

KEEI

MONTHLY KOREA ENERGY TRENDS



COAL -18.3%
PETROLEUM -10.6%
LNG 1.4%
NUCLEAR 37.4%
NEW & RENEWABLE -3.1%
FEBRUARY, 2021



This publication is derived from Energy Demand & Supply
Statistics and Energy Price Statistics issued until November
2020.



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1. The Economy and the Industry

- **The mining & manufacturing production index grew by 0.5% year-on-year, with the semiconductor sector leading the growth, although the production index of basic chemical materials declined.**
 - The semiconductor production index rose by 8.5% amid strong export demand, driving the growth in the mining & manufacturing production index. Its export value increased by 16.4% due to a rise in overall demand for memory and system semiconductors.
 - The production index of basic chemical materials dropped by 16.8% year-on-year, as the production of major basic petrochemicals slowed down.
 - The iron & steel production index was down 1.6% year-on-year, owing to the sluggish auto industry, which is a major source of demand, as well as weak export demand.
 - The automobile production index decreased from the same month last year, which was affected by labor-management conflicts at General Motors Korea and Kia Motors, even though domestic sales grew by 5.1% following a cut in special consumption tax and the launch of a new model.
- **The service production index fell by 1.4% year-on-year (in November) due to poor performance of the businesses that provide face-to-face services.**

► Major economic and industrial indicators

	2019p	2020p					
		M1~11	M11	M1~11	M9	M10	M11
GDP (trillion won)	1 849.0 (2.0)	1 361.5 (1.9)	-	1 349.8 (-0.9)	457.9 (-1.1)	-	-
Total export (\$billion, customs clearance basis)	539.9 (-10.7)	494.2 (-11.2)	44.0 (-14.5)	461.4 (-6.7)	47.9 (7.2)	44.9 (-3.8)	45.8 (4.1)
Industrial production index (2015=100)	106.3 (-0.0)	105.5 (-0.6)	111.1 (1.3)	105.6 (0.0)	112.6 (8.2)	109.3 (-2.1)	111.7 (0.5)
Semi-conductors	188.1 (11.7)	184.1 (9.5)	229.3 (32.1)	229.1 (24.5)	255.8 (25.9)	241.5 (13.1)	248.8 (8.5)
Basic chemical products	107.5 (-2.6)	107.0 (-3.1)	101.9 (0.2)	100.4 (-6.1)	103.8 (-6.7)	101.5 (-3.4)	84.8 (-16.8)
Iron&Steel	98.3 (-2.2)	98.4 (-2.3)	97.2 (-3.8)	91.4 (-7.1)	92.8 (-0.4)	94.7 (-3.7)	95.7 (-1.5)
Cars	93.1 (-0.9)	92.9 (-0.6)	94.9 (-11.3)	83.1 (-10.5)	96.1 (15.8)	93.8 (-5.2)	93.4 (-1.6)
Service production index (2015=100)	108.4 (1.4)	107.4 (1.3)	110.3 (2.4)	105.3 (-2.0)	106.9 (0.1)	106.4 (-2.5)	108.8 (-1.4)
Wholesale & Retail	104.6 (-0.4)	104.2 (-0.4)	108.7 (-0.3)	101.3 (-2.7)	106.0 (3.1)	104.0 (-1.8)	106.5 (-2.0)
Restaurant & Accommodation	97.5 (-1.0)	96.4 (-1.2)	97.3 (0.2)	80.7 (-16.3)	72.1 (-21.2)	83.3 (-15.3)	80.7 (-17.1)

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

Source: Korea International Trade Association, Korea Statistical Information Service

2. Energy Prices¹

Global Energy Prices

- **Global oil price was up 5.8% in November from the previous month following the news on the development of vaccines for COVID-19, although it was still down 29.2% on a year-on-year basis.**
 - Global oil price increased amid the vaccine related news, chances of extended oil output reduction in OPEC+ countries and lower uncertainty after Joe Biden's victory in the US presidential election. However, such increase was partly offset by weak crude oil demand in the midst of the COVID-19 pandemic.

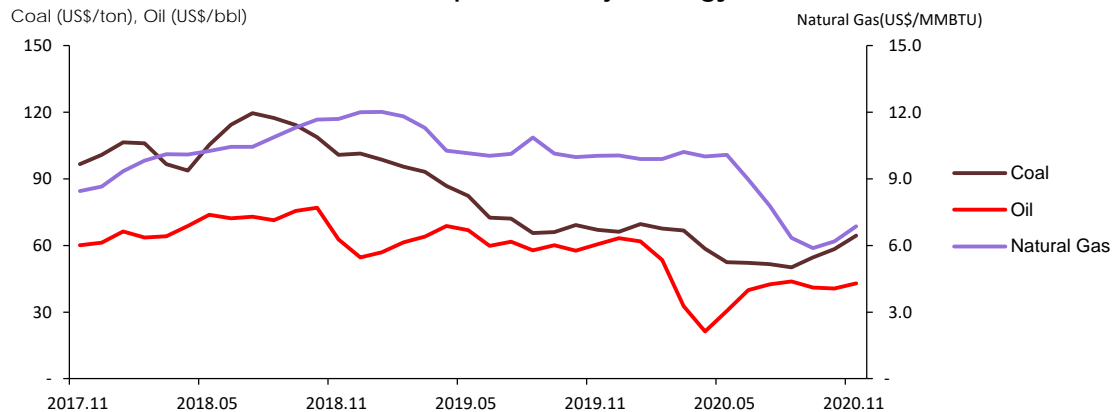
► Global energy prices

	2018	2019				2020		
			M9	M10	M11	M9	M10	M11
Crude oil (US\$/bbl)	68.6 (29.5)	61.6 (-10.2)	60.1 (-20.3)	57.7 (-25.0)	60.6 (-3.4)	41.0 (-31.8)	40.6 (-29.6)	42.9 (-29.2)
Natural gas (US\$/MMBTU)	10.7 (24.0)	10.6 (-1.1)	10.1 (-10.3)	10.0 (-14.4)	10.0 (-14.2)	5.9 (-42.0)	6.2 (-38.1)	6.9 (-31.7)
Coal (US\$/ton)	107.0 (20.9)	77.9 (-27.3)	66.0 (-42.2)	69.2 (-36.4)	67.0 (-33.5)	54.6 (-17.2)	58.4 (-15.6)	64.4 (-3.9)

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)

► Global prices of major energy sources



¹ This report presents the energy price trend of the month for which energy consumed data is available. For more on the latest price trend, see *Energy Supply and Demand Brief*.

Domestic energy prices

□ Gasoline and diesel prices decreased slightly in November than a month ago. On a year-on-year basis, however, it continued to fall by over 10%.

- The prices of gasoline and diesel at gas stations fell by 1.0% and 1.2% respectively in November from the previous month, which was affected by global oil price decrease in October due to the impact of COVID-19. On a year-on-year basis, it continued to fall by 14.1% and 18.9% respectively.
- Bunker-C oil price dropped by 2.4% in November compared to the prior month, and it fell by 26.1% year-on-year, as its demand has been weak following the International Maritime Organization's environmental regulation.

□ Propane and butane prices remained at the previous month's level in November, and went down by 3.0% and 4.9% respectively on a year-on-year basis.

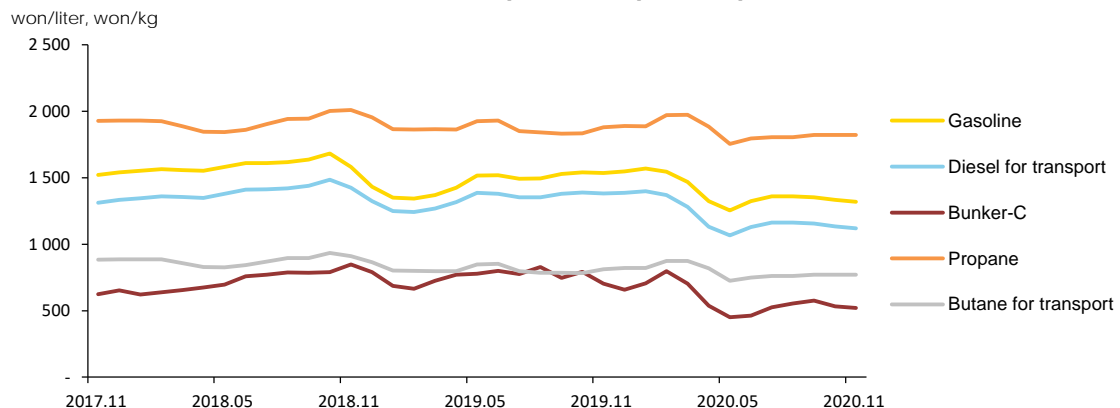
- Domestic prices of propane and butane were flat in November, even though Saudi Aramco's propane price increased in the previous month, as domestic LPG suppliers didn't adjust prices for two months to make them competitive with other fuels.

► Domestic petroleum product prices

	2018	2019	2020			2020		
			M9	M10	M11	M9	M10	M11
Gasoline (won/liter)	1 581.4 (6.0)	1 472.3 (-6.9)	1 529.3 (-6.6)	1 540.5 (-8.4)	1 535.7 (-2.9)	1 352.5 (-11.6)	1 333.3 (-13.5)	1 319.6 (-14.1)
Diesel for transport (won/liter)	1 392.0 (8.5)	1 340.4 (-3.7)	1 379.8 (-4.1)	1 387.7 (-6.6)	1 380.5 (-3.1)	1 154.5 (-16.3)	1 134.0 (-18.3)	1 119.6 (-18.9)
Bunker-C (won/liter)	735.2 (18.7)	744.2 (1.2)	747.4 (-4.7)	791.4 (0.1)	703.5 (-16.9)	575.2 (-23.0)	533.0 (-32.7)	520.0 (-26.1)
Propane (won/kg)	1 920.5 (4.7)	1 869.6 (-2.7)	1 831.9 (-5.8)	1 833.6 (-8.4)	1 879.3 (-6.4)	1 821.0 (-0.6)	1 822.1 (-0.6)	1 822.2 (-3.0)
Butane for transport (won/liter)	874.6 (5.8)	806.2 (-7.8)	784.7 (-12.4)	783.7 (-16.1)	810.5 (-11.0)	771.5 (-1.7)	771.4 (-1.6)	770.6 (-4.9)

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

► Domestic petroleum product prices



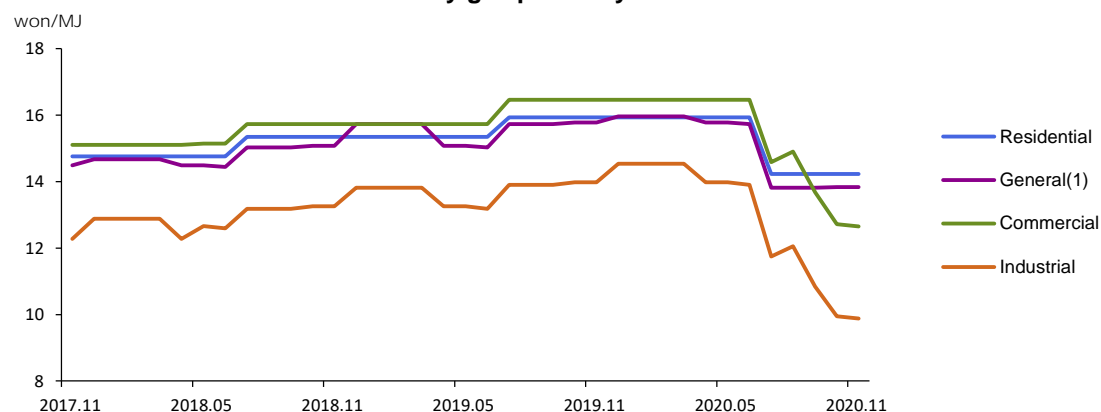
- **City gas price for commercial and industrial use went down by 0.5% and 0.7% respectively, and that for residential use remained flat compared to the prior month.**

- The prices of city gas for commercial and industrial use, that are subject to a monthly adjustment, fell by 8.2% and 10.1% respectively from the prior month owing to the global oil price decrease and supply from the spot market (Oct), while the price for residential use was the same as the previous month.

- **Electricity prices² for general and industrial use increased in November after they were adjusted for the winter season, while residential electricity price was the same as the previous month.**

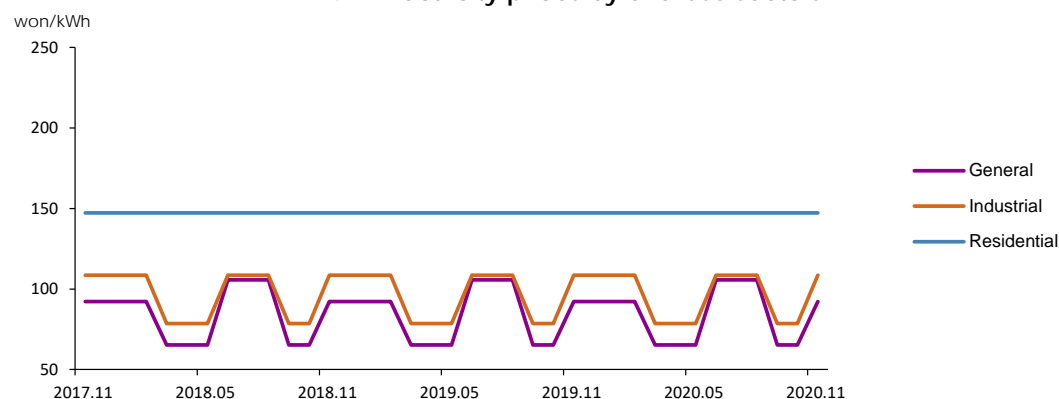
- Electricity prices for general and industrial use that are subject to time-of-use pricing rose by 41.6% and 38.2% respectively in November, after the price adjustment from spring/autumn (March-May, Sept-Oct) to winter (Nov-Feb).
- Electricity prices will be adjusted every three months starting from January 2021 with the introduction of the fuel cost pass-through scheme.

► City gas prices by end-use sectors



Source: Seoulgas

► Electricity prices by end-use sectors



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 fell by 10.6% year-on-year in November, as the import of all energy resources declined except anthracite.**
 - The import volume of crude oil and petroleum products fell by 25.3% and 16.9% year-on-year, and especially the naphtha import dropped by 32.7%, continuing the steep downward trend of the previous month.
 - The import volume of bituminous coal declined by 15.2% in November, as its demand fell by 25.2% in the power generation sector owing to a sharp drop in coal-fired generation.
 - The import volume of gas went down by 5.5% on a year-on-year basis, because gas use for power generation that had been growing by double digits grew by mere 1.4%, and its use for city gas production also grew more slowly.
- **Renewable & other energy production dropped by 3.1% year-on-year (in November) despite a steady increase in renewable generation, because the final use of renewable & other energy resources declined.**

► Import and domestic production of energy

	2019p			2020p			
		M1~11	M11	M1~11	M9	M10	M11
Import volume							
Crude oil (Mbbl)	1 071.9	982.5	93.1	895.8	79.8	82.1	69.5
	(-4.0)	(-4.0)	(-2.3)	(-8.8)	(0.6)	(-0.2)	(-25.3)
Petroleum product (Mbbl)	352.1	316.1	28.6	319.0	29.6	20.3	23.7
	(3.1)	(2.1)	(0.1)	(0.9)	(-8.5)	(-27.6)	(-16.9)
Bituminous coal (Mton)	132.7	121.1	11.1	105.3	11.0	9.5	9.4
	(0.9)	(-0.1)	(-5.1)	(-13.1)	(-0.5)	(-23.7)	(-15.2)
Anthracite (Mton)	6.9	6.3	0.4	5.5	0.6	0.4	0.4
	(-16.4)	(-15.5)	(-53.2)	(-12.4)	(182.6)	(-28.8)	(0.4)
LNG (Mton)	40.7	36.0	3.8	35.7	2.9	3.8	3.6
	(-7.4)	(-8.5)	(-2.8)	(-0.7)	(18.2)	(20.5)	(-5.5)
Import volume (Mtoe)	349.2	316.6	29.2	296.4	26.6	26.0	26.1
	(-1.5)	(-1.9)	(-4.6)	(-6.4)	(-4.4)	(-8.5)	(-10.6)
Import value (billion US\$, CIF)	126.7	115.4	10.4	78.7	6.5	6.3	5.8
	(-13.2)	(-13.6)	(-23.9)	(-31.8)	(-27.8)	(-35.7)	(-43.9)
Energy share of total import value (%)	25.2	25.2	25.6	18.5	16.6	16.1	14.6
Foreign energy dependence (%)*	93.5	93.4	93.8	93.1	92.0	93.2	93.7
Domestic production							
Hydropower (TWh)	6.2	5.7	0.5	6.7	0.9	0.5	0.4
	(-14.1)	(-13.8)	(-15.0)	(15.8)	(55.6)	(-13.2)	(-5.8)
Anthracite (Mton)	1.1	1.0	0.1	0.9	0.1	0.1	0.1
	(-9.7)	(-11.4)	-	(-5.7)	(-3.4)	(-10.3)	(-10.4)
Natural gas (Mton)	0.2	0.2	0.0	0.1	0.0	-	0.0
	(-15.2)	(-15.2)	(-30.1)	(-27.8)	(-93.3)	(-100.0)	(-16.1)
Renewable energy (Mtoe)	17.7	16.2	1.4	16.2	1.6	1.4	1.3
	(3.3)	(3.6)	(-0.8)	(-0.4)	(14.8)	(-2.3)	(-3.1)

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

4. Energy Consumption

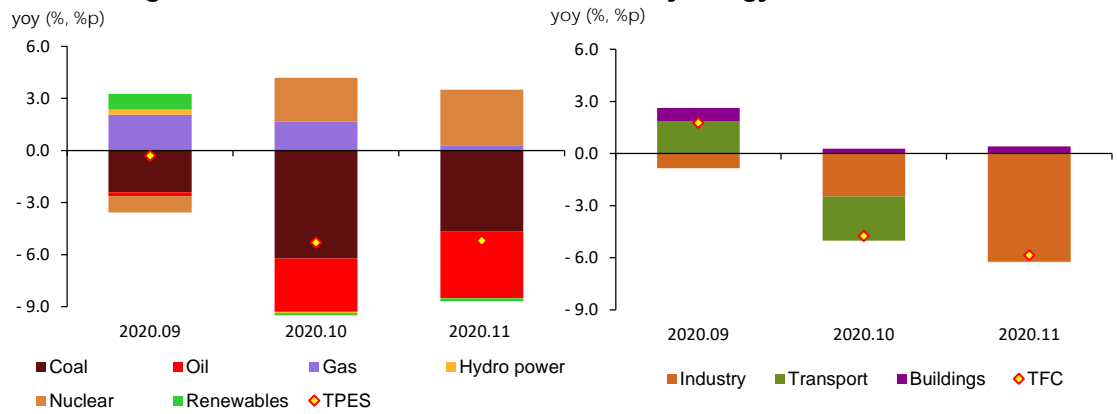
- **Total Primary Energy Supply (“TPES”) fell by 5.2% year-on-year in November, led by a sharp drop in petroleum use.**
 - Petroleum use dropped by 10.6% year-on-year, as demand for naphtha that is used as feedstock plunged due to the shutdown of two naphtha cracking centers following an accident. In the transport sector, however, petroleum use was flat despite stronger social distancing rules.
 - Coal use went down by 18.3% year-on-year, because coal-fired generation continued to drop by over 20% from the same month last year.
 - Nuclear generation surged by 37.4% year-on-year, as its capacity factor rose to 83.9%.
 - Gas use went up by 1.4% year-on-year, as LNG use increased by 1.4% in the power generation sector with 1.1% growth in gas-fired generation, and as the use of LNG for city gas production rose by 1.4% as well.
- **Total Final Consumption (“TFC”) posted a year-on-year drop of 5.9% (in November), as the use of naphtha as feedstock fell sharply in the industrial sector.**
 - Industrial energy use declined by 10.0% year-on-year, with the petrochemical sector (-17.4%) leading the downward trend, because the use of naphtha that accounts for a large share of energy mix fell by nearly 25% after a fire at naphtha cracking centers.
 - Transport energy use fell by mere 0.2% year-on-year despite enhanced social distancing measures (1.5), as energy use rose by 5.0% in the road transport sector, though it continued to decrease by over 50% in the aviation sector.
 - Energy use in buildings rose by 2.1% year-on-year, led by residential buildings (3.6%), as people spent more time at home.

► Energy consumption

	2019p			2020p			
		M1~11	M11	M1~11	M9	M10	M11
TPES (Mtoe)	303.1	275.1	25.3	262.4	23.0	22.8	24.0
	(-1.5)	(-1.3)	(-1.2)	(-4.6)	(-0.3)	(-5.3)	(-5.2)
- Non-energy oil&coal excluded	219.6	198.9	18.3	189.8	16.4	16.4	18.0
	(-1.5)	(-1.2)	(-3.1)	(-4.6)	(2.2)	(-6.0)	(-1.4)
TFC (Mtoe)	231.4	209.8	19.5	201.0	17.7	17.3	18.3
	(-0.9)	(-0.9)	(0.0)	(-4.2)	(1.8)	(-4.7)	(-5.9)

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

► The growth rates of TPES & TFC and contribution by energy sources and end-use sectors



5. Coal

□ **Coal use fell by 18.3% year-on-year in November, which was affected by output reduction in large coal-consuming industries and falling demand in the power generation sector.**

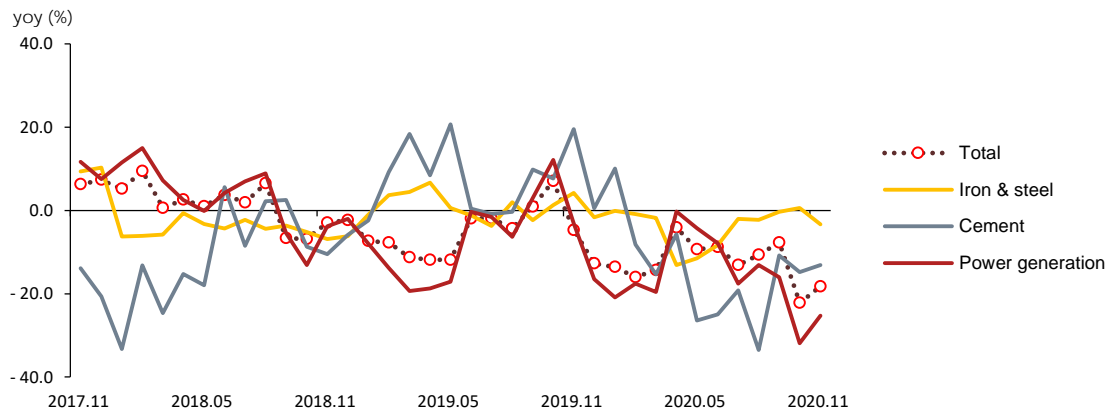
- Industrial coal use decreased by 5.5% year-on-year, as demand for bituminous coal declined in major coal-consuming sectors such as the iron & steel and cement industries.
- Coal use fell by 25.2% in the power generation sector, as coal-fired generation fell by 23.6%, because the power generation from nuclear energy that has priority dispatch on the grid ahead of coal rose dramatically, while electricity use grew by mere 0.1% in November.

► Coal consumption

	2019p			2020p			
		M1~11	M11	M1~11	M9	M10	M11
Coal (Mton)	133.0	122.1	10.9	106.5	10.6	9.0	8.9
	(-5.7)	(-5.0)	(-4.7)	(-12.7)	(-7.7)	(-22.2)	(-18.3)
Industry	47.6	43.6	3.9	41.1	3.9	3.9	3.7
	(-1.7)	(-1.4)	(-6.7)	(-5.8)	(11.2)	(-4.9)	(-5.5)
-Coking-coal	35.0	32.0	2.9	30.8	2.9	3.0	2.8
	(1.0)	(1.2)	(4.2)	(-3.9)	(-0.3)	(0.6)	(-3.3)
Buildings	0.6	0.6	0.1	0.4	0.0	0.1	0.1
	(-29.3)	(-29.7)	(-21.6)	(-24.9)	(-27.8)	(-11.2)	(-37.3)
Power generation	84.8	78.0	6.8	65.1	6.7	5.0	5.1
	(-7.6)	(-6.7)	(-3.1)	(-16.6)	(-16.0)	(-31.9)	(-25.2)

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

► The growth rate of coal consumption by use



6. Petroleum

□ Petroleum use dropped by 10.6% year-on-year in November due to a sharp drop in industrial naphtha use.

- Industrial petroleum use slid by 5.0% year-on-year, as naphtha use plunged following an accident at naphtha cracking centers.
- Petroleum use remained flat in the transport sector compared to the same month last year, as stronger social distancing rules had limited impact on travel demand.
- Petroleum use in buildings rose by 2.1% year-on-year despite social distancing measures, as it grew by 15.8% in commercial buildings.

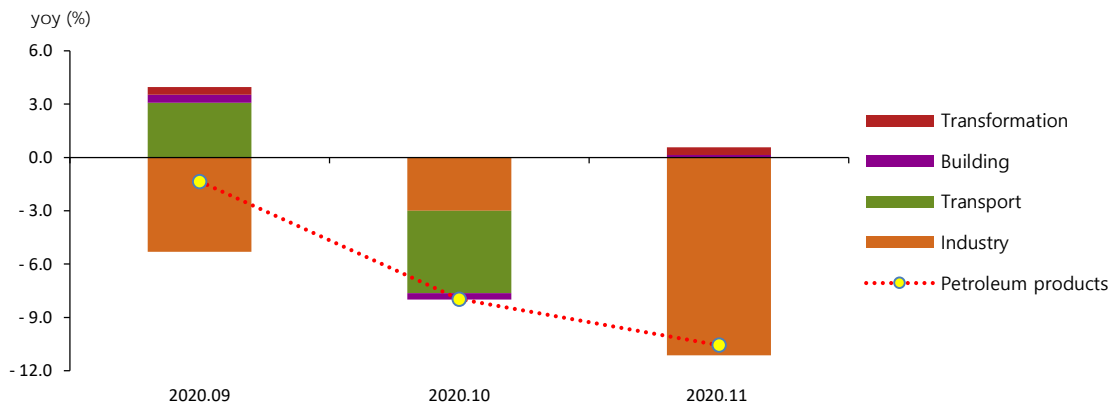
► Petroleum product consumption by end-use sectors

	2019p			2020p			
		M1~11	M11	M1~11	M9	M10	M11
Petroleum (Mbbbl)	927.1	842.0	79.4	797.6	71.3	69.7	71.0
	(-0.5)	(-0.8)	(4.3)	(-5.3)	(-1.4)	(-8.0)	(-10.6)
Industry	566.2	514.3	48.7	497.3	44.7	43.5	39.8
	(0.4)	(-0.1)	(9.7)	(-3.3)	(-7.9)	(-5.0)	(-18.2)
-Naphtha	438.6	400.2	36.3	371.6	33.4	31.0	27.4
	(-2.8)	(-3.0)	(3.5)	(-7.1)	(-10.5)	(-9.6)	(-24.7)
Transport	303.2	276.7	25.6	251.1	22.6	22.3	25.6
	(0.3)	(0.4)	(-2.9)	(-9.3)	(10.9)	(-13.6)	(0.0)
Buildings	49.1	43.4	4.6	44.0	3.3	3.5	4.7
	(-8.6)	(-7.9)	(-6.0)	(1.4)	(10.8)	(-7.1)	(2.1)
Power generation	8.6	7.6	0.5	5.3	0.7	0.4	0.9
	(-26.9)	(-30.9)	(1.2)	(-30.4)	(91.1)	(3.1)	(64.6)

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

Source: Monthly Energy Statistics

► The growth rates of petroleum product consumption & contribution(%p) by end-use sectors



7. Gas

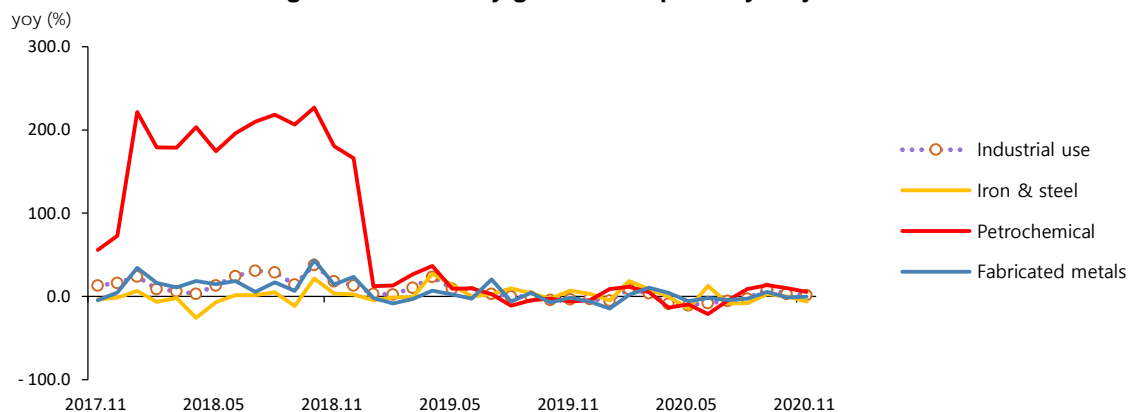
- **Natural gas use was up 1.4% year-on-year in November, as its demand increased in the power generation sector owing to the growing gas-fired generation.**
 - Gas use for power generation rose by 1.4% amid growing power generation (1.1%) at gas-fired peaking plants, as baseload generation fell by 2.2%, and electricity use remained almost flat (0.1%) in November on a year-on-year basis.
- **The final use of gas went up by 2.9% year-on-year (in November), led by the petrochemical and residential sectors.**
 - Industrial gas use rose by 1.7%, despite a drop in industrial energy use (-10.0%), because gas use grew by 5.5% in the petrochemical sector as a result of increased volume of directly imported gas.
 - Gas use in buildings went up by 4.9% year-on-year due to growing demand in residential buildings, though it declined in commercial buildings.

► Natural gas and city gas consumption

	2019p	M1~11		2020p			
			M11	M1~11	M9	M10	M11
LNG (Mton)	41.0	36.0	3.7	36.1	2.8	3.1	3.8
	(-3.1)	(-3.8)	(1.8)	(0.2)	(15.0)	(11.1)	(1.4)
Power generation	17.9	15.9	1.5	16.5	1.6	1.5	1.6
	(-3.0)	(-5.3)	(10.6)	(3.6)	(27.4)	(16.5)	(1.4)
City gas production	21.0	18.3	2.0	18.0	1.1	1.5	2.0
	(-1.5)	(-0.7)	(-1.9)	(-1.8)	(5.8)	(8.9)	(1.4)
City gas (bm³)	26.1	23.0	2.2	22.6	1.4	1.7	2.3
	(-0.6)	(-0.2)	(-4.5)	(-1.7)	(4.0)	(6.6)	(2.9)
Industry	11.1	10.1	1.0	9.9	0.9	0.9	1.0
	(3.5)	(4.2)	(-3.3)	(-1.3)	(9.1)	(3.4)	(1.7)
Buildings	13.8	11.8	1.2	11.7	0.4	0.7	1.2
	(-3.6)	(-3.6)	(-5.6)	(-1.4)	(-1.9)	(14.4)	(4.9)

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

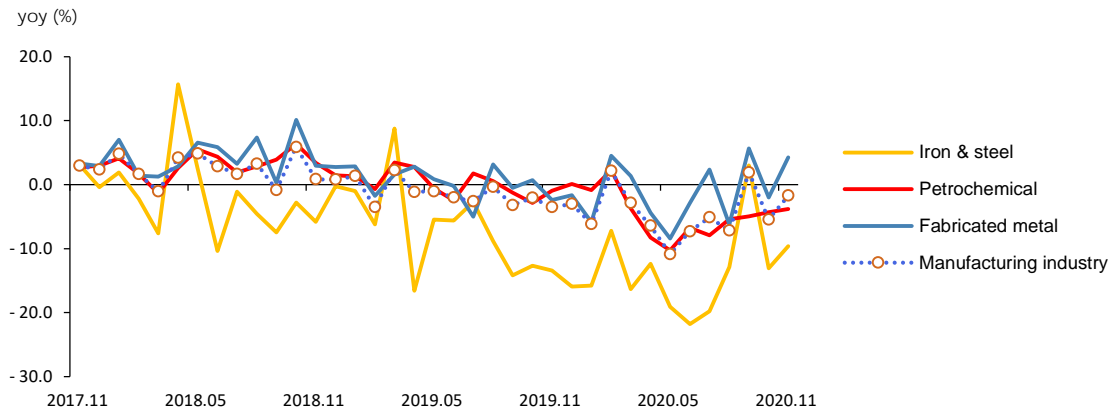
- **Electricity use remained flat in November on a year-on-year basis, even though it declined in the industrial sector, as it surged in the residential sector.**
 - Industrial electricity use continued to decline due to the growing impact of repeated COVID-19 outbreaks, though the pace of the decline slowed, affected by a slight increase in the mining & manufacturing production index.
 - Electricity use in buildings posted a year-on-year growth of 2.1% with the residential sector (5.5%) leading the growth, although it grew by mere 0.7% in the commercial sector that takes a large share of buildings total electricity use.

► Electricity consumption by end-use sectors

	2019p	2020p		2020p			
		M1~11	M11	M1~11	M9	M10	M11
Electricity (TWh)	520.5	475.8	41.1	464.2	45.1	39.1	41.1
	(-1.1)	(-1.1)	(-1.9)	(-2.4)	(3.3)	(-3.8)	(0.1)
Industry	279.8	256.1	22.8	245.0	23.2	21.5	22.4
	(-1.4)	(-1.2)	(-3.6)	(-4.4)	(2.1)	(-5.1)	(-1.5)
Transport	2.9	2.7	0.2	2.5	0.2	0.2	0.2
	(-2.0)	(-1.5)	(-6.6)	(-7.5)	(-7.4)	(-4.8)	(-1.4)
Buildings	237.8	217.0	18.1	216.8	21.7	17.3	18.5
	(-0.7)	(-0.8)	(0.4)	(-0.1)	(4.9)	(-2.2)	(2.1)
Residential	70.5	64.6	5.5	67.9	7.6	5.6	5.8
	(-0.3)	(-0.5)	(1.4)	(5.0)	(15.0)	(3.4)	(5.5)
Commercial	135.2	123.1	10.1	120.6	11.3	9.4	10.2
	(-0.9)	(-1.1)	(-0.3)	(-2.1)	(-0.0)	(-5.0)	(0.7)

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

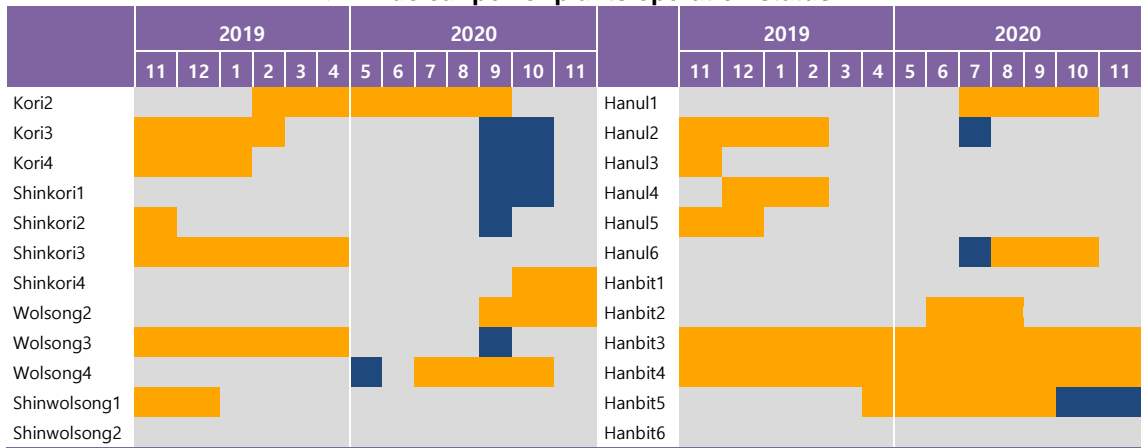
► The growth rate of electricity consumption in manufacturing industry



9. Nuclear

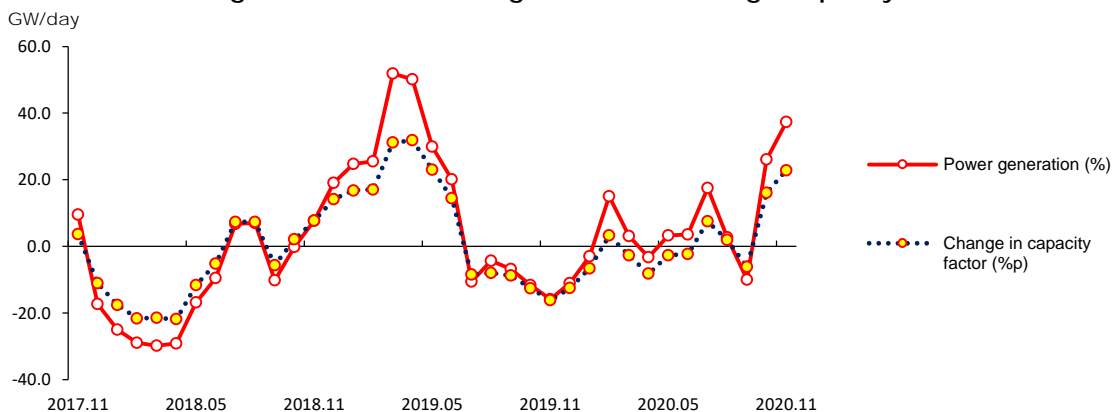
- The total nuclear generation was up 37.4% year-on-year in November, as the capacity factor increased as a result of a drop in preventive maintenance work.
 - The average capacity factor at nuclear power plants fell to slightly over 60% in 2H 2019 partly because of scheduled maintenance, and then it grew back to 83.9% in November 2020, as several reactors were back online after the maintenance work was completed.
 - As the nuclear generation increased, its share of the total power generation went up by 8.6%p year-on-year to 31.2%.

► Nuclear power plants operation status



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

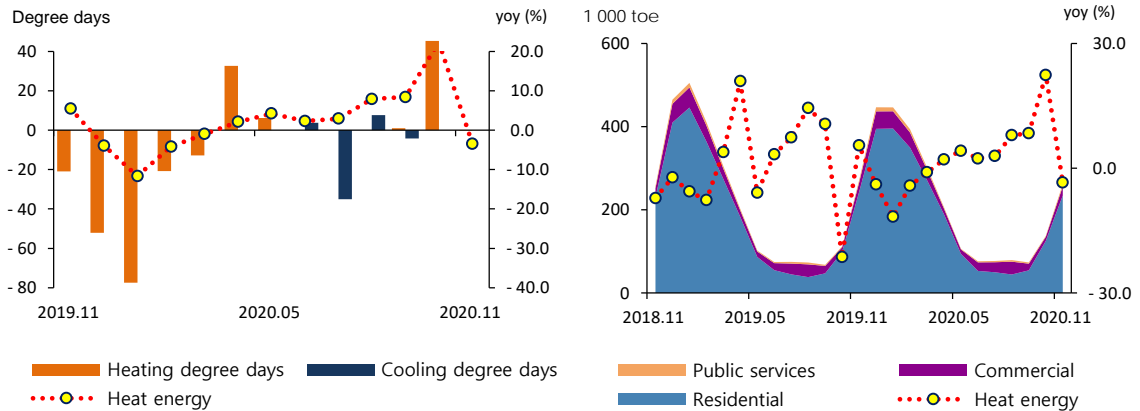
► The growth rate of nuclear generation & average capacity factor



10. Heat and Renewable energy

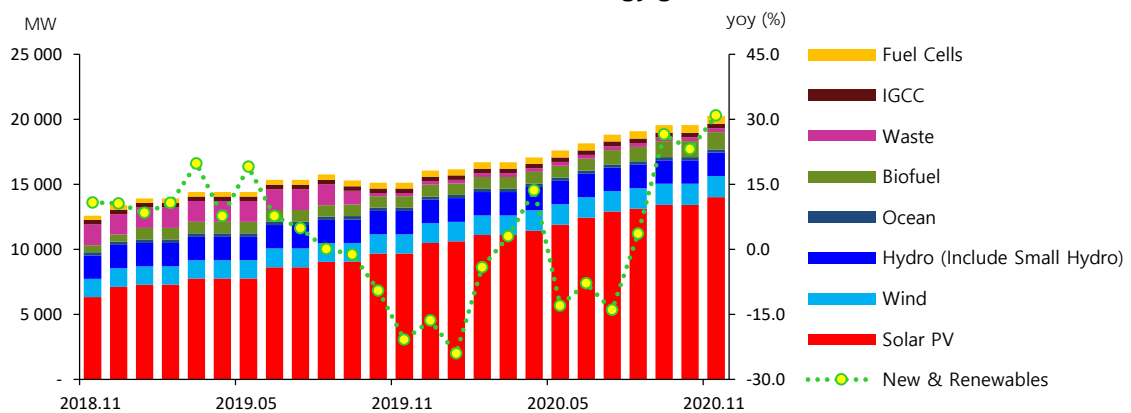
- Heat energy use dropped by 3.5% year-on-year in November due to the high base effect of the same month last year.
- Renewable energy generation³ was up 30.9% year-on-year (in November), mostly from solar PV, fuel cell and IGCC power plants.
 - Power generation from solar PV and fuel cells continued to increase rapidly, following the addition of new installed capacity, and power generation from IGCC power plants surged due to base effect.
 - Non-renewable waste energy generation plunged (-85.0%), as Hyundai Green Power changed its business (power generation -> iron & steel) in October 2020 and therefore was excluded from the power generation statistics.

► Heat energy consumption by sector and the growth rate of total heat energy consumption



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.).

► New & renewable energy generation capacity by source and the growth rate of total new & renewable energy generation



³ Renewable energy installed capacity and power generation data was derived from KEPCO's Monthly Electricity Statistics and renewable energy information. In Energy Balance, renewable and other energy generation excludes hydropower and includes non-renewable waste energy.

11. Industry

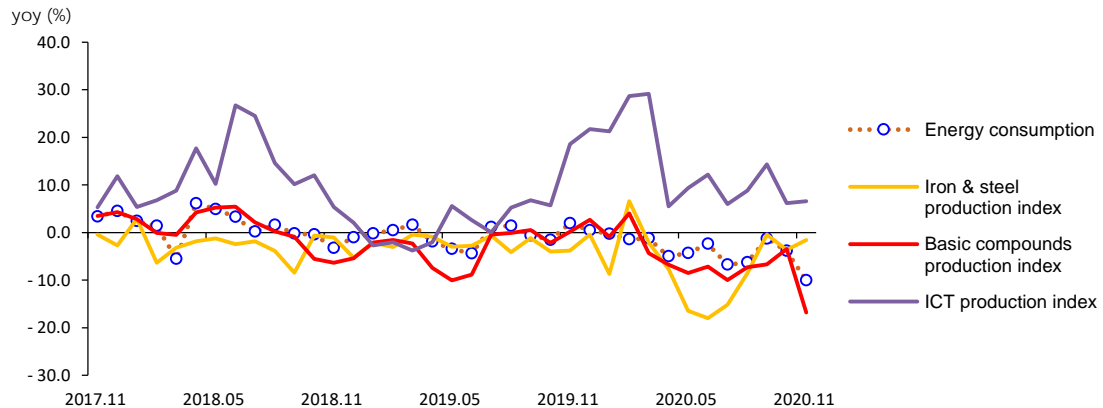
- Industrial energy use dropped by 10.0% year-on-year in November owing to a sharp drop in naphtha use, which accounts for a large portion of the total industrial energy use.
 - Industrial energy use declined amid the overall slowdown in production activities, especially in the petrochemical sector where naphtha use plunged.

► Industrial energy consumption

	2019p			2020p			
		M1~11	M11	M1~11	M9	M10	M11
Industry (Mtoe)	142.9	130.2	12.1	125.1	11.5	11.2	10.8
	(-0.4)	(-0.5)	(2.0)	(-3.9)	(-1.3)	(-3.9)	(-10.0)
Petrochemical	72.0	65.5	6.1	63.2	5.7	5.5	5.0
	(-0.1)	(-0.4)	(6.0)	(-3.6)	(-6.6)	(-4.5)	(-17.4)
- Naphtha	53.8	49.1	4.5	45.6	4.1	3.8	3.4
	(-2.8)	(-3.0)	(3.5)	(-7.1)	(-10.5)	(-9.6)	(-24.7)
Iron & Steel	29.5	27.1	2.5	25.8	2.4	2.4	2.4
	(0.4)	(0.6)	(2.7)	(-4.6)	(0.2)	(-0.8)	(-4.2)
-Coking coal	24.4	22.3	2.1	21.4	2.0	2.1	2.0
	(1.0)	(1.2)	(4.2)	(-3.9)	(-0.3)	(0.6)	(-3.3)
Fabricated metal	11.4	10.4	0.9	10.3	0.9	0.9	1.0
	(-0.1)	(0.1)	(-2.4)	(-0.7)	(6.9)	(-1.1)	(4.1)
Share of feedstock (%)	58.3	58.4	58.1	57.8	57.2	57.3	54.7

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

► Industrial energy consumption & production index



12. Transport

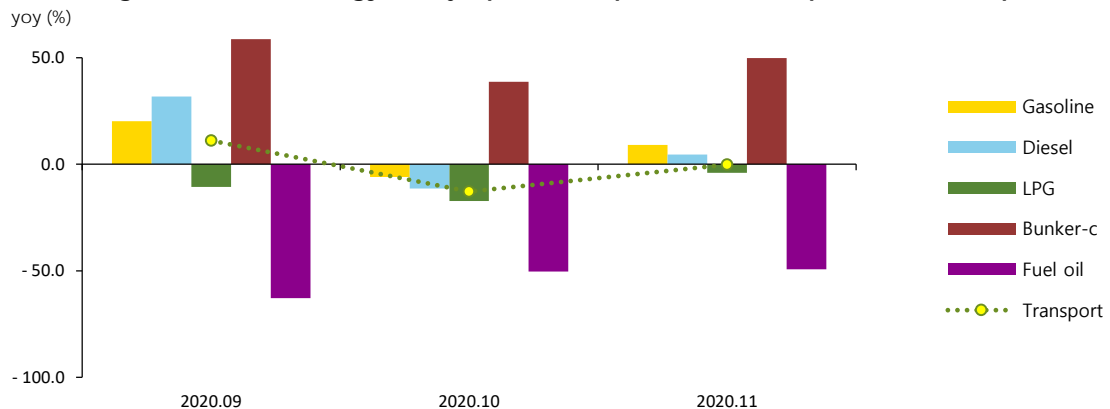
- **Transport energy use declined by no more than 0.2% year-on-year in November, as stronger social distancing rules had limited impact on the sector's energy use.**
 - The enhanced social distancing rules had just limited impact on the road transport sector's energy use compared to the second wave of COVID-19.
 - Energy use fell sharply by 49.3% year-on-year in the aviation sector despite the increased number of domestic flights, as international air routes have been lost.
 - Energy use rose by 27.8% year-on-year in the domestic navigation sector due to growing use of bunker-C oil (58.2%, yoy).

► The growth rate of petroleum consumption in the transport sector

	2019p	2020p		2020p			
		M1~11	M11	M1~11	M9	M10	M11
Transport (Mtoe)	43.0	39.2	3.6	35.7	3.2	3.2	3.6
	(0.0)	(0.2)	(-3.2)	(-9.0)	(11.0)	(-12.8)	(-0.2)
Road	35.1	32.0	3.0	30.3	2.8	2.7	3.1
	(1.9)	(2.3)	(-3.0)	(-5.4)	(20.2)	(-10.3)	(5.0)
Navigation	2.6	2.4	0.2	2.7	0.3	0.2	0.3
	(-17.1)	(-17.7)	(-24.3)	(13.9)	(61.2)	(34.1)	(27.8)
Aviation	4.9	4.5	0.4	2.3	0.1	0.2	0.2
	(-1.7)	(-2.7)	(9.9)	(-47.6)	(-62.8)	(-50.3)	(-49.3)
Rail	0.3	0.3	0.0	0.3	0.0	0.0	0.0
	(-2.8)	(-2.3)	(-7.9)	(-9.1)	(-7.3)	(-8.5)	(-5.5)

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

► The growth rates of energy & major petroleum product consumption in the transport sector



13. Buildings

□ Buildings' energy use increased by 2.1% year-on-year in November, as stronger social distancing measures were implemented as a response to the third wave of COVID-19.

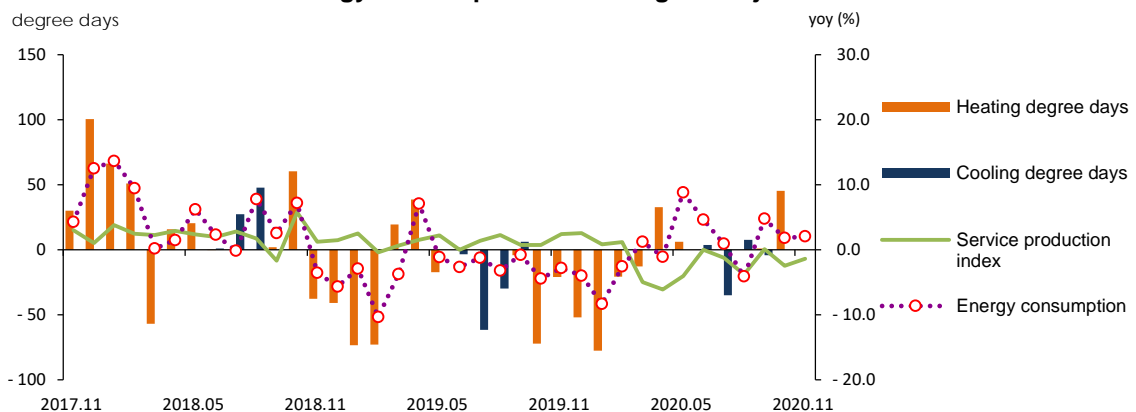
- Buildings' energy use increased, especially in residential buildings, which was affected by stronger social distancing rules that were adopted amid the third wave of COVID-19, with the number of new cases surpassing 200.
- In residential buildings, city gas and electricity use grew by 9.2% and 5.5% respectively, as people spent more time at home due to social distancing, while the use of petroleum, heat and briquette fell by 1.4%, 3.5%, 37.3% respectively.
- In commercial & public buildings, energy use rose by 0.4% year-on-year due to growing petroleum use (5.6%), although city gas and heat energy use dropped by 8.2% and 3.5%, and electricity use remained stagnant (0.7%) amid the sluggish service industry.

► Energy consumption in buildings

	2019p	2020p					
		M1~11	M11	M1~11	M9	M10	M11
Buildings (Mtoe)	45.5	40.3	3.8	40.2	3.0	3.0	3.9
	(-3.1)	(-2.9)	(-2.8)	(-0.2)	(4.8)	(1.8)	(2.1)
Residential	22.6	19.7	2.0	20.0	1.2	1.4	2.1
	(-3.6)	(-3.3)	(-4.3)	(1.6)	(9.8)	(9.9)	(3.6)
Commercial	17.5	15.8	1.4	15.4	1.3	1.2	1.4
	(-2.3)	(-2.4)	(-0.4)	(-2.5)	(-0.5)	(-5.0)	(0.9)
Public-others	5.4	4.9	0.4	4.9	0.5	0.4	0.4
	(-3.2)	(-3.2)	(-3.3)	(-0.4)	(8.3)	(-3.1)	(-1.2)
Heating degree days	2 342.9	1 872.7	277.2	1 846.6	1.9	128.4	277.0
	(-9.8)	(-9.8)	(-7.0)	(-1.4)	(111.1)	(54.5)	(-0.1)
Cooling degree days	120.4	120.4	-	92.5	1.9	-	-
	(-42.4)	(-42.4)	-	(-23.2)	(-68.9)	-	-

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

► Energy consumption in buildings & major indicators



14. Transformation

- The total power generation was almost flat in November on a year-on-year basis, and coal-fired power generation decreased, while nuclear generation grew rapidly.
 - The total power generation was almost flat (-0.4%) on a year-on-year basis, as electricity use also remained flat compared to the same month last year, and the energy input was down 1.6% thanks to higher efficiency of coal-fired power generation.

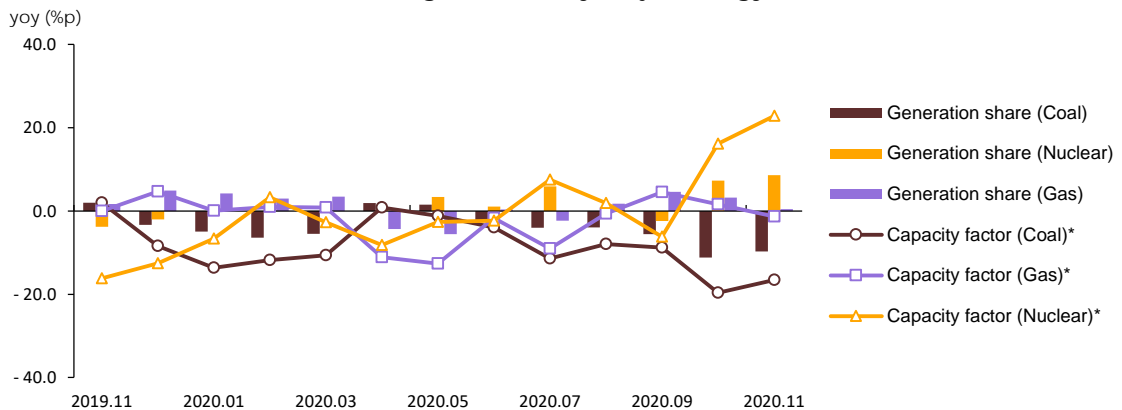
► Energy consumption in the power generation sector

	2019p	M1~11		2020p			
			M11	M1~11	M9	M10	M11
Input (Mtoe)	115.9	105.9	9.1	101.2	9.2	8.7	8.9
	(-1.9)	(-1.5)	(-3.8)	(-4.4)	(-2.2)	(-5.8)	(-1.6)
Coal	50.1	46.0	4.0	38.4	3.9	3.0	3.0
	(-7.6)	(-6.8)	(-3.0)	(-16.6)	(-15.9)	(-31.8)	(-25.4)
Oil	0.8	0.7	0.0	0.4	0.1	0.0	0.1
	(-35.7)	(-40.2)	(-15.2)	(-43.3)	(191.7)	(-12.2)	(123.0)
Gas	23.8	21.1	2.1	21.9	2.1	2.0	2.1
	(-3.3)	(-5.5)	(10.2)	(3.8)	(27.9)	(17.2)	(2.0)
Nuclear	31.1	28.7	2.2	30.9	2.0	2.9	3.0
	(9.3)	(11.4)	(-15.9)	(7.6)	(-10.0)	(27.1)	(37.4)
Hydro/other renewables	10.1	9.3	0.8	9.6	1.0	0.8	0.7
	(5.8)	(6.2)	(-0.5)	(2.9)	(30.4)	(-4.3)	(-3.5)

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

Source: Monthly Energy Statistics

► Power generation by major energy sources



<Appendix> Major indicators & statistics of energy supply and demand

Major Statistics & Indicators of the Economy

	2018	2019					2020			
			M1~11	M9	M10	M11	M1~11	M9	M10	M11
GDP (trillion won)	1 812.0 (2.9)	1 849.0 (2.0)	1 361.5 (1.9)	463.1 (2.0)	- (-)	- (-)	1 349.8 (-0.9)	457.9 (-1.1)	- (-)	- (-)
Private consumption	875.6 (3.2)	890.2 (1.7)	661.7 (1.6)	222.3 (1.6)	- (-)	- (-)	632.7 (-4.4)	212.6 (-4.4)	- (-)	- (-)
Facilities investment	166.3 (-2.3)	153.9 (-7.5)	113.0 (-9.3)	36.4 (-2.3)	- (-)	- (-)	121.2 (7.2)	40.3 (10.6)	- (-)	- (-)
Construction investment	269.8 (-4.6)	262.9 (-2.5)	190.3 (-4.4)	65.9 (-2.7)	- (-)	- (-)	191.8 (0.8)	65.2 (-1.0)	- (-)	- (-)
Consumer price index (2015=100)	104.5	104.9	104.8	105.2	105.5	104.9	105.4	106.2	105.6	105.5
USD to KRW exchange rate (won)	1 100.2	1 165.4	1 164.4	1 197.6	1 184.1	1 167.5	1 188.0	1 178.8	1 144.7	1 116.8
Benchmark rate (%)	1.5	1.6	1.6	1.5	1.3	1.3	0.7	0.5	0.5	0.5
Coincident composite index (2015=100)	110.1	111.7	111.6	112.3	112.6	112.7	112.0	112.1	112.9	113.7
Mining & manufacturing production index (2015=100)	106.4	106.3	105.5	104.1	111.6	111.1	105.6	112.6	109.3	111.7
Manufacturing operation ratio index (2015=100)	98.8	98.5	98.1	96.9	103.7	100.8	95.0	101.2	98.7	100.4
Average temperature	13.0	13.5	14.5	21.7	15.8	8.8	14.4	20.3	14.0	8.8
- year-on-year difference	- 0.1	0.5	0.4	1.3	2.8	0.7	- 0.1	- 1.4	- 1.8	0.0
Heating degree days	2 597.8 (3.2)	2 342.9 (-9.8)	1 872.7 (-9.8)	0.9 (-82.0)	83.1 (-46.5)	277.2 (-7.0)	1 846.6 (-1.4)	1.9 (111.1)	128.4 (54.5)	277.0 (-0.1)
Cooling degree days	209.0 (57.5)	120.4 (-42.4)	120.4 (-42.4)	6.1 (-)	- (-)	- (-)	92.5 (-23.2)	1.9 (-68.9)	- (-)	- (-)
Energy intensity	0.17 (-1.0)	0.16 (-3.4)	0.17 (-3.3)	0.16 (-3.6)	- (-)	- (-)	0.16 (-3.8)	0.16 (-3.8)	- (-)	- (-)
Per capita consumption										
oil (bbl)	18.1 (-1.0)	17.9 (-0.7)	16.3 (-1.0)	1.4 (-6.1)	1.5 (2.8)	1.5 (4.1)	15.4 (-5.4)	1.4 (-1.5)	1.3 (-8.1)	1.4 (-10.7)
Electricity (MWh)	10.2 (3.1)	10.1 (-1.3)	9.2 (-1.2)	0.8 (-0.4)	0.8 (1.4)	0.8 (-2.1)	9.0 (-2.6)	0.9 (3.2)	0.8 (-4.0)	0.8 (-0.1)
City gas (1 000 m ³)	0.5 (6.9)	0.5 (-4.3)	0.4 (-4.1)	0.0 (-3.8)	0.0 (-12.3)	0.0 (-6.6)	0.4 (-5.1)	0.0 (-0.8)	0.0 (2.9)	0.0 (0.7)
Total energy (toe)	6.0 (1.3)	5.9 (-1.6)	5.3 (-1.5)	0.4 (-3.1)	0.5 (-0.4)	0.5 (-1.3)	5.1 (-4.8)	0.4 (-0.5)	0.4 (-5.4)	0.5 (-5.3)

Note: Figures are based on the real price of 2010, p means provisional, () is year-on-year growth rates (%)
Source: BOK Economic statistics system, Korea Statistical Information Service, Monthly Energy Statistics

The Index of Production Ratio & Output by Sectors

(2015=100)

	2018	2019					2020			
			M1~11	M9	M10	M11	M1~11	M9	M10	M11
Industrial production index										
All industry	107.5 (1.6)	108.1 (0.5)	106.9 (0.2)	105.8 (0.8)	109.9 (0.1)	110.5 (1.6)	105.9 (-0.9)	109.4 (3.4)	106.9 (-2.7)	110.0 (-0.5)
Mining & manufacturing	106.4 (1.5)	106.3 (-0.0)	105.5 (-0.6)	104.1 (1.8)	111.6 (-0.8)	111.1 (1.3)	105.6 (0.0)	112.6 (8.2)	109.3 (-2.1)	111.7 (0.5)
Semiconductor	168.4 (21.2)	188.1 (11.7)	184.1 (9.5)	203.1 (9.8)	213.5 (11.3)	229.3 (32.1)	229.1 (24.5)	255.8 (25.9)	241.5 (13.1)	248.8 (8.5)
Iron & steel	100.5 (-2.7)	98.3 (-2.2)	98.4 (-2.3)	93.2 (-1.2)	98.3 (-4.0)	97.2 (-3.8)	91.4 (-7.1)	92.8 (-0.4)	94.7 (-3.7)	95.7 (-1.5)
Cement	100.0 (-8.8)	93.8 (-6.2)	93.6 (-7.1)	77.0 (-16.6)	100.0 (-10.2)	102.9 (-6.9)	85.5 (-8.7)	88.9 (15.5)	94.2 (-5.8)	97.5 (-5.2)
Basic compound	110.4 (0.1)	107.5 (-2.6)	107.0 (-3.1)	111.2 (0.5)	105.1 (-2.1)	101.9 (0.2)	100.4 (-6.1)	103.8 (-6.7)	101.5 (-3.4)	84.8 (-16.8)
Transport equipment	93.9 (-1.2)	93.1 (-0.9)	92.9 (-0.6)	83.0 (-2.4)	98.9 (-5.8)	94.9 (-11.3)	83.1 (-10.5)	96.1 (15.8)	93.8 (-5.2)	93.4 (-1.6)
Electric & electronic	106.5 (-0.2)	107.7 (1.2)	106.6 (0.5)	106.0 (4.2)	116.6 (2.3)	112.7 (-3.8)	105.2 (-1.3)	117.5 (10.8)	111.4 (-4.5)	117.7 (4.4)
Service	106.9 (2.2)	108.4 (1.4)	107.4 (1.3)	106.8 (0.8)	109.1 (0.7)	110.3 (2.4)	105.3 (-2.0)	106.9 (0.1)	106.4 (-2.5)	108.8 (-1.4)
Wholesale and retail	105.0 (1.8)	104.6 (-0.4)	104.2 (-0.4)	102.8 (-0.3)	105.9 (-1.8)	108.7 (-0.3)	101.3 (-2.7)	106.0 (3.1)	104.0 (-1.8)	106.5 (-2.0)
Food & Accommodation	98.5 (-1.9)	97.5 (-1.0)	96.4 (-1.2)	91.5 (-4.6)	98.4 -	97.3 (0.2)	80.7 (-16.3)	72.1 (-21.2)	83.3 (-15.3)	80.7 (-17.1)
Production output										
Iron & steel - Pig iron	47 124.3 (0.1)	47 520.7 (0.8)	43 572.2 (1.2)	3 905.1 (-2.3)	4 036.5 (-1.6)	3 951.5 (4.6)	41 244.3 (-5.3)	3 966.9 (1.6)	3 943.9 (-2.3)	3 867.8 (-2.1)
Iron & steel - Crude steel	72 464.0 (2.0)	71 411.9 (-1.5)	65 532.2 (-1.2)	5 710.6 (-2.3)	5 963.8 (-3.8)	5 904.4 (-0.3)	61 169.2 (-6.7)	5 747.9 (0.7)	5 859.9 (-1.7)	5 765.4 (-2.4)
Petrochemical - Basic oil	31 139.2 (1.9)	31 804.1 (2.1)	28 919.9 (1.7)	2 747.8 (5.3)	2 587.6 (4.7)	2 670.3 (8.8)	27 928.5 (-3.4)	2 511.6 (-8.6)	2 426.7 (-6.2)	2 153.7 (-19.3)
Petrochemical - Intermediate raw material	16 981.8 (2.9)	16 014.0 (-5.7)	14 612.8 (-5.7)	1 380.5 (-3.0)	1 235.6 (-14.1)	1 363.0 (-3.0)	14 062.2 (-3.8)	1 257.8 (-8.9)	1 211.5 (-1.9)	1 087.8 (-20.2)
Petrochemical - 3 major products	21 793.6 (-1.1)	21 584.7 (-1.0)	19 776.6 (-0.7)	1 827.9 (0.1)	1 704.7 (1.4)	1 671.2 (-3.5)	19 463.4 (-1.6)	1 731.0 (-5.3)	1 769.2 (3.8)	1 649.7 (-1.3)
The number of cars	4 028.7 (-2.1)	3 950.6 (-1.9)	3 613.1 (-1.6)	278.0 (-4.8)	351.4 (-7.9)	346.4 (-11.3)	3 209.9 (-11.2)	342.5 (23.2)	336.3 (-4.3)	324.5 (-6.3)

Note: p means provisional

Source: Monthly Energy Statistics, Korea Petrochemical Industry Association, Automobile Manufacturers Association

International Energy Prices

	2018	2019					2020			
			M1~11	M9	M10	M11	M1~11	M9	M10	M11
Crude oil (USD/bbl)										
WTI	64.8 (27.1)	57.0 (-11.9)	56.8 (-14.2)	57.0 (-18.7)	54.0 (-23.7)	57.1 (0.7)	38.7 (-31.8)	39.6 (-30.4)	39.6 (-26.8)	41.4 (-27.5)
Dubai	69.4 (30.5)	63.5 (-8.5)	63.4 (-10.1)	61.1 (-20.8)	59.4 (-25.2)	62.0 (-5.4)	41.5 (-34.5)	41.5 (-32.1)	40.7 (-31.5)	43.4 (-30.0)
Brent	71.5 (30.5)	64.2 (-10.3)	64.1 (-12.0)	62.3 (-21.3)	59.6 (-26.0)	62.7 (-4.9)	42.6 (-33.6)	41.9 (-32.8)	41.5 (-30.4)	44.0 (-29.9)
Unit value of import (C&F)	71.4 (34.0)	65.5 (-8.2)	65.5 (-8.9)	63.0 (-17.6)	64.2 (-18.9)	64.3 (-15.5)	44.6 (-31.9)	44.5 (-29.4)	43.4 (-32.4)	42.7 (-33.7)
LNG										
From Indonesia (USD/MMBTU)	10.7 (24.0)	10.6 (-1.0)	10.6 (0.6)	10.1 (-10.3)	10.0 (-14.4)	10.0 (-14.2)	8.4 (-21.1)	5.9 (-42.0)	6.2 (-38.1)	6.9 (-31.7)
Unit value of import (USD/ton, CIF)	526.3 (26.4)	505.4 (-4.0)	509.9 (-2.3)	509.9 (-9.3)	479.0 (-17.4)	454.5 (-22.2)	393.0 (-22.9)	263.4 (-48.3)	275.7 (-42.4)	312.1 (-31.3)
Bituminous coal (USD/ton)										
From Australia	107.0 (20.9)	77.9 (-27.2)	79.0 (-26.6)	66.0 (-42.2)	69.2 (-36.4)	67.0 (-33.5)	58.8 (-25.6)	54.6 (-17.2)	58.4 (-15.6)	64.4 (-3.9)
Unit value of import (CIF)	113.6 (8.9)	100.7 (-11.3)	102.2 (-10.0)	85.0 (-26.9)	92.1 (-19.4)	87.5 (-21.3)	78.0 (-23.6)	68.4 (-19.5)	70.4 (-23.5)	70.8 (-19.1)
Petroleum product (USD/bbl)										
Gasoline	79.9 (17.4)	72.5 (-9.3)	72.3 (-11.6)	74.7 (-16.6)	74.0 (-15.6)	76.3 (11.1)	46.0 (-36.3)	47.2 (-36.8)	46.0 (-37.9)	46.8 (-38.7)
Kerosene	84.8 (29.8)	77.3 (-8.9)	77.2 (-10.3)	77.7 (-15.2)	75.4 (-20.8)	74.9 (-9.7)	43.9 (-43.1)	39.3 (-49.4)	41.6 (-44.8)	45.7 (-39.0)
Diesel	84.9 (27.9)	78.2 (-7.9)	78.1 (-9.5)	78.1 (-16.8)	77.1 (-20.7)	76.0 (-7.6)	48.9 (-37.5)	44.2 (-43.4)	43.9 (-43.0)	47.6 (-37.4)
Bunker-C	65.2 (31.3)	57.5 (-11.8)	58.8 (-10.9)	61.3 (-13.2)	47.4 (-38.3)	39.4 (-42.3)	38.5 (-34.7)	39.6 (-35.4)	41.2 (-13.0)	43.7 (10.9)
Propane	542.1 (16.0)	434.6 (-19.8)	434.1 (-21.2)	350.0 (-41.7)	420.0 (-35.9)	430.0 (-20.4)	392.3 (-9.6)	365.0 (4.3)	375.0 (-10.7)	430.0 -
Butane	539.2 (7.5)	441.7 (-18.1)	440.5 (-20.0)	360.0 (-43.3)	435.0 (-33.6)	445.0 (-15.2)	398.6 (-9.5)	355.0 (-1.4)	380.0 (-12.6)	440.0 (-1.1)
Naphtha	67.0 (24.5)	56.9 (-15.1)	56.3 (-17.7)	54.0 (-28.1)	56.8 (-23.9)	59.5 (4.8)	39.8 (-29.3)	43.0 (-20.4)	41.7 (-26.6)	40.6 (-31.8)

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

2. Gasoline type is 95RON, diesel is 0.001%, Bunker-C is high-sulfur oil(180cst/3.5%), for propane and butane, CP is reference value

Source: www.petronet.co.kr, World Bank, Monthly Energy Statistics

Domestic Energy Prices

	2018	2019					2020			
			M1~11	M9	M10	M11	M1~11	M9	M10	M11
Petroleum product										
Gasoline (won/liter)	1 581.4 (6.0)	1 471.9 (-6.9)	1 464.9 (-8.1)	1 529.3 (-6.6)	1 540.5 (-8.4)	1 535.7 (-2.9)	1 382.8 (-5.6)	1 352.5 (-11.6)	1 333.3 (-13.5)	1 319.6 (-14.1)
Diesel (won/liter)	1 391.9 (8.5)	1 340.1 (-3.7)	1 336.0 (-4.4)	1 379.8 (-4.1)	1 387.7 (-6.6)	1 380.5 (-3.1)	1 191.8 (-10.8)	1 154.5 (-16.3)	1 134.0 (-18.3)	1 119.6 (-18.9)
Bunker-C (won/liter)	734.8 (18.6)	743.9 (1.2)	751.8 (3.0)	747.4 (-4.7)	791.4 (0.1)	703.5 (-16.9)	578.6 (-23.0)	575.2 (-23.0)	533.0 (-32.7)	520.0 (-26.1)
Propane (won/kg)	1 920.5 (4.7)	1 869.7 (-2.6)	1 867.8 (-2.6)	1 831.9 (-5.8)	1 833.6 (-8.4)	1 879.3 (-6.4)	1 849.4 (-1.0)	1 821.0 (-0.6)	1 822.1 (-0.6)	1 822.2 (-3.0)
Butane (won/liter)	874.6 (5.8)	806.2 (-7.8)	804.9 (-8.1)	784.7 (-12.4)	783.7 (-16.1)	810.5 (-11.0)	790.6 (-1.8)	771.5 (-1.7)	771.4 (-1.6)	770.6 (-4.9)
City gas(won/MJ)										
Residential	15.1 (-4.3)	15.6 (3.9)	15.6 (3.9)	15.9 (3.8)	15.9 (3.8)	15.9 (3.8)	15.2 (-2.9)	14.2 (-10.7)	14.2 (-10.7)	14.2 (-10.7)
General(1)	14.9 (-3.8)	15.6 (4.9)	15.6 (5.2)	15.7 (4.7)	15.8 (4.7)	15.8 (4.7)	14.9 (-4.0)	13.8 (-12.2)	13.8 (-12.3)	13.8 (-12.3)
Commercial	15.4 (-4.4)	16.1 (4.4)	16.1 (4.3)	16.5 (4.7)	16.5 (4.7)	16.5 (4.7)	15.2 (-5.3)	13.7 (-16.9)	12.7 (-22.7)	12.7 (-23.2)
Industry	13.0 (-2.3)	13.8 (6.0)	13.7 (6.0)	13.9 (5.5)	14.0 (5.4)	14.0 (5.4)	12.7 (-7.2)	10.8 (-22.0)	9.9 (-28.8)	9.9 (-29.3)
Heat(won/Mcal)										
Residential	64.5 (-2.7)	65.7 (1.8)	65.6 (1.7)	67.1 (3.8)	67.1 (3.8)	67.1 (3.8)	66.3 (1.1)	65.2 (-2.8)	65.2 (-2.8)	65.2 (-2.8)
Commercial	83.8 (-2.7)	85.3 (1.8)	85.1 (1.7)	87.2 (3.8)	87.2 (3.8)	87.2 (3.8)	86.0 (1.1)	84.7 (-2.8)	84.7 (-2.8)	84.7 (-2.8)
Public	73.2 (-2.7)	74.5 (1.9)	74.4 (1.7)	76.1 (3.8)	76.1 (3.8)	76.1 (3.8)	75.2 (1.1)	74.0 (-2.9)	74.0 (-2.9)	74.0 (-2.9)
Electricity(won/kWh)										
Residential	147.3 -	147.3 -	147.3 -	147.3 -	147.3 -	147.3 -	147.3 -	147.3 -	147.3 -	147.3 -
General	84.4 -	84.4 -	83.6 -	65.2 -	65.2 -	92.3 -	83.6 -	65.2 -	65.2 -	92.3 -
Industry	96.0 -	96.0 -	94.9 -	78.5 -	78.5 -	108.5 -	94.9 -	78.5 -	78.5 -	108.5 -

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

2.Electricity prices are based on Residential(High-voltage, 201~400kWh), General((A) I, Low-voltage), Industry((B), High-voltageB, option II mid-load)

Source: www.petronet.co.kr, www.seoulgas.co.kr, cyber.kepco.co.kr

Total Primary Energy Supply (TPES)

	2018	2019p					2020p			
			M1~11	M9	M10	M11	M1~11	M9	M10	M11
Coal (Mton)	141.1 (0.9)	133.0 (-5.7)	122.1 (-5.0)	11.5 (0.9)	11.6 (7.0)	10.9 (-4.7)	106.5 (-12.7)	10.6 (-7.7)	9.0 (-22.2)	8.9 (-18.3)
- Coking coal excluded	106.4 (2.9)	98.0 (-7.9)	90.0 (-7.1)	8.7 (2.0)	8.6 (9.2)	8.0 (-7.6)	75.7 (-15.9)	7.8 (-10.2)	6.0 (-30.0)	6.1 (-23.8)
Oil (Mbbbl)	931.8 (-0.6)	927.1 (-0.5)	842.0 (-0.8)	72.3 (-6.0)	75.7 (3.0)	79.4 (4.3)	797.6 (-5.3)	71.3 (-1.4)	69.7 (-8.0)	71.0 (-10.6)
- Non-energy oil excluded	445.5 (0.4)	451.8 (1.4)	408.8 (1.2)	32.0 (-10.2)	38.6 (14.1)	39.5 (4.4)	387.2 (-5.3)	34.5 (7.7)	34.8 (-9.7)	39.4 (-0.0)
LNG (Mton)	42.3 (16.2)	41.0 (-3.1)	36.0 (-3.8)	2.4 (6.4)	2.8 (-10.4)	3.7 (1.8)	36.1 (0.2)	2.8 (15.0)	3.1 (11.1)	3.8 (1.4)
Hydro (TWh)	7.3 (3.9)	6.2 (-14.1)	5.7 (-13.8)	0.6 (-20.7)	0.5 (7.3)	0.5 (-15.0)	6.7 (15.8)	0.9 (55.6)	0.5 (-13.2)	0.4 (-5.8)
Nuclear (TWh)	133.5 (-10.1)	145.9 (9.3)	134.9 (11.4)	10.3 (-6.8)	10.6 (-12.3)	10.2 (-15.9)	145.1 (7.6)	9.3 (-10.0)	13.5 (27.1)	14.0 (37.4)
Others (Mtoe)	17.1 (8.0)	17.7 (3.3)	16.2 (3.6)	1.4 (-3.0)	1.4 (2.2)	1.4 (-0.8)	16.2 (-0.4)	1.6 (14.8)	1.4 (-2.3)	1.3 (-3.1)
TPES (Mtoe)	307.6 (1.8)	303.1 (-1.5)	275.1 (-1.3)	23.1 (-2.9)	24.1 (-0.2)	25.3 (-1.2)	262.4 (-4.6)	23.0 (-0.3)	22.8 (-5.3)	24.0 (-5.2)
- Non-energy oil excluded	247.1 (2.7)	244.0 (-1.3)	221.2 (-1.0)	18.1 (-3.1)	19.5 (1.4)	20.3 (-2.4)	211.2 (-4.5)	18.4 (1.9)	18.5 (-5.3)	20.0 (-1.6)
- Non-energy oil&coal excluded	223.0 (3.5)	219.6 (-1.5)	198.9 (-1.2)	16.1 (-3.2)	17.4 (1.5)	18.3 (-3.1)	189.8 (-4.6)	16.4 (2.2)	16.4 (-6.0)	18.0 (-1.4)

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

Share of TPES by Sources

(unit: %)

	2018	2019p					2020p			
			M1~11	M9	M10	M11	M1~11	M9	M10	M11
Coal	28.2	27.1	27.4	30.9	29.6	26.7	25.2	28.6	24.7	23.2
- Coking coal excluded	20.3	19.1	19.3	22.2	21.1	18.5	17.0	19.9	15.6	14.9
Oil	38.5	38.7	38.7	39.2	39.6	39.7	38.4	39.1	38.6	37.8
- non-energy oil excluded	18.9	19.2	19.1	17.5	20.4	20.0	18.9	19.1	19.4	21.2
LNG	18.0	17.7	17.1	13.8	15.0	19.2	17.9	15.9	17.5	20.6
Hydro	0.5	0.4	0.4	0.5	0.5	0.4	0.5	0.8	0.4	0.4
Nuclear	9.2	10.3	10.4	9.5	9.4	8.6	11.8	8.6	12.6	12.5
Others	5.6	5.8	5.9	6.1	6.0	5.5	6.2	7.1	6.2	5.6
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)

	2018	2019p					2020p			
			M1~11	M9	M10	M11	M1~11	M9	M10	M11
Industry	143.5 (0.7)	142.9 (-0.4)	130.2 (-0.5)	11.6 (-0.6)	11.7 (-1.5)	12.1 (2.0)	125.1 (-3.9)	11.5 (-1.3)	11.2 (-3.9)	10.8 (-10.0)
Transport	43.0 (0.4)	43.0 (0.0)	39.2 (0.2)	2.9 (-19.1)	3.6 (12.6)	3.6 (-3.2)	35.7 (-9.0)	3.2 (11.0)	3.2 (-12.8)	3.6 (-0.2)
Residential	23.5 (4.4)	22.6 (-3.6)	19.7 (-3.3)	1.1 (1.0)	1.3 (-12.8)	2.0 (-4.3)	20.0 (1.6)	1.2 (9.8)	1.4 (9.9)	2.1 (3.6)
Commercial	17.9 (2.9)	17.5 (-2.3)	15.8 (-2.4)	1.3 (0.2)	1.2 (3.6)	1.4 (-0.4)	15.4 (-2.5)	1.3 (-0.5)	1.2 (-5.0)	1.4 (0.9)
Public	5.6 (2.0)	5.4 (-3.2)	4.9 (-3.2)	0.4 (-8.0)	0.4 (2.9)	0.4 (-3.3)	4.9 (-0.4)	0.5 (8.3)	0.4 (-3.1)	0.4 (-1.2)
TFC	233.4 (1.2)	231.4 (-0.9)	209.8 (-0.9)	17.4 (-4.3)	18.2 (0.5)	19.5 (0.0)	201.0 (-4.2)	17.7 (1.8)	17.3 (-4.7)	18.3 (-5.9)
Coal (Mton)	49.3 (-2.1)	48.2 (-2.2)	44.1 (-1.9)	3.6 (-3.5)	4.2 (-0.9)	4.1 (-7.3)	41.5 (-6.0)	4.0 (10.7)	4.0 (-5.1)	3.8 (-6.5)
Oil (Mbbbl)	920.0 (-0.7)	918.5 (-0.2)	834.4 (-0.4)	71.9 (-6.0)	75.3 (3.6)	78.8 (4.3)	792.4 (-5.0)	70.7 (-1.8)	69.3 (-8.0)	70.1 (-11.1)
Electricity (TWh)	526.1 (3.6)	520.5 (-1.1)	475.8 (-1.1)	43.6 (-0.2)	40.6 (1.6)	41.1 (-1.9)	464.2 (-2.4)	45.1 (3.3)	39.1 (-3.8)	41.1 (0.1)
City gas (Bm ³)	24.3 (7.4)	23.3 (-4.1)	20.4 (-3.9)	1.1 (-3.6)	1.4 (-12.1)	2.0 (-6.4)	19.4 (-5.0)	1.1 (-0.6)	1.4 (3.1)	2.0 (0.8)
Heat{others (1 000 toe)	11.8 (6.4)	11.6 (-2.0)	10.4 (-1.9)	0.8 (-2.0)	0.8 (-5.7)	1.0 (-1.0)	10.2 (-1.8)	0.8 (5.0)	0.8 (1.7)	0.9 (-3.1)

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

Share of the Total Final Consumption by Sources

(unit: %)

	2018	2019p					2020p			
			M1~11	M9	M10	M11	M1~11	M9	M10	M11
Industry	61.5	61.8	62.1	66.9	64.1	61.9	62.3	64.9	64.7	59.1
Transport	18.4	18.6	18.7	16.7	19.9	18.5	17.8	18.2	18.2	19.6
Residential	10.1	9.8	9.4	6.3	7.0	10.4	9.9	6.8	8.1	11.4
Commercial	7.7	7.6	7.5	7.7	6.7	7.0	7.6	7.5	6.7	7.5
Public	2.4	2.3	2.3	2.4	2.2	2.2	2.4	2.6	2.2	2.3
Final energy	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Coal	13.9	13.9	14.0	14.0	15.2	13.9	13.8	14.9	15.3	13.9
Oil	50.1	50.2	50.3	51.8	52.1	51.1	49.7	50.3	50.5	48.7
Electricity	19.4	19.3	19.5	21.6	19.2	18.1	19.9	21.9	19.4	19.3
City gas	11.6	11.6	11.3	8.0	9.0	11.9	11.6	8.1	10.1	12.9
Heat{others	5.1	5.0	4.9	4.6	4.4	5.0	5.1	4.8	4.7	5.2

Note: p means provisional
Source: Monthly Energy Statistics

Statistics on Energy Production Facilities

	2017	2018	2019	2020p			M9	M10	M11
				M9	M10	M11			
Total capacity (GW)	116.9 (10.4)	119.1 (1.9)	125.3 (5.2)	122.5 (3.8)	124.0 (5.1)	124.4 (5.2)	128.6 (5.0)	127.8 (3.0)	128.6 (3.4)
Nuclear	22.5 (-2.5)	21.9 (-3.0)	23.3 (6.4)	23.3 (6.4)	23.3 (6.4)	23.3 (6.4)	23.3 -	23.3 -	23.3 -
Bituminous coal	36.1 (16.8)	36.4 (0.7)	36.4 (0.1)	36.4 (0.1)	36.4 (0.1)	36.4 (0.1)	36.5 (0.1)	36.5 (0.1)	36.5 (0.1)
Gas	37.9 -	37.9 (-0.0)	39.6 (4.5)	38.3 (1.2)	39.2 (3.5)	39.5 (4.4)	41.2 (7.5)	41.2 (5.1)	41.2 (4.1)
Refinery capacity (mil BPSD)	3.1 (1.3)	3.2 (3.2)	3.2 -	3.2 -	3.2 -	3.2 -	3.2 -	3.2 -	3.2 -

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

Statistics on Energy Consumption

	2017	2018	2019	2020p			M9	M10	M11
				M9	M10	M11			
The number of household demanding city gas (mil)	18.6 (3.3)	19.1 (3.1)	19.7 (2.8)	19.4 (2.9)	19.4 (2.7)	19.5 (2.6)	19.9 (2.6)	19.9 (2.5)	20.0 (2.5)
Registered cars (mil)	22.5 (3.3)	23.2 (3.0)	23.7 (2.0)	23.6 (2.3)	23.6 (2.2)	23.6 (2.1)	24.2 (2.7)	24.3 (2.8)	24.3 (2.9)
- gasoline	10.4 (2.7)	10.6 (2.5)	11.0 (3.1)	10.9 (2.8)	10.9 (2.9)	10.9 (3.0)	11.3 (4.2)	11.3 (4.1)	11.4 (4.1)
- diesel	9.6 (4.4)	9.9 (3.7)	10.0 (0.3)	10.0 (1.4)	10.0 (1.0)	10.0 (0.6)	10.0 (-0.1)	10.0 (0.2)	10.0 (0.4)
- LPG	2.1 (-2.9)	2.0 (-3.3)	2.0 (-1.5)	2.0 (-2.3)	2.0 (-2.1)	2.0 (-1.8)	2.0 (-0.8)	2.0 (-0.9)	2.0 (-1.1)
- hybrid	0.3 (37.6)	0.4 (30.9)	0.5 (26.1)	0.5 (28.5)	0.5 (27.6)	0.5 (26.2)	0.6 (29.0)	0.6 (29.9)	0.6 (32.0)

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