9)	(30.1)	(7.2)	(15.6)	(-10.2)	(-8.2)	(-7.1)
Nuclear	31.6	2.1	1.9	28.4	2.6	2.6	2.4
	(-7.5)	(-25.0)	(-29.0)	(-10.1)	(19.1)	(24.7)	(25.5)
Hydro/other renewables	4.8	0.4	0.4	5.4	0.5	0.5	0.4
	(19.3)	(7.3)	(8.7)	(11.9)	(14.6)	(16.1)	(10.9)

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

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



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

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

Major Statistics & Indicators of the Economy

	2016	2017				2018			
			2Q	3Q	4Q		2Q	3Q	4Q
GDP (trillion won)	1 509.8 (2.9)	1 556.0 (3.1)	389.6 (2.8)	392.6 (3.8)	407.6 (2.8)	1 597.5 (2.7)	400.6 (2.8)	400.3 (2.0)	420.2 (3.1)
Private consumption	725.4 (2.5)	744.3 (2.6)	181.0 (2.4)	186.8 (2.6)	190.7 (3.4)	765.4 (2.8)	186.1 (2.8)	191.5 (2.5)	195.5 (2.5)
Facilities investment	138.8 (-1.0)	159.1 (14.6)	42.0 (17.9)	39.1 (16.3)	40.6 (8.6)	156.6 (-1.6)	40.8 (-3.0)	36.2 (-7.4)	39.5 (-2.7)
Construction investment	233.4 (10.3)	251.1 (7.6)	67.1 (8.5)	67.0 (8.0)	67.6 (3.8)	241.0 (-4.0)	66.1 (-1.5)	61.0 (-8.9)	63.6 (-5.9)
Consumer price index (2015=100)	101.0	102.9	102.7	103.3	103.0	104.5	104.3	104.8	104.8
USD to KRW exchange rate (won)	1 160.8	1 131.0	1 129.4	1 132.3	1 107.5	1 100.2	1 079.0	1 121.5	1 127.4
Benchmark rate (%)	1.4	1.3	1.3	1.3	1.4	1.5	1.5	1.5	1.7
Coincident composite index (2015=100)	103.3	107.2	106.9	107.6	108.2	109.4	109.4	109.6	109.8
Mining & manufacturing production index (2015=100)	102.2	104.7	104.8	105.1	105.4	106.1	106.9	105.2	109.9
Manufacturing operation ratio index (2015=100)	98.9	98.1	99.4	98.9	97.1	98.4	100.6	97.0	101.3
Average temperature	13.6	13.1	18.1	24.1	7.3	13.0	17.8	24.8	7.4
- year-on-year difference	0.2	- 0.5	- 0.1	- 0.4	- 1.6	- 0.1	- 0.3	0.7	0.1
Heating degree days	2 386.8 (3.9)	2 517.1 (5.5)	143.7 (0.2)	2.9 (1350.0)	993.9 (16.8)	2 597.8 (3.2)	179.7 (25.1)	5.0 (72.4)	975.9 (-1.8)
Cooling degree days	154.1 (87.2)	132.7 (-13.9)	2.4 (300.0)	130.3 (-15.1)	- -	209.0 (57.5)	3.5 (45.8)	205.5 (57.7)	- -
Energy intensity	0.20 (-0.5)	0.19 (-0.1)	0.18 (-0.6)	0.19 (-0.6)	0.20 (1.3)	0.19 (-0.9)	0.18 (0.9)	0.19 (0.2)	0.19 (-4.1)
Per capita consumption									
oil (bbl)	18.0 (7.5)	18.2 (1.5)	4.3 (1.6)	4.6 (2.2)	4.8 (0.7)	18.0 (-1.3)	4.4 (2.5)	4.5 (-1.6)	4.5 (-5.6)
Electricity (MWh)	9.7 (2.4)	9.9 (1.9)	2.3 (0.7)	2.5 (3.4)	2.4 (2.2)	10.2 (3.1)	2.4 (3.2)	2.7 (4.4)	2.5 (0.9)
City gas (1 000 m ³)	0.4 (1.9)	0.4 (6.0)	0.1 (5.0)	0.1 (4.9)	0.1 (10.7)	0.5 (6.7)	0.1 (7.5)	0.1 (7.9)	0.1 (1.9)
Total energy (toe)	5.7 (2.0)	5.9 (2.7)	1.4 (1.9)	1.4 (2.9)	1.5 (3.9)	6.0 (1.2)	1.4 (3.3)	1.5 (1.7)	1.5 (-1.6)

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)

2013=100

	2016	2017	2018				2019		
			M12	M1	M2		M12	M1	M2
Industrial production index									
All industry	103.1 (3.1)	105.7 (2.6)	115.9 (-0.5)	103.9 (4.6)	97.7 (-0.8)	107.2 (1.4)	116.4 (0.4)	104.8 (0.9)	95.8 (-1.9)
Mining & manufacturing	102.2 (2.2)	104.7 (2.5)	107.3 (-3.8)	105.7 (5.1)	93.1 (-5.7)	106.1 (1.3)	108.1 (0.7)	105.5 (-0.2)	89.9 (-3.4)
Iron & steel	101.3 (1.3)	102.9 (1.7)	103.5 (-2.8)	105.6 (2.9)	91.7 (-6.3)	99.8 (-3.1)	97.5 (-5.8)	103.0 (-2.5)	87.9 (-4.1)
Cement	108.2 (8.2)	110.0 (1.7)	106.1 (-9.2)	79.1 (-8.4)	74.4 (-19.6)	100.1 (-9.0)	91.2 (-14.0)	80.0 (1.1)	66.3 (-10.9)
Basic compound	104.6 (4.6)	110.4 (5.5)	116.9 (4.4)	116.5 (2.6)	103.9 (-0.1)	110.4 -	110.4 (-5.6)	112.7 (-3.3)	100.8 (-3.0)
Transport equipment	97.6 (-2.4)	95.0 (-2.7)	82.2 (-29.4)	88.9 (1.9)	76.9 (-19.3)	93.7 (-1.4)	98.9 (20.3)	96.3 (8.3)	77.2 (0.4)
Electric & electronic	102.8 (2.8)	105.5 (2.6)	110.3 (-3.2)	100.8 (7.7)	92.2 (-5.2)	105.2 (-0.3)	113.1 (2.5)	99.3 (-1.5)	86.2 (-6.5)
Service	102.6 (2.6)	104.5 (1.8)	113.8 (0.8)	103.0 (3.5)	99.6 (2.2)	106.7 (2.1)	115.4 (1.4)	105.5 (2.4)	99.2 (-0.4)
Operating ratio index									
Manufacturing	98.9 (-1.1)	98.1 (-0.9)	96.8 (-6.6)	97.0 (3.6)	85.8 (-7.1)	98.4 (0.3)	98.3 (1.5)	97.3 (0.3)	82.8 (-3.5)
Iron & steel	100.7 (0.7)	102.3 (1.5)	102.5 (-2.9)	104.8 (2.9)	90.6 (-6.8)	98.8 (-3.4)	97.2 (-5.2)	103.1 (-1.6)	88.0 (-2.9)
Cement	106.9 (6.9)	107.4 (0.4)	104.9 (-8.6)	79.2 (-6.3)	74.5 (-17.6)	108.9 (1.4)	102.7 (-2.1)	105.4 (33.1)	87.4 (17.3)
Basic compound	103.3 (3.3)	107.1 (3.6)	112.0 (2.1)	111.1 (0.1)	99.0 (-2.6)	104.9 (-2.0)	104.5 (-6.7)	106.7 (-4.0)	95.5 (-3.5)
Transport equipment	93.8 (-6.2)	87.6 (-6.6)	75.6 (-31.2)	83.7 (3.2)	72.2 (-18.6)	90.2 (2.9)	95.4 (26.2)	96.2 (14.9)	75.6 (4.7)
Electric & electronic	101.8 (1.8)	102.5 (0.7)	104.8 (-6.4)	97.7 (5.3)	88.6 (-7.6)	100.3 (-2.1)	105.5 (0.7)	96.0 (-1.7)	84.0 (-5.2)

Note: p means provisional
Source: Monthly Energy Statistics

International Energy Prices

	2017	2018					2019			
			M1~4	M2	M3	M4	M1~4	M2	M3	M4
Crude oil (USD/bbl)										
WTI	51.0 (17.6)	64.8 (27.1)	63.7 (23.2)	62.2 (16.3)	62.8 (26.4)	66.3 (29.8)	57.1 (-10.3)	55.0 (-11.6)	58.2 (-7.3)	63.9 (-3.7)
Dubai	53.2 (28.9)	69.4 (30.5)	65.0 (22.8)	62.7 (15.3)	62.7 (22.5)	68.3 (30.5)	65.4 (0.6)	64.6 (3.0)	66.9 (6.7)	70.9 (3.9)
Brent	54.8 (21.7)	71.5 (30.5)	68.3 (25.5)	65.7 (17.4)	66.7 (27.0)	71.8 (33.3)	65.8 (-3.6)	64.4 (-2.0)	67.0 (0.5)	71.6 (-0.2)
Unit value of import (C&F)	53.3 (29.9)	71.4 (34.0)	65.7 (22.6)	66.9 (21.4)	64.9 (19.6)	66.2 (25.8)	64.8 (-1.4)	63.0 (-5.8)	65.3 (0.7)	68.9 (4.0)
LNG										
From Indonesia (USD/MMBTU)	8.6 (16.7)	10.7 (24.0)	9.8 (17.6)	9.8 (16.8)	10.1 (22.6)	10.1 (15.1)	11.6 (17.9)	11.8 (20.2)	11.3 (11.7)	11.3 (11.9)
Unit value of import(USD/ton, CIF)	416.3 (16.7)	526.3 (26.4)	485.9 (18.0)	517.3 (23.7)	488.5 (19.8)	484.5 (18.5)	562.1 (15.7)	614.2 (18.7)	565.2 (15.7)	481.9 (-0.5)
Bituminous coal (USD/ton)										
From Australia	88.5 (33.9)	107.0 (20.9)	100.7 (22.7)	106.0 (32.5)	96.7 (19.5)	93.7 (12.0)	93.5 (-7.2)	95.4 (-9.9)	93.1 (-3.7)	86.8 (-7.4)
Unit value of import (CIF)	104.3 (51.5)	113.6 (8.9)	113.8 (7.6)	111.0 (4.6)	119.5 (8.2)	113.7 (11.1)	109.4 (-3.9)	110.6 (-0.4)	112.9 (-5.5)	107.7 (-5.3)
Petroleum product (USD/bbl)										
Gasoline	68.1 (21.2)	79.9 (17.4)	78.6 (15.8)	77.0 (10.0)	77.1 (20.0)	81.5 (20.3)	70.6 (-10.1)	66.3 (-13.9)	74.4 (-3.5)	80.8 (-0.8)
Kerosene	65.3 (23.6)	84.8 (29.8)	81.3 (26.4)	80.0 (20.9)	79.0 (27.6)	85.2 (33.2)	78.0 (-4.0)	77.9 (-2.7)	79.8 (1.1)	82.6 (-3.0)
Diesel	66.4 (25.2)	84.9 (27.9)	80.7 (23.4)	78.1 (15.9)	78.4 (24.2)	84.3 (29.6)	79.0 (-2.1)	78.9 (1.0)	81.0 (3.4)	83.3 (-1.2)
Bunker-C	49.7 (40.2)	65.2 (31.3)	58.5 (20.2)	57.0 (15.0)	57.0 (23.4)	61.0 (27.1)	63.7 (8.9)	63.9 (12.1)	66.2 (16.2)	66.8 (9.5)
Propane	467.5 (44.6)	542.1 (16.0)	517.5 (11.6)	525.0 (2.9)	480.0 -	475.0 (10.5)	468.8 (-9.4)	440.0 (-16.2)	490.0 (2.1)	515.0 (8.4)
Butane	501.7 (41.0)	539.2 (7.5)	502.5 (-8.0)	505.0 (-15.8)	465.0 (-22.5)	470.0 (-4.1)	486.3 (-3.2)	470.0 (-6.9)	520.0 (11.8)	535.0 (13.8)
Naphtha	53.8 (26.6)	67.0 (24.5)	64.3 (19.8)	61.2 (8.7)	62.9 (24.1)	66.9 (28.2)	57.8 (-10.0)	56.4 (-7.9)	60.1 (-4.5)	63.2 (-5.4)

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)

	2016	2017	2018p				2019p		
				M1~2	M1	M2	M1~2	M1	M2
Coal (Mton)	129.3 (-4.3)	139.8 (8.1)	143.2 (2.5)	25.6 (8.4)	13.5 (6.1)	12.1 (11.0)	23.3 (-8.9)	12.3 (-8.6)	11.0 (-9.3)
- Coking coal excluded	95.8 (-2.5)	103.5 (7.9)	106.4 (2.8)	19.6 (11.2)	10.3 (8.2)	9.3 (14.8)	17.7 (-10.1)	9.4 (-9.0)	8.3 (-11.3)
Oil (Mbbbl)	921.1 (8.0)	937.1 (1.7)	929.3 (-0.8)	158.4 (2.6)	83.8 (4.9)	74.7 (0.1)	157.8 (-0.4)	84.8 (1.2)	73.0 (-2.2)
- Non-energy oil excluded	454.9 (11.3)	443.7 (-2.5)	444.4 (0.2)	77.2 (3.9)	41.1 (7.5)	36.1 (0.1)	77.7 (0.7)	42.6 (3.8)	35.0 (-2.8)
LNG (Mton)	34.9 (4.4)	36.4 (4.3)	40.9 (12.4)	9.7 (18.3)	5.3 (24.0)	4.4 (11.9)	8.8 (-9.4)	4.9 (-8.6)	3.9 (-10.3)
Hydro (TWh)	6.6 (14.5)	7.0 (5.5)	7.3 (4.0)	0.9 (-11.1)	0.5 (-8.9)	0.4 (-13.4)	1.0 (10.9)	0.6 (14.6)	0.5 (6.7)
Nuclear (TWh)	162.0 (-1.7)	148.4 (-8.4)	133.5 (-10.1)	18.6 (-26.9)	9.8 (-25.0)	8.8 (-29.0)	23.3 (25.1)	12.3 (24.7)	11.0 (25.5)
Others (Mtoe)	13.6 (5.7)	15.8 (16.7)	17.5 (10.5)	2.9 (10.1)	1.4 (7.5)	1.4 (12.9)	3.2 (10.2)	1.6 (11.2)	1.6 (9.1)
TPES (Mtoe)	293.4 (2.4)	302.1 (2.9)	307.3 (1.7)	55.5 (4.5)	29.5 (6.3)	26.0 (2.6)	54.2 (-2.4)	29.0 (-1.7)	25.2 (-3.3)
- Non-energy oil excluded	235.5 (1.8)	240.7 (2.2)	247.1 (2.7)	45.5 (5.3)	24.2 (7.2)	21.2 (3.2)	44.2 (-2.8)	23.8 (-1.9)	20.4 (-3.8)
- Non-energy oil&coal excluded	212.0 (3.2)	215.4 (1.6)	221.4 (2.8)	41.3 (5.9)	22.1 (8.0)	19.3 (3.6)	40.3 (-2.5)	21.8 (-1.4)	18.5 (-3.9)

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

Share of TPES by Sources

(unit: %)

	2016	2017	2018p				2019p		
				M1~2	M1	M2	M1~2	M1	M2
Coal	27.7	28.5	28.7	28.3	28.0	28.7	26.4	26.0	26.9
- Coking coal excluded	19.7	20.2	20.3	20.8	20.6	21.1	19.1	19.0	19.3
Oil	40.1	39.5	38.4	36.3	36.2	36.4	37.0	37.1	36.8
- non-energy oil excluded	20.3	19.2	18.9	18.2	18.3	18.0	18.6	19.1	18.1
LNG	15.5	15.7	17.4	22.8	23.5	21.9	21.1	21.9	20.3
Hydro	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4
Nuclear	11.6	10.5	9.3	7.1	7.1	7.2	9.2	9.0	9.3
Others	4.6	5.2	5.7	5.2	4.9	5.6	5.9	5.5	6.3
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)

	2016	2017	2018p				2019p		
				M1~2	M1	M2	M1~2	M1	M2
Industry	137.8 (1.9)	144.3 (4.7)	146.3 (1.4)	24.4 (2.9)	12.8 (3.1)	11.6 (2.7)	24.2 (-1.1)	12.6 (-1.5)	11.5 (-0.6)
Transport	42.3 (6.1)	42.8 (1.2)	42.6 (-0.5)	6.6 (1.4)	3.5 (7.1)	3.1 (-4.3)	7.0 (5.1)	3.8 (7.1)	3.2 (2.7)
Residential-commercial	38.7 (4.6)	39.9 (3.0)	41.7 (4.4)	11.2 (12.7)	5.7 (13.9)	5.4 (11.5)	10.4 (-6.7)	5.6 (-3.0)	4.9 (-10.6)
Public	6.2 (8.7)	6.9 (11.0)	7.4 (6.6)	1.5 (11.3)	0.7 (12.5)	0.7 (10.1)	1.5 (0.7)	0.8 (4.4)	0.7 (-3.0)
TFC	225.1 (3.3)	233.9 (3.9)	237.9 (1.7)	43.7 (5.3)	22.8 (6.5)	20.9 (3.9)	43.0 (-1.5)	22.7 (-0.3)	20.3 (-2.8)
Coal (Mton)	49.0 (-6.8)	50.4 (2.7)	51.5 (2.2)	8.3 (-0.4)	4.4 (-3.7)	3.9 (3.5)	7.9 (-5.2)	3.9 (-10.0)	3.9 (-0.0)
Oil (Mbbl)	899.3 (7.3)	926.6 (3.0)	917.8 (-0.9)	154.5 (2.4)	81.8 (4.8)	72.8 (-0.1)	156.2 (1.1)	83.8 (2.5)	72.4 (-0.5)
Electricity (TWh)	497.0 (2.8)	507.7 (2.2)	526.1 (3.6)	95.1 (6.1)	48.4 (7.0)	46.7 (5.2)	93.0 (-2.2)	48.6 (0.6)	44.4 (-5.1)
City gas (Bm ³)	21.3 (2.3)	22.6 (6.3)	24.2 (7.2)	6.8 (13.5)	3.5 (16.6)	3.2 (10.2)	6.3 (-7.7)	3.4 (-4.6)	2.9 (-11.0)
Heat-others (1 000 toe)	13.1 (4.2)	15.0 (14.0)	16.4 (9.3)	3.3 (13.1)	1.7 (9.8)	1.7 (16.7)	3.4 (2.7)	1.7 (4.0)	1.7 (1.4)

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

Source: Monthly Energy Statistics

Share of the Total Final Consumption by Sources

(unit: %)

	2016	2017	2018p				2019p		
				M1~2	M1	M2	M1~2	M1	M2
Industry	61.2	61.7	61.5	55.9	56.2	55.6	56.1	55.5	56.8
Transport	18.8	18.3	17.9	15.2	15.4	15.0	16.2	16.5	15.8
Residential-commercial	17.2	17.1	17.5	25.6	25.2	26.0	24.2	24.5	23.9
Public	2.8	3.0	3.1	3.3	3.2	3.4	3.4	3.4	3.4
Final energy	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Coal	14.3	14.3	14.3	12.5	12.6	12.5	12.1	11.5	12.8
Oil	50.8	50.4	49.0	44.8	45.5	44.0	46.0	46.8	45.2
Electricity	19.0	18.7	19.0	18.7	18.2	19.2	18.6	18.4	18.8
City gas	10.1	10.3	10.9	16.3	16.3	16.3	15.4	15.7	15.0
Heat-others	5.8	6.4	6.9	7.6	7.3	7.9	7.9	7.6	8.3

Note: p means provisional

Source: Monthly Energy Statistics

Statistics on Energy Production Facilities

	2016	2017	2018					2019	
			M12	M1	M2		M12	M1	M2
Total capacity (GW)	105.9	116.9	116.9	116.4	116.4	1 410.2	119.1	119.4	119.4
	-*	(10.4)	(10.4)	(18.6)	(17.8)	(4.4)	(12.5)	(12.3)	(11.4)
Nuclear	23.1	22.5	22.5	22.5	22.5	265.6	21.9	21.9	21.9
	-	(-2.5)	(-2.5)	(3.7)	(3.7)	(-2.8)	(-5.5)	(-5.5)	(-5.5)
Bituminous coal	30.9	36.1	36.1	36.1	36.1	435.2	36.4	36.5	36.5
	-	(16.8)	(16.8)	(37.6)	(36.8)	(7.1)	(17.7)	(17.6)	(17.6)
Gas	32.6	37.9	37.9	37.4	37.4	452.3	37.9	37.9	37.9
	-	(16.0)	(16.0)	(16.2)	(14.6)	(4.4)	(16.0)	(16.0)	(13.1)
Refinery capacity (mil BPSD)	3.1	3.1	3.1	3.1	3.1	37.3	3.1	3.1	3.1
	-	(0.2)	(0.2)	(1.5)	(1.5)	(1.3)	(1.5)	(1.3)	(1.3)

Note: () is year-on-year growth rates (%)
Source: The monthly report on major electric power statistics

Statistics on Energy Consumption

	2016	2017	2018					2019	
			M12	M1	M2		M12	M1	M2
The number of household demanding city gas (mil)	18.0	18.6	18.6	18.7	18.7	225.8	19.1	19.3	19.2
	(3.4)	(3.3)	(3.3)	(3.4)	(3.3)	(3.2)	(3.1)	(3.3)	(2.7)
Registered cars (mil)	21.8	22.5	22.5	22.6	22.6	274.8	23.2	23.3	23.3
	(3.9)	(3.3)	(3.3)	(3.2)	(3.2)	(3.1)	(3.0)	(3.0)	(2.9)
- gasoline	10.1	10.4	10.4	10.4	10.4	126.2	10.6	10.7	10.7
	(2.9)	(2.7)	(2.7)	(2.6)	(2.7)	(2.5)	(2.5)	(2.5)	(2.4)
- diesel	9.2	9.6	9.6	9.6	9.6	117.3	9.9	10.0	10.0
	(6.4)	(4.4)	(4.4)	(4.3)	(4.2)	(4.0)	(3.7)	(3.7)	(3.6)
- LPG	2.2	2.1	2.1	2.1	2.1	24.8	2.0	2.0	2.0
	(-4.0)	(-2.9)	(-2.9)	(-3.0)	(-3.0)	(-3.2)	(-3.3)	(-3.3)	(-3.3)
- hybrid	0.2	0.3	0.3	0.3	0.3	4.1	0.4	0.4	0.4
	(37.6)	(37.6)	(37.6)	(37.6)	(37.7)	(34.4)	(30.9)	(30.7)	(30.3)

Note: () is year-on-year growth rates (%)
Source: Monthly Energy Statistics

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KEEI Monthly Korea Energy Trends is designed to be used for energy policy and market strategy in the government and industrial sector by analyzing and providing energy economic indicators in Korea.

This report is written by the Energy Demand and Supply Division of the Center for Energy Information and Statistics in cooperation with the Energy Statistics Research Division of KEEI and other related research divisions.

The energy economic indicators included in this report will be constantly updated until further confirmation.

If you have any further inquiries, please send an email to EnergyOutlook@keei.re.kr

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

Phone: +82-52-714-2270

Fax: +82-52-714-2025

Email: webmaster@keei.re.kr

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