

KEEI MONTHLY KOREA ENERGY TRENDS



COAL -0.2%
PETROLEUM 15.0%
LNG -6.2%
NUCLEAR 14.7%
NEW & RENEWABLE 19.7%
April. 2022

This publication is derived from Energy Demand & Supply
Statistics and Energy Price Statistics issued until January 2022



Table of Contents

1.	The Economy and the Industry.....	5
2.	Energy Prices	6
3.	Energy Supply	9
4.	Energy Consumption	10
5.	Coal	12
6.	Petroleum	13
7.	Gas	14
8.	Electricity	16
9.	Nuclear	17
10.	Heat and Renewable energy	18
11.	Industry	20
12.	Transport	21
13.	Building.....	22
14.	Transformation	23
App.	Major Indicators & Statistics of Energy Supply and Demand	24



1. The Economy and the Industry

- **The mining & manufacturing production index grew by 4.3% year-on-year in January as a result of the overall growth in industrial production activities, although the automobile production declined.**
 - The semiconductor production index went up by 30.5% year-on-year, as contactless activities grew steadily, and its demand for mobile devices increased with the launch of new smartphones.
 - The production index of basic chemical materials rose by 5.5% year-on-year, as demand for synthetic resins and rubbers increased with the onset of recovery in the downstream industries (e.g., construction) in addition to a sharp increase in petrochemical products export.
 - The iron & steel production index was up 4.4% YoY partly due to the recovery in the industries that are major source of demand such as construction and machinery. The automobile production index dropped by 9.2% YoY because a number of manufacturing facilities were idled for maintenance.
- **The service production index grew by 4.7% year-on-year in January, despite enhanced social distancing rules, which was attributed to base effect and increased Covid-19 vaccination rates.**
 - In the wholesale and retail industries, the production index increased by 4.5% YoY, as service production increased except the sales of automobiles and components. The production index of transport service also grew by 13.4% with increasing productions in the warehouse and transport-related services.
 - The food and accommodation production index rose by 37.6% year-on-year owing to the learning effect, higher vaccination rates and the base effect from a sharp drop during the same month last year (-36.6%), even though the social distancing rules were strengthened amid the spread of Omicron variant.

► Major economic and industrial indicators

	2020	2020		2021p			
			M1		M11	M12	M1
GDP (trillion won)	1 836.9 (-0.9)	-	-	1 910.7 (4.0)	-	504.3 (4.2)	-
Total export (\$billion, customs clearance basis)	512.5 (-5.5)	43.1 (-6.6)	48.0 (11.4)	644.4 (25.7)	60.3 (31.9)	60.7 (18.3)	55.5 (15.5)
Industrial production index (2015=100)	106.4 (-0.3)	102.1 (-3.4)	110.4 (8.1)	114.3 (7.4)	119.3 (6.7)	127.0 (7.4)	115.1 (4.3)
Semi-conductors	230.7 (22.7)	204.0 (37.6)	243.9 (19.6)	298.6 (29.4)	331.0 (33.9)	353.7 (29.7)	318.4 (30.5)
Basic chemical products	101.1 (-7.1)	113.3 (-1.4)	106.9 (-5.6)	107.9 (6.7)	100.3 (14.5)	112.9 (8.7)	112.8 (5.5)
Iron & Steel	92.1 (-6.3)	94.7 (-8.8)	96.2 (1.6)	97.4 (5.8)	98.7 (3.0)	98.0 (-0.6)	100.4 (4.4)
Cars	84.4 (-9.6)	77.1 (-21.3)	92.2 (19.6)	88.2 (4.5)	92.1 (-5.1)	97.6 (7.7)	83.7 (-9.2)
Service production index (2015=100)	106.2 (-2.0)	106.8 (0.9)	104.7 (-2.0)	110.9 (4.3)	114.7 (5.4)	123.2 (5.8)	109.6 (4.7)
Wholesale & Retail	101.9 (-2.6)	103.2 (-1.9)	101.1 (-2.0)	106.0 (4.0)	110.3 (4.1)	112.9 (4.2)	105.6 (4.5)
Food & Accommodation	79.6 (-18.4)	94.8 (-2.1)	60.1 (-36.6)	80.7 (1.4)	92.3 (14.4)	91.9 (38.4)	82.7 (37.6)

Note: Figures are based on the real price of 2015, P means provisional, () is year-on-year growth rates (%)

Source: BOK Economic statistics system, Korea International Trade Association, Korea Statistical Information Service

2. Energy Prices¹

Global Energy Prices

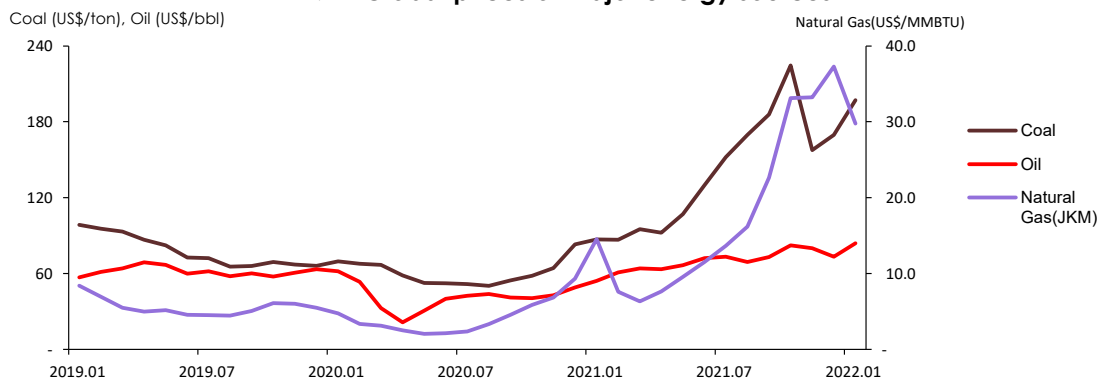
- **Global oil price rose by 14.7% month-on-month in January amid growing geopolitical risks in the oil producing countries.**
 - Global oil price posted a rapid growth, as various geopolitical risks emerged such as anti-government protests in Kazakhstan, the Houthi rebel force's attack on an oil refinery in Abu Dhabi, UAE and escalating tensions between Russia and Ukraine.
 - Global natural gas futures price fell from the previous month, as increased US LNG supply to Europe alleviated concerns over Russian gas supply, and it was also affected by relatively mild winter in Asia and Europe.
 - Global coal price surged 27.3% month-on-month, as global supply chain disruptions exacerbated.

► Global energy prices

	2019	2020	2021					2022
			M1	M1		M11	M12	M1
Crude oil (US\$/bbl)	61.6 (-10.2)	41.6 (-32.5)	61.8 (8.6)	54.1 (-12.5)	69.3 (66.8)	79.9 (86.3)	73.2 (49.3)	84.0 (55.3)
Natural gas futures (US\$/MMBTU)								
TTF	4.8 (-32.7)	3.2 (-32.3)	3.6 (-50.0)	7.3 (100.0)	16.1 (397.7)	27.6 (470.1)	38.0 (548.9)	28.2 (288.8)
JKM	5.6 (-36.6)	4.2 (-25.1)	4.7 (-43.7)	14.5 (206.6)	17.8 (325.1)	33.2 (386.4)	37.3 (298.8)	29.8 (104.9)
Coal (US\$/ton)	78.0 (-27.2)	60.3 (-22.8)	69.0 (-30.3)	84.9 (23.0)	136.0 (126.3)	153.7 (145.1)	164.6 (110.4)	209.6 (146.9)

Note: Oil price is the average of Brent, Dubai and WTI. Coal prices are based on Australian coal. () is year-on-year growth rates (%)
Source: www.petronet.co.kr, World Bank(Commodity Markets), CME Group

► Global prices of major energy sources



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

Domestic energy prices

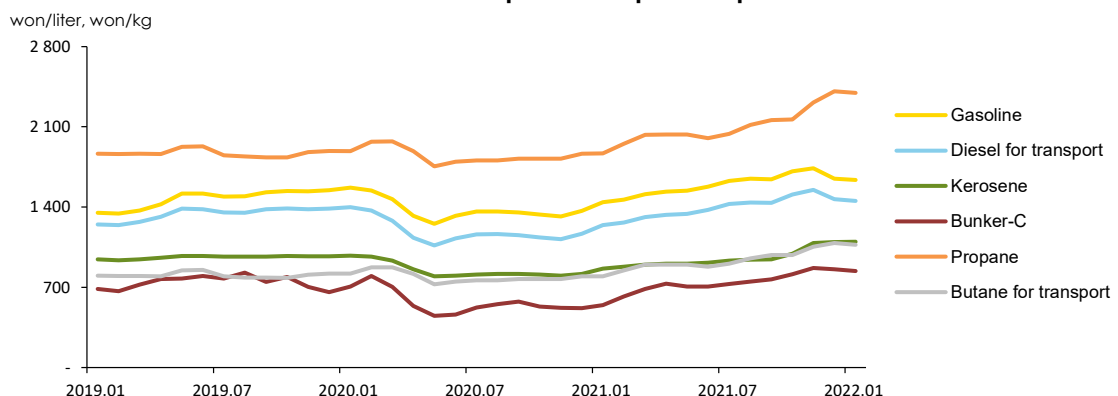
- **Gasoline and diesel prices dropped by 0.7% and 1.0% month-on-month in January in line with the global oil price decline in December.**
 - Gasoline and diesel prices at gas stations declined on a MoM basis, despite a surge in global oil prices, because a change in global oil prices is reflected in domestic prices after a certain period of time.
 - Bunker-C oil price went down by 2.2% month-on-month, which was also affected by the global oil price decline in the previous month.
- **Propane and butane prices fell by 0.6% and 1.4% month-on-month in January, as supply prices were lowered.**
 - Saudi Aramco's propane and butane contract prices were marked down in December, and accordingly, domestic LPG importers (e.g., SK Gas, E1) lowered the prices by KRW 30/kg in January.
- **The relative price of propane and city gas for industrial customers (propane/city gas) went down by 9.8% to 1.18.**
 - Industrial propane price fell by 2.1% month-on-month, while industrial city gas price grew by 8.6%, posting four consecutive months of rapid growth, and consequently, the relative price fell sharply.

► Domestic petroleum product prices

	2019	2020	2021					2022
			M1	M1		M11	M12	M1
Gasoline (won/liter)	1 472.6 (-6.9)	1 381.2 (-6.2)	1 568.4 (16.1)	1 441.8 (-8.1)	1 591.1 (15.2)	1 737.4 (31.7)	1 646.4 (20.4)	1 635.2 (13.4)
Diesel for transport (won/liter)	1 340.6 (-3.7)	1 189.5 (-11.3)	1 398.4 (11.9)	1 242.4 (-11.2)	1 392.0 (17.0)	1 549.7 (38.4)	1 468.9 (25.7)	1 453.5 (17.0)
Bunker-C (won/liter)	744.5 (1.3)	572.9 (-23.0)	706.5 (3.0)	545.5 (-22.8)	732.2 (27.8)	867.4 (66.8)	859.0 (65.6)	840.4 (54.1)
Propane (won/kg)	1 869.6 (-2.6)	1 850.3 (-1.0)	1 887.6 (1.2)	1 868.1 (-1.0)	2 093.4 (13.1)	2 312.3 (26.9)	2 410.1 (29.2)	2 395.0 (28.2)
Butane for transport (won/liter)	806.3 (-7.8)	790.8 (-1.9)	820.8 (2.4)	797.2 (-2.9)	932.3 (17.9)	1 053.8 (36.7)	1 087.5 (36.5)	1 071.8 (34.5)

Note: Gasoline, diesel and butane prices are based on charging station prices, Bunker-C oil 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



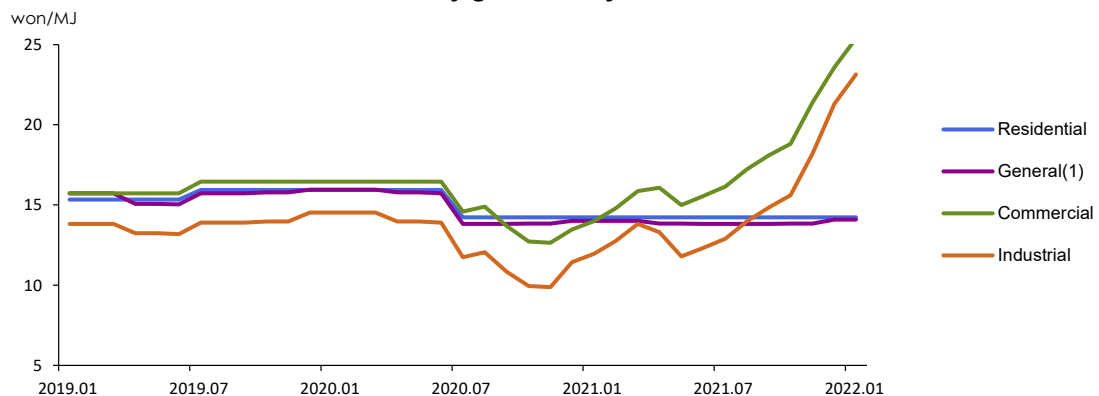
□ **City gas rates for office heating and industrial customers went up by 7.7% and 8.6% respectively in January on a month-on-month basis.**

- City gas rates for office heating and industrial customers, adjusted each month under the Fuel Cost Adjustment scheme, were sharply raised from the previous month, as wholesale price increased due to a surge in global natural gas price.
- City gas rates for residential and general customers, which are categorized as civilian use, were unchanged.

□ **Electric rate was flat in January compared to the previous month, as Fuel Cost Pass-Through Adjustment Rate was kept at KRW 0/kWh.**

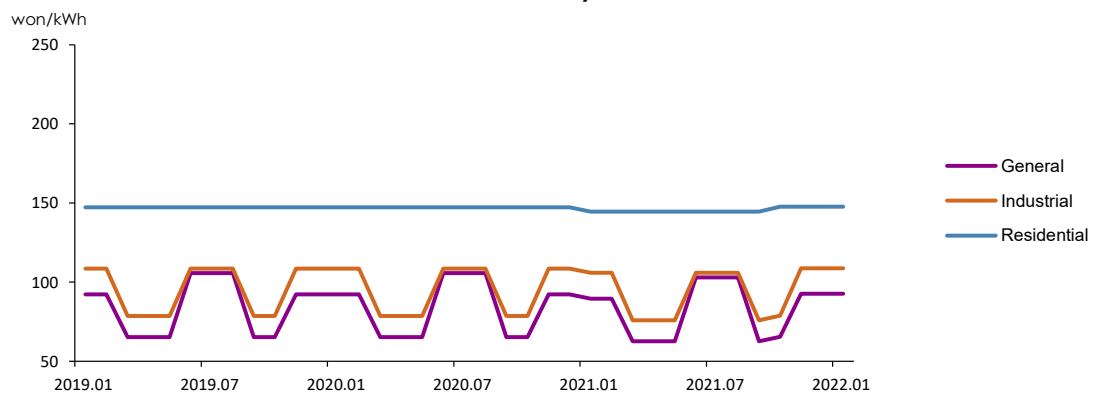
- The Fuel Cost Pass-Through Adjustment Rate has remained the same as the previous quarter, which was aimed at stabilizing people's livelihoods given the prolonged Covid-19 situation and high inflation rate.

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



Source: Seoulgas

► **Electric rates by end-use sectors**



Note: The electric rates by end-use sectors refer to the rates for residential use ([high voltage], the 2nd stage price), general use ([A], low voltage) and Industrial use ([B], high voltage B middle load), including Climate Environmental Price

Source: KEPCO

3. Energy Supply

- The total energy import volume posted a year-on-year growth of 15.7% in January, as the import of almost all energy sources increased.
- The import volume of crude oil increased by 23.3% year-on-year due to the base effect of a sharp drop during the same month last year (-17.1%), and the increased spot import volume amid the concerns over a potential increase in oil prices in the face of an unstable international situation.
 - The import volume of petroleum products grew by 25.3% year-on-year, led by LPG and naphtha.
 - The import volume of bituminous coal posted a year-on-year growth of 16.3%, despite a surge in global coal price (146.9%), owing to the base effect of a plunge in the same month last year (-15.0%) and increased import volume of steam coal for power generation.
 - The gas import volume went up by 13.0% year-on-year, as Korea Gas Corp. increased the spot import volume to secure inventory at a time of escalating military tensions along the Russia-Ukraine border.

► Import and domestic production of energy

	2020		2021p				2022p
		M1	M1		M11	M12	M1
Import volume							
Crude oil (Mbbbl)	980.3	92.7	76.9	960.1	80.4	86.9	94.8
	(-8.6)	(-0.4)	(-17.1)	(-2.1)	(15.6)	(2.9)	(23.3)
Petroleum product (Mbbbl)	347.4	39.4	28.9	389.1	31.1	37.9	36.2
	(-1.4)	(30.6)	(-26.7)	(12.0)	(30.9)	(33.8)	(25.3)
Bituminous coal (Mton)	115.5	10.3	8.8	108.0	8.8	9.1	10.2
	(-13.0)	(-11.5)	(-15.0)	(-6.4)	(-5.8)	(-10.6)	(16.3)
Anthracite (Mton)	6.3	0.7	0.6	6.5	0.7	0.4	0.5
	(-8.3)	(21.4)	(-2.2)	(3.0)	(67.2)	(-41.7)	(-29.5)
LNG (Mton)	40.0	4.1	4.4	45.9	3.8	3.9	5.0
	(-1.9)	(8.6)	(6.7)	(14.9)	(7.4)	(-9.3)	(13.0)
Import volume (Mtoe)	325.4	31.3	27.5	332.6	27.8	29.5	31.9
	(-6.8)	(0.1)	(-12.1)	(2.2)	(6.5)	(1.8)	(15.7)
Import value (billion US\$, CIF)	86.6	12.1	8.2	137.2	14.7	15.8	18.2
	(-31.7)	(8.2)	(-32.4)	(58.5)	(151.1)	(106.0)	(121.1)
Energy share of total import value (%)	18.4	28.4	18.5	22.1	25.6	25.9	30.2
Foreign energy dependence (%)*	92.7	94.1	93.8	92.8	93.4	93.8	93.2
Domestic production							
Hydropower (TWh)	7.15	0.54	0.52	6.74	0.43	0.52	0.52
	(14.4)	(-1.1)	(-4.0)	(-5.8)	(1.9)	(4.5)	(0.7)
Anthracite (Mton)	1.02	0.08	0.08	0.90	0.08	0.08	0.07
	(-6.0)	(-19.7)	(-4.1)	(-11.9)	(-7.0)	(-6.1)	(-6.5)
Natural gas (Mton)	0.14	0.02	0.01	0.04	0.00	0.00	-
	(-28.6)	(-12.4)	(-58.2)	(-70.3)	(-73.3)	(-87.6)	(-100.0)
Renewable energy (Mtoe)	18.98	1.42	1.60	20.08	1.53	1.67	1.91
	(7.3)	(-5.9)	(12.2)	(5.8)	(-2.1)	(0.9)	(19.7)

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

4. Energy Consumption

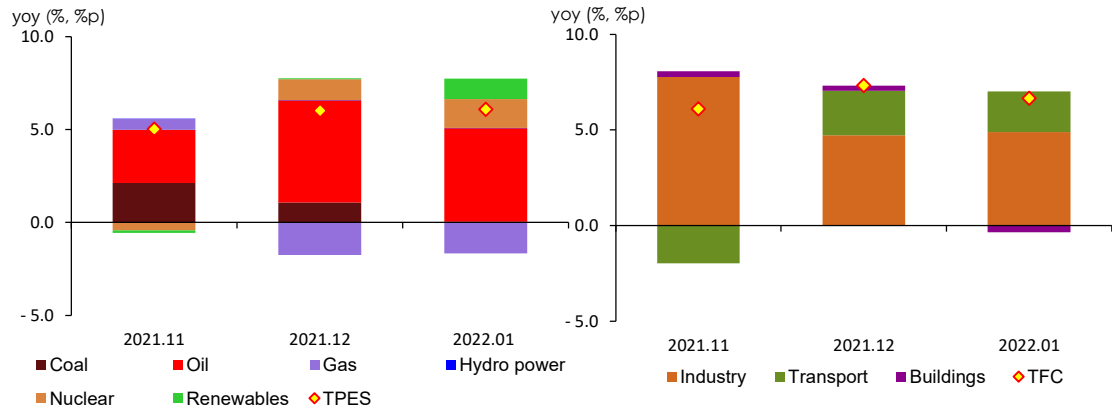
- **Total Primary Energy Supply (“TPES”) recorded a year-on-year increase of 6.1% in January, led by petroleum and nuclear energy, although gas and coal use decreased.**
 - Coal use decreased on a year-on-year basis (-0.2%) for the first time in four months, as its growth was much slower in the power generation sector and continued the downward trend of the previous month in the industrial sector due to rapidly rising price amid uncertainties over Indonesian coal supply.
 - Petroleum use was up 15.0% year-on-year, as its industrial use surged (16.9%) following the construction of additional petrochemical facilities, and it also increased in the transport sector (15.1%) due to base effect and growing inventory demand over the possibility of Russian invasion of Ukraine.
 - Gas use fell by 6.2% year-on-year, because gas was replaced by other energy sources mostly in the power generation and industrial sectors due to a surge in global LNG price, and as buildings’ gas use also declined due to the warmer weather than last year.
- **Total Final Consumption (“TFC”) posted a year-on-year growth of 6.7% in January, led by the industrial and transport sectors, although it declined in the building sector.**
 - Industrial energy use grew by 8.7% year-on-year, led by the petrochemical sector with the construction of additional facilities, even though the number of work days decreased (-0.5) and energy use declined in the fabricated metals sector, affected by lower automobile production.
 - Transport energy use grew by 15.1% year-on-year, as it increased in the road, aviation and navigation sectors all together owing to the low base effect of the same month last year and growing demand for inventory at a time of the volatile global situation.
 - Buildings’ energy use dropped by 1.2% year-on-year, as energy use was flat in commercial and public buildings, despite the growth in service production index, due to decreased number of heating degree days (-1.4%) and increased city gas rate for office heating (81.4%), and as it declined in residential buildings.

► Energy consumption

	2020	2021p						2022p
		M1	M1		M11	M12	M1	
TPES (Mtoe)	292.1	27.3	28.3	305.3	25.5	29.6	30.0	
	(-3.6)	(-6.7)	(3.8)	(4.5)	(5.0)	(6.0)	(6.1)	
- Feedstock excluded	212.5	20.0	21.4	217.7	18.2	21.7	22.4	
	(-3.2)	(-9.0)	(7.3)	(2.4)	(-0.5)	(3.2)	(4.3)	
TFC (Mtoe)	222.6	21.4	21.7	234.7	19.5	22.6	23.1	
	(-3.8)	(-4.9)	(1.4)	(5.4)	(6.1)	(7.3)	(6.7)	

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 slid by 0.2% year-on-year in January, with the industrial sector leading the downward trend, although it increased in the power generation sector.

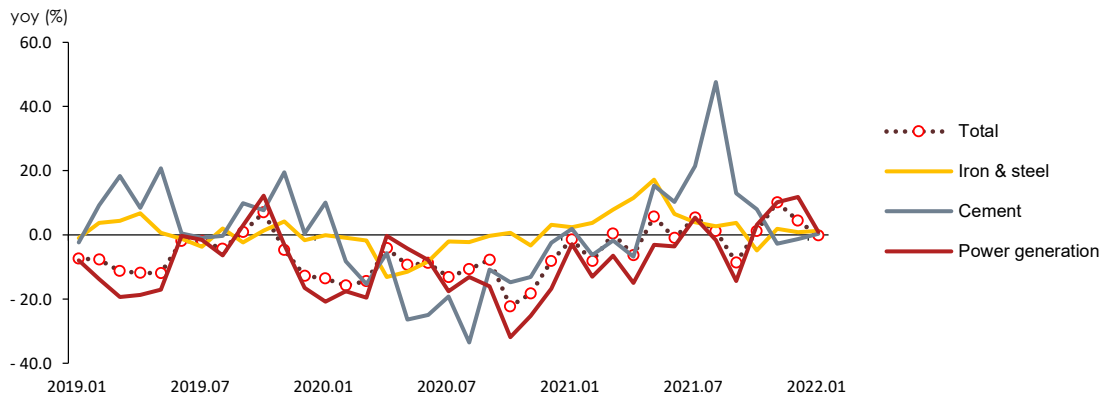
- Industrial coal use fell by 1.8% despite increased use of bituminous coal, as the use of anthracite fell sharply.
- Coal use for power generation rose by 0.9% year-on-year in line with the growth in installed capacity of coal-based power plants, which also offset a drop in gas-fired generation, even though some coal-fired generation was restricted under the fine dust seasonal management system (Dec-Feb).

► Coal consumption

	2020		2021p				2022p
		M1	M1		M11	M12	M1
Coal (Mton)	116.6	10.7	10.5	116.8	9.8	10.5	10.5
	(-12.4)	(-13.6)	(-1.4)	(0.2)	(10.1)	(4.4)	(-0.2)
Industry	45.3	4.0	4.0	47.4	4.1	4.0	4.0
	(-4.7)	(2.7)	(1.3)	(4.6)	(10.4)	(-5.1)	(-1.8)
-Coking-coal	33.8	2.9	3.0	35.3	2.9	3.1	3.0
	(-3.3)	(-0.1)	(2.4)	(4.5)	(1.9)	(0.8)	(1.2)
Buildings	0.5	0.1	0.1	0.5	0.1	0.1	0.1
	(-20.8)	(-39.4)	(-5.2)	(-11.6)	-	(-6.3)	(-7.3)
Power generation	70.7	6.6	6.4	68.9	5.6	6.4	6.5
	(-16.6)	(-20.8)	(-3.0)	(-2.5)	(10.1)	(11.8)	(0.9)

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 posted a year-on-year growth of 15.0% in January, led by the industrial sector where the use of petroleum as feedstock continuously increased.**

- Industrial petroleum use was up 16.9% year-on-year, as more petroleum was used as feedstock following the construction of new and additional (petrochemical) facilities.
- In the transport sector, petroleum use grew by 15.6% year-on-year due to the base effect of a sharp drop during the same period last year and growing demand for inventory.
- In the building sector, petroleum use fell by 3.0% year-on-year, as it declined in residential buildings due to the warmer-than-usual weather.

► Petroleum product consumption by end-use sectors

	2020		2021p				2022p
		M1	M1		M11	M12	M1
Petroleum (Mbbbl)	872.4	80.7	75.5	932.2	76.9	88.2	86.8
	(-5.9)	(-5.2)	(-6.5)	(6.9)	(8.5)	(16.8)	(15.0)
Industry	543.9	51.6	45.9	597.1	49.0	54.5	53.7
	(-4.0)	(3.6)	(-11.0)	(9.8)	(23.4)	(19.4)	(16.9)
-Naphtha	405.3	39.5	34.6	450.9	37.2	41.5	40.3
	(-7.6)	(-0.2)	(-12.5)	(11.3)	(35.9)	(23.3)	(16.5)
Transport	277.2	23.0	21.5	280.1	23.2	26.7	24.9
	(-8.6)	(-15.0)	(-6.4)	(1.1)	(-10.3)	(15.5)	(15.6)
Buildings	44.7	5.3	6.5	46.4	4.0	5.7	6.3
	(-8.9)	(-26.0)	(22.6)	(3.7)	(-9.6)	(-2.8)	(-3.0)
Power generation	6.6	0.8	1.6	8.7	0.8	1.3	2.0
	(-23.2)	(-29.8)	(94.9)	(31.4)	(-15.8)	(38.9)	(28.5)

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

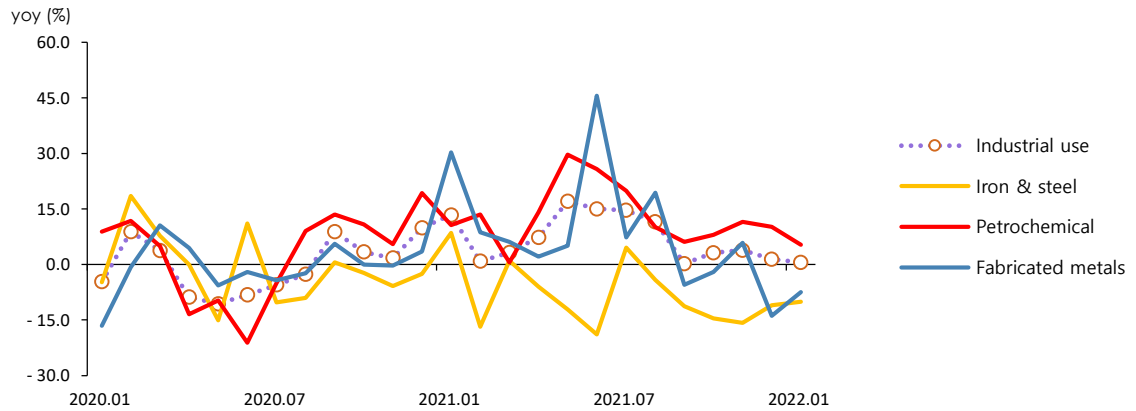
- **Gas use dropped by 6.2% year-on-year in January, as it grew more slowly in the industrial sector and decreased in the power generation and building sectors.**
 - Gas use for power generation dropped rapidly, as gas-fired generation plunged (-12.0%) due to a surge in global natural gas price, while the baseload generation (nuclear + coal) rose (8.2%) along with the increased number of coal power plants and decreased planned preventive maintenance at nuclear power plants.
 - Industrial gas use grew at slower pace for two consecutive months, as it declined in the primary and fabricated metals sectors due to fewer work days (-0.5) and higher industrial city gas rate, although it increased in the petrochemical sector after the construction of additional facilities.
 - City gas use in buildings decreased, especially in residential buildings (-2.4%) amid the decreased number of heating degree days (-1.4%), although it increased in commercial buildings (2.5%), even at higher city gas rate for office heating (81.4%), in line with the increased service production.

► Natural gas and city gas consumption

	2020		2021p				2022p
		M1	M1		M11	M12	M1
LNG (Mton)	42.1	5.0	5.8	45.8	3.9	5.1	5.4
	(2.7)	(-1.3)	(16.4)	(8.7)	(2.9)	(-6.9)	(-6.2)
Power generation	18.6	1.9	2.2	21.5	1.7	1.8	1.8
	(3.7)	(9.2)	(13.0)	(15.7)	(4.7)	(-14.4)	(-15.8)
City gas production	18.2	2.5	3.1	19.3	1.9	2.7	3.0
	(-3.1)	(-10.4)	(22.6)	(5.9)	(5.3)	(-0.8)	(-2.9)
Industry (Direct private importer)	2.8	0.2	0.2	2.7	0.2	0.3	0.3
	(23.8)	(20.5)	(-5.0)	(-3.4)	(-12.7)	(0.5)	(25.1)
City gas (Bm³)	25.9	3.4	3.9	27.0	2.4	3.3	3.9
	(-0.6)	(-7.0)	(16.1)	(4.0)	(2.8)	(-0.6)	(-1.0)
Industry (including directly imported)	11.1	1.0	1.2	11.9	1.0	1.2	1.2
	(-0.3)	(-4.7)	(13.4)	(7.2)	(3.9)	(1.4)	(0.6)
Buildings	13.8	2.2	2.6	14.1	1.3	2.1	2.6
	(0.0)	(-8.2)	(18.4)	(2.0)	(2.4)	(-1.8)	(-1.7)
Transport.	1.1	0.1	0.1	1.0	0.1	0.1	0.1
	(-9.6)	(-5.2)	(-9.1)	(-3.5)	(-2.4)	(0.9)	(-1.1)

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

► The growth rate of gas (city gas + directly imported LNG) consumption by major industries



8. Electricity

□ Electricity use recorded a year-on-year growth of 2.1% in January, though it declined in buildings, as industrial electricity use grew decently.

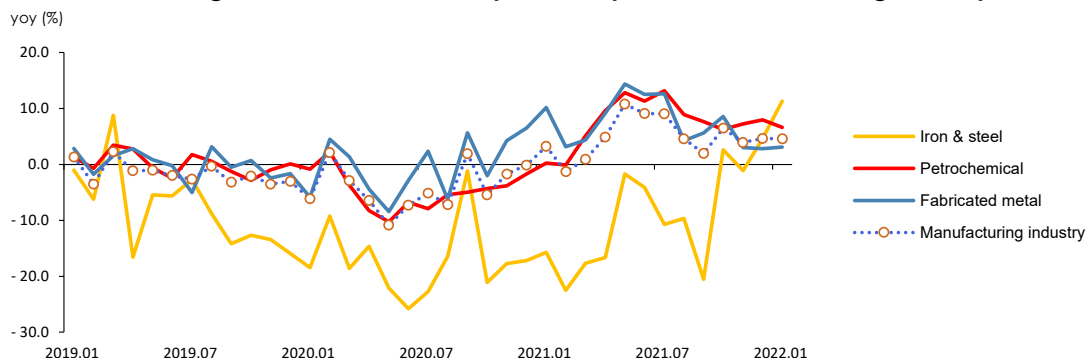
- Industrial electricity use went up by 4.6% year-on-year, with a double-digit growth in the primary metals sector and also decent growth in the petrochemical and fabricated metals sectors.
- Electricity use in buildings went down by 0.3%, led by the residential and public buildings, although it increased in commercial buildings.
- In the commercial sector, electricity use increased along with growing service production (4.7%), which was enabled by higher COVID-19 vaccination rates. In the residential sector, electricity use declined, affected by the decreased number of heating degree days (-1.4%).

► Electricity consumption by end-use sectors

	2020		2021p				2022p
		M1	M1		M11	M12	M1
Electricity (TWh)	509.3	46.3	48.8	533.4	42.8	47.3	49.8
	(-2.2)	(-4.8)	(5.2)	(4.7)	(4.1)	(4.9)	(2.1)
Industry	268.7	23.5	24.5	282.4	23.4	24.8	25.6
	(-4.0)	(-6.3)	(4.1)	(5.1)	(4.4)	(4.6)	(4.5)
Transport	3.2	0.3	0.3	3.1	0.2	0.3	0.3
	(8.4)	(3.4)	(-6.1)	(-1.3)	(-3.1)	(-13.8)	(12.5)
Buildings	237.4	22.5	24.0	247.9	19.2	22.2	23.9
	(-0.2)	(-3.3)	(6.6)	(4.4)	(3.8)	(5.6)	(-0.3)
Residential	74.1	6.3	6.9	77.6	6.0	6.2	6.9
	(5.1)	(0.2)	(10.8)	(4.7)	(2.9)	(0.4)	(-1.2)
Commercial	132.1	13.2	13.8	136.9	10.6	12.3	14.4
	(-2.3)	(-4.8)	(4.2)	(3.6)	(4.5)	(4.0)	(4.7)

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

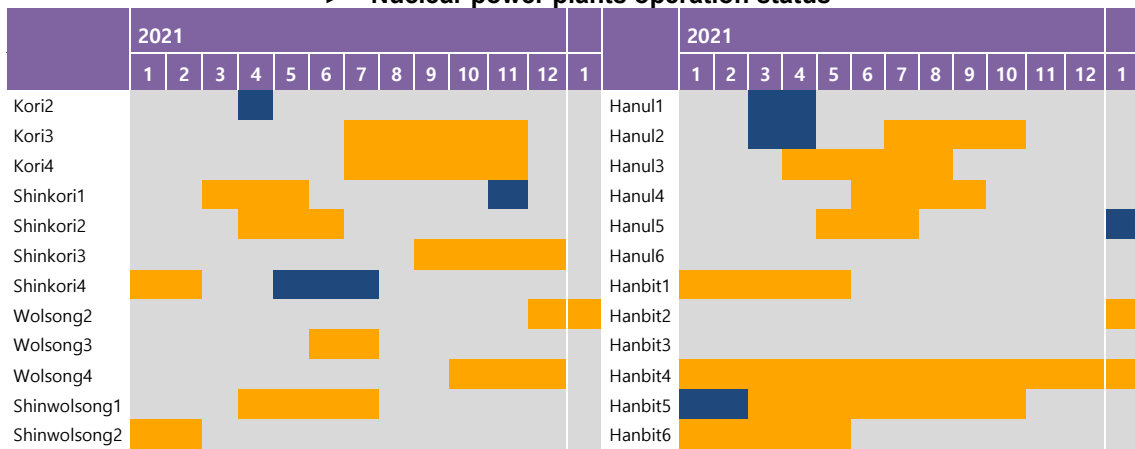
► The growth rate of electricity consumption in manufacturing industry



9. Nuclear

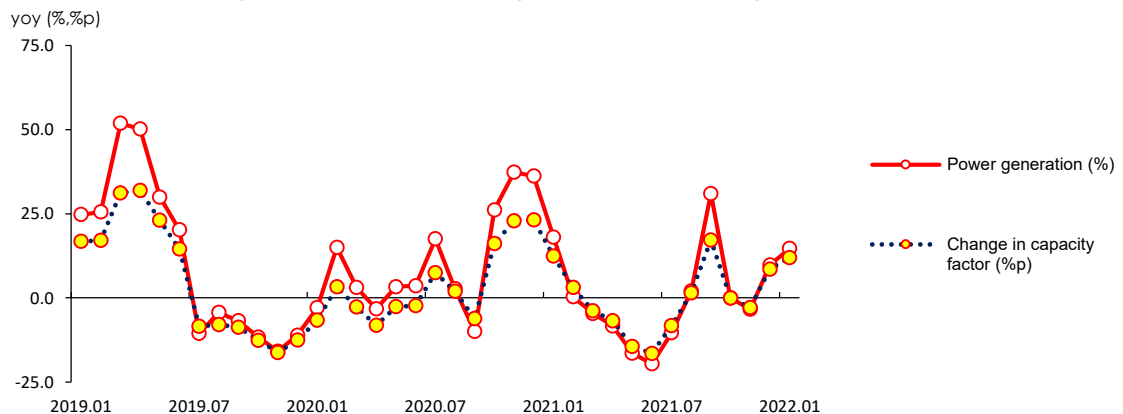
- **The total nuclear generation went up by 14.7% year-on-year in January, as its capacity factor increased, with the number of reactors under planned preventive maintenance decreasing.**
 - The nuclear capacity factor grew by over 10%p, as the number of reactors under planned preventive maintenance decreased by two units compared to the same month last year, and the maintenance was conducted at reactors of smaller capacity.
 - The nuclear capacity factor has been over 90% for two consecutive months, because the maintenance work started from the mid-January at Hanbit unit 2, and consequently, the maintenance period was shorter than it was during the same month a year ago.
 - The share of nuclear in the total power generation mix fell to the low 20% range in July 2021 but rapidly bounced back to over 30% in December, and the share was nearly 30% in January 2022.

► Nuclear power plants operation status



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

► The growth rate of nuclear generation & average capacity factor

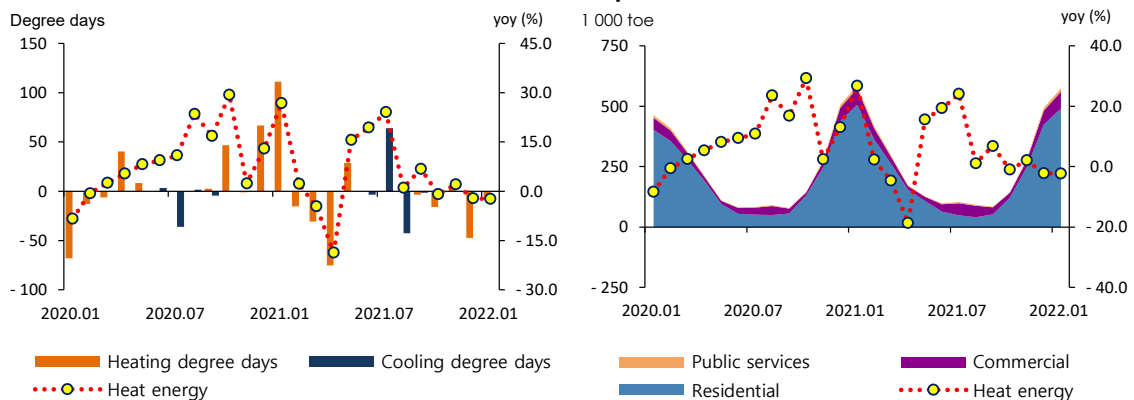


Note: Capacity factor = Ratio of actual power generated to possible power generation when utilizing 100% of available facility. Facility capacity values are based on end-of-the-month data.

10. Heat and Renewable energy

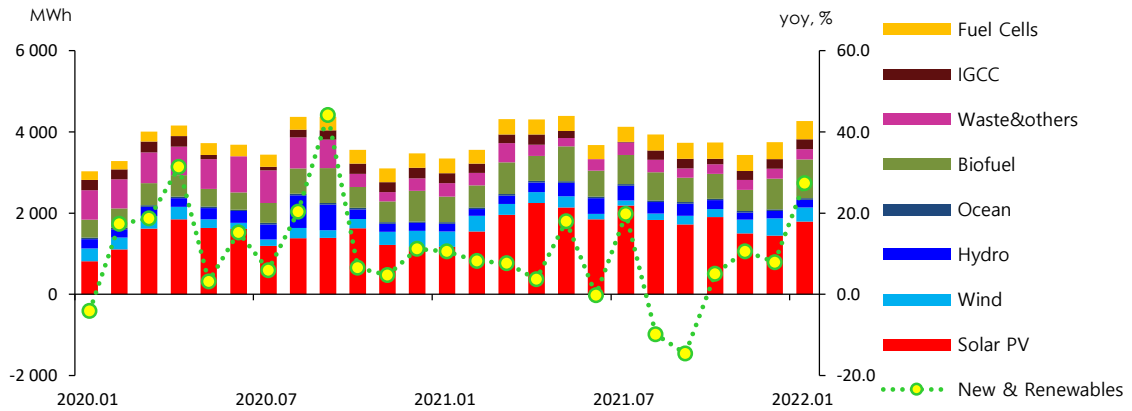
- **Heat energy use dropped by 2.3% year-on-year in January, with the residential sector taking the lead, although it increased in the commercial sector.**
 - The total heat energy use declined, as it was down 2.9% in the residential sector, which accounts for a large part of the total heat energy use, partly due to the decreased number of heating degree days (-1.4%), although it was up 2.0% in the commercial sector, despite the enhanced social distancing rules, as service production increased along with higher COVID-19 vaccination rates.
- **Renewable & other energy generation² posted a year-on-year growth of 27.4% in January, led by bio energy, solar PV and fuel cells.**
 - Renewable & other energy generation rose by almost 30%, because power generation from solar PV, bio energy and fuel cell surged after the Renewable Portfolio Standard policy was strengthened, and their installed capacity increased accordingly.

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



² The installed capacity and power generation figures were derived from the 'Renewable energy' and 'Other energy' categories in KEPCO's 'The Monthly Report on Electric Power Statistics'. From March 2021, waste energy was integrated into the 'Other energy' category, which was then renamed 'Waste & Other energy'. Hydropower is excluded in renewable & other energy generation data in Energy Balance.

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



11. Industry

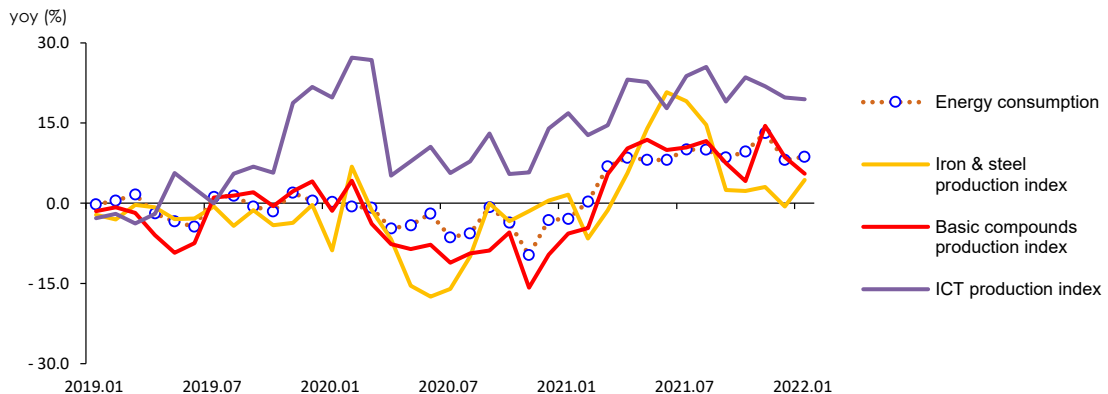
- **Industrial energy use went up by 8.7% year-on-year in January, which was driven by a surge in energy use, especially naphtha, in the petrochemical sector.**
 - Energy use, especially naphtha, increased rapidly in the petrochemical sector, driving the growth in the total industrial energy use, although it was weak in the iron & steel and fabricated metal sectors due to fewer work days (-0.5) and lower gas use as a result of higher global natural gas price.
 - The petrochemical sector's energy use increased but at slower pace for two consecutive months, even though naphtha and LPG use grew by over 16% and 25% respectively both due to the construction of additional facilities (e.g., naphtha cracking centers in Feb & July 2021).

► Industrial energy consumption

	2020	2021p						2022p
		M1	M1		M11	M12	M1	
Industry (Mtoe)	138.0	12.6	12.2	148.0	12.3	13.3	13.3	
	(-3.5)	(0.2)	(-2.9)	(7.3)	(13.1)	(8.1)	(8.7)	
Petrochemical	69.2	6.6	6.0	76.6	6.3	7.0	6.9	
	(-4.0)	(3.5)	(-9.5)	(10.8)	(26.5)	(20.3)	(15.0)	
- Naphtha	49.7	4.8	4.2	55.3	4.6	5.1	4.9	
	(-7.6)	(-0.2)	(-12.5)	(11.3)	(35.9)	(23.3)	(16.5)	
Iron & Steel	28.2	2.4	2.5	28.8	2.4	2.5	2.5	
	(-4.5)	(-2.5)	(1.3)	(2.2)	(0.1)	(0.1)	(1.0)	
-Coking coal	23.6	2.0	2.1	24.6	2.0	2.1	2.1	
	(-3.3)	(-0.1)	(2.4)	(4.5)	(1.9)	(0.8)	(1.2)	
Fabricated metal	11.4	1.0	1.2	12.2	1.0	1.1	1.2	
	(-0.5)	(-8.8)	(15.9)	(7.8)	(3.7)	(-0.5)	(-0.3)	
Share of feedstock (%)	57.5	57.8	55.9	59.0	58.9	59.4	57.5	

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

► Industrial energy consumption & production index



12. Transport

- **Transport energy use made a year-on-year growth of 15.1% in January, as it grew in the road, aviation and navigation sectors all together.**
 - Energy use in the road transport sector grew by 12.6% year-on-year due to base effect and growing inventory demand in the face of an unstable global situation.
 - Energy use in the aviation sector jumped 44.8% year-on-year owing to the base effect of a sharp drop in demand during the same month a year ago.
 - Energy use in the navigation sector went up by 19.5% year-on-year, as the use of bunker-C oil grew by 10.5% along with growing coastal freight volume (18.0%).

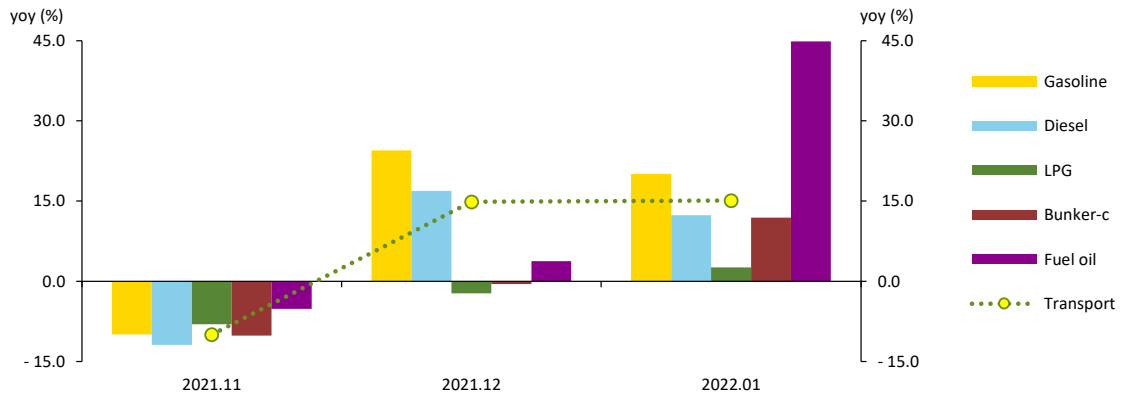
► The growth rate of petroleum consumption in the transport sector

	2020	2021p		2021p		2022p	
		M1	M1		M11	M12	M1
Transport (Mtoe)	39.44 (-8.2)	3.25 (-14.8)	3.05 (-5.9)	39.78 (0.9)	3.28 (-10.0)	3.77 (14.9)	3.51 (15.1)
Road	33.45 (-4.6)	2.51 (-19.1)	2.57 (2.7)	33.92 (1.4)	2.77 (-11.8)	3.23 (15.7)	2.90 (12.6)
Navigation	3.11 (17.5)	0.28 (6.1)	0.27 (-3.6)	3.10 (-0.3)	0.28 (7.6)	0.29 (18.4)	0.32 (19.5)
Aviation	2.56 (-48.1)	0.43 (3.4)	0.18 (-57.4)	2.46 (-3.9)	0.20 (-5.2)	0.22 (3.8)	0.27 (44.8)
Rail	0.32 (-7.5)	0.03 (-12.6)	0.03 (-10.8)	0.31 (-4.5)	0.02 (-6.1)	0.03 (-12.2)	0.03 (5.5)

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

Source: Monthly energy statistics

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



13. Buildings

□ **Energy use in buildings dropped by 1.2% year-on-year in January, as the use of most energy sources declined, affected by decreased number of heating degree days.**

- Energy use declined in residential and public buildings in line with falling demand for heating due to warmer temperature. However, energy use increased in commercial buildings as a result of stronger service production(↑ 4.7% in index), partially offsetting the decline in buildings' total energy use.
- Energy use in residential buildings fell by 2.0% year-on-year, as the use of most energy sources decreased because of the weather conditions.
- Energy use in commercial buildings rose by 2.8% year-on-year, as almost all energy sources were consumed more except petroleum.

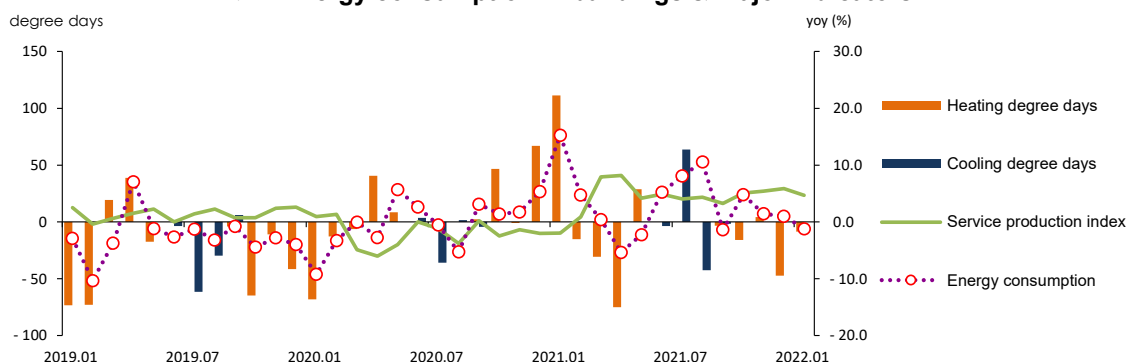
► Energy consumption in buildings

	2020		2021p				2022p
		M1	M1		M11	M12	M1
Buildings (Mtoe)	45.2	5.6	6.4	46.9	3.9	5.5	6.3
	(-0.7)	(-9.2)	(15.3)	(3.8)	(1.4)	(1.0)	(-1.2)
Residential	23.2	3.2	3.9	23.7	2.1	3.2	3.8
	(2.6)	(-10.2)	(21.3)	(2.3)	(-0.2)	(-2.3)	(-2.0)
Commercial	16.7	1.8	2.0	17.6	1.4	1.7	2.0
	(-4.3)	(-7.5)	(7.1)	(5.4)	(3.7)	(4.1)	(2.8)
Public-others	5.3	0.5	0.6	5.6	0.4	0.6	0.5
	(-2.6)	(-8.8)	(6.7)	(5.8)	(2.2)	(12.1)	(-9.8)
Heating degree days	2 448.0	480.3	591.5	2 404.7	290.6	500.4	583.1
	(3.3)	(-12.4)	(23.2)	(-1.8)	(1.5)	(-8.6)	(-1.4)
Cooling degree days	85.2	-	-	101.3	-	-	-
	(-29.2)	-	-	(18.9)	-	-	-
Service production index (2015=100)	106.2	106.8	104.7	110.9	114.7	123.2	109.6
	(- 2.0)	-	-	(4.3)	-	-	-

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

Source: Monthly energy statistics

► Energy consumption in buildings & major indicators



14. Transformation

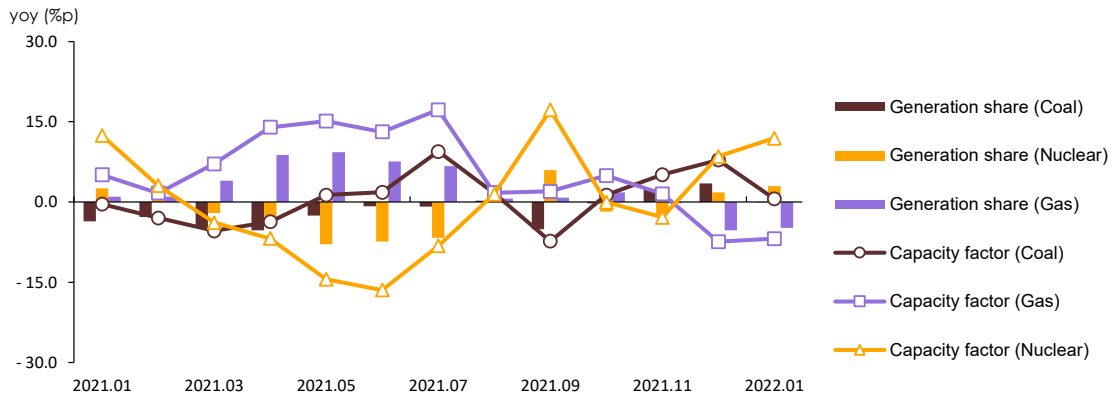
- The total power generation and energy input increased by 3.1% and 3.2% respectively in January on a year-on-year basis responding to the growing electricity demand.
 - Gas-based generation dropped by double digit percentages for two months in a row due to a surge in global natural gas price, and instead, the baseload generation (coal & nuclear) maintained the upward trend.
 - Coal-fired generation increased, compensating the decline in gas-fired generation, and along with the growth in installed capacity following the commissioning of a new coal power plant. The generation growth, however, was dragged down by coal supply disruptions due to Indonesia's coal export ban.
 - Nuclear generation grew by almost 15%, with its capacity factor up over 10%p, due to a drop in the number of nuclear power plants that were shut down for planned preventive maintenance.

► Electricity Generation in the power generation sector

	2020		2021p			2022p	
		M1	M1		M11	M12	M1
Electricity Generation (TWh)	552.2	49.9	53.2	576.1	46.9	53.3	54.8
	(-1.9)	(-5.8)	(6.6)	(4.3)	(4.3)	(3.4)	(3.1)
Coal	196.3	18.5	17.8	196.2	16.2	18.2	18.4
	(-13.7)	(-16.6)	(-3.8)	(-0.0)	(12.3)	(15.1)	(3.2)
Oil	2.3	0.3	0.3	3.5	0.2	0.2	0.5
	(-31.5)	(-23.4)	(-4.4)	(53.5)	(-42.3)	(-51.1)	(58.8)
Gas	145.9	15.8	17.3	168.4	13.2	14.4	15.3
	(1.1)	(8.6)	(9.8)	(15.4)	(3.6)	(-13.6)	(-12.0)
Nuclear	160.2	11.9	14.0	158.0	13.6	16.5	16.1
	(9.8)	(-2.9)	(18.0)	(-1.4)	(-3.4)	(9.8)	(14.7)
Hydro/other renewables	40.4	2.5	3.3	46.2	3.4	3.7	4.2
	(3.1)	(-23.8)	(32.1)	(14.3)	(9.5)	(9.7)	(25.9)
Baseload	356.5	30.4	31.8	354.3	29.8	34.7	34.5
	(-4.5)	(-11.8)	(4.7)	(-0.6)	(4.5)	(12.5)	(8.2)

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

	2019	2020			2021			2022	
			M11	M12	M1		M11	M12	M1
GDP (trillion won)	1 852.7 (2.2)	1 836.9 (-0.9)	- (-)	484.1 (-1.1)	- (-)	1 910.7 (4.0)	- (-)	504.3 (4.2)	- (-)
Private consumption	894.1 (2.1)	849.1 (-5.0)	- (-)	214.4 (-6.6)	- (-)	879.8 (3.6)	- (-)	227.9 (6.3)	- (-)
Facilities investment	155.3 (-6.6)	166.3 (7.1)	- (-)	43.9 (6.1)	- (-)	180.1 (8.3)	- (-)	45.6 (4.0)	- (-)
Construction investment	265.2 (-1.7)	264.1 (-0.4)	- (-)	71.4 (-2.9)	- (-)	260.1 (-1.5)	- (-)	70.2 (-1.7)	- (-)
Consumer price index (2015=100)	104.9	105.4	105.5	105.7	101.0	102.5	103.9	104.0	104.7
USD to KRW exchange rate (won)	1 165.4	1 180.3	1 116.8	1 095.1	1 097.5	1 144.0	1 182.9	1 183.7	1 194.0
Benchmark rate (%)	1.6	0.7	0.5	0.5	0.5	0.6	1.0	1.0	1.3
Coincident composite index (2015=100)	112.1	112.5	114.2	114.4	114.3	116.9	118.5	119.5	120.4
Mining & manufacturing production index (2015=100)	106.7	106.4	111.8	118.3	110.4	114.3	119.3	127.0	115.1
Manufacturing operation ratio index (2015=100)	98.4	95.3	100.3	103.1	96.2	99.8	104.5	109.4	100.0
Average temperature	13.4	13.0	8.5	0.3	- 1.1	13.3	8.3	1.9	- 0.8
- year-on-year difference	0.4	- 0.4	0.0	- 2.2	- 3.6	0.3	- 0.1	1.5	0.3
Heating degree days	2 370.9 (-8.7)	2 448.0 (3.3)	286.3 (-0.3)	547.6 (13.9)	591.5 (23.2)	2 404.7 (-1.8)	290.6 (1.5)	500.4 (-8.6)	583.1 (-1.4)
Cooling degree days	120.4 (-42.4)	85.2 (-29.2)	- (-)	- (-)	- (-)	101.3 (18.9)	- (-)	- (-)	- (-)
Energy intensity	0.16 (-3.6)	0.16 (-2.9)	- (-)	0.16 (-1.7)	- (-)	0.16 (0.5)	- (-)	0.16 (1.4)	- (-)
Per capita consumption									
oil (bbl)	17.9 (-0.9)	16.8 (-6.0)	1.4 (-10.9)	1.5 (-11.4)	1.5 (-6.3)	18.0 (7.1)	1.5 (8.7)	1.7 (17.0)	1.7 (15.3)
Electricity (MWh)	10.1 (-1.4)	9.8 (-2.3)	0.8 (-0.1)	0.9 (0.5)	0.9 (5.4)	10.3 (4.9)	0.8 (4.3)	0.9 (5.1)	1.0 (2.4)
City gas (1 000 m ³)	0.4 (-4.5)	0.4 (-3.7)	0.0 (0.7)	0.1 (6.9)	0.1 (18.2)	0.5 (5.3)	0.0 (5.3)	0.1 (-0.5)	0.1 (-2.6)
Total energy (toe)	5.9 (-1.8)	5.6 (-3.8)	0.5 (-4.2)	0.5 (-0.4)	0.5 (4.0)	5.9 (4.7)	0.5 (5.2)	0.6 (6.2)	0.6 (6.3)

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

The Index of Production & Operating Ratio by Sectors

(2015=100)

	2019-100								
	2019	2020			2021				2022
			M11	M12	M1		M11	M12	
Industrial production index									
All industry	108.6 (1.0)	107.4 (-1.0)	110.3 (-0.6)	121.2 (-0.5)	106.2 (1.4)	112.7 (4.9)	116.3 (5.4)	129.5 (6.8)	110.8 (4.3)
Mining & manufacturing	106.7 (0.3)	106.4 (-0.3)	111.8 (0.3)	118.3 (2.8)	110.4 (8.1)	114.3 (7.4)	119.3 (6.7)	127.0 (7.4)	115.1 (4.3)
Semiconductor	188.1 (11.7)	230.7 (22.7)	247.2 (7.8)	272.8 (17.5)	243.9 (19.6)	298.6 (29.4)	331.0 (33.9)	353.7 (29.7)	318.4 (30.5)
Iron & steel	98.3 (-2.2)	92.1 (-6.3)	95.8 (-1.4)	98.6 (0.5)	96.2 (1.6)	97.4 (5.8)	98.7 (3.0)	98.0 (-0.6)	100.4 (4.4)
Cement	94.3 (-5.7)	87.2 (-7.5)	98.7 (-4.8)	93.9 (-1.8)	68.0 (0.9)	91.6 (5.0)	100.2 (1.5)	99.5 (6.0)	75.5 (11.0)
Basic compound	108.9 (-1.4)	101.1 (-7.1)	87.6 (-15.8)	103.9 (-9.6)	106.9 (-5.6)	107.9 (6.7)	100.3 (14.5)	112.9 (8.7)	112.8 (5.5)
Transport equipment	93.3 (-0.7)	84.4 (-9.6)	97.0 (1.7)	90.6 (-4.2)	92.2 (19.6)	88.2 (4.5)	92.1 (-5.1)	97.6 (7.7)	83.7 (-9.2)
Electric & electronic	109.6 (2.9)	108.5 (-1.0)	118.7 (2.9)	126.4 (4.5)	108.0 (10.2)	115.2 (6.1)	124.1 (4.5)	133.0 (5.2)	111.3 (3.1)
Service	108.4 (1.4)	106.2 (-2.0)	108.8 (-1.4)	116.4 (-2.0)	104.7 (-2.0)	110.9 (4.3)	114.7 (5.4)	123.2 (5.8)	109.6 (4.7)
Wholesale and retail	104.6 (-0.4)	101.9 (-2.6)	106.0 (-2.5)	108.4 (-1.2)	101.1 (-2.0)	106.0 (4.0)	110.3 (4.1)	112.9 (4.2)	105.6 (4.5)
Food & Accommodation	97.5 (-1.0)	79.6 (-18.4)	80.7 (-17.1)	66.4 (-39.6)	60.1 (-36.6)	80.7 (1.4)	92.3 (14.4)	91.9 (38.4)	82.7 (37.6)
Production output									
Iron & steel - Pig iron	47 520.7 (0.8)	45 359.6 (-4.5)	3 867.8 (-2.1)	4 115.2 (4.2)	4 113.5 (3.9)	46 440.5 (2.4)	3 897.3 (0.8)	3 958.0 (-3.8)	3 872.3 (-5.9)
Iron & steel - Crude steel	71 411.9 (-1.5)	67 078.8 (-6.1)	5 765.4 (-2.4)	5 909.6 (0.5)	6 042.6 (5.3)	70 418.0 (5.0)	5 834.0 (1.2)	5 935.3 (0.4)	6 070.7 (0.5)
Petrochemical - Basic petrochemicals	31 804.1 (2.1)	30 323.6 (-4.7)	2 153.7 (-19.3)	2 395.2 (-17.0)	2 597.4 (-10.9)	34 434.7 (13.6)	2 833.3 (31.6)	3 115.8 (30.1)	3 137.0 (20.8)
Petrochemical - Intermediate raw material	16 014.0 (-5.7)	15 355.4 (-4.1)	1 087.8 (-20.2)	1 293.2 (-7.7)	1 338.8 (-8.3)	15 764.6 (2.7)	1 246.3 (14.6)	1 322.2 (2.2)	1 272.3 (-5.0)
Petrochemical - 3 major products	21 584.6 (-1.0)	21 252.7 (-1.5)	1 649.7 (-1.3)	1 789.1 (-1.1)	1 866.9 (-2.4)	23 179.1 (9.1)	1 885.1 (14.3)	2 141.7 (19.7)	2 168.5 (16.2)
The number of cars	3 948.1 (-2.1)	3 506.8 (-11.2)	324.5 (-6.3)	296.9 (-12.0)	314.2 (24.9)	3 462.4 (-1.3)	303.0 (-6.6)	319.1 (7.5)	271.1 (-13.7)

Note: p means provisional
Source: Monthly Energy Statistics, Korea Petrochemical Industry Association

International Energy Prices

	2019	2020			2021				2022
			M11	M12	M1		M11	M12	M1
Crude oil (USD/bbl)									
WTI	57.0 (-11.9)	39.4 (-30.9)	41.4 (-27.5)	47.1 (-21.3)	52.1 (-9.4)	67.9 (72.4)	78.7 (90.2)	71.7 (52.3)	83.0 (59.3)
Dubai	63.5 (-8.5)	42.2 (-33.6)	43.4 (-30.0)	49.8 (-23.2)	54.8 (-14.8)	69.3 (64.1)	80.3 (84.9)	73.2 (46.9)	83.5 (52.3)
Brent	64.2 (-10.3)	43.2 (-32.7)	44.0 (-29.9)	50.2 (-22.9)	55.3 (-13.1)	70.8 (63.8)	80.9 (83.8)	74.8 (48.9)	85.6 (54.7)
Unit value of import (C&F)	65.5 (-8.2)	44.8 (-31.7)	42.7 (-33.7)	46.7 (-29.4)	53.7 (-22.3)	70.2 (56.9)	82.7 (93.7)	79.5 (70.2)	81.7 (52.0)
LNG									
TTF (USD/MMBTU)	4.8 (-38.3)	3.2 (-32.5)	4.8 (-6.0)	5.9 (26.8)	7.3 (100.0)	16.1 (396.9)	27.6 (470.1)	38.0 (548.9)	28.2 (288.8)
JKM (USD/MMBTU)	5.6 (-42.0)	4.2 (-25.4)	6.8 (13.6)	9.3 (70.0)	14.5 (206.6)	17.8 (324.9)	33.2 (386.4)	37.3 (298.8)	29.8 (104.9)
Import price(Japan) (USD/MMBTU)	10.6 (-1.0)	8.3 (-21.3)	6.9 (-31.7)	7.7 (-23.8)	9.0 (-8.9)	10.8 (29.5)	15.3 (122.5)	15.3 (100.0)	14.7 (63.1)
Unit value of import (USD/ton, CIF)	505.4 (-4.0)	390.2 (-22.8)	312.1 (-31.3)	358.5 (-21.3)	413.7 (-12.0)	550.7 (41.2)	805.5 (158.1)	892.5 (149.0)	1 138.2 (175.1)
Bituminous coal (USD/ton)									
From Australia	78.1 (-27.1)	60.3 (-22.8)	62.7 (-6.6)	78.3 (17.5)	84.9 (23.0)	136.0 (125.8)	153.7 (145.1)	164.6 (110.4)	209.6 (146.9)
Unit value of import (CIF)	100.7 (-11.3)	77.7 (-22.9)	70.9 (-19.0)	72.2 (-15.2)	77.1 (-11.1)	115.1 (48.1)	176.4 (148.9)	187.5 (159.6)	183.0 (137.4)
Petroleum product (USD/bbl)									
Gasoline	72.5 (-9.3)	46.7 (-35.7)	46.8 (-38.7)	53.5 (-28.5)	60.1 (-15.7)	80.3 (72.2)	95.0 (103.1)	87.9 (64.3)	98.1 (63.2)
Kerosene	77.3 (-8.9)	44.7 (-42.1)	45.7 (-39.0)	53.9 (-30.7)	58.0 (-23.0)	75.1 (67.9)	89.2 (95.2)	83.5 (55.0)	95.7 (64.9)
Diesel	78.2 (-7.9)	49.4 (-36.8)	47.6 (-37.4)	55.4 (-30.0)	60.0 (-21.6)	77.6 (57.2)	91.6 (92.5)	85.9 (54.9)	99.2 (65.3)
Bunker-C	57.5 (-11.8)	39.2 (-31.9)	43.7 (10.9)	47.4 (9.5)	51.5 (-0.9)	64.4 (64.3)	71.1 (62.9)	65.8 (38.8)	76.1 (47.8)
Propane	434.6 (-19.8)	397.1 (-8.6)	430.0 -	450.0 (2.3)	550.0 (-2.7)	647.9 (63.2)	870.0 (102.3)	795.0 (76.7)	740.0 (34.5)
Butane	441.7 (-18.1)	403.8 (-8.6)	440.0 (-1.1)	460.0 (1.1)	530.0 (-10.2)	629.6 (55.9)	830.0 (88.6)	750.0 (63.0)	710.0 (34.0)
Naphtha	56.9 (-15.1)	40.5 (-28.9)	40.6 (-31.8)	47.6 (-25.0)	55.6 (-8.6)	70.6 (74.6)	84.0 (107.1)	77.6 (63.1)	84.4 (51.8)

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

2. Gasoline type is 95RON, diesel is 0.001%, Bunker-C is high-sulfur oil(180cst/3.5%), for propane and butane, CP is reference value
Source: www.petronet.co.kr, World Bank, Monthly energy statistics, CME Group, Korea International Trade Association

Domestic Energy Prices

	2018	2019	2020			2021				2022
				M11	M12	M1		M11	M12	M1
Petroleum product										
Gasoline (won/liter)	1 581.4 (6.0)	1 471.9 (-6.9)	1 381.6 (-6.1)	1 319.6 (-14.1)	1 367.8 (-11.7)	1 441.8 (-8.1)	1 590.5 (15.1)	1 737.4 (31.7)	1 646.4 (20.4)	1 635.2 (13.4)
Diesel (won/liter)	1 391.9 (8.5)	1 340.1 (-3.7)	1 189.8 (-11.2)	1 119.6 (-18.9)	1 168.3 (-15.7)	1 242.4 (-11.2)	1 391.3 (16.9)	1 549.7 (38.4)	1 468.9 (25.7)	1 453.5 (17.0)
Bunker-C (won/liter)	734.8 (18.6)	743.9 (1.2)	573.6 (-22.9)	520.0 (-26.1)	518.9 (-21.1)	545.5 (-22.8)	731.7 (27.6)	867.4 (66.8)	859.0 (65.6)	840.4 (54.1)
Propane (won/kg)	1 920.5 (4.7)	1 869.7 (-2.6)	1 850.7 (-1.0)	1 822.2 (-3.0)	1 865.2 (-1.3)	1 868.1 (-1.0)	2 092.6 (13.1)	2 312.3 (26.9)	2 410.1 (29.2)	2 395.0 (28.2)
Butane (won/liter)	874.6 (5.8)	806.2 (-7.8)	791.1 (-1.9)	770.6 (-4.9)	796.9 (-2.9)	797.2 (-2.9)	931.9 (17.8)	1 053.8 (36.7)	1 087.5 (36.5)	1 071.8 (34.5)
City gas(won/MJ)										
Residential	15.1 (-4.3)	15.6 (3.9)	15.1 (-3.6)	14.2 (-10.7)	14.2 (-10.7)	14.2 (-10.7)	14.2 (-5.7)	14.2 -	14.2 -	14.2 -
General(1)	14.9 (-3.8)	15.6 (4.9)	14.9 (-4.7)	13.8 (-12.3)	14.0 (-12.3)	14.0 (-12.3)	13.9 (-6.5)	13.8 -	14.1 (0.6)	14.1 (0.6)
Commercial	15.4 (-4.4)	16.1 (4.4)	15.1 (-6.4)	12.7 (-23.2)	13.5 (-18.2)	14.0 (-15.0)	17.2 (14.2)	21.4 (68.9)	23.6 (75.0)	25.4 (81.4)
Industry	13.0 (-2.3)	13.8 (6.0)	12.6 (-8.4)	9.9 (-29.3)	11.4 (-21.4)	12.0 (-17.8)	14.4 (14.2)	18.2 (84.2)	21.3 (86.5)	23.1 (93.4)
Heat(won/Mcal)										
Residential	64.5 (-2.7)	65.7 (1.8)	66.2 (0.7)	65.2 (-2.8)	65.2 (-2.8)	65.2 (-2.8)	65.2 (-1.4)	65.2 -	65.2 -	65.2 -
Commercial	83.8 (-2.7)	85.3 (1.8)	85.9 (0.7)	84.7 (-2.8)	84.7 (-2.8)	84.7 (-2.8)	84.7 (-1.4)	84.7 -	84.7 -	84.7 -
Public	73.2 (-2.7)	74.5 (1.9)	75.1 (0.7)	74.0 (-2.9)	74.0 (-2.9)	74.0 (-2.9)	74.0 (-1.4)	74.0 -	74.0 -	74.0 -
Electricity(won/kWh)										
Residential	147.3 -	147.3 -	147.3 -	147.3 -	147.3 -	142.3 (-3.4)	142.3 (-3.4)	142.3 (-3.4)	142.3 (-3.4)	142.3 -
General	84.4 -	84.4 -	84.4 -	92.3 -	92.3 -	87.3 (-5.4)	79.4 (-5.9)	87.3 (-5.4)	87.3 (-5.4)	87.3 -
Industry	96.0 -	96.0 -	96.0 -	108.5 -	108.5 -	103.5 (-4.6)	91.0 (-5.2)	103.5 (-4.6)	103.5 (-4.6)	103.5 -

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)

	2019	2020			2021p			2022p	
			M11	M12	M1		M11	M12	M1
Coal (Mton)	133.0	116.6	8.9	10.0	10.5	116.8	9.8	10.5	10.5
	(-5.7)	(-12.4)	(-18.3)	(-8.1)	(-1.4)	(0.2)	(10.1)	(4.4)	(-0.2)
- Coking coal excluded	98.0	82.8	6.1	7.0	7.6	81.5	6.9	7.4	7.5
	(-7.9)	(-15.6)	(-23.8)	(-12.3)	(-2.8)	(-1.6)	(14.0)	(6.0)	(-0.8)
Oil (Mbbbl)	927.1	872.4	70.8	75.5	75.5	932.2	76.9	88.2	86.8
	(-0.5)	(-5.9)	(-10.7)	(-11.3)	(-6.4)	(6.9)	(8.5)	(16.8)	(15.0)
- Non-energy oil excluded	451.8	423.6	39.3	37.4	37.3	429.6	35.1	42.0	42.4
	(1.4)	(-6.2)	(-0.5)	(-12.8)	(-2.7)	(1.4)	(-10.7)	(12.4)	(13.8)
LNG (Mton)	41.0	42.1	3.8	5.4	5.8	45.8	3.9	5.1	5.4
	(-3.1)	(2.7)	(3.2)	(8.5)	(16.4)	(8.7)	(2.9)	(-6.9)	(-6.2)
Hydro (TWh)	6.2	7.1	0.4	0.5	0.5	6.7	0.4	0.5	0.5
	(-14.1)	(14.4)	(-5.9)	(-0.7)	(-4.0)	(-5.8)	(1.9)	(4.5)	(0.7)
Nuclear (TWh)	145.9	160.2	14.0	15.1	14.0	158.0	13.6	16.5	16.1
	(9.3)	(9.8)	(37.4)	(36.2)	(18.0)	(-1.4)	(-3.4)	(9.8)	(14.7)
Others (Mtoe)	17.7	19.0	1.6	1.7	1.6	20.1	1.5	1.7	1.9
	(3.3)	(7.3)	(12.9)	(13.3)	(12.2)	(5.8)	(-2.1)	(0.9)	(19.7)
TPES (Mtoe)	303.1	292.1	24.3	27.9	28.3	305.3	25.5	29.6	30.0
	(-1.5)	(-3.6)	(-4.1)	(-0.3)	(3.8)	(4.5)	(5.0)	(6.0)	(6.1)
- Non-energy oil excluded	244.0	236.1	20.3	23.1	23.5	242.3	20.2	23.8	24.5
	(-1.3)	(-3.2)	(-0.2)	(1.7)	(6.9)	(2.7)	(-0.3)	(3.0)	(4.0)
- Non-energy oil&coal excluded	219.6	212.5	18.3	21.0	21.4	217.7	18.2	21.7	22.4
	(-1.5)	(-3.2)	(0.2)	(1.6)	(7.3)	(2.4)	(-0.5)	(3.2)	(4.3)

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

Share of TPES by Sources

(unit: %)

	2019	2020			2021p			2022p	
			M11	M12	M1		M11	M12	M1
Coal	27.1	24.7	22.9	22.3	23.0	23.8	23.8	22.0	21.7
- Coking coal excluded	19.1	16.7	14.7	14.7	15.7	15.7	15.9	14.8	14.7
Oil	38.7	37.7	37.3	34.5	33.7	38.6	38.3	37.7	36.5
- non-energy oil excluded	19.2	18.6	20.9	17.4	16.8	18.0	17.6	18.2	18.0
LNG	17.7	18.8	20.7	25.4	26.7	19.6	20.2	22.3	23.6
Hydro	0.4	0.5	0.4	0.4	0.4	0.5	0.4	0.4	0.4
Nuclear	10.3	11.7	12.3	11.5	10.6	11.0	11.3	11.9	11.4
Others	5.8	6.5	6.5	5.9	5.6	6.6	6.0	5.7	6.4
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)

	2019	2020			2021p				2022p
			M11	M12	M1		M11	M12	M1
Industry	142.9 (-0.4)	138.0 (-3.5)	10.9 (-9.7)	12.3 (-3.1)	12.2 (-2.9)	148.0 (7.3)	12.3 (13.1)	13.3 (8.1)	13.3 (8.7)
Transport	43.0 (0.0)	39.4 (-8.2)	3.6 (1.0)	3.3 (-12.3)	3.1 (-5.9)	39.8 (0.9)	3.3 (-10.0)	3.8 (14.9)	3.5 (15.1)
Residential	22.6 (-3.6)	23.2 (2.6)	2.1 (4.1)	3.3 (10.4)	3.9 (21.3)	23.7 (2.3)	2.1 (-0.2)	3.2 (-2.3)	3.8 (-2.0)
commercial	17.5 (-2.3)	16.7 (-4.3)	1.3 (-1.1)	1.7 (-1.9)	2.0 (7.1)	17.6 (5.4)	1.4 (3.7)	1.7 (4.1)	2.0 (2.8)
Public	5.4 (-3.2)	5.3 (-2.6)	0.4 (-0.5)	0.5 (0.2)	0.6 (6.7)	5.6 (5.8)	0.4 (2.2)	0.6 (12.1)	0.5 (-9.8)
TFC	231.4 (-0.9)	222.6 (-3.8)	18.4 (-5.5)	21.0 (-2.7)	21.7 (1.4)	234.7 (5.4)	19.5 (6.1)	22.6 (7.3)	23.1 (6.7)
Coal (Mton)	48.2 (-2.2)	45.8 (-4.9)	3.8 (-6.6)	4.4 (6.4)	4.1 (1.2)	47.8 (4.4)	4.2 (10.1)	4.1 (-5.2)	4.0 (-1.9)
Oil (Mbbbl)	918.5 (-0.2)	865.8 (-5.7)	69.9 (-11.3)	74.6 (-11.3)	73.9 (-7.5)	923.6 (6.7)	76.1 (8.9)	86.9 (16.5)	84.9 (14.8)
Electricity (TWh)	520.5 (-1.1)	509.3 (-2.2)	41.1 (0.1)	45.0 (0.7)	48.8 (5.2)	533.4 (4.7)	42.8 (4.1)	47.3 (4.9)	49.8 (2.1)
City gas (Bm³)	23.3 (-4.1)	22.4 (-3.5)	2.0 (0.9)	3.0 (7.0)	3.6 (17.9)	23.6 (5.1)	2.1 (5.2)	3.0 (-0.7)	3.5 (-2.9)
Heat-others (1 000 toe)	11.6 (-2.0)	12.3 (6.1)	1.0 (6.8)	1.3 (11.3)	1.4 (10.9)	12.5 (2.0)	1.0 (-1.8)	1.3 (-3.2)	1.5 (3.8)

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

Share of the Total Final Consumption by Sources

(unit: %)

	(unit: %)								
	2019	2020			2021p				2022p
			M11	M12	M1		M11	M12	
Industry	61.8	62.0	59.1	58.4	56.3	63.1	63.1	58.8	57.4
Transport	18.6	17.7	19.8	15.6	14.1	17.0	16.8	16.7	15.2
Residential	9.8	10.4	11.4	15.5	18.0	10.1	10.8	14.1	16.6
commercial	7.6	7.5	7.3	8.0	9.0	7.5	7.1	7.7	8.7
Public	2.3	2.4	2.3	2.4	2.6	2.4	2.2	2.5	2.2
Final energy	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Coal	13.9	13.7	13.8	13.6	12.5	13.6	14.0	12.2	11.6
Oil	50.2	49.1	48.5	45.2	43.1	49.7	49.4	48.9	46.4
Electricity	19.3	19.7	19.2	18.4	19.3	19.6	18.8	18.0	18.5
City gas	11.6	12.0	12.9	16.5	18.5	11.8	12.5	15.3	17.2
Heat-others	5.0	5.5	5.7	6.3	6.6	5.3	5.2	5.7	6.4

Note: p means provisional
Source: Monthly energy statistics

Statistics on Energy Production Facilities

	2019	2020	2021p				2022p		
			M11	M12	M1		M11	M12	M1
Total capacity (GW)	125.3 (5.2)	129.2 (3.1)	128.6 (3.4)	129.2 (3.1)	128.8 (7.9)	134.0 (6.9)	133.9 (7.6)	134.0 (6.9)	133.1 (6.2)
Nuclear	23.3 (6.4)	23.3 -	23.3 -	23.3 -	23.3 (6.4)	23.3 -	23.3 -	23.3 -	23.3 -
Bituminous coal	36.4 (0.1)	36.5 (0.1)	36.5 (0.1)	36.5 (0.1)	35.5 (-2.6)	36.9 (1.5)	37.4 (2.8)	36.9 (1.5)	36.3 (-0.4)
Gas	39.6 (4.5)	41.2 (4.1)	41.2 (4.1)	41.2 (4.1)	41.2 (8.5)	41.2 (4.2)	41.2 (4.1)	41.2 (4.2)	41.2 (0.1)
Refinery capacity (mil BPSD)	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, Monthly energy statistics

Statistics on Energy Consumption

	2019	2020	2021p				2022p		
			M11	M12	M1		M11	M12	M1
The number of household demanding city gas (mil)	19.7 (2.8)	20.1 (2.3)	20.0 (2.5)	20.1 (2.3)	20.2 (2.6)	20.5 (2.0)	20.4 (2.0)	20.5 (2.0)	20.6 (1.8)
Registered cars (mil)	23.7 (2.0)	24.4 (2.9)	24.3 (2.9)	24.4 (2.9)	24.4 (3.0)	24.9 (2.2)	24.9 (2.2)	24.9 (2.2)	25.0 (2.2)
- gasoline	11.0 (3.1)	11.4 (4.1)	11.4 (4.1)	11.4 (4.1)	11.4 (4.2)	11.8 (3.1)	11.7 (3.1)	11.8 (3.1)	11.8 (3.0)
- diesel	10.0 (0.3)	10.0 (0.3)	10.0 (0.4)	10.0 (0.3)	10.0 (0.4)	9.9 (-1.2)	9.9 (-1.2)	9.9 (-1.2)	9.9 (-1.3)
- LPG	2.0 (-1.5)	2.0 (-1.3)	2.0 (-1.1)	2.0 (-1.3)	2.0 (-1.5)	1.9 (-1.7)	1.9 (-1.8)	1.9 (-1.7)	1.9 (-1.6)
- hybrid	0.5 (26.1)	0.6 (33.1)	0.6 (32.0)	0.6 (33.1)	0.7 (34.5)	0.9 (34.0)	0.9 (35.4)	0.9 (34.0)	0.9 (33.0)

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

Source: Monthly energy statistics