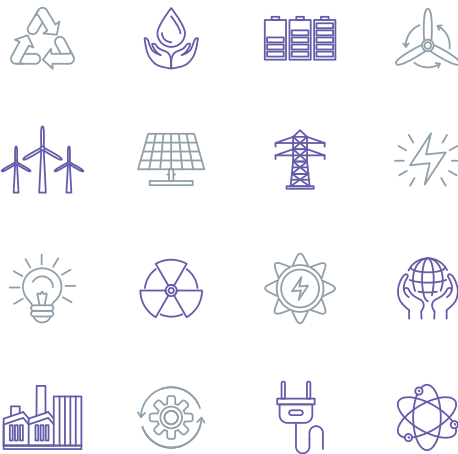


KEEI

MONTHLY KOREA ENERGY TRENDS



COAL -22.5%
 PETROLEUM -8.0%
 LNG 11.0%
 NUCLEAR 27.1%
 NEW & RENEWABLE -3.3%
 JANUARY, 2021

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



Table of Contents

1.	The Economy and the Industry.....	4
2.	Energy Prices	6
3.	Energy Supply	9
4.	Energy Consumption	10
5.	Coal	12
6.	Petroleum	13
7.	Gas	14
8.	Electricity	15
9.	Nuclear	16
10.	Heat and Renewable energy	17
11.	Industry	18
12.	Transport	19
13.	Building.....	20
14.	Transformation	21
App.	Major Indicators & Statistics of Energy Supply and Demand	22



1. The Economy and the Industry

- **The mining & manufacturing production index dropped by 2.0% year-on-year in October partly due to fewer workdays, although the semiconductor production recovered.**
 - The semiconductor production index grew by 13.1% year-on-year amid increased shipments, and its export value rose by 10.4% year-on-year, driven by growing demand for memory semiconductors.
 - The production index of basic chemical materials declined (in October) from the same month last year, as some naphtha cracking facilities have been closed, and more extensive scheduled maintenance was conducted.
 - The iron & steel production index was down 3.7% year-on-year, owing to fewer workdays (-2), a slowdown in production activities in large steel-consuming sectors such as shipbuilding and construction along with falling export demand amid the economic slowdown in Europe and Southwest Asia.
 - The automobile production index decreased on a year-on-year basis, which was attributed to the shutdown of some production lines and fewer workdays.
- **The service production index went down by 2.5% year-on-year as a result of poor performance in the restaurant & accommodation and wholesale & retail sectors.**

► Major economic and industrial indicators

	2019p	2020p					
		M1~10	M10	M1~10	M8	M9	M10
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)	450.2 (-10.9)	46.6 (-15.0)	415.5 (-7.7)	39.5 (-10.3)	47.9 (7.2)	44.9 (-3.8)
Industrial production index (2015=100)	106.3 (-0.0)	105.0 (-0.8)	111.6 (-0.8)	105.0 (-0.0)	100.2 (-2.7)	112.6 (8.2)	109.4 (-2.0)
Semi-conductors	188.1 (11.7)	179.6 (7.2)	213.5 (11.3)	227.1 (26.5)	239.3 (21.2)	255.8 (25.9)	241.4 (13.1)
Basic chemical products	107.5 (-2.6)	107.5 (-3.4)	105.1 (-2.1)	102.0 (-5.1)	104.6 (-7.3)	103.8 (-6.7)	101.5 (-3.4)
Iron&Steel	98.3 (-2.2)	98.5 (-2.2)	98.3 (-4.0)	91.0 (-7.6)	87.5 (-8.6)	92.8 (-0.4)	94.7 (-3.7)
Cars	93.1 (-0.9)	92.7 (0.7)	98.9 (-5.8)	82.1 (-11.5)	68.2 (-11.4)	96.1 (15.8)	93.5 (-5.5)
Service production index (2015=100)	108.4 (1.4)	107.1 (1.2)	109.1 (0.7)	104.9 (-2.1)	104.1 (-3.8)	106.9 (0.1)	106.4 (-2.5)
Wholesale & Retail	104.6 (-0.4)	103.7 (-0.4)	105.9 (-1.8)	100.8 (-2.8)	96.8 (-5.8)	106.0 (3.1)	104.0 (-1.8)
Restaurant & Accommodation	97.5 (-1.0)	96.3 (-1.4)	98.4 -	80.7 (-16.2)	84.6 (-16.9)	72.1 (-21.2)	83.3 (-15.3)

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

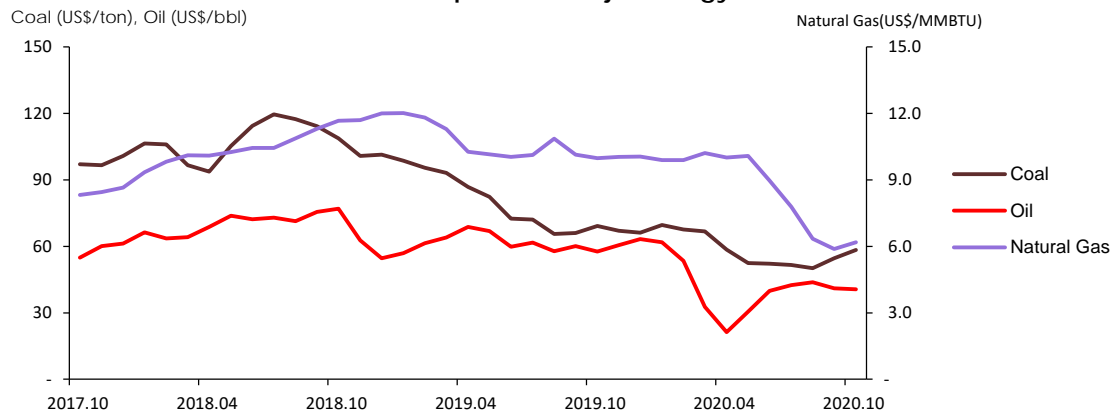
- **Global oil price fell by 1.0% in October from the previous month and by 29.6% from the same month last year amid the Covid-19 spread in the U.S. and Europe.**
 - Global oil price fell from the previous month, owing to a surge in confirmed coronavirus cases in the U.S. and Europe and Libya's growing petroleum production, although there were several factors that could have driven up oil prices, e.g., the recovery of the US president Donald Trump from Covid-19, the ongoing strike by labor unions in Norway and the oil output reduction by OPEC+ countries.

► Global energy prices

	2018	2019				2020			
			M8	M9	M10		M8	M9	M10
Crude oil (US\$/bbl)	68.6 (29.5)	61.6 (-10.2)	57.8 (-19.0)	60.1 (-20.3)	57.7 (-25.0)	43.8 (-24.2)	41.0 (-31.8)	40.6 (-29.6)	
Natural gas (US\$/MMBTU)	10.7 (24.0)	10.6 (-1.1)	10.9 (-0.1)	10.1 (-10.3)	10.0 (-14.4)	6.3 (-41.6)	5.9 (-42.0)	6.2 (-38.1)	
Coal (US\$/ton)	107.0 (20.9)	77.9 (-27.3)	65.6 (-44.1)	66.0 (-42.2)	69.2 (-36.4)	50.1 (-23.5)	54.6 (-17.2)	58.4 (-15.6)	

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 October 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 dropped by 1.4% and 1.8% respectively than the prior month, which continuously reflects the global oil price decrease that started in early September.
 - Bunker-C oil price was up 3.8% in September than a month ago, affected by global oil price increase, however it was down 23.0% on a year-on-year basis due to the ongoing impact of weak demand that was resulted from the International Maritime Organization's environmental regulation.
- **Propane and butane prices remained at the previous month's level in October, and went down by 0.6% and 1.6% respectively on a year-on-year basis.**
 - In September, Saudi Aramco set propane price at the same level as the previous month, and butane price was raised by 2.9%, but domestic prices remained flat, as domestic LPG suppliers didn't change the prices partly due to a drop in exchange rates.

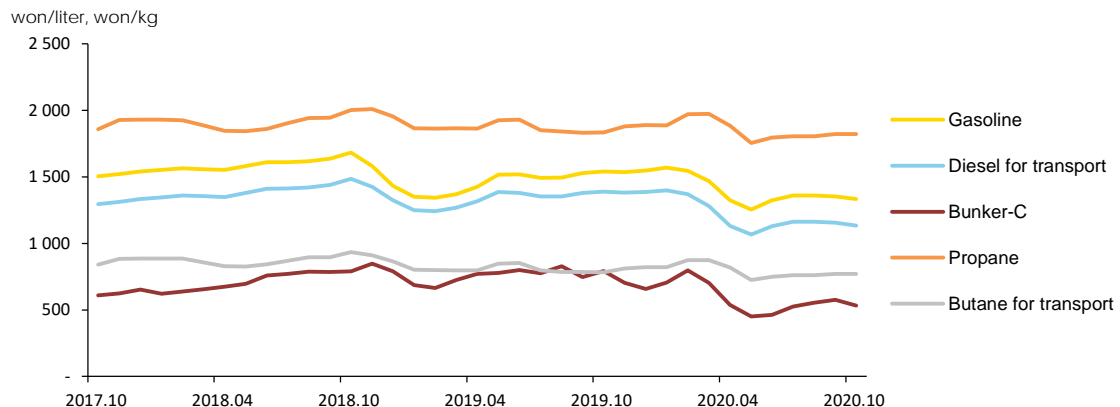
► Domestic petroleum product prices

	2018	2019				2020		
			M8	M9	M10	M8	M9	M10
Gasoline (won/liter)	1 581.4 (6.0)	1 472.3 (-6.9)	1 493.7 (-7.7)	1 529.3 (-6.6)	1 540.5 (-8.4)	1 361.1 (-8.9)	1 352.5 (-11.6)	1 333.3 (-13.5)
Diesel for transport (won/liter)	1 392.0 (8.5)	1 340.4 (-3.7)	1 351.9 (-4.7)	1 379.8 (-4.1)	1 387.7 (-6.6)	1 163.6 (-13.9)	1 154.5 (-16.3)	1 134.0 (-18.3)
Bunker-C (won/liter)	735.2 (18.7)	744.2 (1.2)	827.4 (4.9)	747.4 (-4.7)	791.4 (0.1)	553.7 (-33.1)	575.2 (-23.0)	533.0 (-32.7)
Propane (won/kg)	1 920.5 (4.7)	1 869.6 (-2.7)	1 841.1 (-5.2)	1 831.9 (-5.8)	1 833.6 (-8.4)	1 806.0 (-1.9)	1 821.0 (-0.6)	1 822.1 (-0.6)
Butane for transport (won/liter)	874.6 (5.8)	806.2 (-7.8)	785.4 (-12.2)	784.7 (-12.4)	783.7 (-16.1)	760.4 (-3.2)	771.5 (-1.7)	771.4 (-1.6)

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



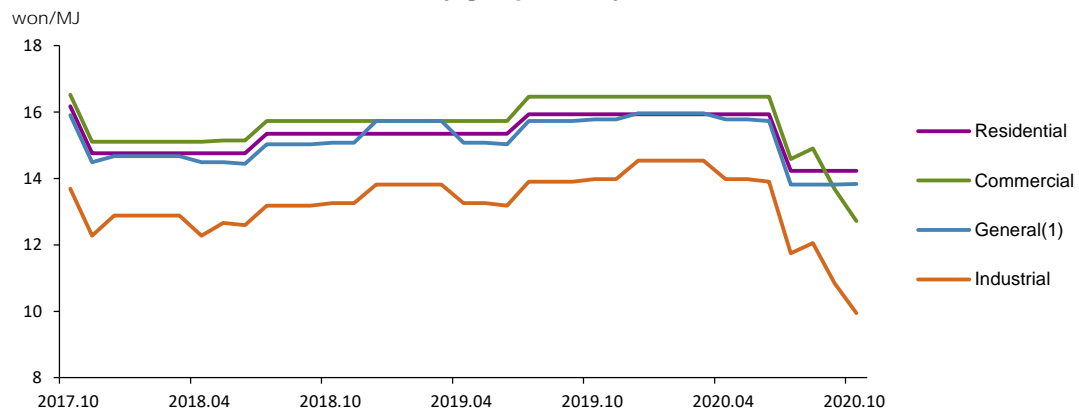
□ **City gas price for commercial and industrial use went down by 7.0% and 8.3% respectively, and that for residential use remained flat compared to the prior month.**

- City gas prices for commercial and industrial use, which are adjusted every month, fell by 7.0% and 8.3% respectively as a result of a drop in global oil price and LNG importing price in addition to the impact of COVID-19, while city gas price for residential use was the same as the previous month.

□ **Electricity prices² for general and industrial use went down after the price adjustment to the spring/autumn season, and the residential electricity price was the same as the previous month.**

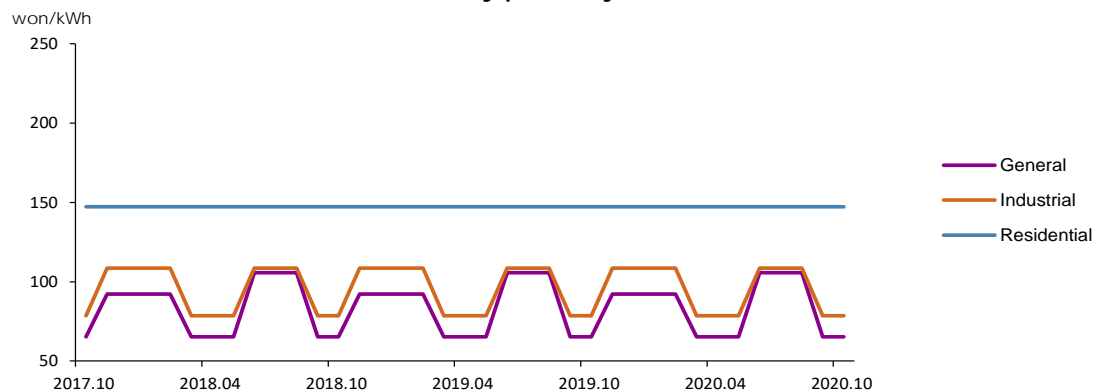
- Electricity prices for general and industrial use, based on time-of-use pricing, went down by 38.3% and 27.6% respectively after the price adjustment from summer (June-Aug) to spring/autumn (Mar-May, Sept-Oct).
- Electricity prices will be adjusted every three months starting from January 2021 with the introduction of the fuel cost pass-through scheme.

► City gas prices by end-use sectors



Source: Seoulgas

► Electricity prices by end-use sectors



Source: KEPCO

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

3. Energy Supply

- **The total energy import volume was down 8.5% year-on-year in October despite increased LNG import, because the import of petroleum products and coal declined.**
 - Baseload generation dropped by 8.6% year-on-year in October due to a drop in coal-fired generation which was offset by gas-fired generation (↑ 10%). The LNG import volume rose by 20.5%, as gas use increased in the power generation sector.
 - The import volume of crude oil edged up 0.2% year-on-year, while that of petroleum products and naphtha plunged by 27.6% and 44.2% respectively.
 - The import volume of bituminous coal decreased by 23.7%, as its use declined in the power generation sector and in the industrial sector as well except coking coal.
- **Renewable & 'other energy' production fell by 2.5% year-on-year, as the final consumption declined, although the power generation from those sources increased according to data by KEPCO.**
 - Renewable generation maintained a rapid growth of 23.1% year-on-year, led by a surge in generation from solar PV, fuel cells and IGCC power plants. However, renewable & the other energy production decreased, as the final consumption declined except for power generation.

► Import and domestic production of energy

	2019p			2020p			
		M1~10	M10	M1~10	M8	M9	M10
Import volume							
Crude oil (Mbbl)	1 071.9	889.4	82.3	826.3	78.9	79.8	82.1
	(-4.0)	(-4.2)	(-15.8)	(-7.1)	(-18.7)	(0.6)	(-0.2)
Petroleum product (Mbbl)	352.1	287.5	28.1	295.2	25.8	29.5	20.3
	(3.1)	(2.3)	(1.2)	(2.7)	(-26.9)	(-8.8)	(-27.6)
Bituminous coal (Mton)	132.7	110.0	12.4	95.9	9.2	11.0	9.5
	(0.9)	(0.5)	(22.1)	(-12.8)	(-27.1)	(-0.5)	(-23.7)
Anthracite (Mton)	6.9	5.9	0.6	5.1	0.6	0.6	0.4
	(-16.4)	(-10.0)	(-9.2)	(-13.4)	(-16.8)	(182.6)	(-28.8)
LNG (Mton)	40.7	32.2	3.2	32.2	2.0	2.9	3.8
	(-7.4)	(-9.1)	(-15.4)	(-0.1)	(-45.5)	(18.3)	(20.5)
Import volume (Mtoe)							
	349.2	287.5	28.4	270.4	24.9	26.6	26.0
	(-1.5)	(-1.6)	(-3.3)	(-6.0)	(-21.7)	(-4.4)	(-8.5)
Import value (billion US\$, CIF)							
	126.7	105.0	9.8	72.9	6.0	6.5	6.3
	(-13.2)	(-12.4)	(-28.2)	(-30.6)	(-48.3)	(-27.8)	(-35.7)
Energy share of total import value (%)							
	25.2	25.1	23.6	18.9	16.7	16.6	16.1
Foreign energy dependence (%)*							
	93.5	93.4	93.2	93.0	92.6	92.0	93.2
Domestic production							
Hydropower (TWh)	6.2	5.3	0.5	6.2	1.1	0.9	0.5
	(-14.1)	(-13.7)	(7.3)	(17.6)	(78.8)	(55.6)	(-13.2)
Anthracite (Mton)	1.1	0.9	0.1	0.9	0.1	0.1	0.1
	(-9.7)	(-12.5)	(1.2)	(-5.2)	(-20.0)	(-3.4)	(-10.3)
Natural gas (Mton)	0.2	0.2	0.0	0.1	0.0	0.0	-
	(-15.2)	(-14.0)	(-20.8)	(-28.5)	(-41.5)	(-93.3)	(-100.0)
Renewable energy (Mtoe)	17.7	14.8	1.4	14.8	1.5	1.6	1.4
	(3.3)	(4.0)	(2.2)	(-0.4)	(-6.1)	(14.6)	(-2.5)

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

4. Energy Consumption

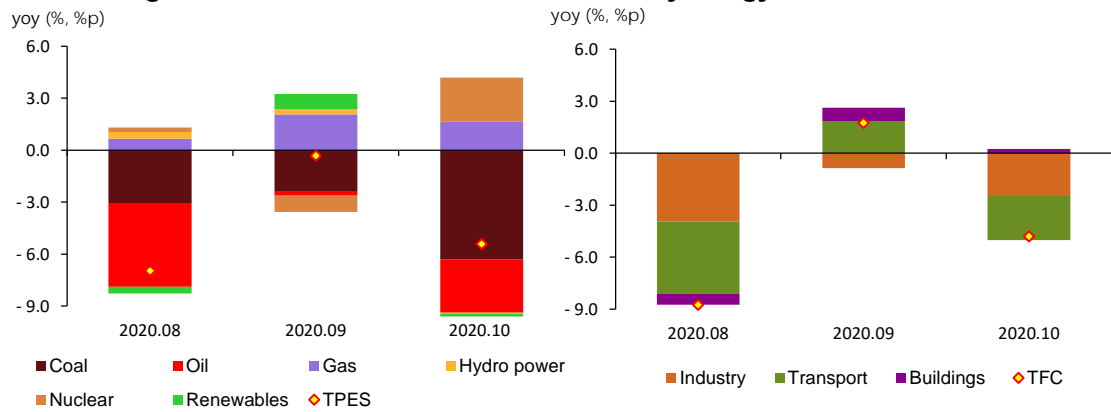
- **Total Primary Energy Supply (“TPES”) fell by 5.4% year-on-year in October, led by a sharp drop in coal and petroleum use.**
 - Coal use dropped by 22.5% year-on-year amid decreased coal-fired generation (-27.7%). Petroleum use fell by 8.0% year-on-year, as its use contracted again in the transport sector, and the amount of naphtha used as feedstock decreased by 9.6%.
 - Nuclear generation posted a year-on-year growth of 27.1% in October due to the best effect of a drop in capacity factor in the same month last year; the average capacity factor fell to slightly over 60% in 2H 2019 as a result of scheduled maintenance at several reactors, and then it grew back to 77.9% in October 2020.
 - Gas use increased by 11.0% year-on-year, as LNG use rose by 16.5% in the power generation sector amid increased gas-fired generation (9.9%), and it rose by 6.0% in the city gas production sector owing to growing demand for heating during cold weather.
- **Total Final Consumption (“TFC”) was down 4.8% year-on-year (in October), led by the transport and buildings sectors.**
 - Transport energy use went down by 12.8% year-on-year in October, as energy use for road transport declined due to the impact of COVID-19 after it grew temporarily in September due to base effect. Energy use for aviation was still down by around 50% on a year-on-year basis despite a slight increase in the number of domestic flights, because that of international flights has been about 80% less than the same month last year.
 - Industrial energy use dropped by 3.9% year-on-year, led by the petrochemical sector (-4.5%), as overall production activities slowed, hit by the COVID-19 pandemic, and the month had fewer workdays because of Chuseok holidays.

► Energy consumption

	2019p			2020p			
		M1~10	M10	M1~10	M8	M9	M10
TPES (Mtoe)	303.1	249.8	24.1	238.4	24.3	23.0	22.8
	(-1.5)	(-1.3)	(-0.2)	(-4.6)	(-7.0)	(-0.3)	(-5.4)
- Non-energy oil&coal excluded	219.6	180.6	17.4	171.7	17.6	16.4	16.4
	(-1.5)	(-1.0)	(1.5)	(-4.9)	(-7.4)	(2.2)	(-6.1)
TFC (Mtoe)	231.4	190.3	18.2	182.6	17.7	17.7	17.3
	(-0.9)	(-0.9)	(0.5)	(-4.0)	(-8.7)	(1.8)	(-4.8)

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

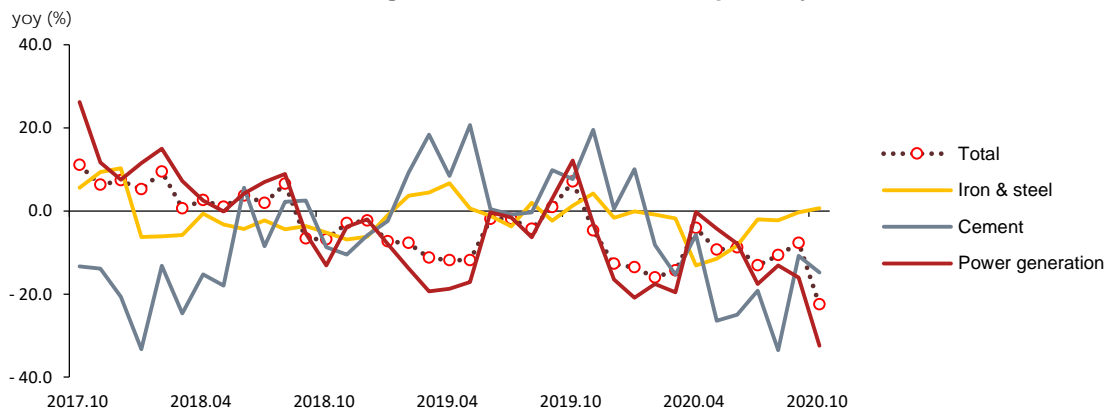
- **Coal use fell by 22.5% year-on-year in October, which was affected by output reduction in large coal-consuming industries and falling demand in the power generation sector.**
 - Industrial coal use dropped by 4.9% year-on-year, as the production declined in the iron & steel and cement industries that consume a large amount of coal due to weak performance of the sectors that are major sources of demand.
 - Coal use decreased by 32.3% in the power generation sector, as coal-fired generation declined by 7.1% owing to a drop in electricity use (-3.8%) and a surge in nuclear generation that ranks higher than coal in the priority order of power generation

► Coal consumption

	2019p			2020p			
		M1~10	M10	M1~10	M8	M9	M10
Coal (Mton)	133.0	111.2	11.6	97.6	11.3	10.6	9.0
	(-5.7)	(-5.0)	(7.0)	(-12.2)	(-10.7)	(-7.7)	(-22.5)
Industry	47.6	39.6	4.1	37.3	3.9	3.9	3.9
	(-1.7)	(-0.8)	(0.7)	(-5.8)	(-5.5)	(11.2)	(-4.9)
-Coking-coal	35.0	29.1	3.0	27.9	2.9	2.9	3.0
	(1.0)	(0.9)	(1.3)	(-4.0)	(-2.3)	(-0.3)	(0.6)
Buildings	0.6	0.4	0.1	0.3	0.0	0.0	0.1
	(-29.3)	(-32.0)	(-39.6)	(-20.8)	(-49.6)	(-27.8)	(-11.2)
Power generation	84.8	71.1	7.4	59.9	7.4	6.7	5.0
	(-7.6)	(-7.0)	(12.2)	(-15.8)	(-13.1)	(-16.0)	(-32.4)

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

► The growth rate of coal consumption by use



6. Petroleum

□ **Petroleum use decreased by 8.0% in October on a year-on-year basis, as it declined in all end-use sectors due to the impact of COVID-19.**

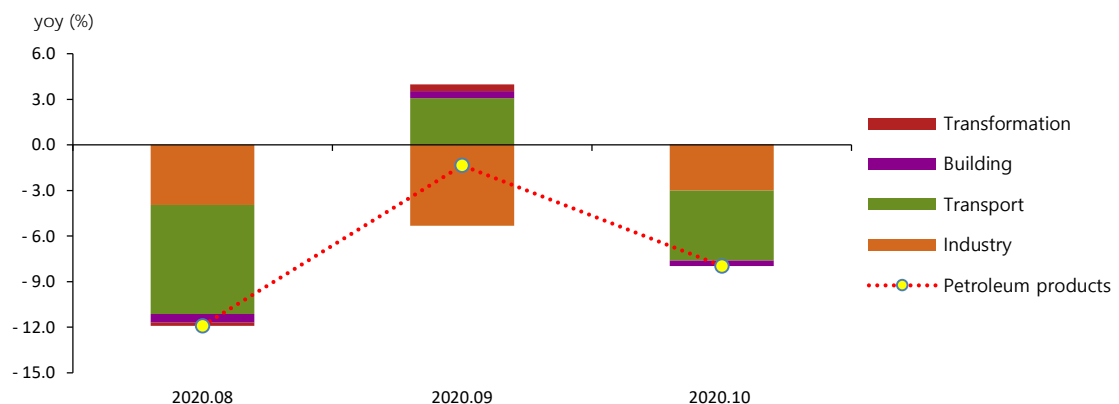
- Petroleum use was down 5.0% year-on-year in the industrial sector, because the use of naphtha which takes a large share of the industrial petroleum demand continued to decrease.
- Petroleum use fell by 13.6% year-on-year in the transport sector, as travel demand decreased despite Chuseok holidays amid another wave of COVID-19 infections.
- Petroleum use slid by 7.1% year-on-year in the buildings sector, as its demand declined in commercial and public & other buildings, affected by social distancing measure taken to contain the pandemic, although the weather was colder than last year.

► Petroleum product consumption by end-use sectors

	2019p	M1~10		2020p			
			M10	M1~10	M8	M9	M10
Petroleum (Mbbbl)	927.1	762.6	75.7	726.7	71.7	71.3	69.7
	(-0.5)	(-1.3)	(3.0)	(-4.7)	(-11.9)	(-1.3)	(-8.0)
Industry	566.2	465.6	45.7	457.5	45.6	44.7	43.5
	(0.4)	(-1.0)	(-0.5)	(-1.8)	(-6.6)	(-7.9)	(-5.0)
-Naphtha	438.6	363.8	34.3	344.3	34.1	33.4	31.0
	(-2.8)	(-3.6)	(-5.7)	(-5.4)	(-10.5)	(-10.5)	(-9.6)
Transport	303.2	251.1	25.8	225.5	23.0	22.6	22.3
	(0.3)	(0.8)	(14.4)	(-10.2)	(-20.2)	(10.9)	(-13.6)
Buildings	49.1	38.8	3.8	39.3	2.6	3.3	3.5
	(-8.6)	(-8.1)	(-9.7)	(1.3)	(-15.0)	(10.8)	(-7.1)
Power generation	8.6	7.0	0.4	4.4	0.5	0.7	0.4
	(-26.9)	(-32.5)	(-49.6)	(-37.7)	(-26.8)	(91.1)	(3.2)

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

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



- Natural gas use posted a year-on-year growth of 11.0% in October, driven by surging demand in the power generation sector.

- Gas use for power generation grew by 16.5% year-on-year in October amid increased gas-fired generation (9.9%, yoy) despite a drop in electricity use, because coal-fired generation plunged by 27%.

☐ City gas use went up by 6.7% year-on-year (in October) as a result of an increased volume of directly imported gas and base effect in the residential sector.

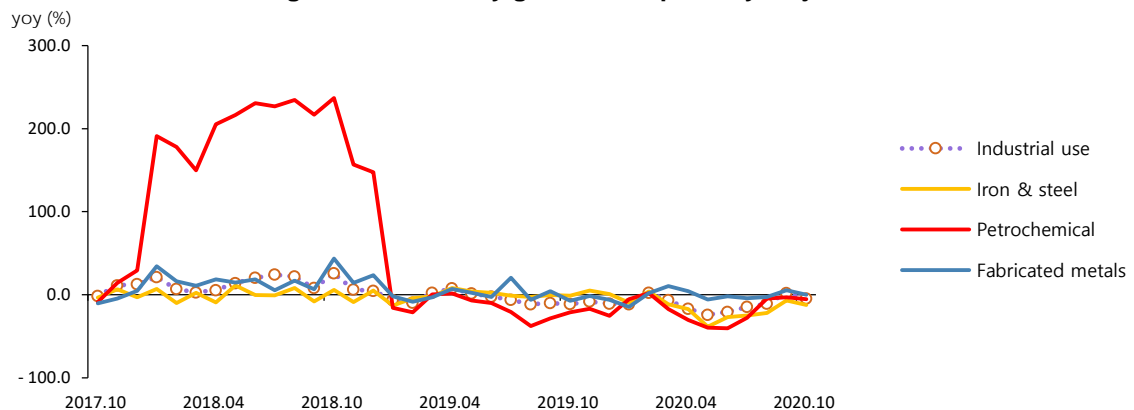
- Industrial city gas use went up by 3.6% year-on-year even amid a slowdown in manufacturing, because the iron & steel and petrochemical industries directly imported a growing amount of natural gas.
- City gas use in buildings rose by 14.5% year-on-year, as its demand increased in residential buildings due to base effect and more time spent at home during the COVID-19 pandemic.

► **Natural gas and city gas consumption**

	2019p			2020p			
		M1~10	M10	M1~10	M8	M9	M10
LNG (Mton)	41.0	32.3	2.8	32.3	3.0	2.8	3.1
	(-3.1)	(-4.4)	(-10.4)	(0.0)	(4.6)	(15.0)	(11.0)
Power generation	17.9	14.4	1.3	14.9	1.7	1.6	1.5
	(-3.0)	(-6.8)	(-9.6)	(3.8)	(9.2)	(27.4)	(16.5)
City gas production	21.0	16.4	1.3	16.0	1.1	1.1	1.5
	(-1.5)	(-0.6)	(-11.9)	(-2.2)	(-0.1)	(5.8)	(8.6)
City gas (bm³)	26.1	20.7	1.6	20.3	1.4	1.4	1.7
	(-0.6)	(0.3)	(-8.3)	(-2.2)	(0.4)	(4.0)	(6.7)
Industry	11.1	9.1	0.9	9.0	0.8	0.9	0.9
	(3.5)	(5.1)	(-4.3)	(-1.6)	(-2.4)	(9.1)	(3.6)
Buildings	13.8	10.6	0.6	10.4	0.5	0.4	0.7
	(-3.6)	(-3.3)	(-14.7)	(-2.1)	(6.0)	(-1.9)	(14.5)

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 went down by 3.8% year-on-year in October, as it declined in all end-use sectors except the residential sector.

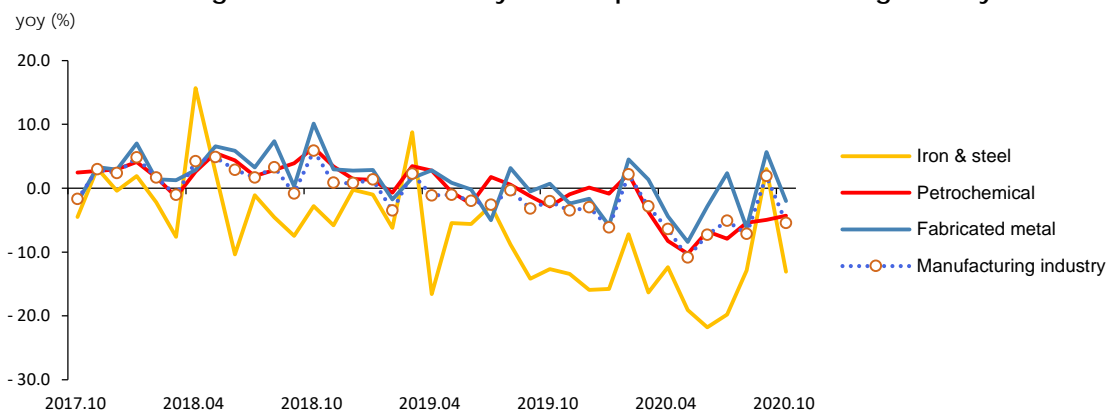
- Industrial power use contracted again amid sluggish industrial performance due to COVID-19 and fewer workdays, posting 2.0% drop in the mining & manufacturing production index.
- Electricity use in buildings was down 2.2% year-on-year, as it grew at slower rate in residential buildings while fell more rapidly in commercial buildings that take a significant share of the buildings' total electricity use.

► Electricity consumption by end-use sectors

	2019p	2020p					
		M1~10	M10	M1~10	M8	M9	M10
Electricity (TWh)	520.5	434.7	40.6	423.1	44.6	45.1	39.1
	(-1.1)	(-1.0)	(1.6)	(-2.7)	(-6.2)	(3.3)	(-3.8)
Industry	279.8	233.4	22.7	222.6	22.5	23.2	21.5
	(-1.4)	(-1.0)	(-1.7)	(-4.6)	(-7.1)	(2.1)	(-5.1)
Transport	2.9	2.5	0.2	2.3	0.3	0.2	0.2
	(-2.0)	(-1.0)	(-3.9)	(-8.0)	(-9.9)	(-7.4)	(-4.8)
Buildings	237.8	198.8	17.7	198.3	21.8	21.7	17.3
	(-0.7)	(-1.0)	(6.3)	(-0.3)	(-5.3)	(4.9)	(-2.2)
Residential	70.5	59.1	5.4	62.1	7.2	7.6	5.6
	(-0.3)	(-0.7)	(5.6)	(5.0)	(-5.5)	(15.0)	(3.4)
Commercial	135.2	113.0	9.9	110.4	11.9	11.3	9.4
	(-0.9)	(-1.1)	(6.6)	(-2.3)	(-5.9)	(-0.0)	(-5.0)

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

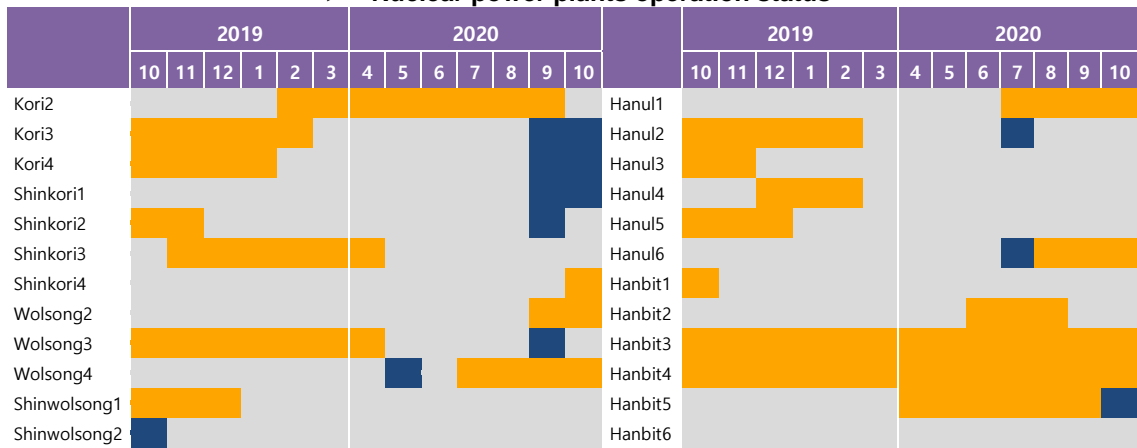
► The growth rate of electricity consumption in manufacturing industry



9. Nuclear

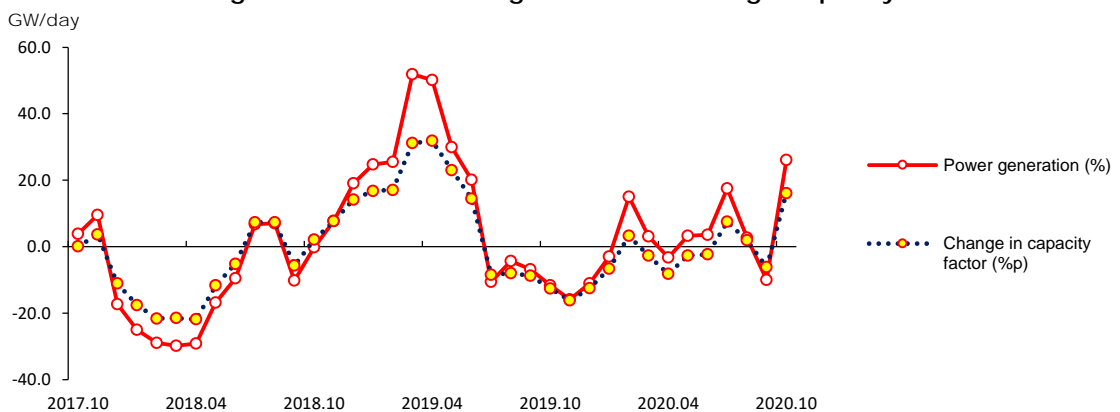
- The total nuclear generation grew by 27.1% year-on-year in October, as capacity factors increased substantially due to base effect.
 - The average capacity factor at nuclear power plants fell to slightly over 60% in 2H 2019 partly because of scheduled maintenance, and then it grew back to 77.9% in October 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 7.5p 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

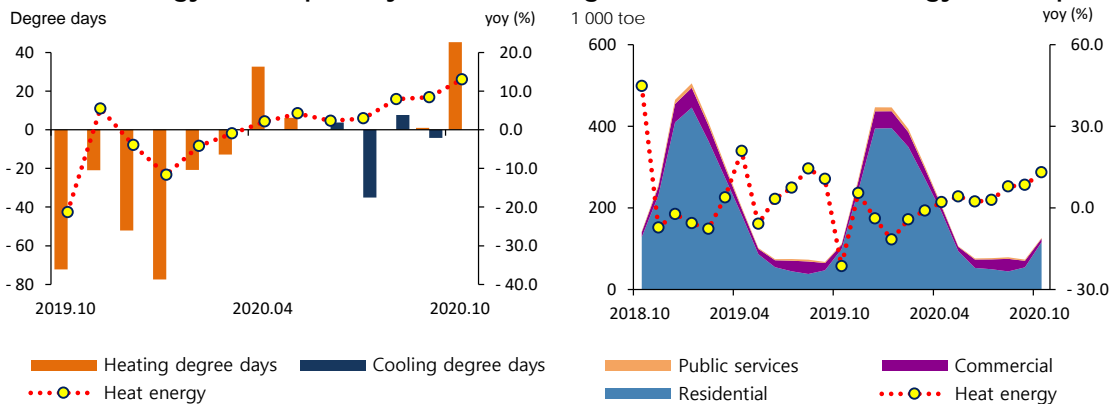
□ Heat energy use grew by 13.1% year-on-year in October, with the residential sector leading the growth, amid increased number of heating degree days.

- Heat energy use rose by 17.0% in the residential sector with a surge in the number of heating degree days (54.5%), while it fell by 17.9% in the commercial & public sectors.

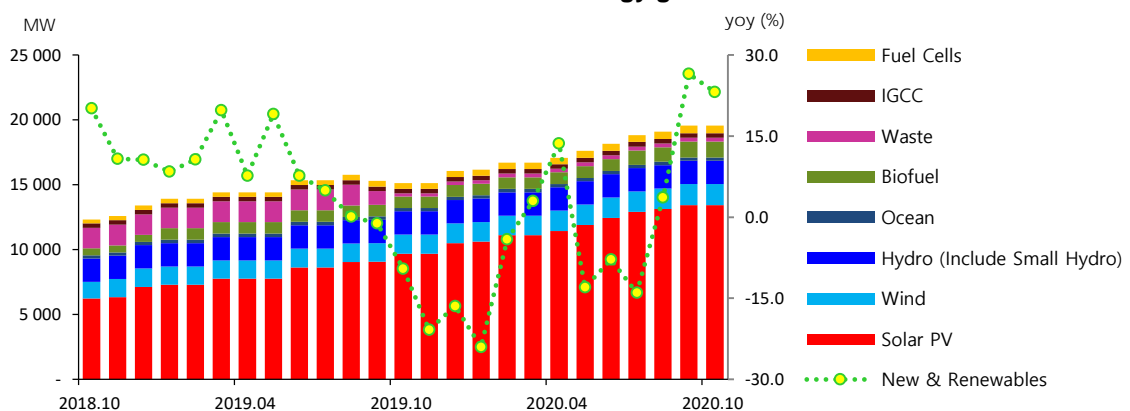
□ Renewable energy generation³ was up 23.1% (in October, yoy) mostly from solar PV, fuel cell and IGCC.

- Renewable generation continued to grow fast, as waste energy generation started to increase with no more base effect from the exclusion of non-renewable waste energy in the renewable category (Oct. 2019), and as power generation surged from solar PV, fuel cell and IGCC power plants.
- The total renewable energy generation, including non-renewable waste energy, grew by 4.9% (yoy) because non-renewable waste energy generation plunged (-69.8%) after Hyundai Green Power changed its business from power generation to iron & steel (Oct.), and according exclusion from the power generation statistics.

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



► 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. In Energy Balance, renewable and 'the other' energy generation excludes hydropower and includes non-renewable waste energy.

11. Industry

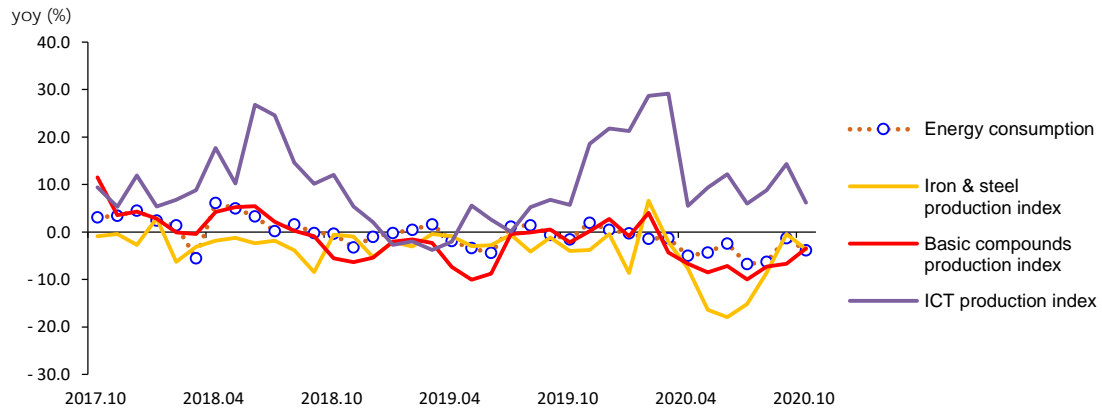
- Industrial energy use slid by 3.9% year-on-year in October, as industrial production slowed down due to the impact of COVID-19 and fewer workdays.
 - Industrial energy use declined due to the overall slowdown in production activities, led by a sharp fall in the petrochemical sector that takes a large share of the total industrial energy use.

► Industrial energy consumption

	2019p			2020p			
		M1~10	M10	M1~10	M8	M9	M10
Industry (Mtoe)	142.9	118.2	11.7	114.3	11.4	11.5	11.2
	(-0.4)	(-0.7)	(-1.5)	(-3.3)	(-6.3)	(-1.3)	(-3.9)
Petrochemical	72.0	59.5	5.8	58.2	5.9	5.7	5.5
	(-0.1)	(-1.0)	(-1.1)	(-2.1)	(-5.2)	(-6.6)	(-4.5)
- Naphtha	53.8	44.6	4.2	42.2	4.2	4.1	3.8
	(-2.8)	(-3.6)	(-5.7)	(-5.4)	(-10.5)	(-10.5)	(-9.6)
Iron & Steel	29.5	24.6	2.5	23.5	2.4	2.4	2.4
	(0.4)	(0.4)	(-0.4)	(-4.6)	(-3.8)	(0.2)	(-0.7)
-Coking coal	24.4	20.3	2.1	19.5	2.0	2.0	2.1
	(1.0)	(0.9)	(1.3)	(-4.0)	(-2.3)	(-0.3)	(0.6)
Fabricated metal	11.4	9.4	0.9	9.3	0.9	0.9	0.9
	(-0.1)	(0.4)	(-0.7)	(-1.2)	(-4.9)	(6.9)	(-0.9)
Share of feedstock (%)	58.3	58.4	57.2	58.1	58.8	57.2	57.3

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

► Industrial energy consumption & production index



12. Transport

□ **Transport energy use went down by 12.8% in October from the same month last year, because travel demand decreased due to the impact of COVID-19.**

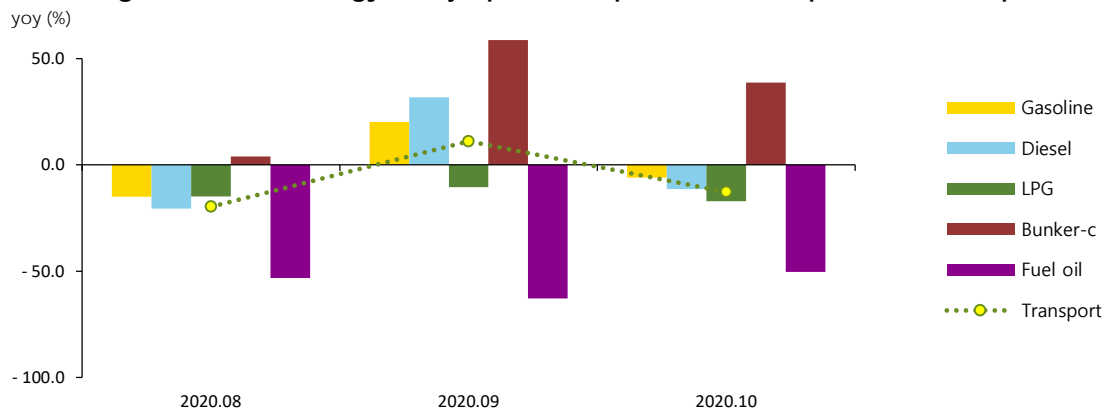
- Energy use fell by 10.3% year-on-year in the road transport sector as a result of decreased travel demand; highway traffic volume was down 10% during the Chuseok holidays (9/30-10/4) as compared to the corresponding period of last year.
- Energy use plunged by 50.3% year-on-year in the aviation sector, since the international air routes have been blocked owing to the COVID-19 pandemic.
- Energy use continued the upward trend of the previous month (61.2%) in the navigation sector, posting a year-on-year growth of 34.1% in October, driven by growing demand for marine transport.

► The growth rate of petroleum consumption in the transport sector

	2019p			2020p			
		M1~10	M10	M1~10	M8	M9	M10
Transport (Mtoe)	43.0	35.6	3.6	32.1	3.3	3.2	3.2
	(0.0)	(0.5)	(12.6)	(-9.9)	(-19.7)	(11.0)	(-12.8)
Road	35.1	29.1	3.0	27.2	2.9	2.8	2.7
	(1.9)	(2.8)	(21.7)	(-6.4)	(-18.2)	(20.3)	(-10.3)
Navigation	2.6	2.2	0.2	2.5	0.2	0.3	0.2
	(-17.1)	(-17.0)	(-40.3)	(12.7)	(12.3)	(61.2)	(34.1)
Aviation	4.9	4.0	0.4	2.1	0.2	0.1	0.2
	(-1.7)	(-3.8)	(-4.1)	(-47.4)	(-53.2)	(-62.8)	(-50.3)
Rail	0.3	0.3	0.0	0.3	0.0	0.0	0.0
	(-2.8)	(-1.8)	(-7.3)	(-9.4)	(-16.8)	(-7.3)	(-8.5)

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 grew by 1.5% year-on-year in October as a result of social distancing measures and the increased number of heating degree days.

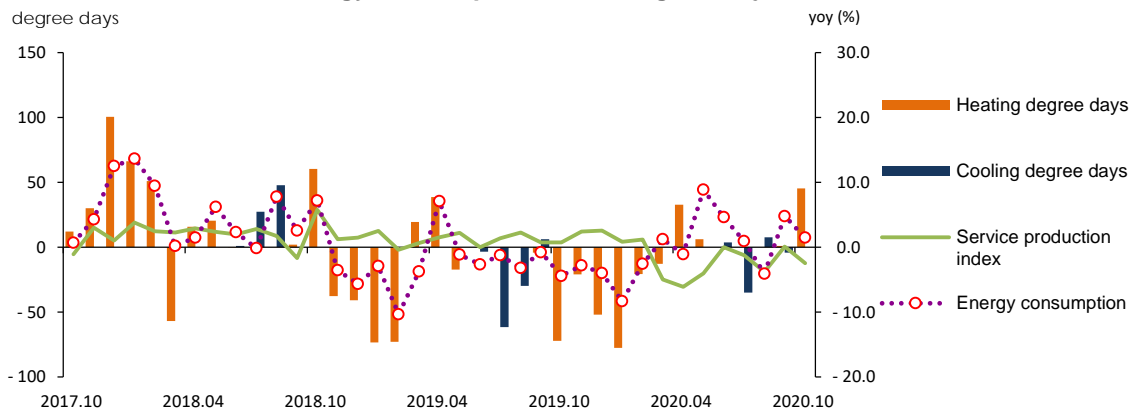
- Energy use kept increasing in residential buildings while decreasing in commercial & public buildings amid the social distancing trend during another outbreak of coronavirus, and the number of heating degree days surged due to the base effect of warm weather in the same month last year. Accordingly, buildings' total energy use increased.
- In residential buildings, city gas and heat energy use grew by 27.5% and 17.0% respectively in October due to base effect, and electricity use also rose by 3.4%. Meanwhile, briquette and petroleum use fell by over 10% compared to the same month last year.
- Energy use dropped by 4.6% year-on-year in commercial & public buildings, as electricity, city gas and heat energy use decreased by 4.6%, 10.0% and 17.9% respectively as a result of a slowdown in production activities in the service sector amid the social distancing measures.

► Energy consumption in buildings

	2019p			2020p			
		M1~10	M10	M1~10	M8	M9	M10
Buildings (Mtoe)	45.5	36.5	2.9	36.3	3.0	3.0	3.0
	(-3.1)	(-3.0)	(-4.4)	(-0.5)	(-4.1)	(4.8)	(1.5)
Residential	22.6	17.6	1.3	17.9	1.1	1.2	1.4
	(-3.6)	(-3.2)	(-12.8)	(1.4)	(-2.3)	(9.8)	(9.2)
Commercial	17.5	14.4	1.2	14.0	1.4	1.3	1.2
	(-2.3)	(-2.6)	(3.6)	(-2.8)	(-5.5)	(-0.5)	(-5.1)
Public-others	5.4	4.4	0.4	4.4	0.4	0.5	0.4
	(-3.2)	(-3.2)	(2.9)	(-0.3)	(-4.0)	(8.3)	(-3.2)
Heating degree days	2 342.9	1 595.5	83.1	1 569.6	-	1.9	128.4
	(-9.8)	(-10.2)	(-46.5)	(-1.6)	-	(111.1)	(54.5)
Cooling degree days	120.4	120.4	-	92.5	82.4	1.9	-
	(-42.4)	(-42.4)	-	(-23.2)	(10.2)	(-68.9)	-

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

► Energy consumption in buildings & major indicators



14. Transformation

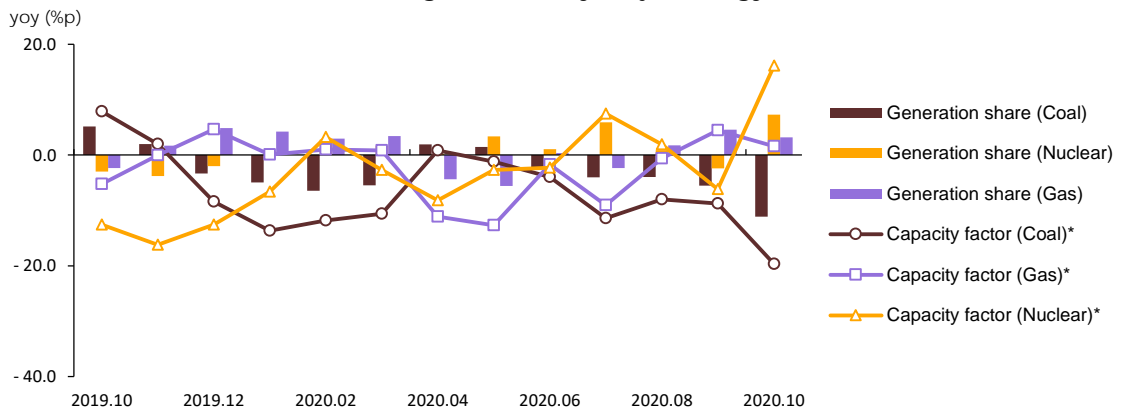
- The total power generation fell by 3.4% year-on-year in October, but the energy input fell by 6.0%, because generating efficiency increased due to a change in generation mix.
 - Electricity use dropped by 3.8% year-on-year, and the total power generation declined at a similar pace, but the energy input for power generation dropped faster, because baseload generation plunged, while highly efficient gas-fired generation increased.

► Energy consumption in the power generation sector

	2019p	2020p		2020p			
		M1~10	M10	M1~10	M8	M9	M10
Input (Mtoe)	115.9	96.8	9.2	92.2	10.4	9.2	8.7
	(-1.9)	(-1.3)	(-0.4)	(-4.7)	(-3.0)	(-2.2)	(-6.0)
Coal	50.1	42.0	4.4	35.4	4.4	3.9	3.0
	(-7.6)	(-7.1)	(12.2)	(-15.8)	(-13.1)	(-15.9)	(-32.3)
Oil	0.8	0.7	0.0	0.3	0.1	0.1	0.0
	(-35.7)	(-41.2)	(-66.5)	(-52.9)	(-24.3)	(191.7)	(-12.2)
Gas	23.8	19.0	1.7	19.8	2.3	2.1	2.0
	(-3.3)	(-6.9)	(-10.0)	(4.0)	(9.8)	(27.9)	(17.1)
Nuclear	31.1	26.5	2.3	27.9	2.7	2.0	2.9
	(9.3)	(14.4)	(-12.3)	(5.2)	(2.7)	(-10.0)	(27.1)
Hydro/other renewables	10.1	8.5	0.9	8.8	1.0	1.0	0.8
	(5.8)	(6.8)	(7.0)	(3.5)	(7.8)	(30.4)	(-4.3)

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			
			M1~10	M8	M9	M10	M1~10	M8	M9	M10
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	104.8	105.2	105.5	105.4	105.5	106.2	105.6
USD to KRW exchange rate (won)	1 100.2	1 165.4	1 164.1	1 209.0	1 197.6	1 184.1	1 195.1	1 186.9	1 178.8	1 144.7
Benchmark rate (%)	1.5	1.6	1.6	1.5	1.5	1.3	0.7	0.5	0.5	0.5
Coincident composite index (2015=100)	110.1	111.7	111.5	112.1	112.3	112.6	111.8	111.6	112.1	112.9
Mining & manufacturing production index (2015=100)	106.4	106.3	105.0	103.0	104.1	111.6	105.0	100.2	112.6	109.4
Manufacturing operation ratio index (2015=100)	98.8	98.5	97.9	96.2	96.9	103.7	94.5	89.5	101.2	98.7
Average temperature	13.0	13.5	15.1	26.2	21.7	15.8	14.9	26.6	20.3	14.0
- year-on-year difference	-0.1	0.5	0.4	-1.1	1.3	2.8	-0.1	0.5	-1.4	-1.8
Heating degree days	2 597.8 (3.2)	2 342.9 (-9.8)	1 595.5 (-10.2)	- (-)	0.9 (-82.0)	83.1 (-46.5)	1 569.6 (-1.6)	- (-)	1.9 (111.1)	128.4 (54.5)
Cooling degree days	209.0 (57.5)	120.4 (-42.4)	120.4 (-42.4)	74.8 (-28.4)	6.1 (-)	- (-)	92.5 (-23.2)	82.4 (10.2)	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)	14.7 (-1.5)	1.6 (4.3)	1.4 (-6.1)	1.5 (2.8)	14.0 (-4.8)	1.4 (-12.0)	1.4 (-1.5)	1.3 (-8.1)
Electricity (MWh)	10.2 (3.1)	10.1 (-1.3)	8.4 (-1.2)	0.9 (-4.2)	0.8 (-0.4)	0.8 (1.4)	8.2 (-2.8)	0.9 (-6.4)	0.9 (3.2)	0.8 (-4.0)
City gas (1 000 m ³)	0.5 (6.9)	0.5 (-4.3)	0.4 (-3.9)	0.0 (-3.9)	0.0 (-3.8)	0.0 (-12.3)	0.3 (-5.7)	0.0 (-3.2)	0.0 (-0.8)	0.0 (3.3)
Total energy (toe)	6.0 (1.3)	5.9 (-1.6)	4.8 (-1.5)	0.5 (-0.4)	0.4 (-3.1)	0.5 (-0.4)	4.6 (-4.7)	0.5 (-7.1)	0.4 (-0.5)	0.4 (-5.6)

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)

</

Note: p means provisional

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

International Energy Prices

	2018	2019					2020			
			M1~10	M8	M9	M10	M1~10	M8	M9	M10
Crude oil (USD/bbl)										
WTI	64.8 (27.1)	57.0 (-11.9)	56.8 (-15.5)	54.8 (-19.2)	57.0 (-18.7)	54.0 (-23.7)	38.4 (-32.3)	42.4 (-22.7)	39.6 (-30.4)	39.6 (-26.8)
Dubai	69.4 (30.5)	63.5 (-8.5)	63.6 (-10.5)	59.1 (-18.4)	61.1 (-20.8)	59.4 (-25.2)	41.3 (-35.0)	44.0 (-25.6)	41.5 (-32.1)	40.7 (-31.5)
Brent	71.5 (30.5)	64.2 (-10.3)	64.2 (-12.6)	59.5 (-19.4)	62.3 (-21.3)	59.6 (-26.0)	42.4 (-33.9)	45.0 (-24.3)	41.9 (-32.8)	41.5 (-30.4)
Unit value of import (C&F)	71.4 (34.0)	65.5 (-8.3)	65.6 (-8.1)	64.5 (-14.2)	63.1 (-17.4)	64.1 (-19.0)	44.8 (-31.7)	44.7 (-30.8)	44.5 (-29.5)	43.4 (-32.4)
LNG										
From Indonesia (USD/MMBTU)	10.7 (24.0)	10.6 (-1.0)	10.7 (2.2)	10.9 (-0.1)	10.1 (-10.3)	10.0 (-14.4)	8.5 (-20.1)	6.3 (-41.6)	5.9 (-42.0)	6.2 (-38.1)
Unit value of import (USD/ton, CIF)	526.3 (26.4)	505.4 (-4.0)	515.5 (-0.0)	479.2 (-10.0)	509.9 (-9.3)	479.0 (-17.4)	401.1 (-22.2)	317.4 (-33.8)	263.4 (-48.3)	275.7 (-42.4)
Bituminous coal (USD/ton)										
From Australia	107.0 (20.9)	77.9 (-27.2)	80.1 (-25.9)	65.6 (-44.1)	66.0 (-42.2)	69.2 (-36.4)	58.2 (-27.4)	50.1 (-23.5)	54.6 (-17.2)	58.4 (-15.6)
Unit value of import (CIF)	113.6 (8.9)	100.7 (-11.3)	103.6 (-8.9)	103.6 (-5.9)	85.0 (-26.9)	92.1 (-19.4)	78.7 (-24.0)	70.8 (-31.7)	68.4 (-19.5)	70.4 (-23.5)
Petroleum product (USD/bbl)										
Gasoline	79.9 (17.4)	72.5 (-9.3)	71.9 (-13.5)	70.1 (-17.4)	74.7 (-16.6)	74.0 (-15.6)	46.0 (-36.1)	48.2 (-31.2)	47.2 (-36.8)	46.0 (-37.9)
Kerosene	84.8 (29.8)	77.3 (-8.9)	77.4 (-10.3)	74.6 (-14.5)	77.7 (-15.2)	75.4 (-20.8)	43.7 (-43.5)	43.3 (-42.0)	39.3 (-49.4)	41.6 (-44.8)
Diesel	84.9 (27.9)	78.2 (-7.9)	78.3 (-9.7)	75.4 (-14.8)	78.1 (-16.8)	77.1 (-20.7)	49.0 (-37.5)	49.5 (-34.4)	44.2 (-43.4)	43.9 (-43.0)
Bunker-C	65.2 (31.3)	57.5 (-11.8)	60.8 (-7.6)	54.5 (-21.1)	61.3 (-13.2)	47.4 (-38.3)	37.9 (-37.6)	42.2 (-22.5)	39.6 (-35.4)	41.2 (-13.0)
Propane	542.1 (16.0)	434.6 (-19.8)	434.5 (-21.3)	370.0 (-36.2)	350.0 (-41.7)	420.0 (-35.9)	388.5 (-10.6)	365.0 (-1.4)	365.0 (4.3)	375.0 (-10.7)
Butane	539.2 (7.5)	441.7 (-18.1)	440.0 (-20.4)	360.0 (-39.5)	360.0 (-43.3)	435.0 (-33.6)	394.5 (-10.3)	345.0 (-4.2)	355.0 (-1.4)	380.0 (-12.6)
Naphtha	67.0 (24.5)	56.9 (-15.1)	56.0 (-19.5)	50.6 (-29.3)	54.0 (-28.1)	56.8 (-23.9)	39.7 (-29.1)	42.9 (-15.1)	43.0 (-20.4)	41.7 (-26.6)

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			
			M1~10	M8	M9	M10	M1~10	M8	M9	M10
Petroleum product										
Gasoline (won/liter)	1 581.4 (6.0)	1 471.9 (-6.9)	1 457.9 (-8.7)	1 493.7 (-7.7)	1 529.3 (-6.6)	1 540.5 (-8.4)	1 389.2 (-4.7)	1 361.1 (-8.9)	1 352.5 (-11.6)	1 333.3 (-13.5)
Diesel (won/liter)	1 391.9 (8.5)	1 340.1 (-3.7)	1 331.5 (-4.6)	1 351.9 (-4.7)	1 379.8 (-4.1)	1 387.7 (-6.6)	1 199.0 (-10.0)	1 163.6 (-13.9)	1 154.5 (-16.3)	1 134.0 (-18.3)
Bunker-C (won/liter)	734.8 (18.6)	743.9 (1.2)	756.6 (5.3)	827.4 (4.9)	747.4 (-4.7)	791.4 (0.1)	584.5 (-22.7)	553.7 (-33.1)	575.2 (-23.0)	533.0 (-32.7)
Propane (won/kg)	1 920.5 (4.7)	1 869.7 (-2.6)	1 866.7 (-2.2)	1 841.1 (-5.2)	1 831.9 (-5.8)	1 833.6 (-8.4)	1 852.1 (-0.8)	1 806.0 (-1.9)	1 821.0 (-0.6)	1 822.1 (-0.6)
Butane (won/liter)	874.6 (5.8)	806.2 (-7.8)	804.4 (-7.8)	785.4 (-12.2)	784.7 (-12.4)	783.7 (-16.1)	792.6 (-1.5)	760.4 (-3.2)	771.5 (-1.7)	771.4 (-1.6)
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)	15.3 (-2.1)	14.2 (-10.7)	14.2 (-10.7)	14.2 (-10.7)
General(1)	14.9 (-3.8)	15.6 (4.9)	15.5 (5.3)	15.7 (4.7)	15.7 (4.7)	15.8 (4.7)	15.0 (-3.1)	13.8 (-12.2)	13.8 (-12.2)	13.8 (-12.3)
Commercial	15.4 (-4.4)	16.1 (4.4)	16.0 (4.3)	16.5 (4.7)	16.5 (4.7)	16.5 (4.7)	15.5 (-3.5)	14.9 (-9.5)	13.7 (-16.9)	12.7 (-22.7)
Industry	13.0 (-2.3)	13.8 (6.0)	13.7 (6.1)	13.9 (5.5)	13.9 (5.5)	14.0 (5.4)	13.0 (-4.9)	12.1 (-13.3)	10.8 (-22.0)	9.9 (-28.8)
Heat(won/Mcal)										
Residential	64.5 (-2.7)	65.7 (1.8)	65.4 (1.5)	67.1 (3.8)	67.1 (3.8)	67.1 (3.8)	66.4 (1.5)	65.2 (-2.8)	65.2 (-2.8)	65.2 (-2.8)
Commercial	83.8 (-2.7)	85.3 (1.8)	84.9 (1.5)	87.2 (3.8)	87.2 (3.8)	87.2 (3.8)	86.2 (1.5)	84.7 (-2.8)	84.7 (-2.8)	84.7 (-2.8)
Public	73.2 (-2.7)	74.5 (1.9)	74.2 (1.5)	76.1 (3.8)	76.1 (3.8)	76.1 (3.8)	75.3 (1.5)	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 -	82.8 -	105.7 -	65.2 -	65.2 -	82.8 -	105.7 -	65.2 -	65.2 -
Industry	96.0 -	96.0 -	93.5 -	108.5 -	78.5 -	78.5 -	93.5 -	108.5 -	78.5 -	78.5 -

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			
			M1~10	M8	M9	M10	M1~10	M8	M9	M10
Coal (Mton)	141.1 (0.9)	133.0 (-5.7)	111.2 (-5.0)	12.7 (-4.3)	11.5 (0.9)	11.6 (7.0)	97.6 (-12.2)	11.3 (-10.7)	10.6 (-7.7)	9.0 (-22.5)
- Coking coal excluded	106.4 (2.9)	98.0 (-7.9)	82.1 (-7.0)	9.7 (-6.1)	8.7 (2.0)	8.6 (9.2)	69.7 (-15.2)	8.4 (-13.3)	7.8 (-10.2)	6.0 (-30.5)
Oil (Mbbbl)	931.8 (-0.6)	927.1 (-0.5)	762.6 (-1.3)	81.3 (4.5)	72.3 (-6.0)	75.7 (3.0)	726.7 (-4.7)	71.7 (-11.9)	71.3 (-1.3)	69.7 (-8.0)
- Non-energy oil excluded	445.5 (0.4)	451.8 (1.4)	369.4 (0.9)	40.5 (8.6)	32.0 (-10.2)	38.6 (14.1)	347.8 (-5.8)	34.1 (-15.9)	34.5 (7.8)	34.8 (-9.7)
LNG (Mton)	42.3 (16.2)	41.0 (-3.1)	32.3 (-4.4)	2.8 (-1.7)	2.4 (6.4)	2.8 (-10.4)	32.3 (0.0)	3.0 (4.6)	2.8 (15.0)	3.1 (11.0)
Hydro (TWh)	7.3 (3.9)	6.2 (-14.1)	5.3 (-13.7)	0.6 (-14.2)	0.6 (-20.7)	0.5 (7.3)	6.2 (17.6)	1.1 (78.8)	0.9 (55.6)	0.5 (-13.2)
Nuclear (TWh)	133.5 (-10.1)	145.9 (9.3)	124.6 (14.4)	12.2 (-4.4)	10.3 (-6.8)	10.6 (-12.3)	131.1 (5.2)	12.5 (2.7)	9.3 (-10.0)	13.5 (27.1)
Others (Mtoe)	17.1 (8.0)	17.7 (3.3)	14.8 (4.0)	1.6 (5.8)	1.4 (-3.0)	1.4 (2.2)	14.8 (-0.4)	1.5 (-6.1)	1.6 (14.6)	1.4 (-2.5)
TPES (Mtoe)	307.6 (1.8)	303.1 (-1.5)	249.8 (-1.3)	26.1 (-0.2)	23.1 (-2.9)	24.1 (-0.2)	238.4 (-4.6)	24.3 (-7.0)	23.0 (-0.3)	22.8 (-5.4)
- Non-energy oil excluded	247.1 (2.7)	244.0 (-1.3)	200.9 (-0.8)	21.0 (-0.5)	18.1 (-3.1)	19.5 (1.4)	191.2 (-4.8)	19.6 (-6.8)	18.4 (1.9)	18.4 (-5.4)
- Non-energy oil&coal excluded	223.0 (3.5)	219.6 (-1.5)	180.6 (-1.0)	19.0 (-0.8)	16.1 (-3.2)	17.4 (1.5)	171.7 (-4.9)	17.6 (-7.4)	16.4 (2.2)	16.4 (-6.1)

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

Share of TPES by Sources

(unit: %)

	2018	2019p					2020p			
			M1~10	M8	M9	M10	M1~10	M8	M9	M10
Coal	28.2	27.1	27.5	29.9	30.9	29.6	25.4	28.8	28.6	24.6
- Coking coal excluded	20.3	19.1	19.4	21.9	22.2	21.1	17.2	20.4	19.9	15.5
Oil	38.5	38.7	38.6	39.3	39.2	39.6	38.4	37.1	39.1	38.6
- non-energy oil excluded	18.9	19.2	19.1	19.9	17.5	20.4	18.6	17.8	19.2	19.4
LNG	18.0	17.7	16.9	14.1	13.8	15.0	17.7	15.9	15.9	17.5
Hydro	0.5	0.4	0.5	0.5	0.5	0.5	0.6	0.9	0.8	0.4
Nuclear	9.2	10.3	10.6	10.0	9.5	9.4	11.7	11.0	8.6	12.6
Others	5.6	5.8	5.9	6.2	6.1	6.0	6.2	6.3	7.0	6.2
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								
			M1~10	M8	M9	M10	M1~10	M8	M9	M10
Industry	143.5 (0.7)	142.9 (-0.4)	118.2 (-0.7)	12.2 (1.4)	11.6 (-0.6)	11.7 (-1.5)	114.3 (-3.3)	11.4 (-6.3)	11.5 (-1.3)	11.2 (-3.9)
Transport	43.0 (0.4)	43.0 (0.0)	35.6 (0.5)	4.1 (6.4)	2.9 (-19.1)	3.6 (12.6)	32.1 (-9.9)	3.3 (-19.7)	3.2 (11.0)	3.2 (-12.8)
Residential	23.5 (4.4)	22.6 (-3.6)	17.6 (-3.2)	1.1 (-2.3)	1.1 (1.0)	1.3 (-12.8)	17.9 (1.4)	1.1 (-2.3)	1.2 (9.8)	1.4 (9.2)
Commercial	17.9 (2.9)	17.5 (-2.3)	14.4 (-2.6)	1.5 (-4.7)	1.3 (0.2)	1.2 (3.6)	14.0 (-2.8)	1.4 (-5.5)	1.3 (-0.5)	1.2 (-5.1)
Public	5.6 (2.0)	5.4 (-3.2)	4.4 (-3.2)	0.5 (-0.1)	0.4 (-8.0)	0.4 (2.9)	4.4 (-0.3)	0.4 (-4.0)	0.5 (8.3)	0.4 (-3.2)
TFC	233.4 (1.2)	231.4 (-0.9)	190.3 (-0.9)	19.4 (1.7)	17.4 (-4.3)	18.2 (0.5)	182.6 (-4.0)	17.7 (-8.7)	17.7 (1.8)	17.3 (-4.8)
Coal (Mton)	49.3 (-2.1)	48.2 (-2.2)	40.0 (-1.3)	4.1 (0.2)	3.6 (-3.5)	4.2 (-0.9)	37.7 (-5.9)	3.9 (-5.6)	4.0 (10.7)	4.0 (-5.1)
Oil (Mbbl)	920.0 (-0.7)	918.5 (-0.2)	755.6 (-0.8)	80.7 (5.1)	71.9 (-6.0)	75.3 (3.6)	722.3 (-4.4)	71.2 (-11.8)	70.7 (-1.8)	69.3 (-8.0)
Electricity (TWh)	526.1 (3.6)	520.5 (-1.1)	434.7 (-1.0)	47.6 (-4.0)	43.6 (-0.2)	40.6 (1.6)	423.1 (-2.7)	44.6 (-6.2)	45.1 (3.3)	39.1 (-3.8)
City gas (Bm ³)	24.3 (7.4)	23.3 (-4.1)	18.4 (-3.7)	1.1 (-3.7)	1.1 (-3.6)	1.4 (-12.1)	17.4 (-5.6)	1.1 (-3.0)	1.1 (-0.6)	1.4 (3.5)
Heat:others (1 000 toe)	11.8 (6.4)	11.6 (-2.0)	9.4 (-1.9)	0.9 (-1.2)	0.8 (-2.0)	0.8 (-5.7)	9.2 (-2.1)	0.8 (-7.6)	0.8 (4.6)	0.8 (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: %)

	2018	2019p								
			M1~10	M8	M9	M10	M1~10	M8	M9	M10
Industry	61.5	61.8	62.1	63.0	66.9	64.1	62.6	64.7	64.9	64.7
Transport	18.4	18.6	18.7	21.1	16.7	19.9	17.6	18.6	18.2	18.2
Residential	10.1	9.8	9.3	5.8	6.3	7.0	9.8	6.2	6.8	8.1
Commercial	7.7	7.6	7.6	7.8	7.7	6.7	7.7	8.0	7.5	6.7
Public	2.4	2.3	2.3	2.4	2.4	2.2	2.4	2.5	2.6	2.2
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	14.2	14.0	15.2	13.8	14.8	14.9	15.3
Oil	50.1	50.2	50.2	52.6	51.8	52.1	49.8	50.7	50.3	50.5
Electricity	19.4	19.3	19.6	21.1	21.6	19.2	19.9	21.7	21.9	19.4
City gas	11.6	11.6	11.2	7.5	8.0	9.0	11.4	8.2	8.1	10.1
Heat:others	5.1	5.0	4.9	4.6	4.6	4.4	5.0	4.6	4.8	4.6

Note: p means provisional
Source: Monthly Energy Statistics

Statistics on Energy Production Facilities

	2017	2018	2019	2020p			M8	M9	M10
				M8	M9	M10			
Total capacity (GW)	116.9 (10.4)	119.1 (1.9)	125.3 (5.2)	123.0 (4.2)	122.5 (3.8)	124.0 (5.1)	128.1 (4.2)	128.6 (5.0)	127.8 (3.0)
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)	38.3 (1.2)	39.2 (3.5)	41.2 (7.5)	41.2 (7.5)	41.2 (5.1)
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			M8	M9	M10
				M8	M9	M10			
The number of household demanding city gas (mil)	18.6 (3.3)	19.1 (3.1)	19.7 (2.8)	19.3 (2.9)	19.4 (2.9)	19.4 (2.7)	19.8 (2.6)	19.9 (2.6)	19.9 (2.5)
Registered cars (mil)	22.5 (3.3)	23.2 (3.0)	23.7 (2.0)	23.5 (2.4)	23.6 (2.3)	23.6 (2.2)	24.1 (2.5)	24.2 (2.7)	24.3 (2.8)
- gasoline	10.4 (2.7)	10.6 (2.5)	11.0 (3.1)	10.8 (2.7)	10.9 (2.8)	10.9 (2.9)	11.3 (4.2)	11.3 (4.2)	11.3 (4.1)
- diesel	9.6 (4.4)	9.9 (3.7)	10.0 (0.3)	10.0 (1.8)	10.0 (1.4)	10.0 (1.0)	10.0 (-0.3)	10.0 (-0.1)	10.0 (0.2)
- LPG	2.1 (-2.9)	2.0 (-3.3)	2.0 (-1.5)	2.0 (-2.5)	2.0 (-2.3)	2.0 (-2.1)	2.0 (-0.7)	2.0 (-0.8)	2.0 (-0.9)
- hybrid	0.3 (37.6)	0.4 (30.9)	0.5 (26.1)	0.5 (28.7)	0.5 (28.5)	0.5 (27.6)	0.6 (27.3)	0.6 (29.0)	0.6 (29.9)

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