

KEEI

MONTHLY KOREA ENERGY TRENDS

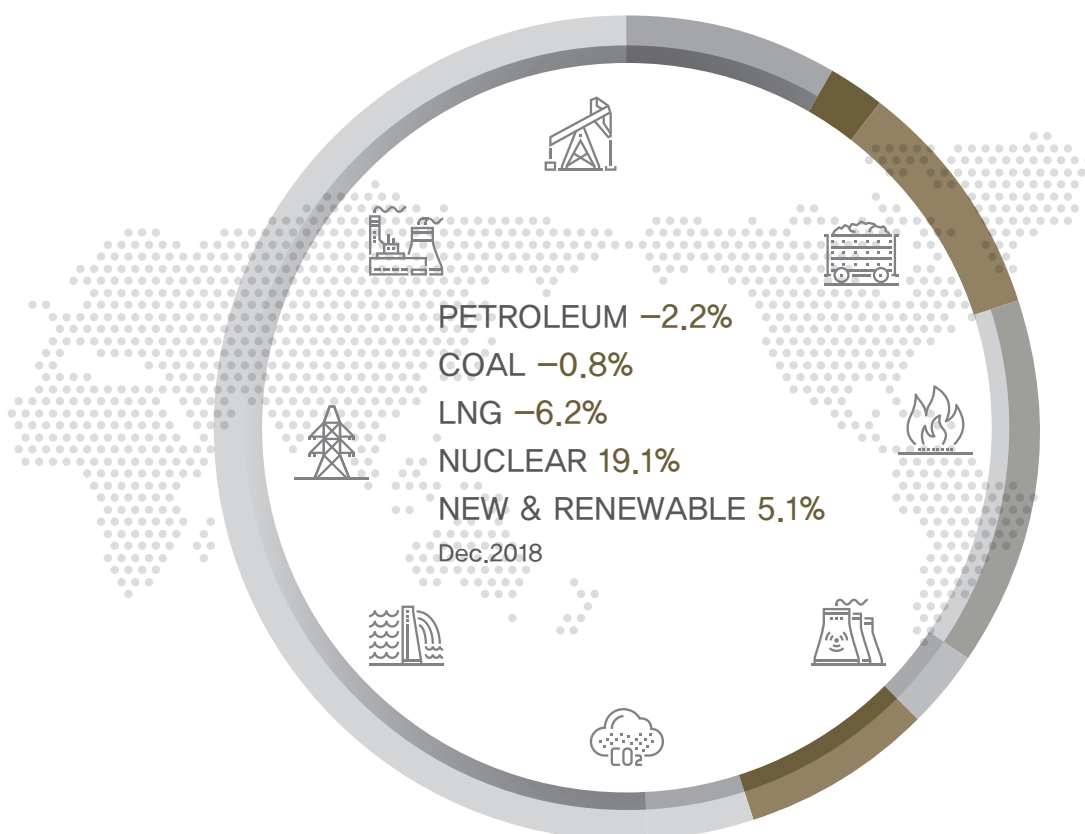


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1. The Economy and the Industry

- **Gross Domestic Product (“GDP”) posted a year-on-year growth of 3.1% in 4Q, 2018, despite the sluggish investment, owing to the growth in private and government spending.**
 - Construction investment continued to decline and facility investment also decreased, particularly in the machinery sector. Meanwhile, private spending and the government spending increased.
- **The production index of mining and manufacturing industries went up by 1.1% year-on-year in December, led by the semi-conductor and automobile sectors, although the index declined in the iron & steel sector.**
 - The production index of semi-conductors grew by over 10% on a year-on-year basis, as the supply shortage was resolved, and global IT companies adjusted investment plans on data centers.
 - The production index of automobiles rose by 20.3% due to the base effect of sharp output reduction during the same month last year(-29.4%) and increased export & domestic sales on the back of the newly launched SUV, and accordingly, the sector’s operating ratio index grew by 26.2%.
 - The production index of iron & steel products has been down for 11 consecutive months, partly because the export volume declined as a result of the widespread protectionism.
- **The service production index rose by 1.5% year-on-year (in December) with the help of strong performance of the health & social welfare sector.**

► Trend in major economic and industrial indicators

	2016	2017	2018p			
			M12	M10	M11	M12
GDP (trillion won)	1 509.8 (2.9)	1 556.0 (3.1)	407.6 (2.8)	1 597.5 (2.7)	- -	420.2 (3.1)
Total export (\$billion, customs clearance basis)	495.4 (-5.9)	573.7 (15.8)	49.0 (8.8)	604.9 (5.4)	54.9 (22.5)	51.5 (3.6)
Industrial production index (2015=100)	102.3 (2.3)	104.6 (2.2)	105.5 (-5.0)	105.8 (1.2)	113.0 (12.8)	109.4 -
Semi-conductors	125.3 (25.3)	138.9 (10.8)	153.5 (6.3)	166.9 (20.2)	190.2 (23.1)	172.1 (18.4)
Cars	97.6 (-2.4)	95.0 (-2.7)	82.2 (-29.4)	93.7 (-1.4)	104.6 (30.1)	106.7 (3.0)
Steel	101.3 (1.3)	102.9 (1.7)	103.5 (-2.8)	99.8 (-3.1)	101.4 (-1.0)	100.3 (-1.2)
Basic compound	104.6 (4.6)	110.4 (5.5)	116.9 (4.4)	110.4 -	107.5 (-5.5)	101.7 (-6.4)
Mining and manufacturing production index (2015=100)	98.9 (-1.1)	98.1 (-0.9)	96.8 (-6.6)	98.4 (0.3)	104.3 (12.2)	101.3 (-0.3)
Service production index (2015=100)	102.6 (2.6)	104.5 (1.8)	113.8 (0.8)	106.7 (2.1)	108.1 (5.8)	107.5 (1.2)

Note: Figures are based on the real price of 2010, P means provisional, () is year-on-year growth rates (%)

Source: Korea International Trade Association, Korea Statistical Information Service

2. Energy Prices

Global energy prices

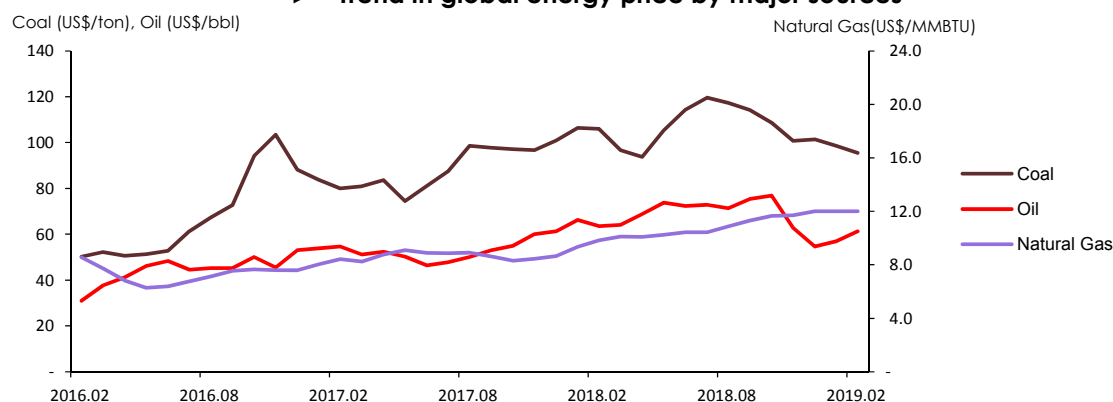
- **Global oil price went up by 7.7% in February, 2019 from the previous month because of the OPEC's output reduction and an expectation of improved trade relations between the U.S. and China.**
 - Global oil price increased from the previous month owing to decreased oil outputs in OPEC countries, Saudi Arabia's announcement on the output reduction plan and an expectation of a resolution of the U.S.-China trade disputes through the third high-level talks, although such growth was offset by the U.S. President Trump's criticism of OPEC's output cuts.
 - The U.S. gasoline inventory fell from 257.4Mbbbl (2019.1.25) to 254.9Mbbbl (2019.2.22), while its crude inventory remained flat (445.9Mbbbl) during the same period.

► Trend in global energy prices

	2017		2018			2019		
		M12	M1	M2		M12	M1	M2
Crude oil (US\$/bbl)	53.0 (22.4)	61.2 (15.4)	66.3 (23.0)	63.5 (16.3)	68.6 (29.5)	54.7 (-10.7)	57.0 (-14.1)	61.3 (-3.5)
Natural gas (US\$/MMBTU)	8.6 (16.8)	8.6 (13.9)	9.3 (16.2)	9.8 (16.8)	10.7 (24.0)	12.0 (38.7)	12.0 (28.5)	12.0 (22.2)
Coal (US\$/ton)	88.6 (33.8)	100.8 (14.4)	106.5 (27.1)	106.0 (32.5)	107.0 (20.9)	101.4 (0.6)	98.6 (-7.4)	95.4 (-9.9)

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 fell by 0.5% respectively in December than a month earlier, even though the global oil price increased in the previous month.**

- Gasoline and diesel prices have been down for four months in a row partly because of the government's oil tax cut, which started in November, 2018, even though global oil price has been up since January.

□ **Domestic prices of propane and butane decreased at much slower pace in February, as the global propane price fell more slowly, and the global butane price started an upward move.**

- Global propane and butane prices fell by over 15% in December. However, the global propane price fell by just 3.4% in January from the previous month, and the global butane price rose by 1.2%, and consequently, their domestic prices fell slightly by 0.1% and 0.3%¹ (in February) than a month earlier.

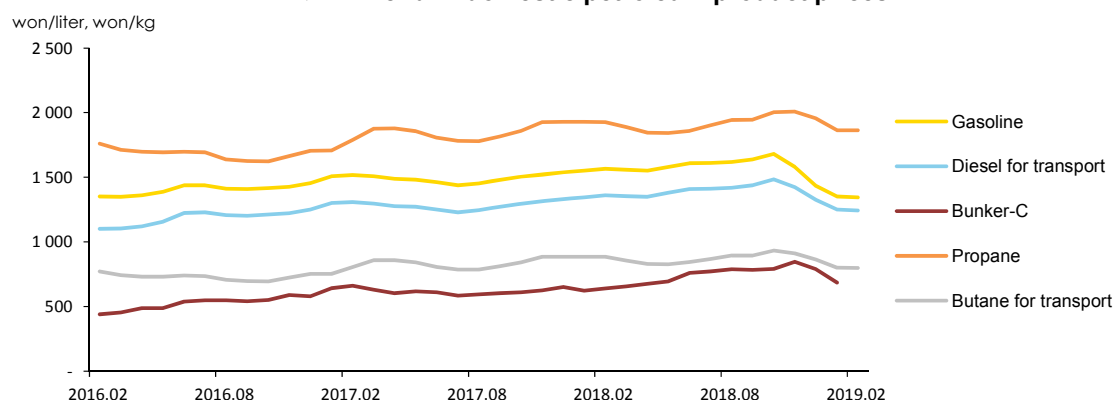
► Trend in domestic energy prices

	2017		2018			2019		
		M12	M1	M2		M12	M1	M2
Gasoline (won/liter)	1 491.3 (6.3)	1 540.3 (5.9)	1 551.8 (2.9)	1 564.6 (3.2)	1 581.3 (6.0)	1 433.1 (-7.0)	1 351.2 (-12.9)	1 343.8 (-14.1)
Diesel for transport (won/liter)	1 282.5 (8.4)	1 332.4 (6.6)	1 344.9 (3.4)	1 360.4 (4.0)	1 391.9 (8.5)	1 324.1 (-0.6)	1 249.4 (-7.1)	1 242.9 (-8.6)
Bunker-C (won/liter)	619.3 (18.9)	652.3 (12.5)	621.7 (-3.3)	638.7 (-3.3)	735.0 (18.7)	789.3 (21.0)	685.9 (10.3)	- (-100.0)
Propane (won/kg)	1 833.8 (8.5)	1 929.8 (13.2)	1 929.2 (13.0)	1 926.3 (7.7)	1 920.5 (4.7)	1 954.7 (1.3)	1 864.4 (-3.4)	1 863.3 (-3.3)
Butane for transport (won/liter)	826.5 (12.6)	885.1 (17.8)	885.3 (17.7)	886.0 (10.0)	874.6 (5.8)	863.4 (-2.5)	801.3 (-9.5)	798.7 (-9.9)

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



¹ Domestic LPG importers such as SK Gas and E1 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.

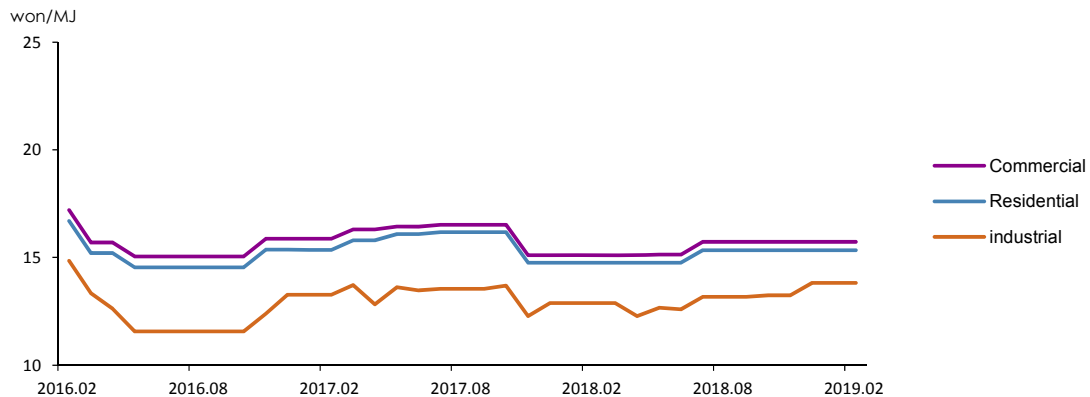
☐ **City gas price was fixed again in January and has been flat for the last eight months until February.**

- City gas price was fixed in January to stabilize prices and reduce economic burden on people, although global LNG price, which reflects global oil price in a few months' interval, steadily increased recently.

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

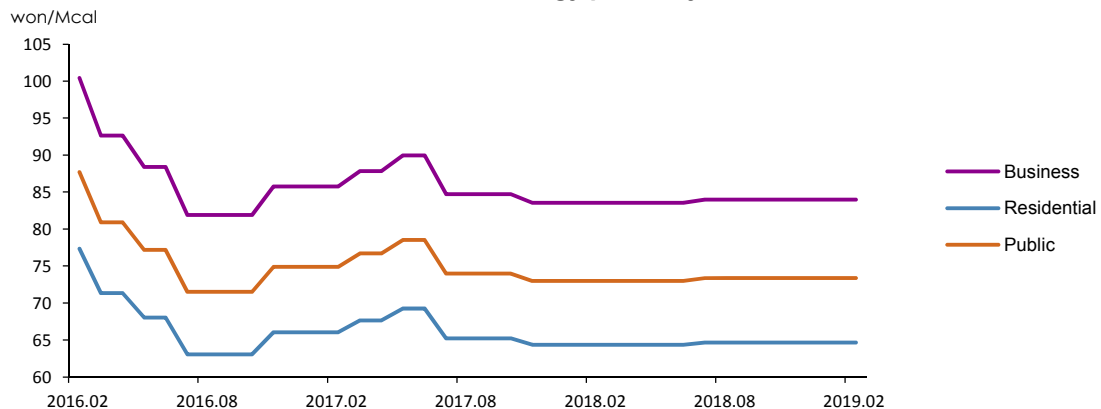
- Korea District Heating Corporation's heat energy price is linked to city gas price according to the fuel cost pass-through scheme, and the actual fuel cost is reflected in the heat energy price once a year (LNG for over 100MW, city gas for under 100MW).

► **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.

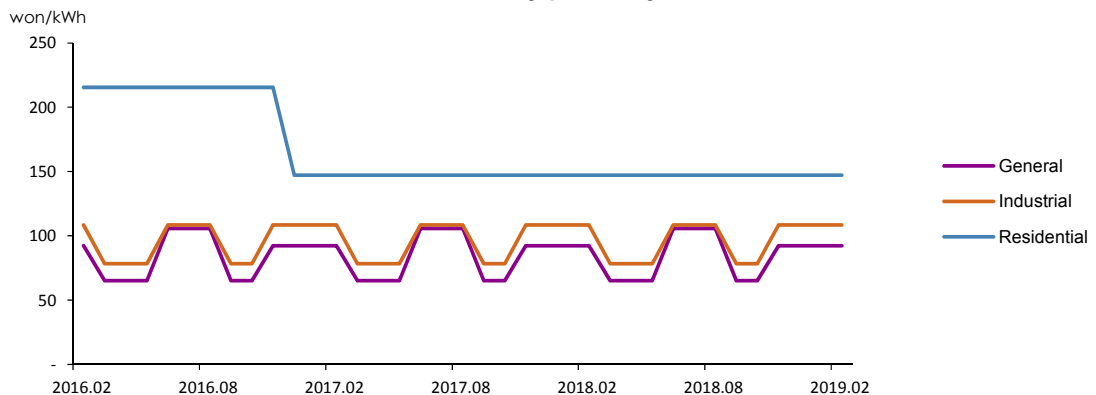
□ **Electricity prices ²for industrial and general use increased in November due to the price adjustment for the winter season, and since then, the prices have been flat until February.**

- Electricity prices for industrial and general use rose by 38.2% and 41.6% respectively (in November) from the previous month, according to the seasonal pricing from spring/autumn (Mar-May, Sept-Oct) to winter (Nov-Feb).
- Electricity price for residential use has been flat since the reform of the progressive pricing scheme, which was implemented after 2016's recording heatwaves.

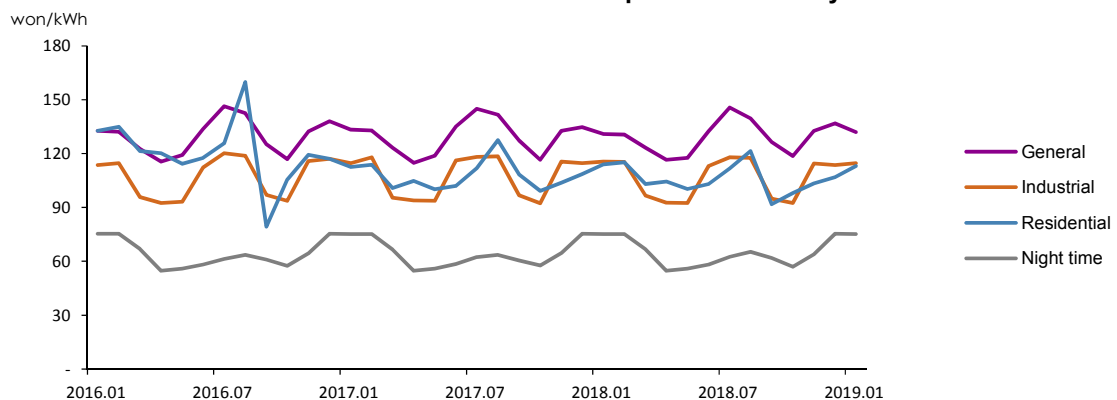
□ **The unit sales price of electricity for residential and industrial use went up by 5.9% and 0.9% respectively from the previous month, while in the case of general use, it went down by 3.6%.**

- The unit sales price of residential electricity increased from the previous month under the progressive pricing scheme, as more electricity was consumed for heating during winter.
- On a year-on-year basis, however, the unit sales price of electricity for residential and industrial use fell by 1.6% and 0.9% due to warmer weather, while that for general use rose by 1.6%.

► **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 recorded a year-on-year growth of 2.7% in December, especially petroleum products and LNG, although crude oil and bituminous coal imports decreased.**

- The import volume of crude oil fell by 6.9% because of reduced crude input to refineries, while the inventory grew by over 20% for two straight months.
- As for the petroleum products, the import volume of bunker-C decreased, while naphtha import grew rapidly due to much increased input to basic petrochemical facilities. Meanwhile, the import volume of LPG rose by over 20% to make up for decreased domestic production amid growing LPG demand.
- The LNG import from Qatar grew by around 40% because of the base effect of a drop during the same month last year, and consequently, the total LNG import volume rose by 13.1%.
- The foreign energy dependence including nuclear energy stood at 94.2%, and the energy share of the total import value was up 2.8%p year-on-year to 28.2%.

► Trend in energy trade and domestic production

	2016	2017		2018p			
			M12		M10	M11	M12
Import volume							
Crude oil (Mbbbl)	1 078.1 (5.1)	1 118.2 (3.7)	99.9 (0.1)	1 116.3 (-0.2)	97.8 (5.3)	95.3 (0.7)	93.0 (-6.9)
Petroleum product (Mbbbl)	334.6 (8.7)	314.5 (-6.0)	26.2 (-4.5)	341.2 (8.5)	27.8 (4.3)	28.5 (17.7)	32.1 (22.6)
Bituminous coal (Mton)	118.5 (-0.8)	131.5 (11.0)	11.0 (-13.9)	131.5 (0.0)	10.1 (3.7)	11.7 (16.7)	10.4 (-5.7)
Anthracite (Mton)	9.4 (5.4)	7.0 (-25.7)	0.6 (-2.1)	8.1 (16.0)	0.7 (118.3)	0.9 (44.9)	0.8 (27.6)
LNG (Mton)	33.5 (0.3)	37.5 (12.2)	4.2 (3.7)	44.0 (17.3)	3.8 (37.2)	3.9 (17.5)	4.7 (13.1)
Import volume (Mtoe)	321.9 (2.7)	339.7 (5.5)	30.8 (-1.1)	354.1 (4.2)	29.4 (5.2)	30.6 (9.6)	31.6 (2.7)
Import value (billion US\$, CIF)	80.9 (-21.2)	109.5 (35.2)	11.0 (22.2)	146.0 (33.3)	13.6 (52.5)	13.7 (42.6)	12.4 (12.3)
Energy share of total import value (%)	19.9	22.9	25.4	27.3	28.1	29.2	28.2
Foreign energy dependence (%)*	94.6	93.9	94.5	93.5	93.2	93.7	94.2
Domestic production							
Hydropower (TWh)	6.6 (14.5)	7.0 (5.5)	0.5 (-2.8)	7.3 (4.0)	0.5 (-9.9)	0.5 (17.2)	0.6 (27.9)
Anthracite (Mton)	1.7 (-2.2)	1.5 (-14.0)	0.1 (-19.2)	1.2 (-19.2)	0.1 (-7.5)	0.1 (-22.0)	0.1 (-36.1)
Natural gas (Mton)	0.1 (-18.0)	0.3 (120.5)	0.0 (-12.7)	0.2 (-10.4)	0.0 (-42.8)	0.0 (-22.0)	0.0 (-17.5)
Renewable energy (Mtoe)	13.6 (5.7)	15.8 (16.7)	1.4 (19.2)	17.5 (10.5)	1.4 (16.1)	1.4 (6.4)	1.5 (3.5)

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”) decreased by 0.9% year-on-year in December despite increased use of nuclear energy, as petroleum, coal and gas use all declined.**
 - Petroleum consumption fell by 2.2% year-on-year, as the consumption decreased in the petrochemical sector, especially naphtha, although the transport sector consumed more petroleum after the government’s oil tax cut.³
 - Coal consumption declined by 0.8% year-on-year, because bituminous coal consumption decreased in the steelmaking sector amid weak business performance, and the consumption also decreased in the power generation sector due to increased preventive maintenance and limited use of coal-fired power plants as a means of mitigating fine dust.
 - Gas consumption declined in the power generation sector because of falling power demand and growing baseload generation, and the consumption also decreased in the city gas production sector due to the price increase, and consequently, the total gas consumption fell by 6.2%.
- **Total Final Consumption (“TFC”) went down by 1.3% year-on-year in December, owing to the decreased energy use in the industrial and buildings sectors, although the transport sector consumed more energy.**
 - Industrial energy use fell by 1.1% year-on-year, especially in the petrochemical and primary metals sectors.
 - Transport energy use grew by 3.8% year-on-year, led by the road transport sector, due to the temporary tax cut on vehicle fuels.
 - Energy use in buildings declined by 5.1% year-on-year, as the number of heating degree days decreased (-7.2%, -40.8degree days), while city gas and heat energy prices increased.

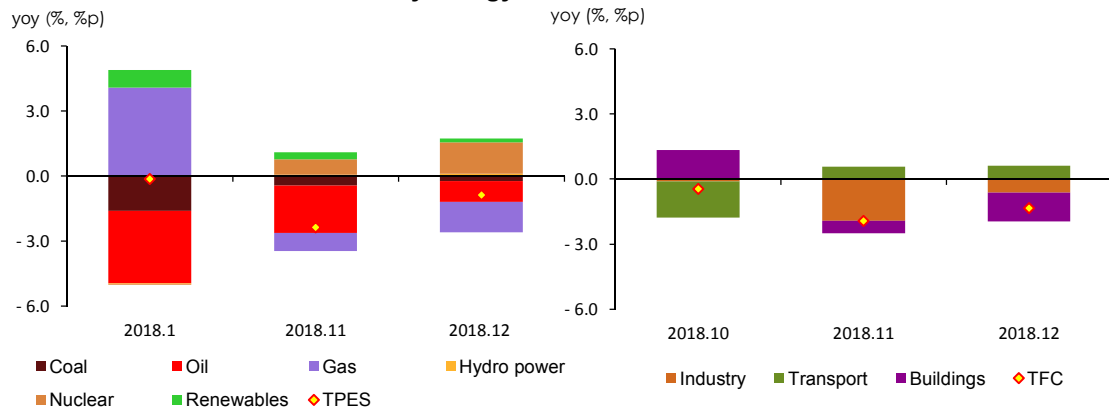
► Energy consumption trend

	2016	2017	2018p				
			M12		M10	M11	M12
Total energy (Mtoe)	293.4	302.1	29.1	307.3	24.1	25.5	28.8
	(2.4)	(2.9)	(4.9)	(1.7)	(-0.1)	(-2.4)	(-0.9)
- Non-energy oil&coal excluded	212.0	215.4	21.4	221.4	17.0	18.7	21.4
	(3.2)	(1.6)	(4.7)	(2.8)	(2.6)	(-0.5)	(0.2)
Final energy (Mtoe)	225.1	233.9	22.4	237.9	18.5	19.8	22.1
	(3.3)	(3.9)	(4.6)	(1.7)	(-0.4)	(-1.9)	(-1.3)

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

³The government announced a temporary fuel tax cut of 15% on gasoline, diesel, LPG and butane for six months period (2018.11.6).

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



5. Coal

□ **Coal consumption posted a year-on-year decline of 0.8% in December, despite the growth in industrial coal consumption, because the power generation sector consumed less coal.**

- Coal consumption has been falling in the power generation sector, which is attributed to the increased daily average of preventive maintenance (1.0 GW, 29.0%) and the upper limit on power output⁴(2018.12.21~22) as a means of fine dust mitigation.
- Industrial coal consumption was driven up by dramatically increased anthracite use, though bituminous coal consumption was flat in the steelmaking sector on a year-on-year basis.
- Coal consumption in buildings decreased, because coal has been replaced by other energy sources such as petroleum and gas, and the weather was warmer.

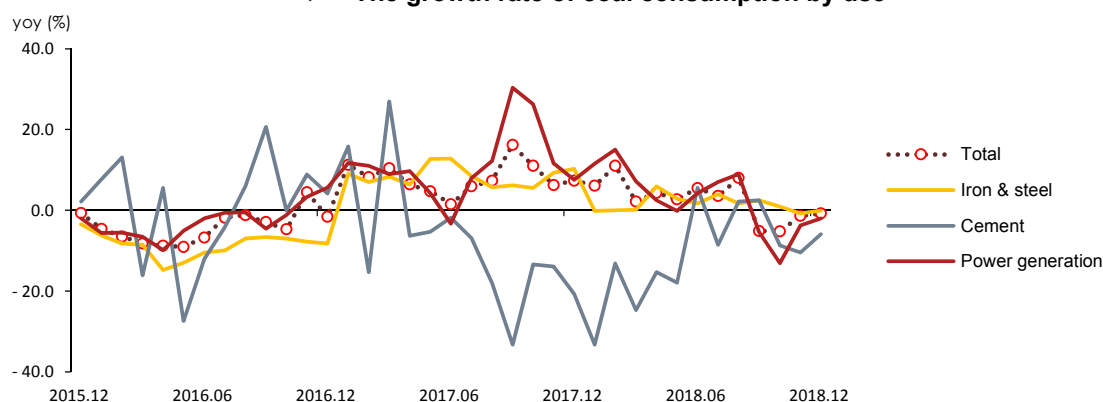
► Coal consumption trend

	2016	2017		2018p			
			M12		M10	M11	M12
Coal (Mton)	129.3	139.8	12.8	143.2	11.0	11.6	12.7
	(-4.3)	(8.1)	(7.4)	(2.5)	(-5.2)	(-1.4)	(-0.8)
Industry	47.8	49.3	4.3	50.5	4.2	4.4	4.4
	(-6.6)	(3.2)	(8.5)	(2.6)	(9.7)	(4.4)	(2.2)
Buildings	1.3	1.1	0.1	0.9	0.2	0.2	0.1
	(-14.8)	(-14.0)	(-23.2)	(-15.7)	(6.0)	(-30.0)	(-16.8)
Power generation	80.3	89.4	8.4	91.8	6.6	7.0	8.2
	(-2.7)	(11.3)	(7.6)	(2.6)	(-13.1)	(-3.8)	(-2.0)

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

Source: Monthly Energy Statistics

► The growth rate of coal consumption by use



⁴ If an ultrafine particle watch is issued and its concentration is expected to surpass $50 \mu\text{g}/\text{m}^3$ the next day, coal-fired power plants are to be operated at 80% of the rated capacity from the following day.

6. Petroleum

- **Petroleum consumption fell by 2.2% year-on-year in December, as the consumption declined in all end-use sectors except the transport sector.**
 - Industrial petroleum consumption declined by 2.6% despite increased use of energy oil (15%), as the use of naphtha—the feedstock of petrochemical industry—decreased due to regular maintenance and unplanned shutdown of naphtha cracking centers.
 - Petroleum consumption grew faster in the transport sector, because gasoline and diesel consumption kept growing following the temporary oil tax cut, and the use of jet oil and bunker-C rebounded from a drop in the previous month.

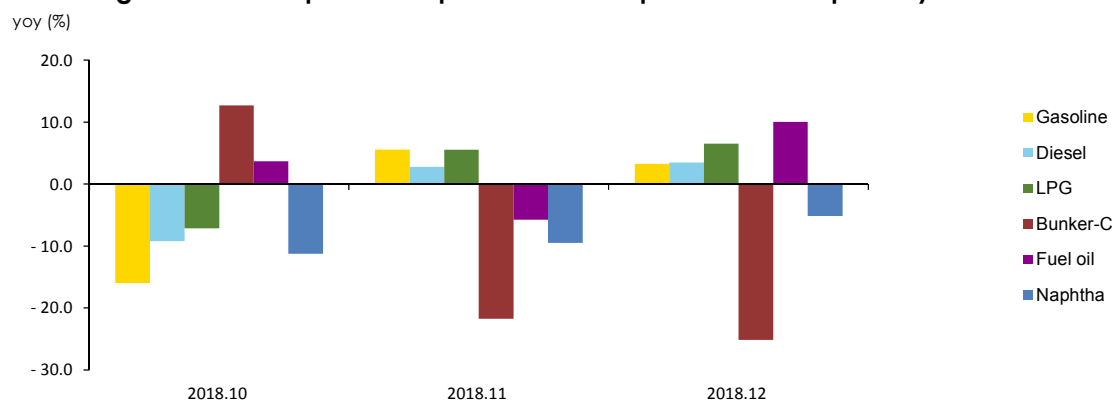
► Trend in petroleum product consumption by end-use sectors

	2016	2017	M12	2018p	M10	M11	M12
Petroleum (Mbbl)	921.1	937.1	85.1	83.2	73.3	76.0	83.2
	(8.0)	(1.7)	(-0.9)	(-2.2)	(-8.3)	(-5.2)	(-2.2)
Industry	542.6	567.0	50.4	49.1	45.8	44.3	49.1
	(8.3)	(4.5)	(0.9)	(-2.6)	(-8.8)	(-8.3)	(-2.6)
Transport	300.5	303.2	25.8	26.6	22.5	26.2	26.6
	(5.8)	(0.9)	(-3.1)	(3.4)	(-10.0)	(3.0)	(3.4)
Buildings	56.3	56.4	7.2	6.7	4.2	5.0	6.7
	(5.2)	(0.3)	(1.2)	(-7.0)	(-1.8)	(-13.7)	(-7.0)
Power generation	21.8	10.5	1.7	0.8	0.8	0.5	0.8
	(48.7)	(-51.9)	(-21.7)	(-53.4)	(97.4)	(-26.6)	(-53.4)

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

Source: Monthly Energy Statistics

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



7. Gas

□ **Natural gas consumption went down by 6.2% year-on-year in December, as the consumption declined in both the power generation and gas production sectors.**

- Gas use for power generation fell by around 10% amid falling electricity demand and rapidly growing nuclear generation (19.1%), and gas use for city gas production fell for two months in a row owing to the base effect and decreased city gas use.

□ **City gas consumption fell by 4.9% (in December) on a year-on-year basis as a result of decreased consumption in buildings, though it slightly increased in the industrial sector.**

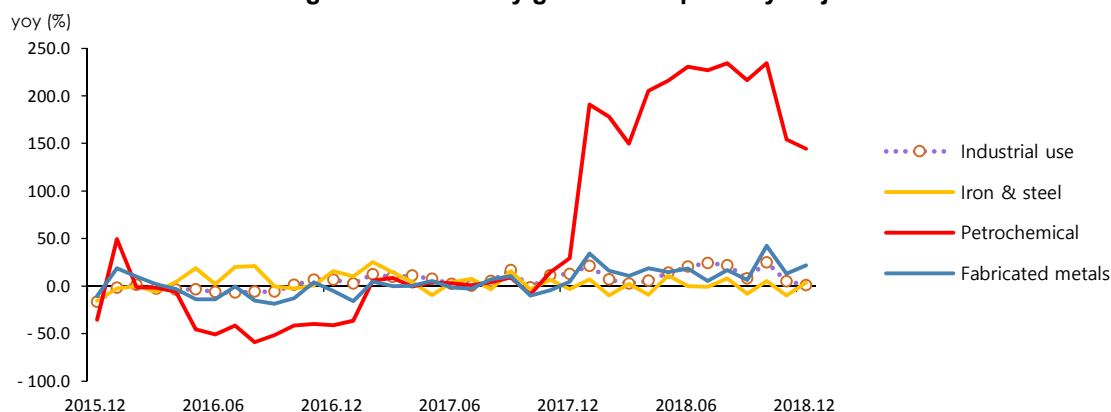
- Industrial city gas consumption grew by less than 2% despite growing consumption in the primary metals, petrochemicals and fabricated metals sectors, because the consumption dropped by over 80% in other manufacturing sector.
- Gas use increased in commercial buildings but decreased by near 10% in residential buildings that account for the largest share in total gas use, driving down the overall gas consumption in buildings.

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

	2016	2017p		2018p			
			M12		M10	M11	M12
LNG (Mton)	34.9	36.4	5.0	40.9	2.9	3.5	4.7
	(4.4)	(4.3)	(24.9)	(12.4)	(34.4)	(-4.5)	(-6.2)
Power generation	15.5	15.6	1.8	18.0	1.4	1.4	1.7
	(6.4)	(0.6)	(25.5)	(15.6)	(46.8)	(-7.9)	(-10.3)
City gas production	17.4	18.4	2.8	19.8	1.4	1.8	2.7
	(2.7)	(5.8)	(20.8)	(7.7)	(27.4)	(-4.2)	(-3.0)
City gas (bm³)	21.3	22.6	3.1	24.2	1.5	2.1	3.0
	(2.3)	(6.3)	(18.0)	(7.2)	(22.3)	(1.3)	(-4.9)
Industry	7.2	7.8	0.8	8.7	0.7	0.8	0.8
	(-1.4)	(7.7)	(12.8)	(12.1)	(24.9)	(5.0)	(1.2)
Buildings	12.8	13.6	2.2	14.3	0.7	1.2	2.0
	(5.0)	(6.0)	(21.1)	(5.2)	(22.9)	(-0.6)	(-7.3)

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 use slightly increased in the industrial sector but decreased in buildings sector in December, and consequently, the total consumption fell by 1.0% year-on-year.

- Electricity use increased in the fabricated metals and petrochemical sectors but decreased in the primary metals and other manufacturing sectors, and the total industrial power use rose by less than 1%.
- Electricity use decreased in commercial buildings on a year-on-year basis amid decreased number of heating degree days (-40.8degree days), but it increased slightly in residential buildings due to the improved awareness of the price cut and wider use of home appliances.

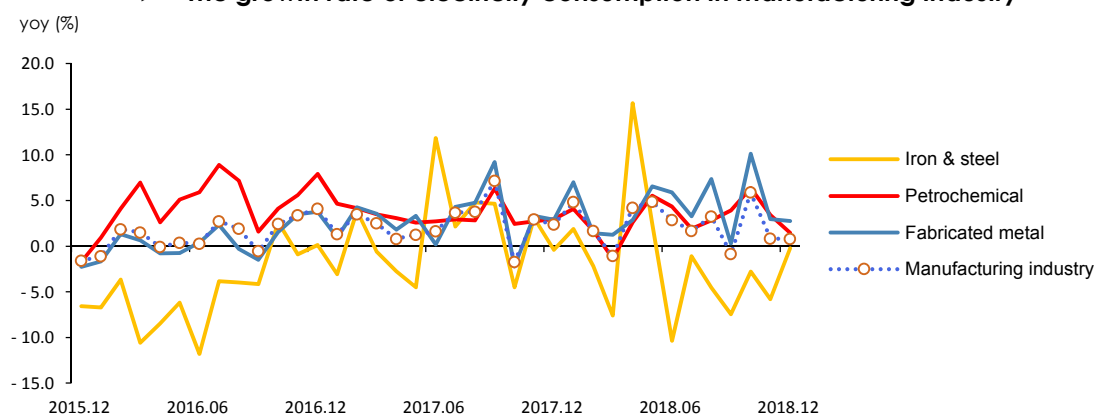
► Trend in electricity consumption by end-use sectors

	2016	2017p		2018p			
			M12		M10	M11	M12
Electricity (TWh)	497.0	507.7	45.8	526.1	40.0	41.9	45.3
	(2.8)	(2.2)	(5.2)	(3.6)	(4.2)	(1.5)	(-1.0)
Industry	270.0	276.7	24.2	283.7	23.1	23.6	24.4
	(1.6)	(2.5)	(2.8)	(2.5)	(6.0)	(1.1)	(0.7)
Transport	2.7	2.9	0.3	3.0	0.2	0.2	0.3
	(21.3)	(6.5)	(16.6)	(3.6)	(0.9)	(-1.6)	(-2.1)
Buildings	224.4	228.2	21.3	239.5	16.7	18.1	20.7
	(4.0)	(1.7)	(7.9)	(4.9)	(1.9)	(2.0)	(-2.9)
Residential	66.2	66.5	5.7	70.7	5.1	5.4	5.7
	(3.7)	(0.5)	(4.2)	(6.3)	(2.6)	(2.7)	(1.0)
Commercial	127.4	130.4	12.5	136.4	9.3	10.1	11.9
	(4.0)	(2.3)	(9.2)	(4.6)	(1.9)	(2.0)	(-4.5)

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

Source: Monthly Energy Statistics

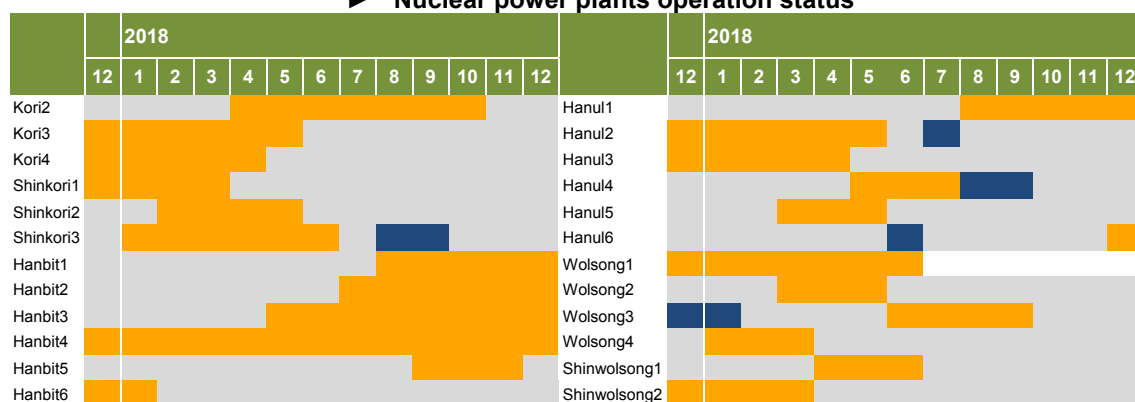
► The growth rate of electricity consumption in manufacturing industry



9. Nuclear

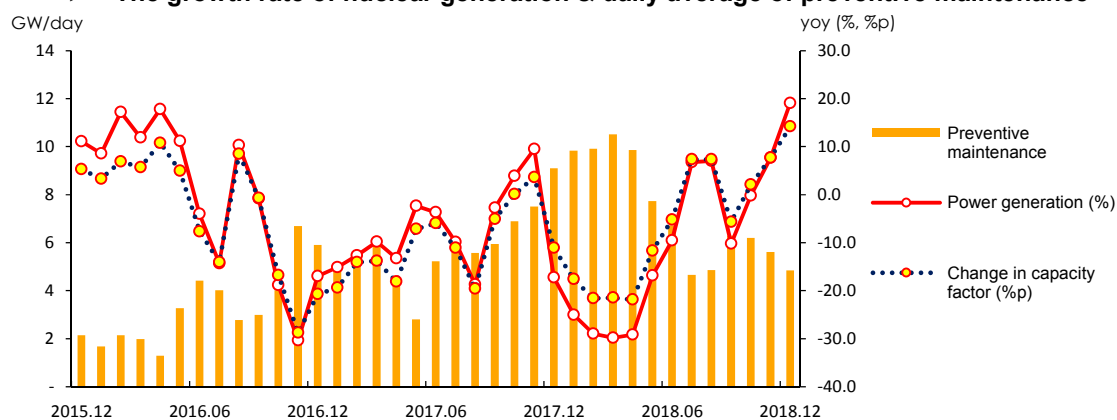
- **The total nuclear generation grew by 19.1% year-on-year in December, as the number of nuclear power plants that are online increased, following the completion of preventive maintenance.**
 - The daily average of preventive maintenance fell by 4.3GW (46.7%), owing to the decreased number of reactors under maintenance and the shutdown of Wolsong unit1.
 - The average capacity factor at nuclear power plants went up by 14.2%p year-on-year to 76.5% due to the base effect of the lower figure (slightly over 60%) during the same month last year and decreased preventive maintenance.
 - Nuclear energy's share of the total generation rose by 4.0%p to 24.1% on a year-on-year basis.

► **Nuclear power plants operation status**



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

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



10. Heat and Renewable energy

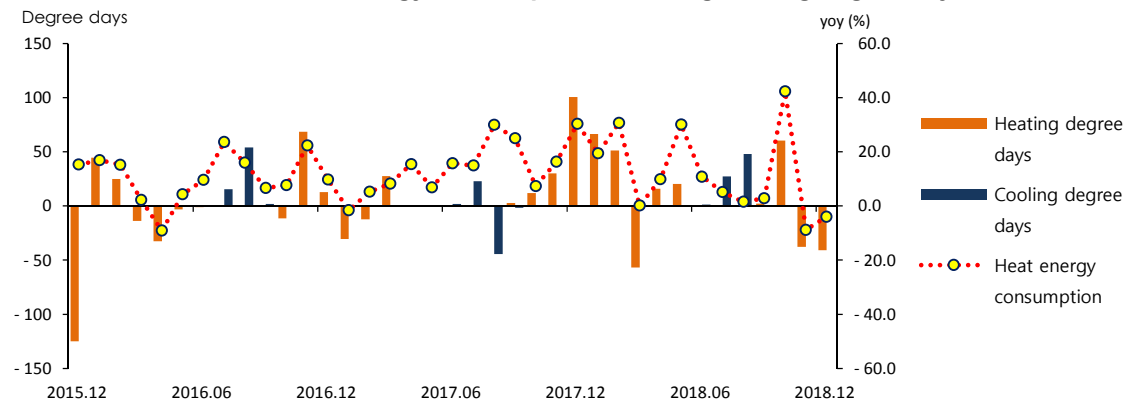
☐ **Heat energy use decreased by 4.0% year-on-year in December, as the heating demand declined because of warmer weather.**

- Heat energy consumption declined in all end-use sectors, as was the case in the previous month, along with continuously decreasing number of heating degree days (-40.8degree days, -7.2%) during warmer winter days.

☐ **Renewable & other energy consumption grew by 5.1% year-on-year (in December), led by the power generation sector.**

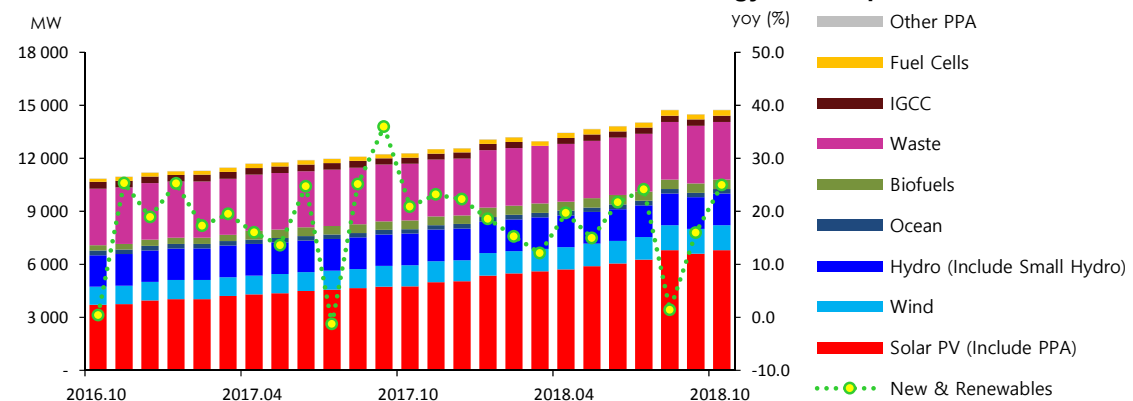
- The final renewable energy use declined in the industrial sector but grew continuously in the buildings and transport sectors, and as a result, the total final use of renewable energy went up by 1.8% on a year-on-year basis.
- Renewable generation went up by 14.6%, with fuel cell and solar PV taking the lead, although wind energy and IGCC plants generated less power.

► Heat energy consumption & heating/cooling degree days



Note: The total heat energy consumption is estimated based on the total supply from district heating & cooling companies (KEA's collective energy business). Previously, the figure reflected the monthly supply data of only three energy companies (KDHC, GS Power, SH Corp.).

► Trend in renewable and other energy consumption



11. Industry

□ Industrial energy consumption fell by 1.1% year-on-year in December, which was caused by decreased energy use in the petrochemical and primary metals sectors.

- Energy use decreased in the petrochemical sector, especially naphtha, and also continuously plunged in the primary metals sector due to the base effect of a surge during the same month last year. Meanwhile, the fabricated metals sector posted a decent growth in energy use amid increasing automobile production.

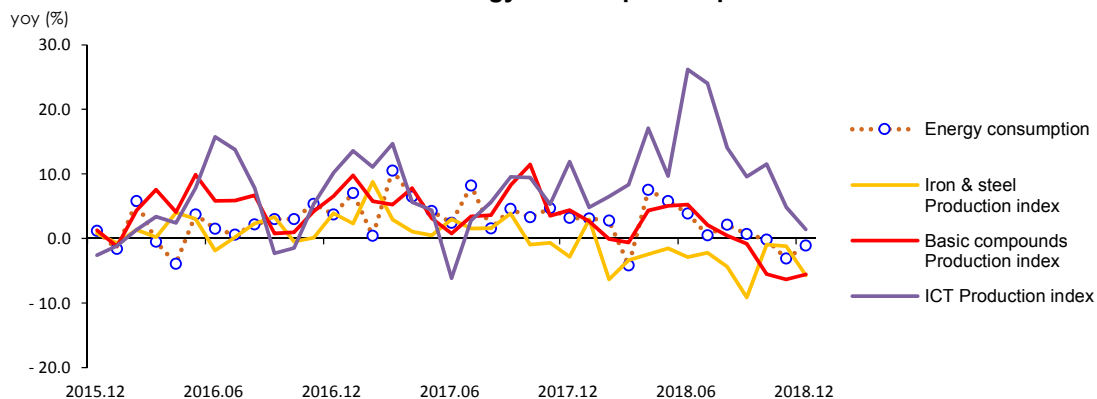
► Industrial energy consumption trend

	2016	2017p		2018p	2018p		
			M12		M10	M11	M12
Industry (Mtoe)	137.8	144.3	12.9	146.3	12.0	12.0	12.8
	(1.9)	(4.7)	(3.2)	(1.4)	(-0.2)	(-3.1)	(-1.1)
Petrochemical	65.9	70.4	6.3	71.4	5.8	5.6	6.2
	(6.7)	(6.7)	(5.3)	(1.4)	(-7.3)	(-4.9)	(-1.3)
- Naphtha	52.7	56.2	5.0	55.3	4.5	4.3	4.8
	(4.7)	(6.6)	(5.1)	(-1.6)	(-11.2)	(-9.5)	(-5.2)
Iron & Steel	28.1	35.0	3.1	30.4	2.6	2.5	2.6
	(-8.0)	(24.4)	(26.1)	(-13.1)	(-12.9)	(-15.8)	(-14.2)
-Coking coal	23.4	25.3	2.2	25.7	2.2	2.1	2.2
	(-9.0)	(8.0)	(9.8)	(1.6)	(1.0)	(-0.7)	(-0.0)
Fabricated metal	10.6	10.8	1.0	11.5	0.9	1.0	1.1
	(0.4)	(1.9)	(1.4)	(6.2)	(15.0)	(4.4)	(7.2)
Share of feedstock (%)	58.8	59.9	59.6	58.6	58.8	57.1	58.0

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

Source: Monthly Energy Statistics

► Industrial energy consumption & production index



12. Transport

□ Transport energy consumption posted a year-on-year growth of 3.8% in December, as all transport sectors, except railways, consumed more energy.

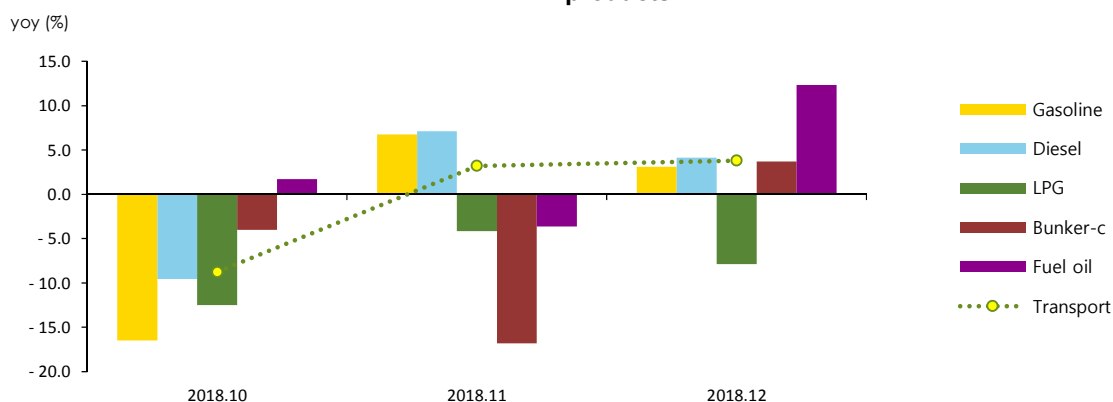
- Energy use has increased in the road transport sector for two months in a row, particularly gasoline and diesel, which was the result of the government's temporary oil tax cut.
- Energy use rose dramatically in the aviation sector due to the increased number of domestic and international flights. As for the domestic navigation sector where bunker-C is primarily used, the energy use rebounded despite decreased coastal transport, as the transshipment volume drastically increased.

► The growth rate of petroleum consumption in the transport sector

	2016	2017p		2018p	2018p		
			M12		M10	M11	M12
Transport (Mtoe)	42.3	42.8	3.6	3.8	3.2	3.7	3.8
	(6.1)	(1.2)	(-2.9)	(3.8)	(-8.8)	(3.2)	(3.8)
Road	33.9	34.1	3.0	3.0	2.5	3.0	3.0
	(4.9)	(0.5)	(-1.0)	(2.9)	(-10.9)	(6.5)	(2.9)
Navigation	3.4	3.5	0.3	0.3	0.3	0.3	0.3
	(13.8)	(5.8)	(-15.5)	(3.0)	(-4.5)	(-18.5)	(3.0)
Aviation	4.7	4.8	0.4	0.4	0.4	0.4	0.4
	(9.1)	(3.2)	(-8.1)	(12.3)	(1.6)	(-3.7)	(12.3)
Rail	0.3	0.3	0.0	0.0	0.0	0.0	0.0
	(8.3)	(2.5)	(17.9)	(-4.7)	(4.8)	(4.8)	(-4.7)

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 use in buildings declined by 5.1% year-on-year in December, as warm winter days led to decreased energy use for heating.**
 - Energy use has been down for two consecutive months, especially city gas, petroleum and electricity (-7.3%, -7.1%, 2.9%), as it was warmer than the same period last year.
 - In residential buildings, kerosene, city gas and heat energy use declined by 8.8%, 9.6% and 4.2% respectively amid decreased number of heating degree days, while electricity use increased by 1.0% owing to the higher awareness of changed progressive pricing scheme and the wider use of electric heating devices.
 - The use of all major energy sources declined in commercial buildings, except city gas (1.5%), which was attributable to the warmer weather and a small increase in the production index of wholesale & retail and restaurant & accommodation sectors.
 - As for the contribution of each energy source to the downward trend of energy use in buildings, city gas took the 1st place (-2.8%p), followed by petroleum (-1.1%p) and electricity (-0.9%p).

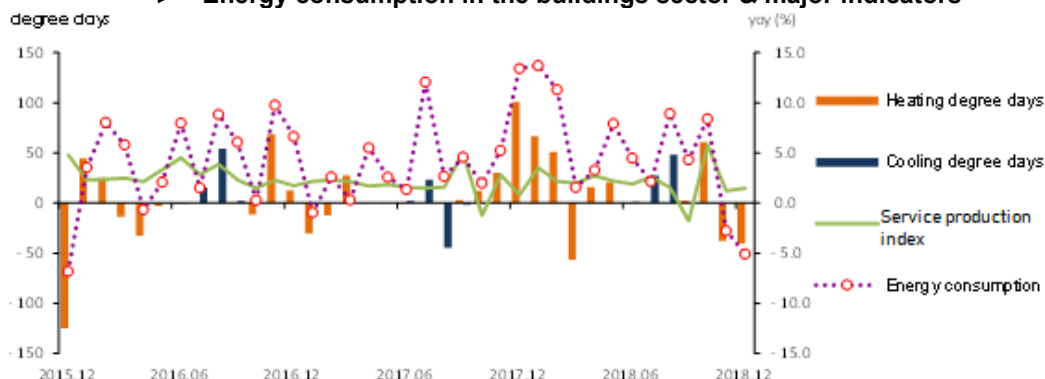
► Energy consumption trend in the buildings sector

	2016	2017p		2018p	2018p		
			M12		M10	M11	M12
Buildings (Mtoe)	45.0	46.8	5.9	49.1	3.2	4.1	5.6
	(5.2)	(4.2)	(13.4)	(4.8)	(8.4)	(-2.8)	(-5.1)
Residential	21.7	22.5	3.3	23.5	1.5	2.1	3.1
	(5.5)	(3.7)	(16.5)	(4.7)	(12.8)	(-4.4)	(-7.0)
Commercial	17.1	17.4	1.8	18.1	1.2	1.4	1.8
	(3.5)	(2.2)	(7.0)	(4.1)	(3.2)	(-1.8)	(-3.0)
Public+others	6.2	6.9	0.7	7.4	0.5	0.6	0.7
	(8.7)	(11.0)	(16.9)	(6.6)	(8.9)	(1.0)	(-1.5)
Heating degree days	2 386.8	2 517.1	563.1	2 597.8	155.4	298.2	522.3
	(3.9)	(5.5)	(21.7)	(3.2)	(63.8)	(-11.2)	(-7.2)
Cooling degree days	154.1	132.7	-	209.0	-	-	-
	(87.2)	(-13.9)	-	(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

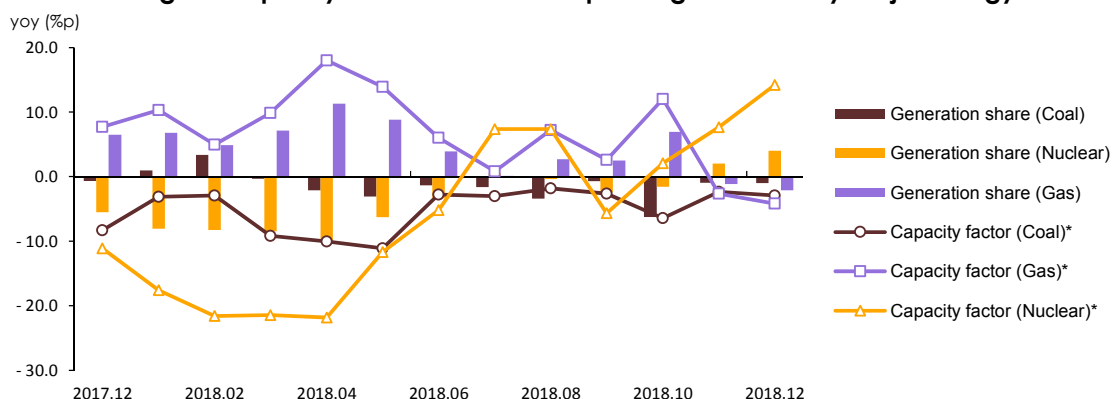
- **The total energy input for power generation fell by 0.1% year-on-year in December, as all major energy sources were less consumed except nuclear and renewable energy.**
 - The baseload generation posted a year-on-year growth, despite decreased coal-fired generation, as nuclear generation bounced back, while gas-fired generation declined due to falling electricity demand and growing role of baseload generation.
 - In terms of the power generation mix, coal represented the large share (41.1%), followed by gas (27.7%), nuclear (24.0%), renewable & others (6.6%) and petroleum (0.7%).
 - The average capacity factors at nuclear, coal and gas-fired power plants recorded 76.5%, 68.9% and 50.9% respectively.

► Energy consumption in the power generation sector

	2016	2017p		2018p			
			M12		M10	M11	M12
Input (Mtoe)	110.9	111.2	10.2	113.3	8.9	9.1	10.2
	(0.8)	(0.2)	(2.1)	(1.9)	(1.3)	(-1.3)	(-0.1)
Coal	49.2	52.8	4.9	54.2	3.9	4.2	4.8
	(-2.8)	(7.4)	(3.8)	(2.7)	(-13.1)	(-3.9)	(-2.1)
Oil	3.0	1.2	0.2	1.3	0.1	0.0	0.1
	(50.1)	(-59.5)	(-29.6)	(4.0)	(136.1)	(-35.6)	(-66.9)
Gas	20.5	20.7	2.5	23.9	1.8	1.8	2.2
	(6.3)	(0.9)	(25.6)	(15.6)	(46.5)	(-7.8)	(-10.2)
Nuclear	34.2	31.6	2.2	28.4	2.6	2.6	2.6
	(-1.7)	(-7.5)	(-16.5)	(-10.1)	(-0.2)	(7.7)	(19.1)
Hydro/other renewables	4.0	4.8	0.4	5.4	0.5	0.4	0.5
	(17.4)	(19.3)	(17.3)	(11.9)	(16.8)	(12.4)	(14.6)

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				2018			
			2Q	3Q	4Q		2Q	3Q	4Q
GDP (trillion won)	1 466.8 (2.8)	1 509.8 (2.9)	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	707.5 (2.2)	725.4 (2.5)	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	140.3 (4.7)	138.8 (-1.0)	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	211.5 (6.6)	233.4 (10.3)	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)	100.0	101.0	102.7	103.2	103.0	104.5	104.3	104.8	104.8
USD to KRW exchange rate (won)	1 131.0	1 160.8	1 129.4	1 132.3	1 107.5	1 100.2	1 079.0	1 121.5	1 127.4
Benchmark rate (%)	1.6	1.4	1.3	1.3	1.4	1.5	1.5	1.5	1.7
Coincident composite index (2015=100)	100.0	103.3	106.9	107.6	108.2	109.4	109.4	109.6	109.8
Mining & manufacturing production index (2015=100)	100.0	102.3	105.6	105.3	105.0	105.8	107.5	105.1	109.7
Manufacturing operation ratio index (2015=100)	100.0	98.9	99.4	98.9	97.1	98.4	100.6	97.0	101.3
Average temperature	13.4	13.6	18.1	24.1	7.3	13.0	17.8	24.8	7.4
- year-on-year difference	0.3	0.2	- 0.1	- 0.4	- 1.6	- 0.1	- 0.3	0.7	0.1
Heating degree days	2 298.0 (-4.9)	2 386.8 (3.9)	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	82.3 (41.4)	154.1 (87.2)	2.4 (300.0)	130.3 (-15.1)	- n.a	209.0 (57.5)	3.5 (45.8)	205.5 (57.7)	- n.a
Energy intensity	0.20 (-1.2)	0.20 (-0.5)	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)	16.7 (3.7)	18.0 (7.4)	4.3 (1.6)	4.5 (2.1)	4.8 (0.6)	18.0 (-1.2)	4.4 (2.6)	4.5 (-1.5)	4.5 (-5.5)
Electricity (MWh)	9.5 (0.7)	9.7 (2.3)	2.3 (0.7)	2.5 (3.4)	2.4 (2.2)	10.2 (3.2)	2.4 (3.3)	2.7 (4.5)	2.5 (1.0)
City gas (1 000 m ³)	0.4 (-6.4)	0.4 (1.8)	0.1 (5.0)	0.1 (4.8)	0.1 (10.7)	0.5 (6.8)	0.1 (7.6)	0.1 (8.1)	0.1 (2.0)
Total energy (toe)	5.6 (1.0)	5.7 (1.9)	1.3 (1.9)	1.4 (2.8)	1.5 (3.8)	6.0 (1.4)	1.4 (3.4)	1.5 (1.8)	1.5 (-1.5)

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)

	2014	2015	2017				2018			
				M10	M11	M12		M10	M11	M12
Industrial production index										
All industry	98.2 (1.4)	100.0 (1.9)	105.7 (2.6)	101.7 (-2.5)	108.2 (1.8)	115.9 (-0.5)	107.2 (1.4)	109.4 (7.6)	108.4 (0.2)	116.4 (0.4)
Mining & manufacturing	100.2 (0.2)	100.0 (-0.2)	104.6 (2.2)	100.2 (-5.2)	109.4 (-0.3)	105.5 (-5.0)	105.8 (1.2)	113.0 (12.8)	109.4 -	106.7 (1.1)
Iron & steel	102.0 (4.5)	100.0 (-2.0)	102.9 (1.7)	102.4 (-1.0)	101.5 (-0.7)	103.5 (-2.8)	99.8 (-3.1)	101.4 (-1.0)	100.3 (-1.2)	97.6 (-5.7)
Cement	83.7 (-3.4)	100.0 (19.5)	110.0 (1.7)	100.1 (-14.4)	119.2 (-5.2)	106.1 (-9.2)	100.1 (-9.0)	111.2 (11.1)	110.4 (-7.4)	91.2 (-14.0)
Basic compound	97.8 (0.8)	100.0 (2.2)	110.4 (5.5)	113.8 (11.5)	108.6 (3.5)	116.9 (4.4)	110.4 -	107.5 (-5.5)	101.7 (-6.4)	110.4 (-5.6)
Transport equipment	98.7 (2.7)	100.0 (1.3)	95.0 (-2.7)	80.4 (-17.0)	103.6 (-6.2)	82.2 (-29.4)	93.7 (-1.4)	104.6 (30.1)	106.7 (3.0)	98.9 (20.3)
Electric & electronic	103.4 (1.9)	100.0 (-3.3)	105.5 (2.6)	100.2 (-8.3)	117.7 (3.8)	110.3 (-3.2)	105.2 (-0.3)	111.9 (11.7)	115.6 (-1.8)	113.7 (3.1)
Service	97.2 (2.4)	100.0 (2.8)	104.5 (1.8)	102.2 (-1.3)	106.2 (2.8)	113.8 (0.8)	106.7 (2.1)	108.1 (5.8)	107.5 (1.2)	115.5 (1.5)
Operating ratio index										
Manufacturing	102.0 (-0.9)	100.0 (-2.0)	98.1 (-0.9)	93.0 (-6.9)	101.6 (-2.2)	96.8 (-6.6)	98.4 (0.3)	104.3 (12.2)	101.3 (-0.3)	98.2 (1.4)
Iron & steel	102.4 (3.5)	100.0 (-2.3)	102.3 (1.5)	101.9 (-0.9)	101.1 (-0.4)	102.5 (-2.9)	98.8 (-3.4)	100.6 (-1.3)	100.1 (-1.0)	97.3 (-5.1)
Cement	92.3 (-6.1)	100.0 (8.3)	107.4 (0.4)	97.5 (-15.3)	117.8 (-4.8)	104.9 (-8.6)	108.9 (1.4)	122.7 (25.8)	122.4 (3.9)	102.7 (-2.1)
Basic compound	101.8 (-1.8)	100.0 (-1.8)	107.1 (3.6)	109.6 (9.6)	104.7 (1.5)	112.0 (2.1)	104.9 (-2.0)	101.6 (-7.3)	96.2 (-8.1)	104.5 (-6.7)
Transport equipment	98.5 (1.4)	100.0 (1.5)	87.6 (-6.6)	73.9 (-20.2)	95.6 (-9.6)	75.6 (-31.2)	90.2 (2.9)	100.9 (36.5)	102.9 (7.6)	95.4 (26.2)
Electric & electronic	99.0 (0.1)	100.0 (1.0)	102.5 (0.7)	97.6 (-10.0)	114.7 (1.7)	104.8 (-6.4)	100.4 (-2.0)	105.7 (8.3)	109.9 (-4.2)	106.6 (1.7)

Note: p means provisional
Source: Monthly Energy Statistics

International Energy Prices

	2016	2017	2018				2019		
			M12	M1	M2		M12	M1	M2
Crude oil (USD/bbl)									
WTI	43.3 (-11.2)	51.0 (17.6)	58.0 (11.1)	63.7 (21.0)	62.2 (16.3)	64.8 (27.1)	49.0 (-15.5)	51.6 (-19.0)	55.0 (-11.6)
Dubai	41.2 (-18.8)	53.2 (28.9)	61.6 (18.3)	66.2 (23.3)	62.7 (15.3)	69.4 (30.5)	57.3 (-7.0)	59.1 (-10.7)	64.6 (3.0)
Brent	45.0 (-16.0)	54.8 (21.7)	64.1 (16.7)	69.1 (24.6)	65.7 (17.4)	71.5 (30.5)	57.7 (-10.0)	60.2 (-12.8)	64.4 (-2.0)
Unit value of import (C&F)	41.0 (-23.0)	53.3 (29.9)	62.1 (29.4)	64.9 (23.6)	66.9 (21.4)	71.4 (34.0)	66.6 (7.2)	61.9 (-4.5)	62.9 (-6.0)
LNG									
From Indonesia (USD/MMBTU)	7.4 (-32.6)	8.6 (16.7)	8.6 (13.9)	9.3 (16.2)	9.8 (16.8)	10.7 (24.0)	12.0 (38.7)	12.0 (28.5)	12.0 (22.2)
Unit value of import (USD/ton, CIF)	356.7 (-35.0)	416.3 (16.7)	430.0 (13.5)	453.2 (9.8)	517.3 (23.7)	526.3 (26.4)	574.2 (33.5)	587.0 (29.5)	612.7 (18.5)
Bituminous coal (USD/ton)									
From Australia	66.1 (12.2)	88.5 (33.9)	100.8 (14.4)	106.5 (27.1)	106.0 (32.5)	107.0 (20.9)	101.4 (0.6)	98.6 (-7.4)	95.4 (-9.9)
Unit value of import (CIF)	68.9 (-6.8)	104.3 (51.5)	101.2 (1.3)	111.3 (6.8)	111.0 (4.6)	113.6 (8.9)	114.0 (12.7)	106.3 (-4.4)	110.6 (0.4)
Petroleum product (USD/bbl)									
Gasoline	56.2 (-19.1)	68.1 (21.2)	75.4 (13.1)	78.7 (13.2)	77.0 (10.0)	79.9 (17.4)	60.0 (-20.4)	61.0 (-22.4)	66.3 (-13.9)
Kerosene	52.8 (-18.3)	65.3 (23.6)	75.5 (17.7)	81.0 (24.3)	80.0 (20.9)	84.8 (29.8)	71.1 (-5.8)	71.8 (-11.3)	77.9 (-2.7)
Diesel	53.0 (-20.4)	66.4 (25.2)	75.9 (18.2)	81.9 (24.1)	78.1 (15.9)	84.9 (27.9)	70.0 (-7.8)	72.6 (-11.3)	78.9 (1.0)
Bunker-C	35.4 (-21.6)	49.7 (40.2)	56.4 (12.2)	58.9 (15.9)	57.0 (15.0)	65.2 (31.3)	56.5 (0.2)	57.8 (-1.8)	63.9 (12.1)
Propane	323.3 (-22.3)	467.5 (44.6)	590.0 (55.3)	590.0 (35.6)	525.0 (2.9)	542.1 (16.0)	445.0 (-24.6)	430.0 (-27.1)	440.0 (-16.2)
Butane	355.8 (-18.5)	501.7 (41.0)	570.0 (35.7)	570.0 (15.2)	505.0 (-15.8)	539.2 (7.5)	415.0 (-27.2)	420.0 (-26.3)	470.0 (-6.9)
Naphtha	42.5 (-19.0)	53.8 (26.6)	65.0 (26.9)	66.1 (19.4)	61.2 (8.7)	67.0 (24.5)	51.7 (-20.4)	51.7 (-21.9)	56.4 (-7.9)

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	2017				2018p			
				M10	M11	M12		M10	M11	M12
Coal (Mton)	135.1	129.3	139.8	11.6	11.8	12.8	143.2	11.0	11.6	12.7
	(1.4)	(-4.3)	(8.1)	(11.1)	(6.3)	(7.4)	(2.6)	(-5.2)	(-1.4)	(-0.8)
- Coking coal excluded	98.3	95.8	103.5	8.5	8.8	9.6	106.4	7.9	8.6	9.6
	(2.9)	(-2.5)	(7.9)	(13.2)	(5.3)	(6.4)	(2.9)	(-7.5)	(-1.6)	(-1.0)
Oil (Mbbbl)	853.1	921.1	937.1	79.9	80.2	85.1	929.3	73.3	76.0	83.2
	(4.2)	(8.0)	(1.8)	(3.1)	(0.8)	(-0.9)	(-0.7)	(-8.3)	(-5.2)	(-2.2)
- Non-energy oil excluded	408.6	454.9	443.7	36.3	37.9	41.0	444.4	33.7	37.7	41.4
	(5.9)	(11.4)	(-2.3)	(-5.6)	(-3.6)	(-5.7)	(0.2)	(-7.0)	(-0.5)	(1.0)
LNG (Mton)	33.4	34.9	36.4	2.2	3.7	5.0	40.9	2.9	3.5	4.7
	(-8.7)	(4.4)	(3.5)	(-14.6)	(3.7)	(24.9)	(14.5)	(34.4)	(-4.5)	(-6.2)
Hydro (TWh)	5.8	6.6	7.0	0.6	0.5	0.5	7.3	0.5	0.5	0.6
	(-25.9)	(15.9)	(8.0)	(20.2)	(2.9)	(-2.8)	(5.6)	(-9.9)	(17.2)	(27.9)
Nuclear (TWh)	164.8	162.0	148.4	12.1	11.3	10.4	133.5	12.1	12.2	12.4
	(5.3)	(-0.7)	(-7.7)	(3.9)	(9.5)	(-17.3)	(-9.1)	(-0.2)	(7.7)	(19.1)
Others (Mtoe)	12.8	13.6	15.8	1.2	1.3	1.4	17.5	1.4	1.4	1.5
	(17.2)	(5.8)	(16.7)	(12.4)	(16.8)	(19.2)	(10.5)	(16.1)	(6.4)	(3.5)
TPES (Mtoe)	286.6	293.4	302.1	24.1	26.1	29.1	307.3	24.1	25.5	28.8
	(1.6)	(2.4)	(3.0)	(3.0)	(4.3)	(4.9)	(1.8)	(-0.1)	(-2.4)	(-0.9)
- Non-energy oil excluded	231.3	235.5	240.7	18.7	20.9	23.6	247.1	19.2	20.7	23.6
	(1.5)	(1.8)	(2.2)	(0.8)	(4.1)	(5.2)	(2.7)	(2.5)	(-0.5)	(0.2)
- Non-energy oil&coal excluded	205.5	212.0	215.4	16.6	18.7	21.4	221.4	17.0	18.7	21.4
	(1.9)	(3.1)	(1.6)	(0.3)	(3.6)	(4.7)	(2.8)	(2.6)	(-0.5)	(0.2)

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

Share of TPES by Sources

(unit: %)

	2015	2016	2017				2018p			
				M10	M11	M12		M10	M11	M12
Coal	29.7	27.7	28.5	29.8	27.7	27.1	28.7	28.2	27.9	27.1
- Coking coal excluded	20.7	19.7	20.2	20.9	19.6	19.5	20.3	19.2	19.7	19.5
Oil	38.1	40.1	39.5	42.1	39.3	37.4	38.4	38.8	38.0	36.8
- non-energy oil excluded	18.8	20.3	19.2	19.6	19.1	18.5	18.9	18.3	19.3	18.7
LNG	15.2	15.5	15.7	11.8	18.4	22.6	17.4	15.9	18.0	21.4
Hydro	0.4	0.5	0.5	0.5	0.4	0.3	0.5	0.5	0.4	0.4
Nuclear	12.1	11.6	10.5	10.7	9.2	7.6	9.3	10.7	10.2	9.2
Others	4.5	4.6	5.2	5.1	5.0	4.9	5.7	5.9	5.5	5.1
TPES	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: p means provisional
Source: Monthly energy statistics

Total Final Consumption (TFC)

(unit: Mtoe)

	2015	2016	2017				2018p			
				M10	M11	M12		M10	M11	M12
Industry	135.3 (-0.1)	137.8 (22.7)	144.3 (56.3)	12.1 (3.3)	12.4 (4.7)	12.9 (3.2)	146.3 (17.7)	12.0 (-0.2)	12.0 (-3.1)	12.8 (-1.1)
Transport	39.9 (7.1)	42.3 (73.0)	42.8 (16.2)	3.5 (0.1)	3.6 (2.5)	3.6 (-2.9)	42.6 (-5.3)	3.2 (-8.8)	3.7 (3.2)	3.8 (3.8)
Residential-commercial	37.0 (4.9)	38.7 (52.3)	39.9 (36.9)	2.5 (1.2)	3.6 (4.0)	5.2 (12.9)	41.7 (53.9)	2.7 (8.3)	3.5 (-3.4)	4.9 (-5.6)
Public	5.7 (8.3)	6.2 (104.3)	6.9 (141.7)	0.5 (6.1)	0.6 (14.0)	0.7 (16.9)	7.4 (81.0)	0.5 (8.9)	0.6 (1.0)	0.7 (-1.5)
TFC	217.9 (2.1)	225.1 (39.3)	233.9 (47.4)	18.5 (2.4)	20.2 (4.4)	22.4 (4.6)	237.9 (21.3)	18.5 (-0.4)	19.8 (-1.9)	22.1 (-1.3)
Coal (Mton)	52.6 (-0.8)	49.0 (-80.2)	50.4 (36.0)	4.0 (-9.4)	4.5 (-1.5)	4.5 (7.0)	51.5 (28.2)	4.4 (9.5)	4.6 (2.5)	4.5 (1.5)
Oil (Mbbbl)	838.5 (4.1)	899.3 (87.3)	926.6 (37.8)	79.5 (4.6)	79.5 (1.7)	83.4 (-0.3)	917.8 (-10.2)	72.6 (-8.8)	75.5 (-5.1)	82.4 (-1.1)
Electricity (TWh)	483.7 (1.3)	497.0 (33.5)	507.7 (25.6)	38.4 (-0.5)	41.3 (2.6)	45.8 (5.2)	526.1 (43.3)	40.0 (4.2)	41.9 (1.5)	45.3 (-1.0)
City gas (Bm ³)	20.8 (-6.2)	21.3 (17.2)	22.6 (69.0)	1.3 (0.8)	2.1 (8.2)	3.1 (18.0)	24.2 (99.6)	1.5 (22.3)	2.1 (1.3)	3.0 (-4.9)
Heat-others (1 000 toe)	12.6 (18.9)	13.1 (49.0)	15.0 (169.4)	1.1 (9.8)	1.3 (14.8)	1.6 (21.1)	16.4 (116.0)	1.2 (15.3)	1.3 (2.2)	1.6 (0.1)

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	2017				2018p			
				M10	M11	M12		M10	M11	M12
Industry	62.1	61.2	61.7	65.1	61.4	57.6	61.5	65.3	60.7	57.7
Transport	18.3	18.8	18.3	19.0	17.8	16.2	17.9	17.4	18.7	17.1
Residential-commercial	17.0	17.2	17.1	13.3	17.9	23.0	17.5	14.4	17.6	22.0
Public	2.6	2.8	3.0	2.6	2.9	3.2	3.1	2.9	3.0	3.2
Final energy	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Coal	16.0	14.3	14.3	14.6	14.4	13.2	14.3	15.7	15.0	13.5
Oil	49.0	50.8	50.4	54.5	50.4	47.4	49.0	50.0	48.7	47.4
Electricity	19.1	19.0	18.7	17.8	17.6	17.6	19.0	18.6	18.2	17.6
City gas	10.1	10.1	10.3	7.4	11.0	14.7	10.9	9.0	11.4	14.2
Heat-others	5.8	5.8	6.4	5.7	6.5	7.1	6.9	6.6	6.7	7.2

Note: p means provisional
Source: Monthly energy statistics

Statistics on Energy Production Facilities

	2016	2017				2018			
			M10	M11	M12		M10	M11	M12
Total capacity (GW)	105.9	116.9 (10.4)	115.9 (12.4)	116.3 (12.6)	116.9 (10.4)	119.1 (1.9)	118.0 (1.8)	118.3 (1.7)	119.1 (1.9)
Nuclear	23.1	22.5 (-2.5)	22.5 (3.7)	22.5 (3.7)	22.5 (-2.5)	21.9 (-3.0)	21.9 (-3.0)	21.9 (-3.0)	21.9 (-3.0)
Bituminous coal	30.9	36.1 (16.8)	36.2 (21.2)	36.2 (21.2)	36.1 (16.8)	36.4 (0.7)	36.4 (0.4)	36.4 (0.4)	36.4 (0.7)
Gas	32.6 n.a	37.9 (16.0)	37.1 (13.7)	37.5 (14.9)	37.9 (16.0)	37.9 (-0.0)	37.9 (2.0)	37.9 (1.0)	37.9 (-0.0)
Refinery capacity (mil BPSD)	3.1 -	3.1 (0.2)	3.1 (0.2)	3.1 (0.2)	3.1 (0.2)	3.1 (1.3)	3.1 (1.3)	3.1 (1.3)	3.1 (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			
			M10	M11	M12		M10	M11	M12
The number of household demanding city gas (mil)	18.0 (3.4)	18.6 (3.3)	18.3 (3.1)	18.4 (3.0)	18.6 (3.3)	19.1 (3.1)	18.9 (3.3)	19.0 (3.2)	19.1 (3.1)
Registered cars (mil)	21.8 (3.9)	22.5 (3.3)	22.4 (3.4)	22.5 (3.4)	22.5 (3.3)	23.2 (3.0)	23.1 (3.0)	23.2 (3.0)	23.2 (3.0)
- gasoline	10.1 (2.9)	10.4 (2.7)	10.3 (2.9)	10.4 (2.9)	10.4 (2.7)	10.6 (2.5)	10.6 (2.5)	10.6 (2.5)	10.6 (2.5)
- diesel	9.2 (6.4)	9.6 (4.4)	9.5 (4.7)	9.5 (4.6)	9.6 (4.4)	9.9 (3.7)	9.9 (3.8)	9.9 (3.7)	9.9 (3.7)
- LPG	2.2 (-4.0)	2.1 (-2.9)	2.1 (-3.0)	2.1 (-2.9)	2.1 (-2.9)	2.0 (-3.3)	2.0 (-3.3)	2.0 (-3.3)	2.0 (-3.3)
- hybrid	0.2 (37.6)	0.3 (37.6)	0.3 (36.2)	0.3 (37.6)	0.3 (37.6)	0.4 (31.0)	0.4 (31.3)	0.4 (31.2)	0.4 (31.0)

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

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MONTHLY **KOREA ENERGY TRENDS** (2019, NO.84)



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

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

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

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