

KEEI 에너지수급동향

MONTHLY
KOREA ENERGY
TRENDS



COAL -1.3%
PETROLEUM -6.4%
LNG 17.4%
NUCLEAR 18.0%
NEW & RENEWABLE 5.3%
JANUARY, 2021

This publication is derived from Energy Demand & Supply
Statistics and Energy Price Statistics issued until January
2021.



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1. The Economy and the Industry

- **January mining and manufacturing production index showed a year-on-year growth of 7.8% thanks to the growth in semiconductor and automobile sectors, despite a decline in the basic chemical sector**
 - Semiconductor production index showed a year-on-year growth of 19.6% as demand for semiconductors increased with more consumers requiring PCs and servers for contact-free type of work and online classes amidst the third wave of COVID-19 and the strengthened Social Distancing restrictions
 - Automobile production index showed a year-on-year increase of 17.9% thanks to several factors such as continuous effects of new model releases, the reduction in individual consumption tax extended, and increased business days
 - Basic chemical production index showed a year-on-year decline of 5.8% although LG Chemical Yeosu NCC plant resumed operation on January 18, 2021 after the fire on November 5, 2020, mitigating the fall in the basic chemical production index
- **Service production index kept subdued to record a year-on-year decline of 1.8% as the recession in the 'face-to-face' sectors continued due to COVID-19**
 - The production indexes of logistics, food/accommodation, art/sports/leisure sectors were down by 14.8%, 36.7% and 48.6% respectively driven by prolonged Social Distancing restrictions. However, the financing/insurance production index rose by 23.8% to act as a brake on the fall

► Major economic and industrial indicators

	2019		2020p				2021p
		M1	M1		M11	M12	M1
GDP (trillion won)	1 849.0	-	-	1 831.3	-	481.5	-
	(2.0)	-	-	(-1.0)	-	(-1.2)	-
Total export (\$billion, customs clearance basis)	539.9	46.2	43.1	512.5	45.8	51.3	48.0
	(-10.7)	(-6.2)	(-6.6)	(-5.1)	(3.9)	(12.4)	(11.4)
Industrial production index (2015=100)	106.7	105.7	102.2	106.3	111.5	118.1	110.2
	(0.3)	(-0.5)	(-3.3)	(-0.3)	(0.1)	(2.6)	(7.8)
Semi-conductors	188.0	148.3	203.9	230.6	247.2	272.6	243.8
	(11.7)	(6.9)	(37.5)	(22.6)	(7.9)	(17.5)	(19.6)
Basic chemical products	108.9	114.9	114.7	102.3	88.4	105.1	108.1
	(-1.4)	(-1.5)	(-0.2)	(-6.0)	(-15.0)	(-8.5)	(-5.8)
Iron&Steel	98.3	103.9	94.7	92.1	95.9	98.4	96.4
	(-2.2)	(-2.1)	(-8.9)	(-6.3)	(-1.3)	(0.3)	(1.8)
Cars	93.4	98.1	77.3	84.1	95.4	89.9	91.1
	(-0.6)	(10.1)	(-21.2)	(-9.9)	(0.2)	(-5.1)	(17.9)
Service production index (2015=100)	108.4	105.8	106.7	106.2	108.8	116.3	104.8
	(1.4)	(2.5)	(0.9)	(-2.0)	(-1.4)	(-2.1)	(-1.8)
Wholesale & Retail	104.6	105.2	103.1	101.9	106.0	108.6	101.0
	(-0.4)	(3.2)	(-2.0)	(-2.6)	(-2.5)	(-1.0)	(-2.0)
Restaurant & Accommodation	97.5	96.8	94.7	79.5	80.7	66.4	59.9
	(-1.0)	(1.3)	(-2.2)	(-18.5)	(-17.1)	(-39.6)	(-36.7)

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

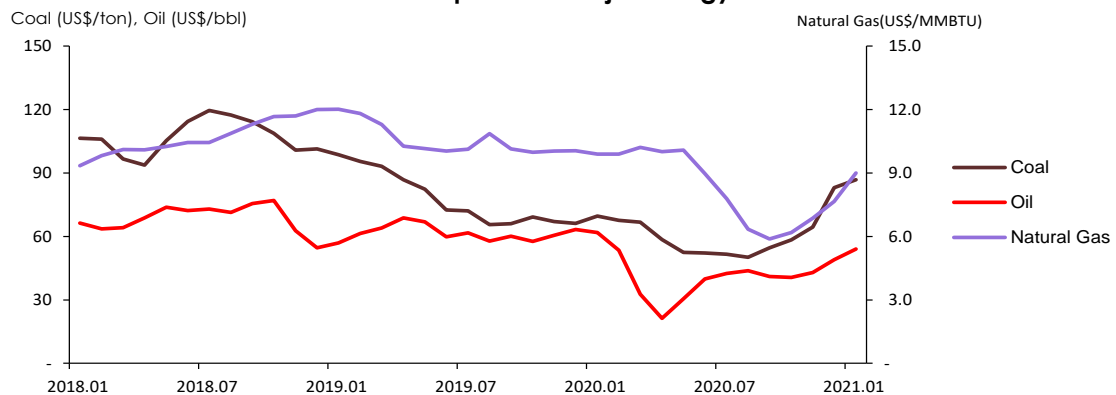
- **Global average crude oil price in January showed a spike of 10.3% month-on-month as members of OPEC+ agreed to cut back on production and Saudi Arabia voluntarily promised to reduce its production**
 - International oil prices increased as members of OPEC+ reached on the scale of production cut for February and March and Saudi Arabia voluntarily promised to reduce its production. Expectations for additional economic stimulus packages by Biden administration also played a role
 - International natural gas prices soared by 17.5% compared to the previous month due to an increase in international oil prices and a surge in demand for winter heating amid unprecedented cold waves worldwide, but showed a decline of 8.9% compared to the same month in previous year, in which the effects of COVID-19 pandemic were not in their full swing
 - International coal prices rose by 28.9% compared to the previous month, and a year-on-year growth of 25% due to the rise in global oil prices and sharp surges in power demand from major countries such as China and India during cold winter

► Global energy prices

	2018	2019	2020			M11	M12	2021
			M1	M1				M1
Crude oil (US\$/bbl)	68.6 (29.5)	61.6 (-10.2)	57.0 (-14.1)	61.8 (8.6)	41.6 (-32.4)	42.9 (-29.2)	49.0 (-22.5)	54.1 (-12.5)
Natural gas (US\$/MMBTU)	10.7 (24.0)	10.6 (-1.1)	12.0 (28.5)	9.9 (-17.7)	8.3 (-21.3)	6.9 (-31.7)	7.7 (-23.8)	9.0 (-8.9)
Coal (US\$/ton)	107.0 (20.9)	77.9 (-27.3)	98.6 (-7.4)	69.7 (-29.3)	60.8 (-21.9)	64.4 (-3.9)	83.0 (25.5)	86.8 (24.6)

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

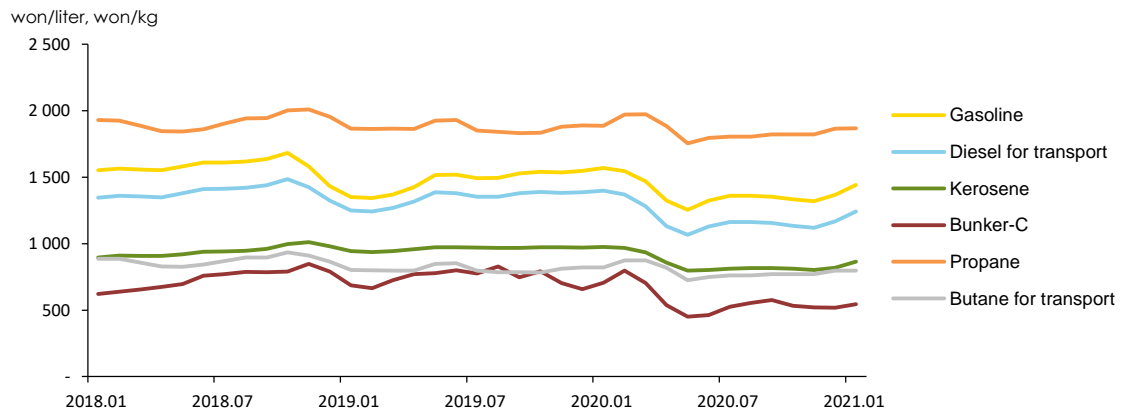
- **Due to the continued increase in international oil prices, January gasoline and diesel prices also jumped by 5.4% and 6.3%, respectively, compared to the previous month**
 - Influenced by the spike of more than 10% in international oil prices, the average prices of gasoline and diesel at gas stations continued to record a steep rise compared to the previous month
 - In spite of the increased international oil prices, Bunker-C oil prices fell by 0.2% month-on-month and by 21.1% year-on-year in December as demand for B-C oil reduced due to IMO 2020 environmental regulations and increased preference for green energy sources
- **January propane and butane prices remained around the previous month's level as a measure of supply price freeze was implemented to offset the effect of the increase in global prices in December**
 - Saudi Aramco's January international prices increased by about 5% compared to the previous month, which might be a cause to increase the domestic LPG supply prices by 30-50KRW/kg. However, the domestic price was frozen to remain at the level of the previous month

► Domestic petroleum product prices

	2018	2019				2020		
			M1	M1	M1~12	M11	M12	M1
Gasoline (won/liter)	1 581.4 (6.0)	1 472.6 (-6.9)	1 351.2 (-12.9)	1 568.4 (16.1)	1 381.2 (-6.2)	1 319.6 (-14.1)	1 367.8 (-11.7)	1 441.8 (-8.1)
Diesel for transport (won/liter)	1 392.0 (8.5)	1 340.6 (-3.7)	1 249.4 (-7.1)	1 398.4 (11.9)	1 189.5 (-11.3)	1 119.6 (-18.9)	1 168.3 (-15.7)	1 242.4 (-11.2)
Bunker-C (won/liter)	735.2 (18.7)	744.5 (1.3)	685.9 (10.3)	706.5 (3.0)	572.9 (-23.0)	520.0 (-26.1)	518.9 (-21.1)	545.5 (-22.8)
Propane (won/kg)	1 920.5 (4.7)	1 869.6 (-2.6)	1 864.4 (-3.4)	1 887.6 (1.2)	1 850.3 (-1.0)	1 822.2 (-3.0)	1 865.2 (-1.3)	1 868.1 (-1.0)
Butane for transport (won/liter)	874.6 (5.8)	806.3 (-7.8)	801.3 (-9.5)	820.8 (2.4)	790.8 (-1.9)	770.6 (-4.9)	796.9 (-2.9)	797.2 (-2.9)

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

► Domestic petroleum product prices



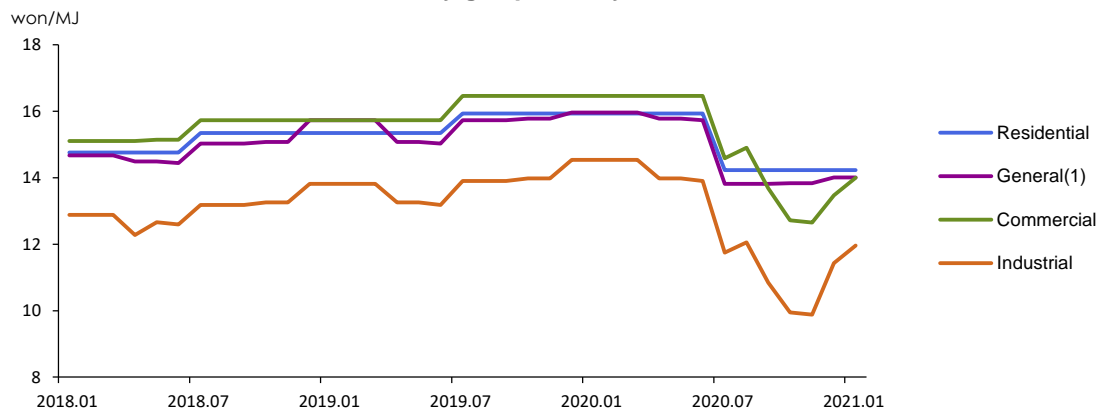
❑ **City gas prices for business heating and industrial uses increased by 3.9% and 4.7% respectively in January, compared to the previous month**

- City gas prices for business heating and industrial uses, adjusted on a monthly basis under Fuel Adjustment Mechanism (FAM), increased for two consecutive months driven by the increase in international oil and LNG prices while the prices for households and general use were frozen at the level of the previous month
- In terms of the year-on-year basis, the prices for households, general, business heating and industrial uses fell by 10.7%, 12.3%, 15.0% and 17.8%, respectively

❑ **January electricity rates dropped by 2-3% from the level of the previous month for all uses with Fuel Adjustment Mechanism being implemented**

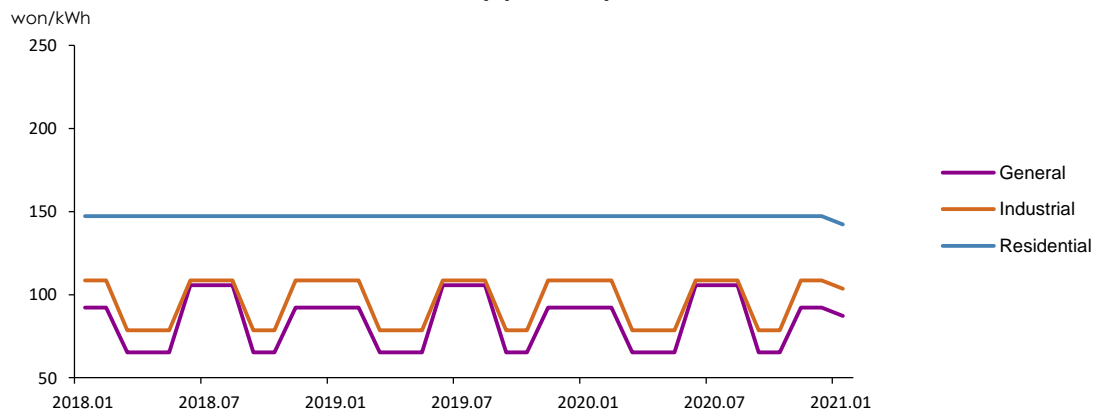
- With Fuel Adjustment Mechanism (FAM) starting from January 1, 2021, Climate Environment Cost of 5KRW/kWh was separated from the existing electricity price to form a new price category of Climate Environmental Price of 5.3KRW/kWh. The actual electricity prices fell by 2.7KRW/kWh from the previous month as Fuel Cost Adjustment rate was reduced by 3KRW/kWh

► **City gas prices by end-use sectors**



Source: Seoulgas

► **Electricity prices by end-use sectors**



Source: KEPCO

3. Energy Supply

- **Energy imports in January showed a year-on-year decline of 11.5% as all energy imports decreased except for LNG**
 - Volume of crude oil imports dropped by 17.1% year-on-year as 13.9% less crude oil was being used as feedstocks in refineries
 - For petroleum products, the import volume showed a year-on-year decline of 26.7% as the imports of naphtha and LPG dropped by 30.6% and 26.4% on a year-on-year basis
 - The import volume of bituminous coal decreased by 15.0% year-on-year as the use of bituminous coal for power generation had dropped
 - The import volume of LNG registered a year-on-year increase of 6.9% as LNG use rose both for power generation and city gas uses
- **As power generation increased due to expanded facilities, renewable and other energy production showed a year-on-year growth of 5.3%**

► Import and domestic production of energy

	2019	2020p					2021p
		M1	M1		M11	M12	M1
Import volume							
Crude oil (Mbbbl)	1 071.9	93.1	92.7	980.3	69.5	84.4	76.9
	(-4.0)	(-6.7)	(-0.4)	(-8.6)	(-25.3)	(-5.6)	(-17.1)
Petroleum product (Mbbbl)	352.1	30.2	39.4	347.3	23.7	28.3	28.9
	(3.1)	(9.2)	(30.6)	(-1.4)	(-16.9)	(-21.5)	(-26.7)
Bituminous coal (Mton)	132.7	11.6	10.3	115.5	9.4	10.2	8.8
	(0.9)	(0.3)	(-11.5)	(-13.0)	(-15.2)	(-11.9)	(-15.0)
Anthracite (Mton)	6.9	0.5	0.7	6.3	0.4	0.8	0.6
	(-16.4)	(-24.5)	(21.4)	(-8.7)	(0.4)	(32.2)	(-2.2)
LNG (Mton)	40.7	3.8	4.1	40.0	3.6	4.3	4.4
	(-7.4)	(-7.5)	(8.6)	(-1.8)	(-5.5)	(-10.6)	(6.9)
Import volume (Mtoe)	349.2	31.3	31.4	325.4	26.1	29.0	27.8
	(-1.5)	(0.6)	(0.3)	(-6.8)	(-10.6)	(-11.0)	(-11.5)
Import value (billion US\$, CIF)	126.7	11.2	12.2	86.4	5.8	7.7	8.1
	(-13.2)	(-4.2)	(8.4)	(-31.8)	(-43.8)	(-32.0)	(-33.2)
Energy share of total import value (%)	25.2	24.9	28.5	18.4	14.6	17.2	18.4
Foreign energy dependence (%)*	93.5	94.1	94.3	93.1	93.7	93.9	94.3
Domestic production							
Hydropower (TWh)	6.2	0.5	0.5	7.1	0.4	0.5	0.5
	(-14.1)	(12.5)	(-1.1)	(14.4)	(-5.8)	(-0.7)	(-4.0)
Anthracite (Mton)	1.1	0.1	0.1	1.0	0.1	0.1	0.1
	(-9.7)	(-20.0)	(-20.0)	(-6.0)	(-10.4)	(-8.9)	(-3.8)
Natural gas (Mton)	0.2	0.0	0.0	0.1	0.0	0.0	0.0
	(-15.2)	(-12.2)	(-12.4)	(-28.6)	(-16.1)	(-38.1)	(-58.2)
Renewable energy (Mtoe)	17.7	1.5	1.4	17.7	1.3	1.5	1.5
	(3.3)	(4.9)	(-8.8)	(0.0)	(-2.9)	(2.6)	(5.3)

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

4. Energy Consumption

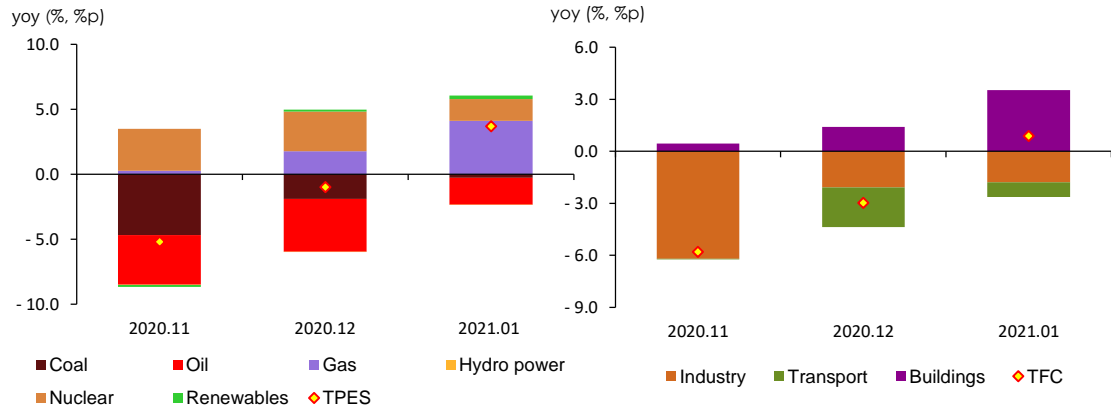
- **Total Primary Energy Supply("TPES") for January showed a year-on-year decline of 3.7% as the decreasing trend of petroleum and coal consumption slowed down and gas consumption rose fast**
 - Petroleum use for buildings climbed up due to cold weather. However, the overall use declined by 6.4% year-on-year as industrial usage dropped with weak demand for naphtha, driven by the NCC plant accident, and transportation usage showed a constant decrease with the dire situation in the aviation sector
 - Coal use declined by 1.3% on a year-on-year basis as the decline in coal consumption for power generation slowed down and the industrial use of coal showed a moderate recovery
 - Nuclear power generation soared by 18.0% year-on-year as an increasing number of power plants resumed operation after scheduled preventive maintenance
 - Gas use increased by 17.4% year-on-year, as city gas usage jumped over cold winter, a decrease in gas rate and increased work time from home. In addition, gas consumption for power generation also soared on the back of increased electricity use and coal generation reduction from the fine dust-related restrictions during winter
- **Despite of a decline in energy use for transportation, Total Final Consumption ("TFC") dropped by 0.9% as the building sector's energy consumption increased**
 - Industrial energy use declined by 3.1% year-on-year with the prolonged decrease of naphtha use in the petrochemical sector, although energy consumption in the primary and fabricated metal industries continued to recover
 - Even in the face of a decline in oil prices, the energy consumption in the air transport sector kept decreasing with Social Distancing restrictions. However, the decreasing trend in total energy use from the transportation sectors slightly rebounded to record a drop of 5.7% thanks to little signs of recovery in energy consumption from the road transport sector
 - Energy use in the building sector showed a year-on-year growth of 13.4% driven by cold weather, increased work time from home and a decrease in energy rates

► Energy consumption

	2019	2020p						2021p
		M1	M1		M11	M12	M1	
TPES (Mtoe)	303.1	29.2	27.1	290.1	24.0	27.7	28.2	
	(-1.5)	(-1.0)	(-7.1)	(-4.3)	(-5.2)	(-1.0)	(3.7)	
- Non-energy oil&coal excluded	219.6	22.0	19.9	210.6	18.0	20.8	21.3	
	(-1.5)	(-1.0)	(-9.5)	(-4.1)	(-1.3)	(0.6)	(7.2)	
TFC (Mtoe)	231.4	22.5	21.3	222.0	18.4	21.0	21.5	
	(-0.9)	(0.3)	(-5.1)	(-4.0)	(-5.8)	(-3.0)	(0.9)	

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 showed a year-on-year decline of 1.3% in January due to a drop in the power generation sector, dwarfing an increase in the industrial sector

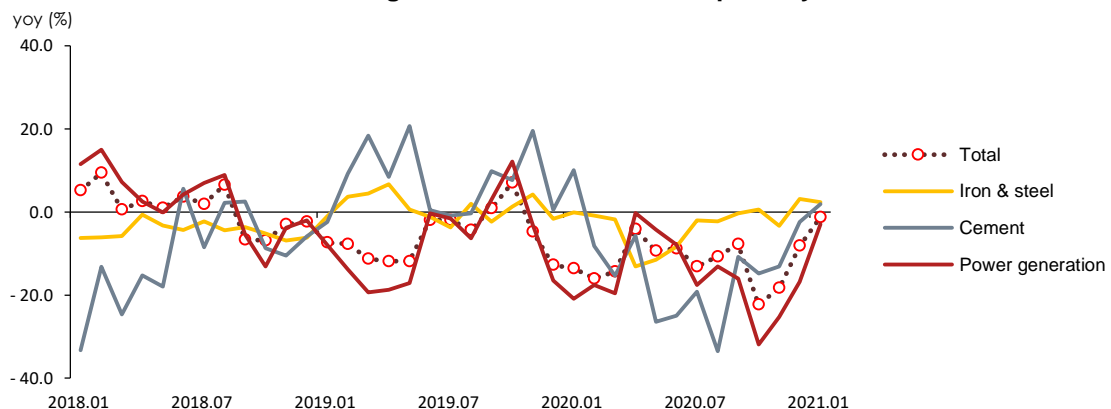
- Industrial coal use increased by 1.6% year-on-year as the coal consumption in the iron & steel and cement industries rose with more working days (+1day) and a resulting increase in production activities
- Coal consumption for power generation decreased by 3.0% year-on-year as generation capacity shrank with obsolete coal generation equipment closed. However, the decrease can be interpreted as being significantly subdued considering the base effect of the steep drop of 20.8% in the same month last year
- Installed capacity for coal-fired power generation dropped by 3.2% year-on-year to 35.9 GW with Units 1-2 in Boryeong coal power station retired on January 1, 2021. Coal power generation capacity factor posted a year-on-year decrease of 0.3%p to 66.7%

► Coal consumption

	2019	2020p						2021p
		M1	M1		M11	M12	M1	
Coal (Mton)	133.0	12.4	10.7	116.5	8.9	10.0	10.5	
	(-5.7)	(-7.4)	(-13.6)	(-12.4)	(-18.3)	(-8.1)	(-1.3)	
Industry	47.6	3.9	4.0	45.3	3.7	4.3	4.1	
	(-1.7)	(-5.7)	(2.7)	(-4.8)	(-5.5)	(6.4)	(1.6)	
-Coking-coal	35.0	2.9	2.9	33.8	2.8	3.0	3.0	
	(1.0)	(-1.0)	(-0.1)	(-3.3)	(-3.3)	(3.2)	(2.4)	
Buildings	0.6	0.1	0.1	0.5	0.1	0.1	0.1	
	(-29.3)	(-19.5)	(-39.4)	(-20.8)	(-37.3)	(4.1)	(-5.2)	
Power generation	84.8	8.4	6.6	70.7	5.1	5.7	6.4	
	(-7.6)	(-7.9)	(-20.8)	(-16.6)	(-25.2)	(-16.8)	(-3.0)	

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 showed a year-on-year decline of 6.4% in January as the decreasing trend in the industrial and transport sectors continued

- Petroleum use decreased by 11.1% from the same month last year in the industrial sector due to the NCC fire accident and facility closure
- Petroleum use dropped by 6.4% year-on-year in the transportation sector, as travel demands decreased with the second wave of COVID-19 pandemic
- Petroleum use in buildings showed a year-on-year growth of 19.5% as demand for heating increased with 23.4% more heating degree days throughout the cold winter weather in January

► Petroleum product consumption by end-use sectors

	2019		2020p				2021p
		M1	M1		M11	M12	M1
Petroleum (Mbbbl)	927.1	85.1	80.7	873.3	71.0	75.6	75.6
	(-0.5)	(1.5)	(-5.2)	(-5.8)	(-10.5)	(-11.1)	(-6.4)
Industry	566.2	49.8	51.3	543.0	39.8	45.7	45.6
	(0.4)	(0.8)	(3.1)	(-4.1)	(-18.1)	(-12.0)	(-11.1)
-Naphtha	438.6	39.6	39.5	405.3	27.4	33.6	34.6
	(-2.8)	(-1.8)	(-0.2)	(-7.6)	(-24.7)	(-12.5)	(-12.5)
Transport	303.2	27.0	22.7	273.9	25.6	22.8	21.3
	(0.3)	(8.1)	(-16.1)	(-9.6)	(0.0)	(-13.8)	(-6.1)
Buildings	49.1	7.2	5.9	50.1	4.7	6.1	7.1
	(-8.6)	(-2.5)	(-17.8)	(2.1)	(2.1)	(8.5)	(19.5)
Power generation	8.6	1.1	0.8	6.2	0.9	0.9	1.6
	(-26.9)	(-45.7)	(-32.8)	(-27.7)	(64.6)	(-8.1)	(104.5)

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 soared by 17.4% on a year-on-year basis in January, driven by increased consumption for both power generation and city gas**
 - Gas use for power generation increased by 12.7% year-on-year, reflecting a decline in coal-fired generation (-3.6%) and an increase in electricity consumption (5.2%)
- **Final consumption of city gas climbed by 16.4% on a year-on-year basis amidst increased consumption in the industrial and building sectors**
 - Gas consumption in the industrial sector grew by 13.1% year-on-year amidst increased consumption in primary metal, petrochemical and fabricated metal sectors (12.0%, 27.1% and 27.3%, respectively) and the extended volume of direct imports of LNG, which was driven by a drop in LNG prices and the approval on LNG individual rate system (Jan 3, 2020)
 - Gas consumption in the building sector soared up by 19.1% year-on-year due to a steep rise in residential/public buildings as well as an increase in commercial buildings

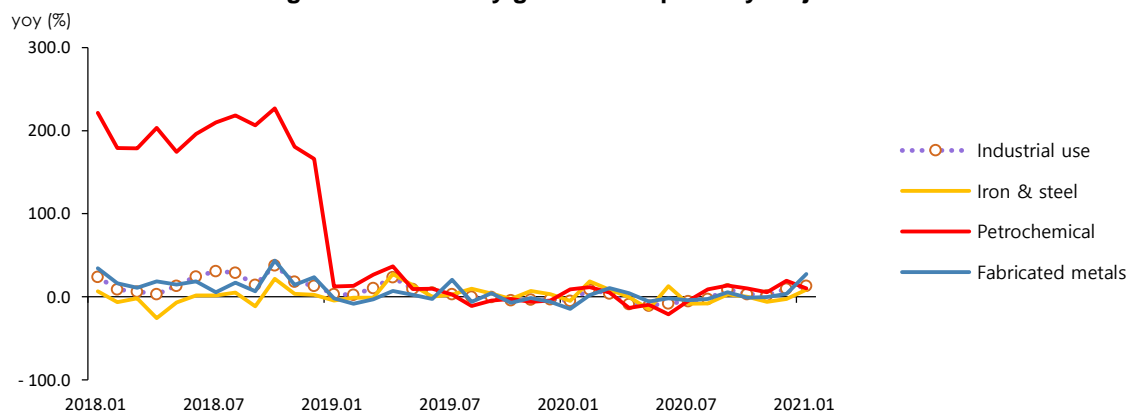
► Natural gas and city gas consumption

	2019		2020p				2021p
		M1	M1		M11	M12	M1
LNG (Mton)	41.0	5.0	4.9	41.4	3.8	5.4	5.8
	(-3.1)	(-6.2)	(-2.4)	(1.1)	(1.4)	(7.6)	(17.4)
Power generation	17.9	1.8	1.9	18.6	1.6	2.1	2.2
	(-3.0)	(-5.2)	(9.2)	(3.6)	(1.4)	(4.1)	(12.7)
City gas production	21.0	3.0	2.7	21.0	2.0	3.0	3.3
	(-1.5)	(-5.1)	(-8.5)	(-0.2)	(1.4)	(10.4)	(20.3)
City gas (bm³)	26.1	3.6	3.4	26.0	2.3	3.4	3.9
	(-0.6)	(-2.0)	(-7.1)	(-0.5)	(2.9)	(8.4)	(16.4)
Industry	11.1	1.1	1.0	11.1	1.0	1.2	1.2
	(3.5)	(3.4)	(-4.7)	(-0.2)	(1.7)	(9.9)	(13.1)
Buildings	13.8	2.4	2.2	13.8	1.2	2.1	2.7
	(-3.6)	(-4.2)	(-8.2)	(0.0)	(4.9)	(8.5)	(19.1)

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

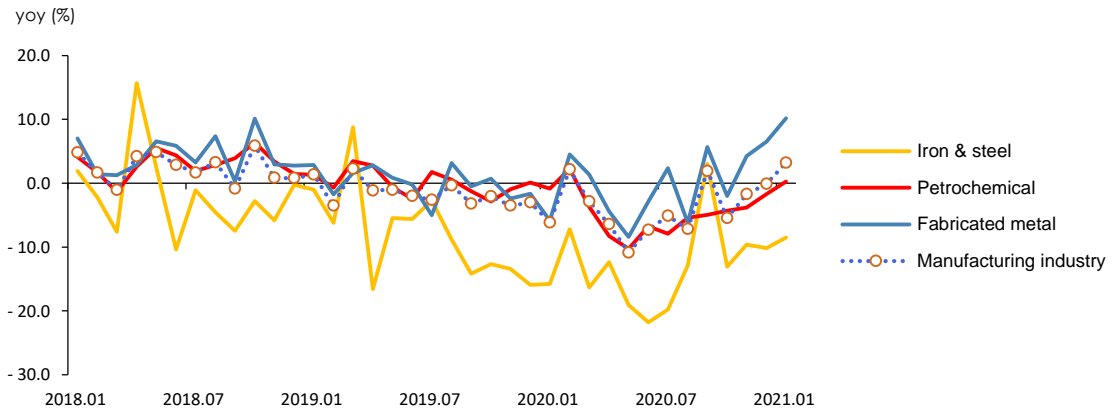
- January electricity use climbed up by 5.2% year-on-year as power consumption in industrial and building sectors went up
 - Electricity use in the industrial sector was up by 4.1% year-on-year, driven by more working days (+1day) and recovery of production activities
 - Electricity use in the building sector showed a year-on-year increase of 6.6% as the power consumption rose in all types of buildings with temperature effects

► Electricity consumption by end-use sectors

	2019		2020p				2021p
		M1	M1		M11	M12	M1
Electricity (TWh)	520.5	48.6	46.3	509.3	41.1	45.0	48.8
	(-1.1)	(0.6)	(-4.8)	(-2.2)	(0.1)	(0.7)	(5.2)
Industry	279.8	25.1	23.5	268.7	22.4	23.7	24.5
	(-1.4)	(1.5)	(-6.3)	(-4.0)	(-1.5)	(0.3)	(4.1)
Transport	2.9	0.3	0.2	2.7	0.2	0.3	0.2
	(-2.0)	(-1.0)	(-9.0)	(-5.9)	(-1.4)	(12.8)	(-11.2)
Buildings	237.8	23.3	22.5	237.8	18.5	21.1	24.0
	(-0.7)	(-0.4)	(-3.1)	(0.0)	(2.1)	(0.9)	(6.6)
Residential	70.5	6.2	6.3	74.1	5.8	6.2	6.9
	(-0.3)	(1.8)	(0.2)	(5.1)	(5.5)	(6.3)	(10.8)
Commercial	135.2	13.9	13.2	132.5	10.2	11.9	13.8
	(-0.9)	(-1.2)	(-4.6)	(-2.0)	(0.7)	(-1.5)	(4.3)

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

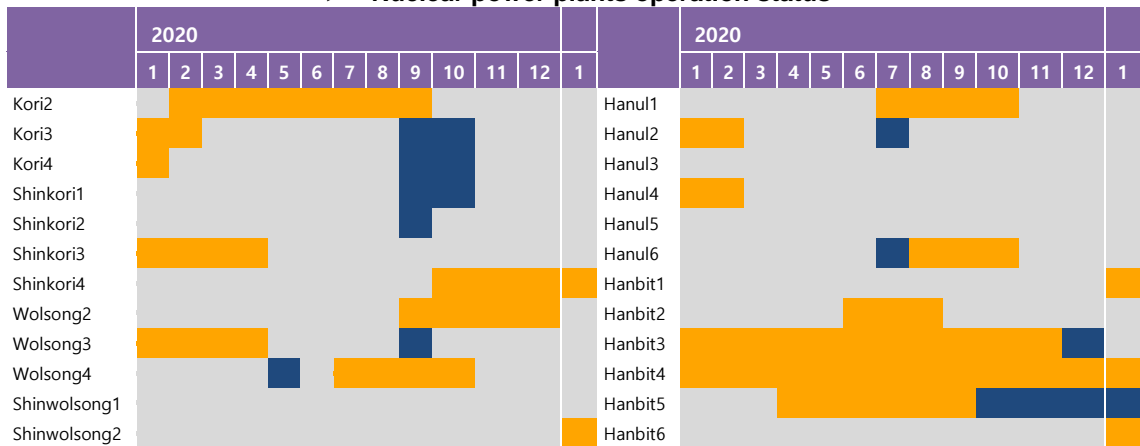
► The growth rate of electricity consumption in manufacturing industry



9. Nuclear

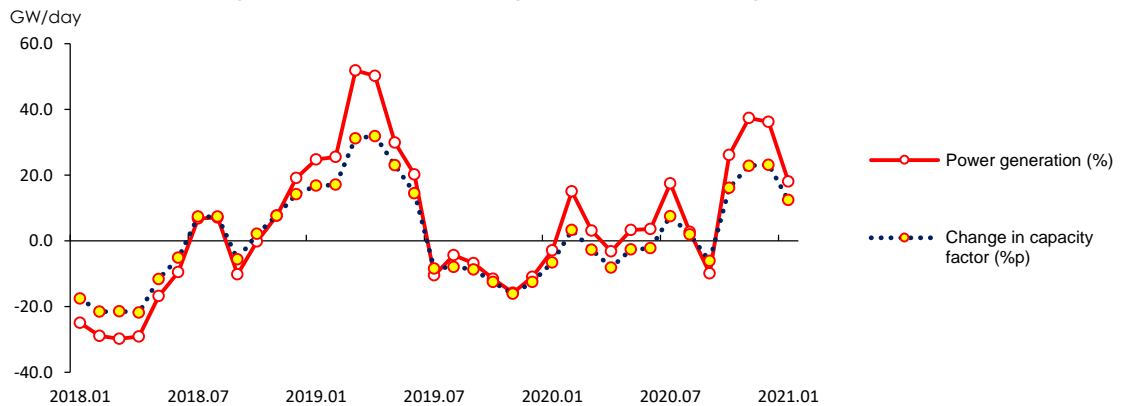
- **January nuclear power generation rose by 18.0% year-on-year, as capacity utilization rate climbed up with a decreasing number of preventive maintenance projects**
 - Nuclear power capacity factor grew by 12.4%p year-on-year to 81.2% as the number of reactors on which preventive maintenance was performed went down
 - As the nuclear generation increased, its share of the total power generation went up by 2.5%p year-on-year to 26.4%.

► Nuclear power plants operation status



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

► The growth rate of nuclear generation & average capacity factor



10. Heat and Renewable energy

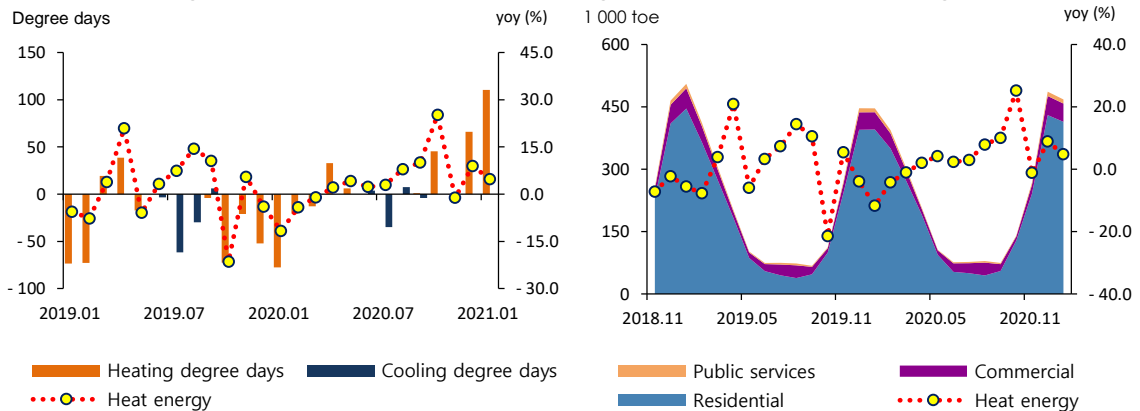
- **January Heat energy use increased by 4.8% year-on-year as demand for heating went up in all sectors due to a drop in the average temperature**

- In terms of heat energy consumption, the residential sector and commercial/public sector posted 4.7% and 5.8% increases, respectively, with the national average temperature 3.6°C lower than the same month last year and 110.2 days or 23.4% more heating degree days

- **Renewable energy generation² rose by 33.0% on a year-on-year basis centering around solar PV, bio energy sources and fuel cells**

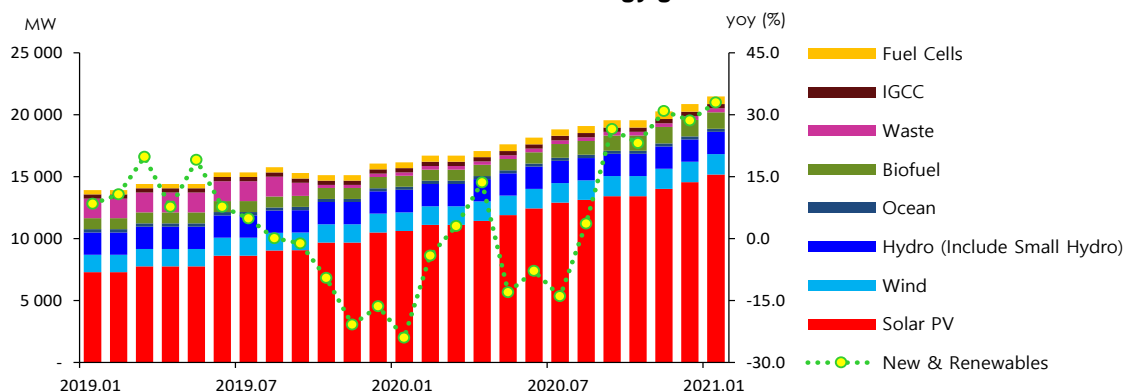
- With increased installed capacity (42.9%) and insolation (13.4%), solar power generation skyrocketed by 49.0% year-on-year, driving the rise of renewable electricity generation. Power generation from fuel cells, bio energy sources and wind also increased by 70.2%, 39.3% and 21.5%, respectively

► 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



² The capacity factor and power generation data are from the renewable section in the Monthly Report on Major Electric Power Statistics by KEPCO. For renewable and other energy generation within energy balance mix, water is excluded, while the segment factors in non-renewable waste energy

11. Industry

- Even with more working days (+1day), energy use in the industrial sector in January decreased by 3.1% year-on-year, driven by a slump in the petrochemical sector

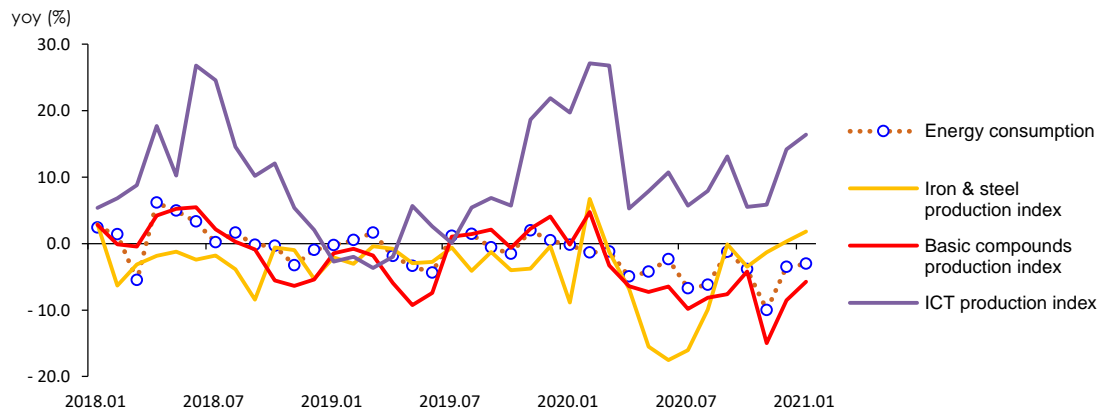
- Energy consumption in the fabricated and the iron & steel kept recovering while the petrochemical industry continued struggling with plant operation rate declined

► Industrial energy consumption

	2019		2020p				2021p
		M1	M1		M11	M12	M1
Industry (Mtoe)	142.9	12.5	12.5	137.4	10.9	12.2	12.1
	(-0.4)	(-0.2)	(-0.2)	(-3.9)	(-10.0)	(-3.5)	(-3.1)
Petrochemical	72.0	6.4	6.6	69.1	5.0	5.9	6.0
	(-0.1)	(0.8)	(3.2)	(-4.1)	(-17.4)	(-9.3)	(-9.2)
- Naphtha	53.8	4.9	4.8	49.7	3.4	4.1	4.2
	(-2.8)	(-1.8)	(-0.2)	(-7.6)	(-24.7)	(-12.5)	(-12.5)
Iron & Steel	29.5	2.5	2.5	28.3	2.4	2.5	2.5
	(0.4)	(-1.4)	(-2.1)	(-4.1)	(-4.2)	(1.4)	(1.7)
-Coking coal	24.4	2.0	2.0	23.6	2.0	2.1	2.1
	(1.0)	(-1.0)	(-0.1)	(-3.3)	(-3.3)	(3.2)	(2.4)
Fabricated metal	11.4	1.1	1.0	11.4	1.0	1.1	1.2
	(-0.1)	(2.1)	(-8.3)	(-0.1)	(4.1)	(6.5)	(15.0)
Share of feedstock (%)	58.3	57.8	57.9	57.7	54.7	56.2	56.2

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

► Industrial energy consumption & production index



12. Transport

□ January energy consumption in the transport sector dropped by 5.7% year-on-year as travel demand declined amidst the intimidating spread of COVID-19 pandemic

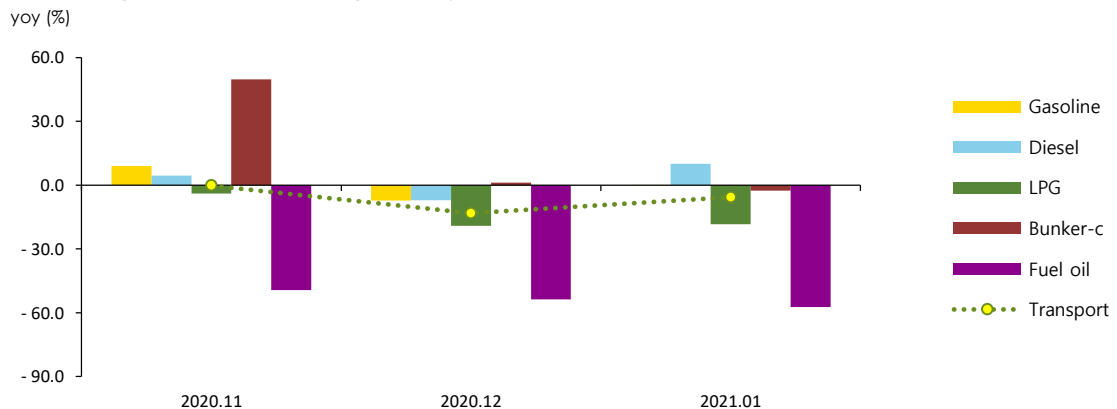
- January energy use rose by 2.9% in the road transport sector, driven by the base effect in which an increase in petroleum product prices made energy consumption in the sector shrink
- Energy use in the aviation sector posted a huge plunge of 57.4% on a year-on-year basis as the number of both domestic and international flights dropped with the spread of COVID-19 pandemic
- In spite of a slight increase in diesel consumption for marine shipping, energy use dropped by 1.0% in the marine transport sector as heavy oil consumption declined by 2.5% from the same month last year

► The growth rate of petroleum consumption in the transport sector

	2019		2020p				2021p
		M1	M1		M11	M12	M1
Transport (Mtoe)	43.0	3.8	3.2	38.9	3.6	3.2	3.0
	(0.0)	(7.6)	(-16.1)	(-9.4)	(-0.2)	(-13.2)	(-5.7)
Road	35.1	3.1	2.5	33.1	3.1	2.8	2.5
	(1.9)	(12.2)	(-20.3)	(-5.6)	(5.0)	(-8.0)	(2.9)
Navigation	2.6	0.3	0.3	3.0	0.3	0.2	0.3
	(-17.1)	(-14.1)	(2.1)	(12.3)	(27.8)	(-3.7)	(-1.0)
Aviation	4.9	0.4	0.4	2.6	0.2	0.2	0.2
	(-1.7)	(-5.2)	(3.4)	(-48.2)	(-49.3)	(-53.7)	(-57.4)
Rail	0.3	0.0	0.0	0.3	0.0	0.0	0.0
	(-2.8)	(0.2)	(-12.6)	(-7.6)	(-5.5)	(9.4)	(-10.8)

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

□ January energy use grew by 13.4% year-on-year in the building sector as energy consumption in all buildings increased with temperature effects

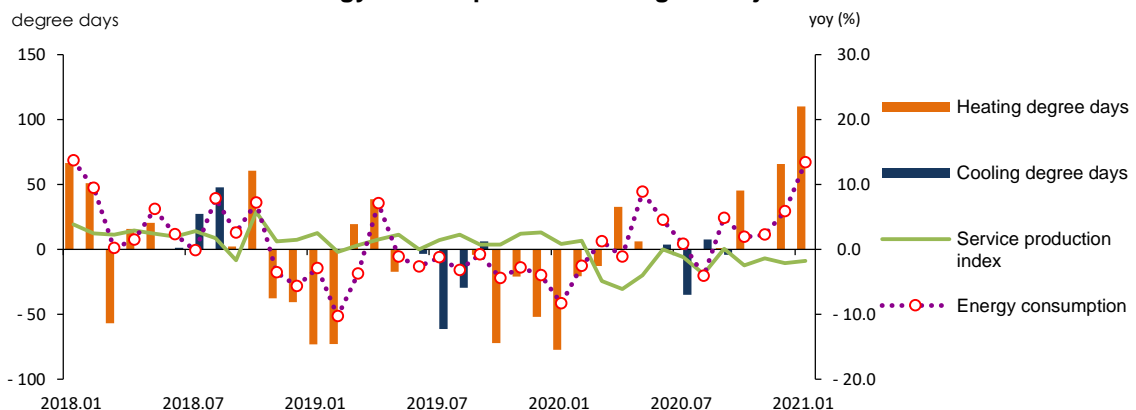
- Energy use in the building sector soared by more than 10% as demand for heating, which had decreased amid warm weather in the same month last year, recovered and work time from home grew with the spread of COVID-19 pandemic
- Energy use in residential buildings grew up with city gas, electricity and heat (22.6%, 10.8% and 4.7% respectively), as demand for heating rose over the weather colder than the same month last year and increased work time from home with Social Distancing restrictions
- While the production of the service sector decreased due to a recession in 'face-to-face' service businesses, the overall energy use in commercial/public buildings increased by 6.0% for all energy sources amidst a drop in average temperature and increased demand for heating

► Energy consumption in buildings

	2019		2020p				2021p
		M1	M1		M11	M12	M1
Buildings (Mtoe)	6.1	6.1	5.6	45.7	3.9	5.5	6.4
	(-2.9)	(-2.9)	(-8.3)	(0.5)	(2.2)	(5.9)	(13.4)
Residential	3.6	3.6	3.2	23.2	2.1	3.2	3.8
	(-2.7)	(-2.7)	(-9.8)	(2.7)	(3.9)	(9.9)	(18.8)
Commercial	2.0	2.0	1.8	17.1	1.4	1.7	1.9
	(-3.8)	(-3.8)	(-6.4)	(-2.2)	(0.9)	(0.9)	(5.2)
Public-others	0.6	0.6	0.5	5.4	0.4	0.5	0.6
	(-1.0)	(-1.0)	(-5.5)	(-0.4)	(-1.2)	(-0.8)	(8.7)
Heating degree days	548.4	548.4	470.9	2 382.7	277.0	536.1	581.1
	(-11.8)	(-11.8)	(-14.1)	(1.7)	(-0.1)	(14.0)	(23.4)
Cooling degree days	120.4	-	-	92.5	-	-	-
	(-42.4)	-	-	(-23.2)	-	-	-

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

► Energy consumption in buildings & major indicators



14. Transformation

- **As electricity consumption soared fast in January, total generation and energy input for generation showed year-on-year growth of 6.8% and 7.9%, respectively**
 - In spite of the rise in nuclear power generation, baseload generation ended up with an increase of less than 5% with a drop in coal generation. As a result, gas-fired electricity generation responsible for peak load increased by nearly 10%

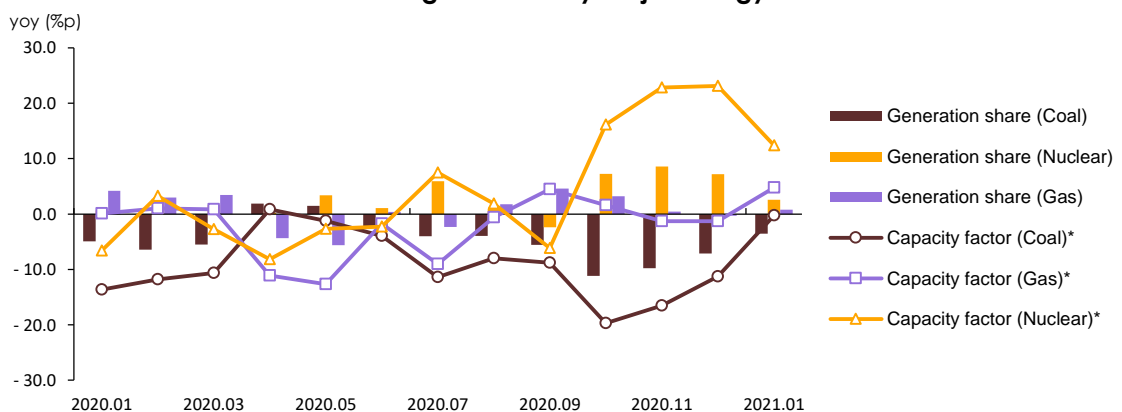
► Energy consumption in the power generation sector

	2019		2020p				2021p
		M1	M1		M11	M12	M1
Total Generation (TWh)	563.0	52.9	49.8	552.1	45.0	51.6	53.2
Coal	(-1.3)	(-0.9)	(-5.9)	(-1.9)	(-0.4)	(2.6)	(6.8)
	227.4	22.2	18.5	196.3	14.4	15.8	17.8
	(-4.6)	(-4.8)	(-16.8)	(-13.7)	(-23.6)	(-16.7)	(-3.6)
Oil	3.3	0.4	0.3	2.3	0.4	0.3	0.3
	(-42.6)	(-65.4)	(-23.4)	(-31.5)	(137.6)	(-31.3)	(-4.4)
Gas	144.4	14.5	15.8	146.1	12.8	16.6	17.3
	(-6.0)	(-8.5)	(8.7)	(1.2)	(1.1)	(1.7)	(9.3)
Nuclear	145.9	12.3	11.9	160.2	14.0	15.1	14.0
	(9.3)	(24.7)	(-2.9)	(9.8)	(37.4)	(36.2)	(18.0)
Hydro/other renewables	39.2	3.3	2.6	41.9	3.2	3.5	3.3
	(0.6)	(8.7)	(-21.9)	(6.9)	(29.3)	(26.4)	(28.9)
Baseload	373.3	34.5	30.4	356.5	28.5	30.9	31.8
	(0.4)	(4.0)	(-11.9)	(-4.5)	(-2.2)	(2.7)	(4.9)

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				2021
			11 월	12 월	1 월		11 월	12 월	1 월
GDP (trillion won)	1 812.0 (2.9)	1 849.0 (2.0)	- (-)	487.4 (2.3)	- (-)	1 831.3 (-1.0)	- (-)	481.5 (-1.2)	- (-)
Private consumption	875.6 (3.2)	890.2 (1.7)	- (-)	228.5 (1.9)	- (-)	846.3 (-4.9)	- (-)	213.6 (-6.5)	- (-)
Facilities investment	166.3 (-2.3)	153.9 (-7.5)	- (-)	40.8 (-2.0)	- (-)	164.3 (6.8)	- (-)	43.2 (5.7)	- (-)
Construction investment	269.8 (-4.6)	262.9 (-2.5)	- (-)	72.6 (2.6)	- (-)	262.6 (-0.1)	- (-)	70.8 (-2.5)	- (-)
Consumer price index (2015=100)	104.5	104.9	104.9	105.1	105.8	105.4	105.5	105.7	106.5
USD to KRW exchange rate (won)	1 100.2	1 165.4	1 167.5	1 175.8	1 164.3	1 180.3	1 116.8	1 095.1	1 097.5
Benchmark rate (%)	1.5	1.6	1.3	1.3	1.3	0.7	0.5	0.5	0.5
Coincident composite index (2015=100)	110.1	111.7	112.7	113.3	113.8	112.3	113.8	114.0	113.9
Mining & manufacturing production index (2015=100)	106.4	106.7	111.4	115.1	102.2	106.3	111.5	118.1	110.2
Manufacturing operation ratio index (2015=100)	98.8	98.4	100.8	102.5	91.5	95.6	100.5	103.5	96.8
Average temperature	13.0	13.5	8.8	2.8	2.8	13.2	8.8	0.7	- 0.7
- year-on-year difference	- 0.1	0.5	0.7	1.7	2.5	- 0.3	0.0	- 2.1	- 3.6
Heating degree days	2 597.8 (3.2)	2 342.9 (-9.8)	277.2 (-7.0)	470.2 (-10.0)	470.9 (-14.1)	2 382.7 (1.7)	277.0 (-0.1)	536.1 (14.0)	581.1 (23.4)
Cooling degree days	209.0 (57.5)	120.4 (-42.4)	- (-)	- (-)	- (-)	92.5 (-23.2)	- (-)	- (-)	- (-)
Energy intensity	0.17 (-1.0)	0.16 (-3.4)	- (-)	0.16 (-3.8)	- (-)	0.16 (-3.5)	- (-)	0.16 (-2.5)	- (-)
Per capita consumption									
oil (bbl)	18.1 (-1.0)	17.9 (-0.7)	1.5 (4.1)	1.6 (1.8)	1.6 (-5.4)	16.9 (-5.9)	1.4 (-10.7)	1.5 (-11.3)	1.5 (-6.4)
Electricity (MWh)	10.2 (3.1)	10.1 (-1.3)	0.8 (-2.1)	0.9 (-1.5)	0.9 (-4.9)	9.8 (-2.3)	0.8 (-0.1)	0.9 (0.5)	0.9 (5.2)
City gas (1 000 m³)	0.5 (6.9)	0.5 (-4.3)	0.0 (-6.6)	0.1 (-5.7)	0.1 (-9.0)	0.4 (-3.6)	0.0 (0.7)	0.1 (7.5)	0.1 (18.4)
Total energy (toe)	6.0 (1.3)	5.9 (-1.6)	0.5 (-1.3)	0.5 (-3.4)	0.5 (-7.2)	5.6 (-4.4)	0.5 (-5.3)	0.5 (-1.1)	0.5 (3.6)

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 & Operating Ratio by Sectors

(2015=100)

	(2015=100)									
	2018	2019			2020					2021
			M11	M12	M1		M11	M12	M1	
Industrial production index										
All industry	107.5 (1.6)	108.6 (0.9)	110.9 (1.9)	121.8 (4.4)	104.6 (-0.8)	107.3 (-1.2)	110.1 (-0.7)	120.9 (-0.7)	106.2 (1.5)	
Mining & manufacturing	106.4 (1.5)	106.7 (0.3)	111.4 (1.5)	115.1 (6.4)	102.2 (-3.3)	106.3 (-0.3)	111.5 (0.1)	118.1 (2.6)	110.2 (7.8)	
Semiconductor	168.4 (21.2)	188.0 (11.7)	229.2 (32.0)	232.0 (35.3)	203.9 (37.5)	230.6 (22.6)	247.2 (7.9)	272.6 (17.5)	243.8 (19.6)	
Iron & steel	100.5 (-2.7)	98.3 (-2.2)	97.2 (-3.8)	98.1 (-0.4)	94.7 (-8.9)	92.1 (-6.3)	95.9 (-1.3)	98.4 (0.3)	96.4 (1.8)	
Cement	100.0 (-8.8)	94.3 (-5.7)	103.7 (-6.2)	95.6 (4.6)	66.8 (-19.4)	86.6 (-8.2)	98.1 (-5.4)	93.1 (-2.6)	67.4 (0.9)	
Basic compound	110.4 (0.1)	108.9 (-1.4)	104.0 (2.3)	114.9 (4.1)	114.7 (-0.2)	102.3 (-6.0)	88.4 (-15.0)	105.1 (-8.5)	108.1 (-5.8)	
Transport equipment	93.9 (-1.2)	93.4 (-0.6)	95.2 (-11.0)	94.7 (-4.5)	77.3 (-21.2)	84.1 (-9.9)	95.4 (0.2)	89.9 (-5.1)	91.1 (17.9)	
Electric & electronic	106.5 (-0.2)	109.6 (2.9)	115.3 (-1.5)	120.8 (8.3)	98.4 (-6.5)	108.7 (-0.8)	118.7 (2.9)	126.4 (4.6)	109.1 (10.9)	
Service	106.9 (2.2)	108.4 (1.4)	110.3 (2.4)	118.8 (2.6)	106.7 (0.9)	106.2 (-2.0)	108.8 (-1.4)	116.3 (-2.1)	104.8 (-1.8)	
Wholesale and retail	105.0 (1.8)	104.6 (-0.4)	108.7 (-0.3)	109.7 (0.1)	103.1 (-2.0)	101.9 (-2.6)	106.0 (-2.5)	108.6 (-1.0)	101.0 (-2.0)	
Food & Accommodation	98.5 (-1.9)	97.5 (-1.0)	97.3 (0.2)	109.9 (0.9)	94.7 (-2.2)	79.5 (-18.5)	80.7 (-17.1)	66.4 (-39.6)	59.9 (-36.7)	
Production output										
Iron & steel - Pig iron	47 124.3 (0.1)	47 520.7 (0.8)	3 951.5 (4.6)	3 948.5 (-3.2)	3 959.9 (-1.3)	45 359.6 (-4.5)	3 867.8 (-2.1)	4 115.2 (4.2)	4 113.5 (3.9)	
Iron & steel - Crude steel	72 464.0 (2.0)	71 411.9 (-1.5)	5 904.4 (-0.3)	5 879.7 (-4.6)	5 739.9 (-8.2)	67 078.8 (-6.1)	5 765.4 (-2.4)	5 909.6 (0.5)	6 042.6 (5.3)	
Petrochemical - Basic oil	31 139.2 (1.9)	31 804.1 (2.1)	2 670.3 (8.8)	2 884.2 (6.9)	2 913.9 (3.3)	30 323.6 (-4.7)	2 153.7 (-19.3)	2 395.2 (-17.0)	2 597.4 (-10.9)	
Petrochemical - Intermediate raw material	16 981.8 (2.9)	16 014.0 (-5.7)	1 363.0 (-3.0)	1 401.3 (-5.7)	1 459.4 (-2.3)	15 355.4 (-4.1)	1 087.8 (-20.2)	1 293.2 (-7.7)	1 338.8 (-8.3)	
Petrochemical - 3 major products	21 793.6 (-1.1)	21 584.7 (-1.0)	1 671.2 (-3.5)	1 808.1 (-3.6)	1 913.5 (-2.8)	21 251.7 (-1.5)	1 649.7 (-1.3)	1 788.3 (-1.1)	1 865.3 (-2.5)	
The number of cars	4 028.7 (-2.1)	3 950.6 (-1.9)	346.4 (-11.3)	337.5 (-5.4)	251.6 (-29.0)	3 506.8 (-11.2)	324.5 (-6.3)	296.9 (-12.0)	314.2 (24.9)	

Note: p means provisional

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

International Energy Prices

	2018	2019			2020				2021
			M11	M12	M1		M11	M12	M1
Crude oil (USD/bbl)									
WTI	64.8 (27.1)	57.0 (-11.9)	57.1 (0.7)	59.8 (22.1)	57.5 (11.6)	39.4 (-30.9)	41.4 (-27.5)	47.1 (-21.3)	52.1 (-9.4)
Dubai	69.4 (30.5)	63.5 (-8.5)	62.0 (-5.4)	64.9 (13.2)	64.3 (8.9)	42.2 (-33.6)	43.4 (-30.0)	49.8 (-23.2)	54.8 (-14.8)
Brent	71.5 (30.5)	64.2 (-10.3)	62.7 (-4.9)	65.2 (13.0)	63.7 (5.7)	43.2 (-32.7)	44.0 (-29.9)	50.2 (-22.9)	55.3 (-13.1)
Unit value of import (C&F)	71.4 (34.0)	65.5 (-8.2)	64.3 (-15.5)	66.2 (-0.7)	69.1 (12.1)	44.8 (-31.7)	42.7 (-33.7)	46.7 (-29.4)	52.7 (-23.7)
LNG									
From Indonesia (USD/MMBTU)	10.7 (24.0)	10.6 (-1.0)	10.0 (-14.2)	10.1 (-16.2)	9.9 (-17.7)	8.3 (-21.3)	6.9 (-31.7)	7.7 (-23.8)	9.0 (-8.9)
Unit value of import (USD/ton, CIF)	526.3 (26.4)	505.4 (-4.0)	454.5 (-22.2)	455.4 (-20.7)	470.2 (-19.9)	390.2 (-22.8)	312.1 (-31.3)	358.5 (-21.3)	413.3 (-12.1)
Bituminous coal (USD/ton)									
From Australia	107.0 (20.9)	77.9 (-27.2)	67.0 (-33.5)	66.2 (-34.7)	69.7 (-29.3)	60.8 (-22.0)	64.4 (-3.9)	83.0 (25.5)	86.8 (24.6)
Unit value of import (CIF)	113.6 (8.9)	100.7 (-11.3)	87.5 (-21.3)	85.1 (-25.3)	86.7 (-18.7)	77.7 (-22.9)	70.9 (-19.0)	72.2 (-15.2)	76.3 (-12.0)
Petroleum product (USD/bbl)									
Gasoline	79.9 (17.4)	72.5 (-9.3)	76.3 (11.1)	74.8 (24.7)	71.3 (16.8)	46.7 (-35.7)	46.8 (-38.7)	53.5 (-28.5)	60.1 (-15.7)
Kerosene	84.8 (29.8)	77.3 (-8.9)	74.9 (-9.7)	77.8 (9.3)	75.4 (5.0)	44.7 (-42.1)	45.7 (-39.0)	53.9 (-30.7)	58.0 (-23.0)
Diesel	84.9 (27.9)	78.2 (-7.9)	76.0 (-7.6)	79.2 (13.2)	76.5 (5.4)	49.4 (-36.8)	47.6 (-37.4)	55.4 (-30.0)	60.0 (-21.6)
Bunker-C	65.2 (31.3)	57.5 (-11.8)	39.4 (-42.3)	43.3 (-23.3)	51.9 (-10.2)	39.2 (-31.9)	43.7 (10.9)	47.4 (9.5)	51.5 (-0.9)
Propane	542.1 (16.0)	434.6 (-19.8)	430.0 (-20.4)	440.0 (-1.1)	565.0 (31.4)	397.1 (-8.6)	430.0 -	450.0 (2.3)	550.0 (-2.7)
Butane	539.2 (7.5)	441.7 (-18.1)	445.0 (-15.2)	455.0 (9.6)	590.0 (40.5)	403.8 (-8.6)	440.0 (-1.1)	460.0 (1.1)	530.0 (-10.2)
Naphtha	67.0 (24.5)	56.9 (-15.1)	59.5 (4.8)	63.5 (22.7)	60.9 (17.8)	40.5 (-28.9)	40.6 (-31.8)	47.6 (-25.0)	55.6 (-8.6)

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				2021
			M11	M12	M1		M11	M12	M1
Petroleum product									
Gasoline (won/liter)	1 581.4 (6.0)	1 471.9 (-6.9)	1 535.7 (-2.9)	1 548.5 (8.0)	1 568.4 (16.1)	1 381.6 (-6.1)	1 319.6 (-14.1)	1 367.8 (-11.7)	1 441.8 (-8.1)
Diesel (won/liter)	1 391.9 (8.5)	1 340.1 (-3.7)	1 380.5 (-3.1)	1 385.4 (4.6)	1 398.4 (11.9)	1 189.8 (-11.2)	1 119.6 (-18.9)	1 168.3 (-15.7)	1 242.4 (-11.2)
Bunker-C (won/liter)	734.8 (18.6)	743.9 (1.2)	703.5 (-16.9)	658.0 (-16.6)	706.5 (3.0)	573.6 (-22.9)	520.0 (-26.1)	518.9 (-21.1)	545.5 (-22.8)
Propane (won/kg)	1 920.5 (4.7)	1 869.7 (-2.6)	1 879.3 (-6.4)	1 889.7 (-3.3)	1 887.6 (1.2)	1 850.7 (-1.0)	1 822.2 (-3.0)	1 865.2 (-1.3)	1 868.1 (-1.0)
Butane (won/liter)	874.6 (5.8)	806.2 (-7.8)	810.5 (-11.0)	820.6 (-4.9)	820.8 (2.4)	791.1 (-1.9)	770.6 (-4.9)	796.9 (-2.9)	797.2 (-2.9)
City gas(won/MJ)									
Residential	15.1 (-4.3)	15.6 (3.9)	15.9 (3.8)	15.9 (3.8)	15.9 (3.8)	15.1 (-3.6)	14.2 (-10.7)	14.2 (-10.7)	14.2 (-10.7)
General(1)	14.9 (-3.8)	15.6 (4.9)	15.8 (4.7)	16.0 (1.5)	16.0 (1.5)	14.9 (-4.7)	13.8 (-12.3)	14.0 (-12.3)	14.0 (-12.3)
Commercial	15.4 (-4.4)	16.1 (4.4)	16.5 (4.7)	16.5 (4.7)	16.5 (4.7)	15.1 (-6.4)	12.7 (-23.2)	13.5 (-18.2)	14.0 (-15.0)
Industry	13.0 (-2.3)	13.8 (6.0)	14.0 (5.4)	14.5 (5.2)	14.5 (5.2)	12.6 (-8.4)	9.9 (-29.3)	11.4 (-21.4)	12.0 (-17.8)
Heat(won/Mcal)									
Residential	64.5 (-2.7)	65.7 (1.8)	67.1 (3.8)	67.1 (3.8)	67.1 (3.8)	66.2 (0.7)	65.2 (-2.8)	65.2 (-2.8)	65.2 (-2.8)
Commercial	83.8 (-2.7)	85.3 (1.8)	87.2 (3.8)	87.2 (3.8)	87.2 (3.8)	85.9 (0.7)	84.7 (-2.8)	84.7 (-2.8)	84.7 (-2.8)
Public	73.2 (-2.7)	74.5 (1.9)	76.1 (3.8)	76.1 (3.8)	76.1 (3.8)	75.1 (0.7)	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 -	142.3 (-3.4)
General	84.4 -	84.4 -	92.3 -	92.3 -	92.3 -	84.4 -	92.3 -	92.3 -	87.3 (-5.4)
Industry	96.0 -	96.0 -	108.5 -	108.5 -	108.5 -	96.0 -	108.5 -	108.5 -	103.5 (-4.6)

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	2019			2020p				2021p
			M11	M12	M1		M11	M12	
Coal (Mton)	141.1 (0.9)	133.0 (-5.7)	10.9 (-4.7)	10.9 (-12.8)	10.7 (-13.6)	116.5 (-12.4)	8.9 (-18.3)	10.0 (-8.1)	10.5 (-1.3)
- Coking coal excluded	106.4 (2.9)	98.0 (-7.9)	8.0 (-7.6)	8.0 (-16.2)	7.8 (-17.7)	82.7 (-15.6)	6.1 (-23.8)	7.0 (-12.3)	7.6 (-2.6)
Oil (Mbbbl)	931.8 (-0.6)	927.1 (-0.5)	79.4 (4.3)	85.1 (2.0)	80.7 (-5.2)	873.3 (-5.8)	71.0 (-10.5)	75.6 (-11.1)	75.6 (-6.4)
- Non-energy oil excluded	445.5 (0.4)	451.8 (1.4)	39.5 (4.4)	42.9 (3.4)	38.3 (-10.7)	424.7 (-6.0)	39.4 (-0.0)	37.5 (-12.5)	37.3 (-2.6)
LNG (Mton)	42.3 (16.2)	41.0 (-3.1)	3.7 (1.8)	5.0 (2.4)	4.9 (-2.4)	41.4 (1.1)	3.8 (1.4)	5.4 (7.6)	5.8 (17.4)
Hydro (TWh)	7.3 (3.9)	6.2 (-14.1)	0.5 (-15.0)	0.5 (-16.7)	0.5 (-1.1)	7.1 (14.4)	0.4 (-5.8)	0.5 (-0.7)	0.5 (-4.0)
Nuclear (TWh)	133.5 (-10.1)	145.9 (9.3)	10.2 (-15.9)	11.1 (-11.0)	11.9 (-2.9)	160.2 (9.8)	14.0 (37.4)	15.1 (36.2)	14.0 (18.0)
Others (Mtoe)	17.1 (8.0)	17.7 (3.3)	1.4 (-0.8)	1.5 (0.7)	1.4 (-8.8)	17.7 (0.0)	1.3 (-2.9)	1.5 (2.6)	1.5 (5.3)
TPES (Mtoe)	307.6 (1.8)	303.1 (-1.5)	25.3 (-1.2)	28.0 (-3.2)	27.1 (-7.1)	290.1 (-4.3)	24.0 (-5.2)	27.7 (-1.0)	28.2 (3.7)
- Non-energy oil excluded	247.1 (2.7)	244.0 (-1.3)	20.3 (-2.4)	22.7 (-4.1)	21.9 (-8.7)	234.2 (-4.0)	20.0 (-1.5)	22.9 (0.8)	23.4 (6.8)
- Non-energy oil&coal excluded	223.0 (3.5)	219.6 (-1.5)	18.3 (-3.1)	20.7 (-4.3)	19.9 (-9.5)	210.6 (-4.1)	18.0 (-1.3)	20.8 (0.6)	21.3 (7.2)

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

Share of TPES by Sources

(unit: %)

	2018	2019			2020p				(data %)
			M11	M12	M1		M11	M12	2021p
Coal	28.2	27.1	26.7	24.1	24.3	24.9	23.2	22.4	23.2
- Coking coal excluded	20.3	19.1	18.5	16.8	16.8	16.8	14.9	14.8	15.8
Oil	38.5	38.7	39.7	38.5	37.2	38.0	37.8	34.8	33.9
- non-energy oil excluded	18.9	19.2	20.0	19.7	17.9	18.7	21.2	17.5	16.9
LNG	18.0	17.7	19.2	23.3	23.7	18.7	20.5	25.4	26.8
Hydro	0.5	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.4
Nuclear	9.2	10.3	8.6	8.4	9.3	11.8	12.5	11.6	10.6
Others	5.6	5.8	5.5	5.2	5.1	6.1	5.6	5.4	5.2
TPES	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: p means provisional
Source: Monthly energy statistics

Total Final Consumption (TFC)

(unit: Mtoe)

	2018	2019			2020p				2021p
			M11	M12	M1		M11	M12	M1
Industry	143.5 (0.7)	142.9 (-0.4)	12.1 (2.0)	12.7 (0.4)	12.5 (-0.2)	137.4 (-3.9)	10.9 (-10.0)	12.2 (-3.5)	12.1 (-3.1)
Transport	43.0 (0.4)	43.0 (0.0)	3.6 (-3.2)	3.7 (-1.2)	3.2 (-16.1)	38.9 (-9.4)	3.6 (-0.2)	3.2 (-13.2)	3.0 (-5.7)
Residential	23.5 (4.4)	22.6 (-3.6)	2.0 (-4.3)	3.0 (-5.2)	3.2 (-9.8)	23.2 (2.7)	2.1 (3.9)	3.2 (9.9)	3.8 (18.8)
commercial	17.9 (2.9)	17.5 (-2.3)	1.4 (-0.4)	1.7 (-1.9)	1.8 (-6.4)	17.1 (-2.2)	1.4 (0.9)	1.7 (0.9)	1.9 (5.2)
Public	5.6 (2.0)	5.4 (-3.2)	0.4 (-3.3)	0.5 (-3.7)	0.5 (-5.5)	5.4 (-0.4)	0.4 (-1.2)	0.5 (-0.8)	0.6 (8.7)
TFC	233.4 (1.2)	231.4 (-0.9)	19.5 (0.0)	21.6 (-0.9)	21.3 (-5.1)	222.0 (-4.0)	18.4 (-5.8)	21.0 (-3.0)	21.5 (0.9)
Coal (Mton)	49.3 (-2.1)	48.2 (-2.2)	4.1 (-7.3)	4.1 (-5.7)	4.0 (1.7)	45.8 (-5.0)	3.8 (-6.6)	4.4 (6.4)	4.1 (1.5)
Oil (Mbbbl)	920.0 (-0.7)	918.5 (-0.2)	78.8 (4.3)	84.1 (1.8)	79.9 (-4.9)	867.1 (-5.6)	70.1 (-11.1)	74.7 (-11.2)	74.0 (-7.4)
Electricity (TWh)	526.1 (3.6)	520.5 (-1.1)	41.1 (-1.9)	44.7 (-1.3)	46.3 (-4.8)	509.3 (-2.2)	41.1 (0.1)	45.0 (0.7)	48.8 (5.2)
City gas (Bm ³)	24.3 (7.4)	23.3 (-4.1)	2.0 (-6.4)	2.8 (-5.5)	3.1 (-8.9)	22.5 (-3.4)	2.0 (0.8)	3.1 (7.7)	3.6 (18.5)
Heat:others (1 000 toe)	11.8 (6.4)	11.6 (-2.0)	1.0 (-1.0)	1.2 (-3.2)	1.2 (-5.8)	11.4 (-0.9)	1.0 (-2.2)	1.2 (2.5)	1.2 (1.3)

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

Share of the Total Final Consumption by Sources

(unit: %)

	2018	2019			2020p				2021p
			M11	M12	M1		M11	M12	M1
Industry	61.5	61.8	61.9	58.7	58.7	61.9	59.1	58.3	56.4
Transport	18.4	18.6	18.5	17.3	15.0	17.5	19.6	15.5	14.0
Residential	10.1	9.8	10.4	13.7	15.2	10.5	11.5	15.5	17.8
commercial	7.7	7.6	7.0	7.9	8.6	7.7	7.5	8.2	9.0
Public	2.4	2.3	2.2	2.4	2.6	2.4	2.3	2.4	2.8
Final energy	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Coal	13.9	13.9	13.9	12.6	12.6	13.8	13.9	13.7	12.7
Oil	50.1	50.2	51.1	49.2	46.9	49.3	48.7	45.4	43.4
Electricity	19.4	19.3	18.1	17.8	18.7	19.7	19.3	18.5	19.5
City gas	11.6	11.6	11.9	14.9	16.2	12.0	12.9	16.6	18.7
Heat:others	5.1	5.0	5.0	5.5	5.7	5.2	5.2	5.8	5.7

Note: p means provisional
Source: Monthly energy statistics

Statistics on Energy Production Facilities

	2018	2019	2020p		2020p		2020p		2021p
			M11	M12	M1		M11	M12	M1
Total capacity (GW)	119.1 (1.9)	125.3 (5.2)	124.4 (5.2)	125.3 (5.2)	125.4 (7.7)	129.2 (8.5)	128.6 (8.7)	129.2 (8.5)	128.8 (7.9)
Nuclear	21.9 (-3.0)	23.3 (6.4)	23.3 (6.4)	23.3 (6.4)	23.3 (3.2)	23.3 (6.4)	23.3 (6.4)	23.3 (6.4)	23.3 (6.4)
Bituminous coal	36.4 (0.7)	36.4 (0.1)	36.4 (0.1)	36.4 (0.1)	36.5 (1.0)	36.5 (0.2)	36.5 (0.2)	36.5 (0.2)	35.5 (-2.6)
Gas	37.9 (-0.0)	39.6 (4.5)	39.5 (4.4)	39.6 (4.5)	41.2 (10.2)	41.2 (8.8)	41.2 (8.8)	41.2 (8.8)	41.2 (8.5)
Refinery capacity (mil BPSD)	3.2 (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

	2018	2019	2020p		2020p		2020p		2021p
			M11	M12	M1		M11	M12	M1
The number of household demanding city gas (mil)	19.1 (3.1)	19.7 (2.8)	19.5 (2.6)	19.7 (2.8)	19.7 (2.3)	20.1 (2.3)	20.0 (2.5)	20.1 (2.3)	20.2 (2.6)
Registered cars (mil)	23.2 (3.0)	23.7 (2.0)	23.6 (2.1)	23.7 (2.0)	23.7 (2.0)	24.4 (2.9)	24.3 (2.9)	24.4 (2.9)	24.4 (3.0)
- gasoline	10.6 (2.5)	11.0 (3.1)	10.9 (3.0)	11.0 (3.1)	11.0 (3.1)	11.4 (4.1)	11.4 (4.1)	11.4 (4.1)	11.4 (4.2)
- diesel	9.9 (3.7)	10.0 (0.3)	10.0 (0.6)	10.0 (0.3)	10.0 (0.0)	10.0 (0.3)	10.0 (0.4)	10.0 (0.3)	10.0 (0.4)
- LPG	2.0 (-3.3)	2.0 (-1.5)	2.0 (-1.8)	2.0 (-1.5)	2.0 (-1.1)	2.0 (-1.3)	2.0 (-1.1)	2.0 (-1.3)	2.0 (-1.5)
- hybrid	0.4 (30.9)	0.5 (26.1)	0.5 (26.2)	0.5 (26.1)	0.5 (25.1)	0.6 (33.1)	0.6 (32.0)	0.6 (33.1)	0.7 (34.5)

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