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korea energy economics institute

KEEI

MONTHLY

KOREA ENERGY TRENDS



COAL -5.2%

PETROLEUM -3.2%

LNG -1.4%

NUCLEAR 6.7%

NEW & RENEWABLE 10.7%

APRIL. 2022

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



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1. The Economy and the Industry

□ The mining & manufacturing production index increased by 3.7% year-on-year in April, led by the rise in semiconductor production, although the overall industrial production was sluggish.

- The semiconductor production index went up by 34.8% year-on-year, marking forty consecutive months of growth, which was driven by strong exports (15.8%, based on export value) and increased facility utilization rate (13.4%, based on the utilization rate index).
- The production index of basic chemical materials dropped by 2.1% year-on-year, despite the construction of new and additional facilities and the restart of some factories (Yeocheon NCC unit 3, since 22.04.04), as a number of petrochemical companies lowered the operation rates at their production facilities because of deteriorating profitability.
- The iron & steel production index fell by 3.8% year-on-year, owing to the challenges in procuring raw materials and stagnant production in some industries that are major sources of demand.
- The automobile production index declined by 2.5% year-on-year, as parts supply disruptions led to a drop in automobile output.

□ The service production index went up by 5.0% year-on-year in April, as production activities increased following the removal of social distancing rules.

- The wholesale & retail production index rose by 2.5% year-on-year, despite the slower recovery of consumer sentiment index (1.8%), as the removal of social distancing rules (April 18) led to the increased production in all sub sectors except the automobile and parts sales.
- The food & accommodation production index jumped 16.9% year-on-year, as the production activities rapidly increased in the restaurants, bars and accommodation facilities, after the limits on social gathering sizes and curfews on business hours at restaurants and cafes were lifted.

► Major economic and industrial indicators

	2021p			2022p			
		M1~4	M4	M1~4	M2	M3	M4
GDP (trillion won)	1 915.8 (4.1)	453.8 (2.2)	- -	467.4 (3.0)	- -	467.4 (3.0)	- -
Total export (\$billion, customs clearance basis)	644.4 (25.7)	197.6 (18.7)	51.2 (41.2)	231.2 (17.0)	54.2 (21.1)	63.8 (18.8)	57.8 (12.9)
Industrial production index (2015=100)	114.3 (7.4)	111.0 (6.5)	114.0 (12.2)	115.9 (4.4)	107.1 (6.4)	123.3 (3.7)	118.0 (3.5)
Semi-conductors	298.6 (29.4)	255.5 (23.6)	249.2 (29.6)	333.7 (30.6)	320.3 (30.9)	359.9 (26.5)	336.0 (34.8)
Basic chemical products	107.9 (6.7)	106.8 (1.0)	106.3 (10.3)	107.3 (0.5)	100.8 (-1.6)	111.6 (0.1)	104.1 (-2.1)
Iron & Steel	97.4 (5.8)	95.7 (-0.2)	98.8 (5.7)	96.2 (0.6)	89.0 -	100.5 (1.8)	95.0 (-3.8)
Cars	88.2 (4.5)	92.3 (13.8)	96.9 (18.5)	88.7 (-3.9)	82.1 (3.5)	94.5 (-6.3)	94.5 (-2.5)
Service production index (2015=100)	110.9 (4.3)	106.9 (3.7)	109.5 (8.2)	111.5 (4.3)	105.4 (3.7)	115.8 (3.8)	115.0 (5.0)
Wholesale & Retail	106.0 (4.0)	103.2 (4.6)	106.9 (9.3)	106.1 (2.9)	96.9 (1.8)	112.4 (2.7)	109.6 (2.5)

Food & Accommodation	80.7 (1.4)	70.3 (-8.0)	78.5 (8.3)	82.2 (17.0)	73.0 (11.1)	81.4 (6.1)	91.8 (16.9)
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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 dropped by 7.3% in April from the previous month, following the announcement from the International Energy Agency (IEA) of the additional oil release from the member countries' reserves.**
 - The US announced on March 31 that it will put an additional 180 million barrels of oil from its reserves on the market for the next six months, and the IEA also decided on April 6 the additional release of 120 million barrels of oil for the same period in addition to 60 million barrels announced in early March.
 - Global coal price declined on a year-on-year basis due to base effect, even though it constantly increased throughout the month as a result of the global supply chain disturbances.
 - The benchmark JKM price dropped by 18.0% year-on-year in line with falling demand, which was affected by warm weather and China's 'Zero-Covid' policy.

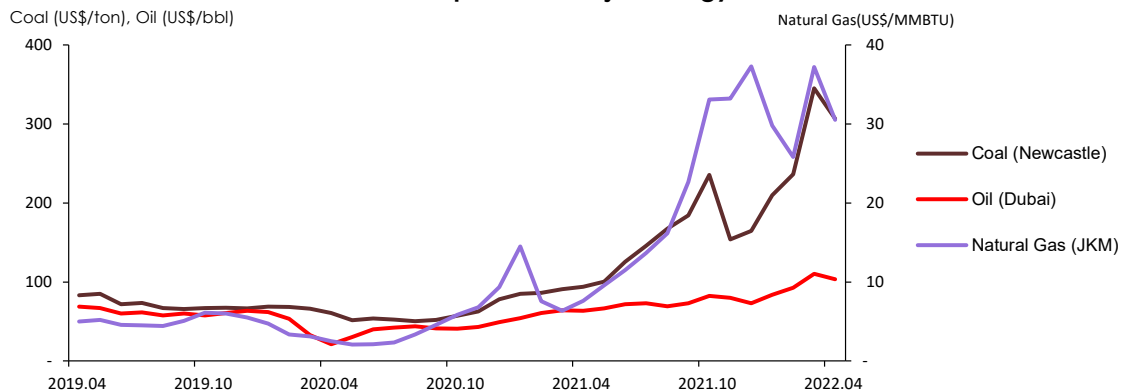
► Global energy prices

	2020	2021				2022			
			M2	M3	M4		M2	M3	M4
Crude oil (US\$/bbl)	41.6	69.4	60.7	64.2	63.3	92.7	110.6	103.5	
	(-32.4)	(66.7)	(12.3)	(5.6)	(-1.3)	(10.3)	(19.3)	(-6.4)	
Coal (US\$/ton)	60.2	136.4	86.1	90.9	93.9	236.2	345.3	306.6	
	(-22.8)	(126.5)	(1.4)	(5.6)	(3.3)	(12.7)	(46.1)	(-11.2)	
Natural gas (US\$/MMBTU)									
TTF	3.2	16.2	6.2	6.1	7.2	27.2	42.3	32.2	
	(-32.3)	(398.7)	(-15.3)	(-0.5)	(17.4)	(-3.7)	(55.6)	(-23.9)	
JKM	4.2	17.8	7.6	6.3	7.6	25.8	37.2	30.5	
	(-25.2)	(326.0)	(-47.7)	(-16.5)	(20.3)	(-13.3)	(44.1)	(-18.0)	

Note: Dubai crude oil price and Australia's Newcastle coal price were used as the benchmarks for crude oil and coal prices. Coal and natural gas prices are futures prices. () is month-on-month 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 went up by 2.0% and 4.4% respectively in April from the previous month due to the upward trend of crude oil import prices.**
 - The relative price of gasoline to diesel(gasoline/diesel) dropped by 2.3% month-on-month to 1.04, which was affected by rising diesel prices in the global market.
 - Bunker-C oil price increased by 22.3% mom and by 63.2% yoy due to the global oil price hikes.
- **Propane and butane prices went up by 5.8% and 7.4% in April than the prior month, as their supply prices increased.**
 - Saudi Aramco's global propane and butane contract prices increased in March, and accordingly, domestic LPG importers (SK Gas, E1) raised their prices in April by KRW 140/kg.
- **The relative price of propane in terms of city gas for industrial customers (propane/city gas) rose by 6.9% to 1.31 in April from the previous month.**
 - Though industrial city gas price rose by 2.9%, industrial propane price jumped 10.0% due to rising global LPG prices, and consequently, their relative price went up significantly than the prior month.

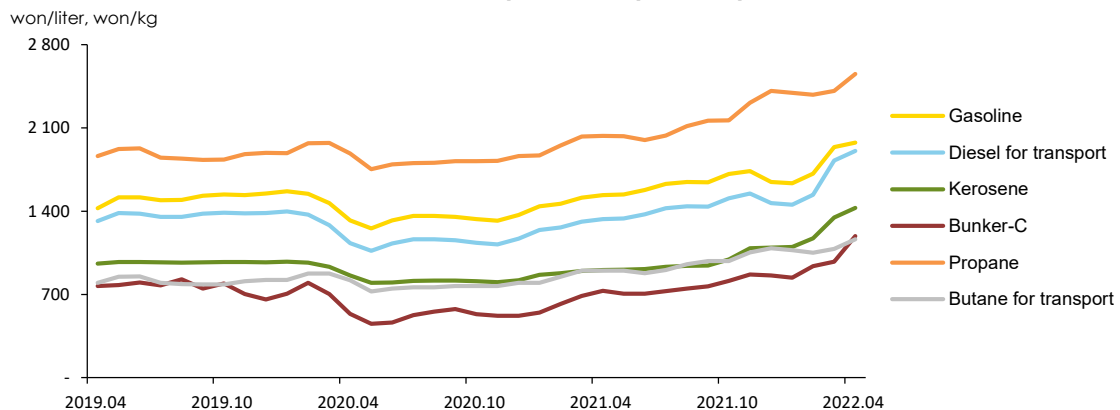
► Domestic petroleum product prices

	2020	2021				2022		
			M2	M3	M4	M2	M3	M4
Gasoline (won/liter)	1 381.2 (-6.2)	1 591.1 (15.2)	1 463.2 (1.5)	1 513.3 (3.4)	1 534.5 (1.4)	1 714.6 (4.9)	1 938.5 (13.1)	1 976.5 (2.0)
Diesel for transport (won/liter)	1 189.5 (-11.3)	1 392.0 (17.0)	1 263.4 (1.7)	1 312.6 (3.9)	1 332.7 (1.5)	1 536.6 (5.7)	1 826.9 (18.9)	1 906.4 (4.4)
Bunker-C (won/liter)	572.9 (-23.0)	732.2 (27.8)	619.6 (13.6)	686.0 (10.7)	730.1 (6.4)	937.4 (11.6)	974.0 (3.9)	1 191.7 (22.3)
Propane (won/kg)	1 850.3 (-1.0)	2 093.4 (13.1)	1 952.5 (4.5)	2 029.2 (3.9)	2 032.9 (0.2)	2 379.0 (-0.7)	2 412.1 (1.4)	2 552.2 (5.8)
Butane for transport (won/liter)	790.8 (-1.9)	932.3 (17.9)	847.8 (6.4)	898.6 (6.0)	899.2 (0.1)	1 050.7 (-2.0)	1 083.0 (3.1)	1 163.2 (7.4)

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 month-on-month growth rates (%)

Source: www.opinet.co.kr

► Domestic petroleum product prices



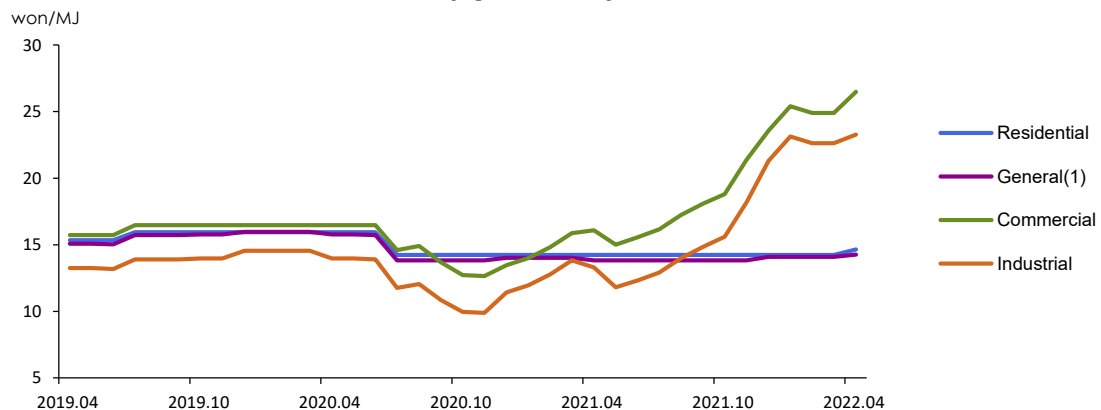
□ **City gas rates increased in all end-use sectors in April, as the rise in LNG import price was reflected in the raw material cost.**

- City gas rates for office heating and industrial customers went up by 6.3% and 2.9% respectively on a month-on-month basis, owing to the increased LNG import prices.
- City gas rates for residential and general customers were raised by 3.0% and 1.2% in April, because the material cost was raised for the first time in two years and nine months since July 2019.

□ **Electric rates for residential, general and industrial customers went up by 4.7%, 10.5% and 8.8% mom in April, owing to the raise in energy charge and climate change & environmental charge.**

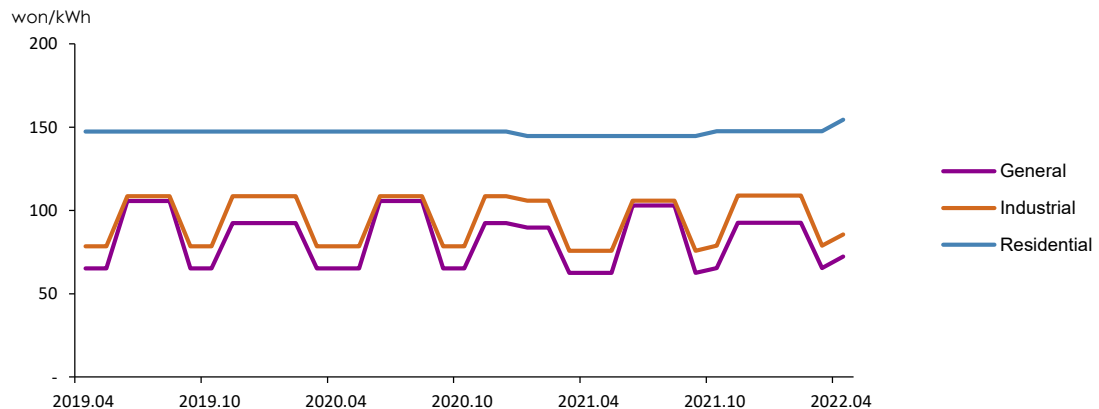
- The fuel cost pass-through adjustment rate was calculated to be KRW 33.8/kWh in 2Q, but the rate was fixed at KRW 0/kWh in order to support the livelihood of people.
- The base fuel cost, the previous year's average fuel cost, increased by KRW 9.8/kWh this year, and KRW 4.9/kWh of which was reflected in April's energy charge, and the rest (KRW 4.9) is set to be applied in October. The climate change & environmental charge was also raised by KRW 2.0/kWh.

► **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 prices 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 grew by 3.5% year-on-year in April, led by the growth in crude oil and LNG imports.

- The import volume of crude oil posted a year-on-year growth of 3.4% in April due to the growing crude input to refineries (8.7%), even though the global oil price has continued to increase amid the unstable global situation such as the prolonged crisis in Ukraine.
- The import volume of petroleum products, especially bunker-C oil and butane, dropped by 6.2% on a year-on-year basis.
- The import volume of bituminous coal fell by 3.8% year-on-year, partly due to a steady rise in global coal prices (226.6%).
- The import volume of gas rose by 21.4% year-on-year despite rising global gas prices.
- The total energy import value surged by 79.5% year-on-year, and energy's share of the total import value stood at 28.8% in April.

► Import and domestic production of energy

	2021p			2022p			
		M1~4	M4	M1~4	M2	M3	M4
Import volume							
Crude oil (Mbbbl)	960.1	307.1	83.4	345.9	79.3	85.6	86.2
	(-2.1)	(-11.1)	(1.3)	(12.6)	(5.7)	(19.0)	(3.4)
Petroleum product (Mbbbl)	392.3	118.6	30.6	129.5	33.0	31.6	28.7
	(12.9)	(-7.1)	(23.2)	(9.2)	(10.0)	(8.3)	(-6.2)
Bituminous coal (Mton)	108.0	33.7	7.6	34.2	8.0	8.6	7.4
	(-6.4)	(-9.4)	(-23.0)	(1.4)	(1.2)	(-7.8)	(-3.8)
Anthracite (Mton)	6.5	2.1	0.5	1.6	0.4	0.5	0.3
	(3.0)	(1.8)	(-4.1)	(-23.1)	(62.7)	(-28.6)	(-45.1)
LNG (Mton)	45.9	16.6	2.8	16.9	3.5	5.0	3.4
	(14.9)	(7.2)	(-8.3)	(1.5)	(-32.7)	(18.1)	(21.4)
Import volume (Mtoe)	335.6	107.8	25.0	114.2	26.6	29.9	25.9
	(3.1)	(-5.5)	(-3.8)	(6.0)	(-2.2)	(7.5)	(3.5)
Import value (billion US\$, CIF)	137.2	36.8	9.7	69.1	14.9	18.7	17.3
	(58.5)	(-2.8)	(50.5)	(87.9)	(55.6)	(100.3)	(79.5)
Energy share of total import value (%)	22.1	19.7	19.0	29.1	28.0	29.4	28.8
Foreign energy dependence (%)*	92.8	92.9	91.9	92.3	92.5	92.2	91.0
Domestic production							
Hydropower (TWh)	6.74	2.06	0.56	2.04	0.49	0.55	0.47
	(-5.7)	(-2.3)	(8.8)	(-1.2)	(2.8)	(8.1)	(-15.0)
Anthracite (Mton)	0.90	0.31	0.09	0.28	0.06	0.08	0.08
	(-11.9)	(-13.7)	(-2.2)	(-8.7)	(-4.8)	(-7.3)	(-14.6)
Natural gas (Mton)	0.04	0.02	0.01	-	-	-	-
	(-70.3)	(-65.0)	(-64.1)	(-100.0)	(-100.0)	(-100.0)	(-100.0)
Renewable energy (Mtoe)	20.04	6.63	1.78	7.55	1.82	1.89	1.98
	(5.6)	(5.7)	(4.5)	(13.8)	(17.7)	(10.9)	(10.7)

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

4. Energy Consumption

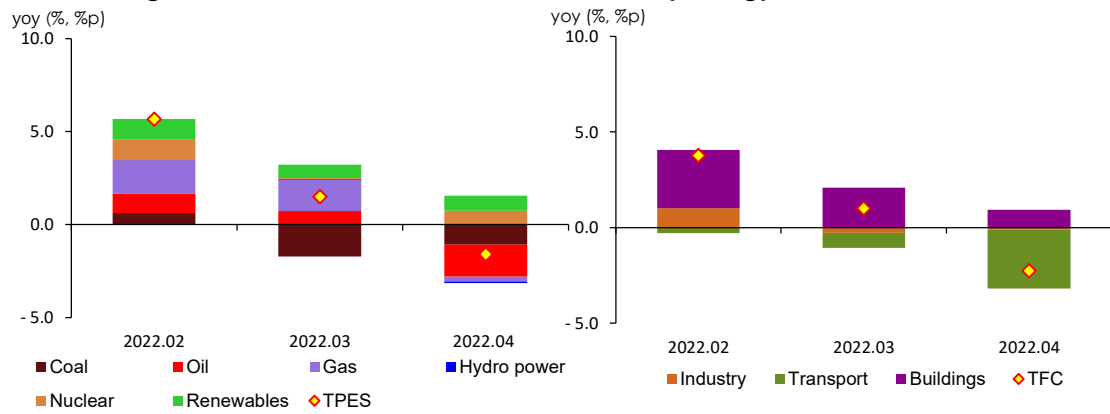
- **The Total Primary Energy Supply (TPES) declined by 1.6% year-on-year in April, despite growing use of nuclear energy, as coal, petroleum and gas use all decreased.**
 - Coal use fell by 5.2% year-on-year, as its industrial use plunged (-13.7%) due to falling demand mostly in the primary metals (iron & steel) and cement sectors, though it grew in the power generation sector (2.0%) as a result of the increased installed capacity and growing need to replace gas-fired generation.
 - Petroleum use dropped by 3.2% year-on-year, even though its industrial use increased (3.8%) following the extension of petrochemical facilities, as it plunged in the transport sector (-17.5%), driven by falling demand for stockpiling with the news of additional fuel tax cut scheduled in May.
 - Gas use fell by 1.4% year-on-year, led by the power generation sector (-3.5%) where gas-fired generation dropped due to rising global natural gas prices and baseload generation, although it rose in the gas production sector (4.2%) due to growing city gas use in the industrial and building sectors.
- **The Total Final Consumption (TFC) went down by 2.3% year-on-year in April, owing to a sharp drop in the transport sector, though it increased in the building sector.**
 - Industrial energy use slid by 0.2% year-on-year, having fewer work days (-0.5 day), despite the increased energy use in the petrochemical and fabricated metals sectors, because energy use continued to drop sharply in the primary metals sector.
 - Energy use declined in the road transport sector, which was affected by the government decision of an additional fuel tax cut, which drove down demand for stockpiling, and also the strike launched by the Korean Confederation of Trade Unions (KCTU), and consequently, the transport sector's energy use plunged by 17.1% year-on-year, leading the downward trend of the nationwide final energy use.
 - Energy use in buildings went up by 5.1% year-on-year, following the removal of social distancing rules, despite the decreased number of heating degree days.

► Energy consumption

	2021p			2022p			
		M1~4	M4	M1~4	M2	M3	M4
TPES (Mtoe)	305.2	102.4	23.9	105.5	26.0	26.0	23.5
	(4.5)	(2.8)	(4.4)	(3.0)	(5.7)	(1.5)	(-1.6)
- Feedstock exclude	217.7	74.2	16.7	77.0	19.5	18.8	16.4
	(2.4)	(1.9)	(0.8)	(3.9)	(9.0)	(3.8)	(-1.9)
TFC (Mtoe)	234.7	80.2	18.8	82.1	20.5	20.2	18.4
	(5.4)	(3.3)	(6.5)	(2.4)	(3.8)	(1.0)	(-2.3)

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 declined by 5.2% year-on-year in April, with the industrial sector leading the downward trend, though it increased in the power generation sector.**

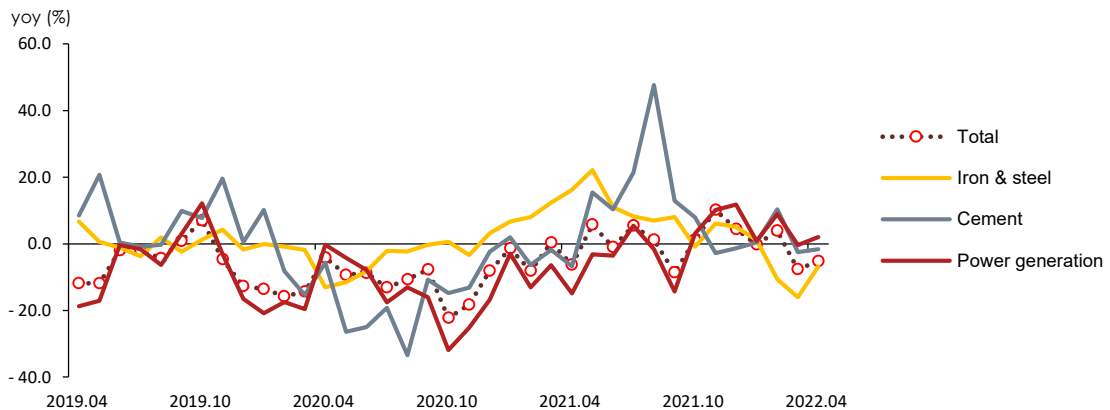
- Industrial coal use fell sharply, as it declined in both of the steelmaking and cement sectors amid the rise in raw material prices in the international market.
- Coal use increased in the power generation sector, as coal-fired generation grew by 3.2% year-on-year due to the increased installed capacity and growing demand to replace gas-fired generation, although the voluntary cap on coal power production began from April, the same as last year.

► Coal consumption

	2021p			2022p			
		M1~4	M4	M1~4	M2	M3	M4
Coal (Mton)	116.8	36.3	8.3	35.5	8.9	8.2	7.9
	(0.2)	(-3.8)	(-6.3)	(-2.2)	(3.9)	(-7.7)	(-5.2)
Industry	47.4	15.5	3.8	14.1	3.3	3.5	3.3
	(4.6)	(4.4)	(6.4)	(-8.9)	(-3.3)	(-15.9)	(-13.7)
-Coking-coal	35.3	11.7	2.8	10.7	2.5	2.6	2.6
	(4.5)	(6.2)	(11.5)	(-8.5)	(-11.3)	(-16.5)	(-7.2)
Buildings	0.5	0.1	0.0	0.1	0.0	0.0	0.0
	(-11.6)	(-17.6)	(-26.9)	(-5.7)	(-7.9)	(3.6)	(-10.5)
Power generation	68.9	20.7	4.5	21.2	5.5	4.7	4.6
	(-2.5)	(-9.1)	(-14.9)	(2.8)	(8.9)	(-0.4)	(2.0)

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 went down by 3.2% year-on-year in April, owing to the falling demand in the transport and building sectors, while it increased in the industrial sector.**
 - Industrial petroleum use posted a year-on-year growth of 3.8%, as demand for naphtha and LPG increased after additional petrochemical facilities were built.
 - Petroleum use fell sharply by 17.5% year-on-year in the transport sector, as it plunged by nearly 20% in the road transport sector with the expectation of the additional fuel tax cut.
 - Petroleum use in buildings decreased by 8.9% year-on-year, which was affected by mild weather and higher oil prices.

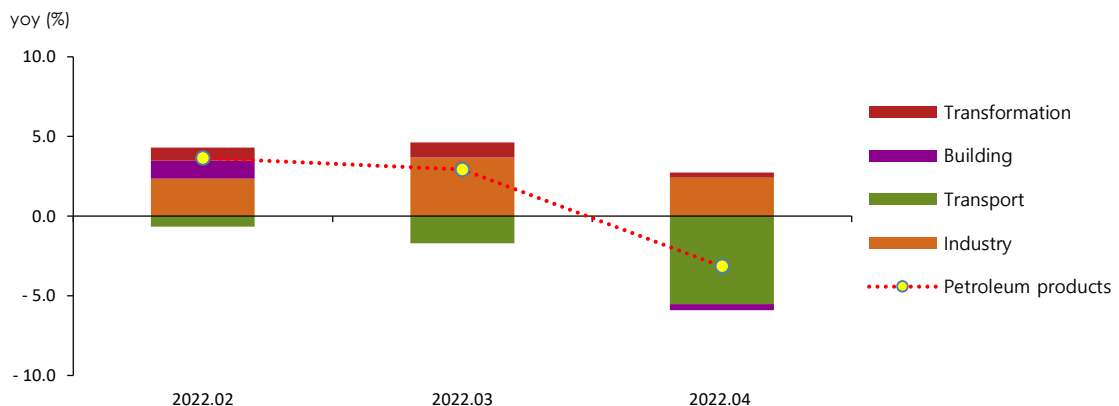
► Petroleum product consumption by end-use sectors

	2021p			2022p			
		M1~4	M4	M1~4	M2	M3	M4
Petroleum (Mbbbl)	932.4	299.9	75.7	313.7	74.8	78.8	73.3
	(6.9)	(2.7)	(10.4)	(4.6)	(3.6)	(2.9)	(-3.2)
Industry	597.2	189.2	48.3	203.2	46.9	52.7	50.1
	(9.8)	(1.7)	(10.9)	(7.4)	(3.8)	(5.7)	(3.8)
-Naphtha	450.9	144.9	37.2	152.6	34.4	39.2	38.7
	(11.3)	(2.5)	(17.0)	(5.3)	(-0.7)	(1.8)	(4.3)
Transport	281.7	89.2	23.9	86.6	21.0	20.9	19.7
	(1.6)	(3.0)	(14.5)	(-3.0)	(-2.2)	(-5.9)	(-17.5)
Buildings	44.7	18.1	3.1	18.6	5.4	4.0	2.8
	(-0.1)	(4.3)	(-17.7)	(2.8)	(17.3)	(0.1)	(-8.9)
Power generation	8.8	3.3	0.4	5.4	1.5	1.2	0.6
	(34.0)	(60.2)	(5.9)	(61.2)	(68.1)	(146.6)	(62.1)

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 slid by 1.4% year-on-year in April due to the weak demand in the power generation sector, though it increased in the industrial and building sectors.**

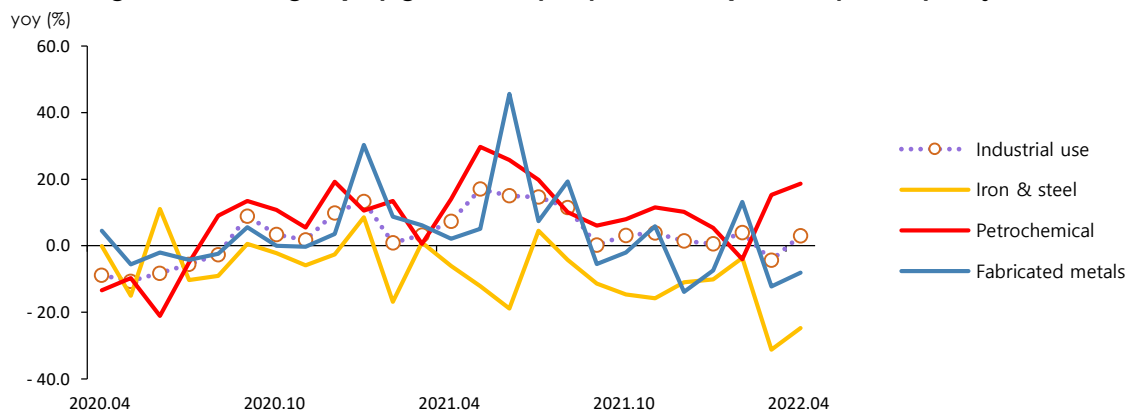
- Gas use for power generation fell by 3.5% year-on-year, as gas-fired generation decreased, despite growing electricity use (4.4%), due to the rise in unit fuel cost of LNG power generation (164.0%) and increased baseload generation (4.9%).
- Gas use increased in the petrochemical sector as a result of the facility extension, leading the growth in the total industrial gas use (18.7%), although it plunged in the primary metals sector (-24.7%), especially directly imported gas, amid the slowdown in the iron & steel business.
- Gas use increased by 5.9% year-on-year in the commercial sector following the removal of social distancing rules (April 18), and it increased by 10.8% year-on-year in the residential sector due to the base effect, although the number of heating degree days declined.

► **Natural gas and city gas consumption**

	2021p			2022p			
		M1~4	M4	M1~4	M2	M3	M4
LNG (Mton)	45.8	18.0	3.4	18.2	4.8	4.6	3.4
	(8.7)	(9.1)	(13.9)	(1.4)	(7.5)	(7.7)	(-1.4)
Power generation	21.5	7.6	1.7	7.2	1.7	2.1	1.6
	(15.7)	(17.6)	(45.5)	(-5.6)	(-6.3)	(4.5)	(-3.5)
City gas production	19.3	8.6	1.4	9.1	2.6	2.1	1.4
	(5.9)	(6.7)	(-6.7)	(5.3)	(14.0)	(9.0)	(4.2)
Industry (Direct private importer)	2.7	0.8	0.2	0.9	0.2	0.2	0.2
	(-3.4)	(-5.1)	(7.2)	(9.6)	(27.8)	(0.1)	(-10.7)
City gas (Bm³)	27.0	11.9	2.1	12.5	3.5	2.9	2.2
	(4.0)	(5.3)	(-3.1)	(5.1)	(10.4)	(6.6)	(6.1)
Industry (including directly imported)	11.9	4.2	1.0	4.2	1.0	1.0	1.0
	(7.2)	(6.2)	(7.3)	(0.7)	(4.0)	(-4.3)	(3.1)
Buildings	14.1	7.4	1.1	8.0	2.4	1.8	1.2
	(2.0)	(5.2)	(-11.3)	(7.8)	(13.8)	(14.4)	(9.7)
Transport.	1.0	0.3	0.1	0.3	0.1	0.1	0.1
	(-3.5)	(-5.1)	(2.8)	(-3.0)	(-0.4)	(-6.9)	(-3.2)

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

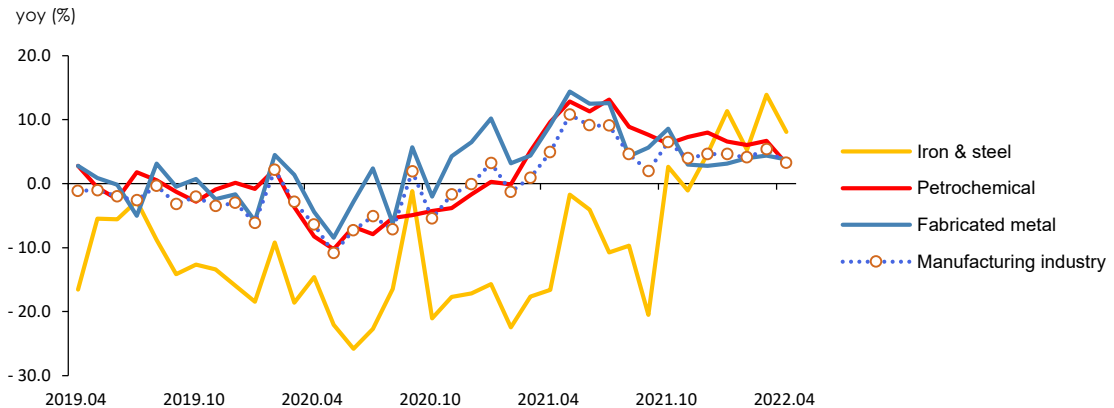
- Electricity use posted a year-on-year growth of 4.4% in April, as it grew quite strongly in both of the industrial and building sectors.
 - Electricity use grew fast in the iron and steel sector and grew decently in the petrochemical and fabricated metals sectors.
 - Electricity use in buildings went up by 5.6%, mostly in the commercial sector, as service production rapidly increased.

► Electricity consumption by end-use sectors

	2021p			2022p			
		M1~4	M4	M1~4	M2	M3	M4
Electricity (TWh)	533.4	178.9	41.9	186.9	47.5	45.8	43.8
	(4.7)	(2.7)	(3.5)	(4.5)	(5.2)	(6.4)	(4.4)
Industry	282.4	93.1	22.9	97.4	23.4	24.7	23.7
	(5.1)	(2.4)	(4.7)	(4.6)	(4.5)	(5.8)	(3.5)
Transport	3.1	1.0	0.2	1.1	0.3	0.3	0.2
	(-1.3)	(-2.6)	(-3.7)	(4.6)	(3.8)	(2.4)	(-0.9)
Buildings	247.9	84.8	18.7	88.5	23.9	20.9	19.8
	(4.4)	(3.2)	(2.2)	(4.4)	(5.9)	(7.2)	(5.6)
Residential	77.6	25.3	5.9	25.8	6.8	6.0	6.1
	(4.7)	(3.9)	(-0.3)	(2.1)	(2.2)	(4.8)	(3.2)
Commercial	136.9	48.0	10.3	51.5	14.1	12.0	11.1
	(3.6)	(1.8)	(1.8)	(7.4)	(8.7)	(9.0)	(7.8)

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

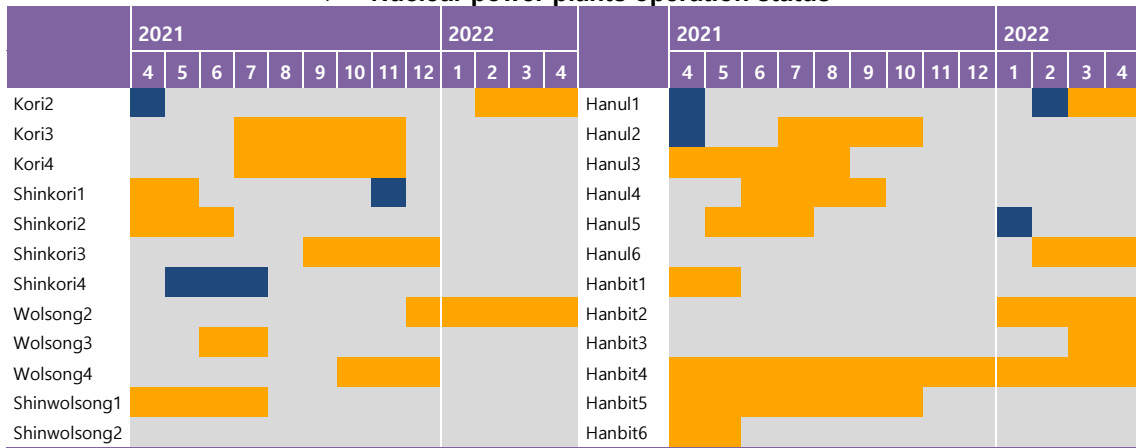
► The growth rate of electricity consumption in manufacturing industry



9. Nuclear

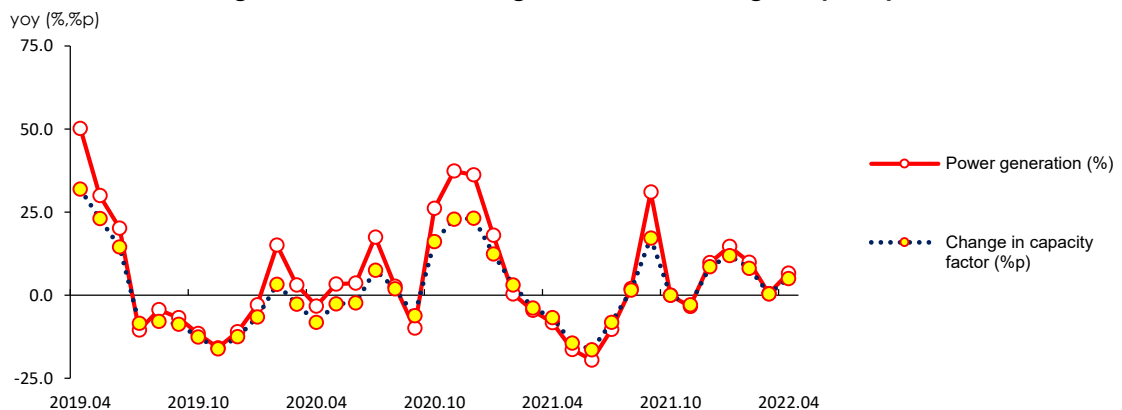
- **The total nuclear generation posted a year-on-year growth of 6.7%, as its capacity factor increased due to a drop in the number of reactors that were subject to preventive maintenance.**
 - The installed capacity of nuclear power was the same as a year ago, and the capacity factor increased by 5%p year-on-year as the number of reactors that were under preventive maintenance and the case of unscheduled shutdown declined by three and one respectively from the same month last year.
 - Nuclear energy's share of the total power generation surpassed 30% in December and then slightly decreased. In April, it bounced back to around 30%.

► 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

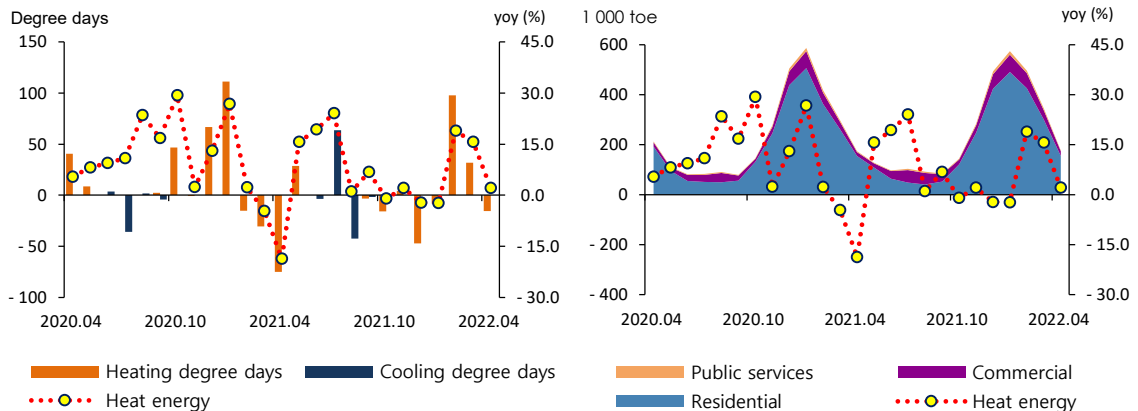
□ Heat energy use went up by 2.1% year-on-year in April, with the commercial sector driving the growth.

- Heat energy use increased for three consecutive months in the residential sector that accounts for a large share of the total heat energy use, though the growth was slower (0.4%) partly due to the decreased number of heating degree days (-10.5%).
- Heat energy use jumped 17.2% year-on-year in the commercial sector, as service production grew significantly (5.0%, based on production index) as a result of the removal of social distancing rules (April 18).

□ Renewable & other energy use grew by 10.7% year-on-year, and the power generation sector led the growth.

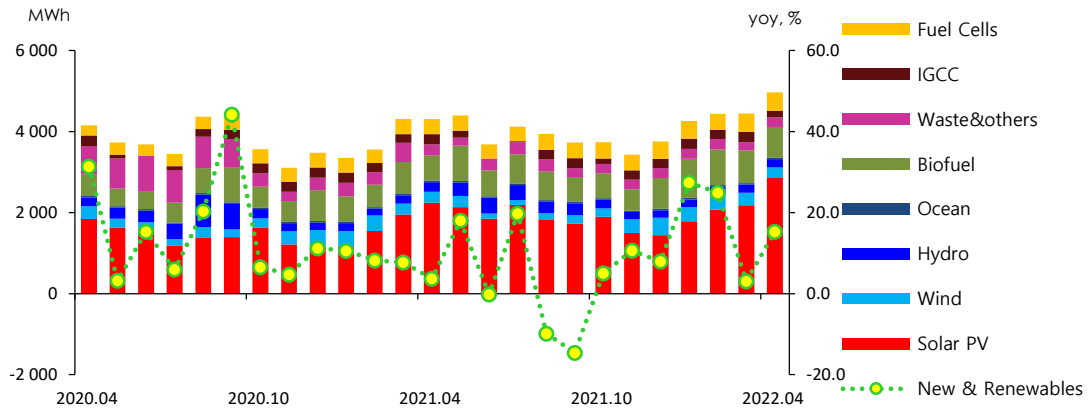
- Renewable & other energy generation ²grew by 13.5% year-on-year, with the growth driven by solar PV and bioenergy.

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



² The power generation from and installed capacity of renewable & other energy sources are based on the data from KEPCO's 'The Monthly Report on Electric Power Statistics'. In the current Energy Balance report, renewable & other energy and hydropower (including pumped storage) data are collected in separate categories, and therefore, hydropower is not included in the renewable & other energy category.

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



11. Industry

□ Industrial energy use dipped 0.2% year-on-year in April, as it declined in the primary metals sector, though it increased in the petrochemical sector.

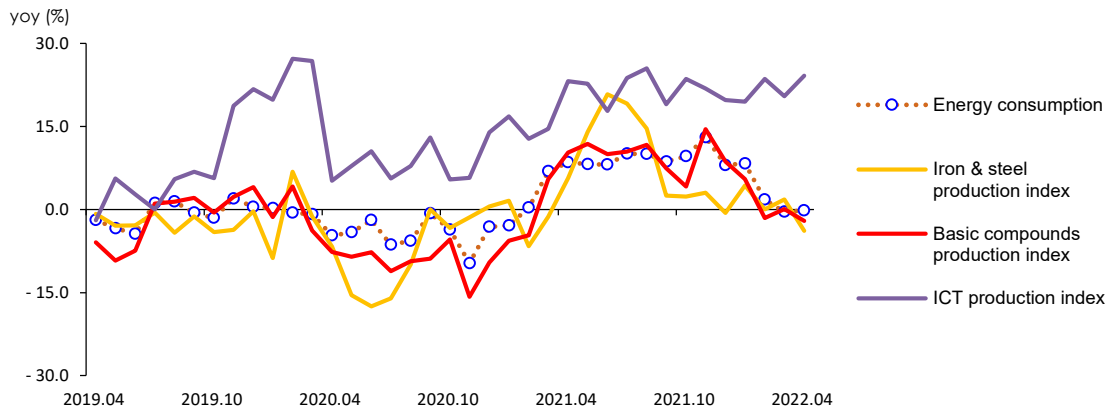
- With fewer work days (0.5 day), energy use declined in the primary metals sector, resulting in a slight drop in the total industrial energy use, although the petrochemical and fabricated metals sectors posted growth in energy use.

► Industrial energy consumption

	2021p			2022p			
		M1~4	M4	M1~4	M2	M3	M4
Industry (Mtoe)	148.0 (7.3)	48.1 (3.1)	12.0 (8.5)	49.2 (2.4)	11.5 (1.8)	12.5 (-0.4)	12.0 (-0.2)
Petrochemical	76.7 (10.9)	24.5 (2.9)	6.2 (13.7)	26.1 (6.7)	6.0 (2.0)	6.7 (5.6)	6.5 (4.8)
- Naphtha	55.3 (11.3)	17.8 (2.5)	4.6 (17.0)	18.7 (5.3)	4.2 (-0.7)	4.8 (1.8)	4.7 (4.3)
Iron & Steel	29.7 (5.5)	10.0 (6.3)	2.4 (10.3)	9.2 (-7.8)	2.2 (-9.2)	2.2 (-15.4)	2.2 (-7.2)
-Coking coal	24.6 (4.5)	8.2 (6.2)	2.0 (11.5)	7.5 (-8.5)	1.7 (-11.3)	1.8 (-16.5)	1.8 (-7.2)
Fabricated metal	12.2 (7.2)	4.2 (7.7)	1.0 (7.2)	4.3 (2.5)	1.1 (6.2)	1.1 (1.2)	1.0 (2.1)
Share of feedstock (%)	59.0	58.6	59.5	57.5	56.1	57.5	58.9

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

► Industrial energy consumption & production index



12. Transport

□ **Transport energy use fell by 17.1% year-on-year in April, as it declined in all sub-sectors except the navigation sector, and the pace of decline was faster in the road transport sector.**

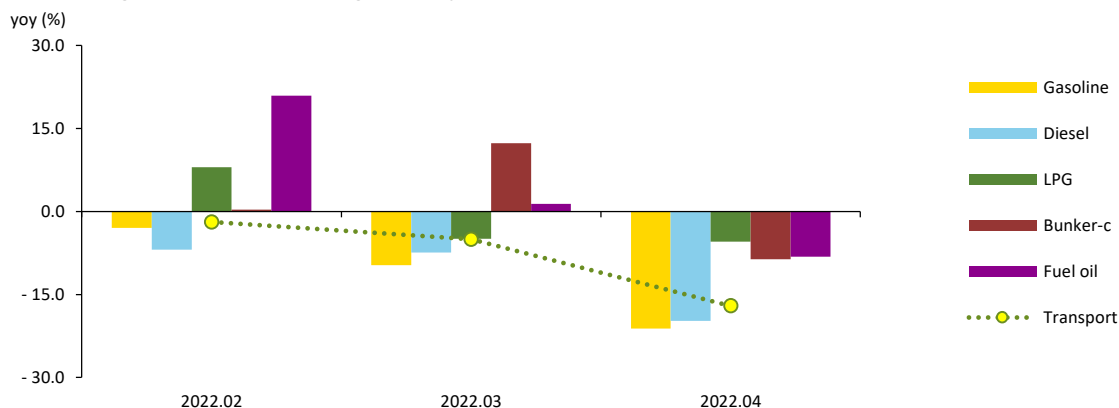
- Energy use fell sharply by 19.7% year-on-year in the road transport sector, as demand for stockpiling decreased in the run up to the 10%p fuel tax cut in May.
- Energy use dropped by 8.1% year-on-year in the aviation sector due to the high base effect from the same month last year when domestic air travel demand surged.

► The growth rate of petroleum consumption in the transport sector

	2021p	M1~4		2022p			
			M4	M1~4	M2	M3	M4
Transport (Mtoe)	40.01 (1.5)	12.67 (2.9)	3.40 (14.2)	12.32 (-2.7)	2.97 (-1.9)	3.00 (-5.0)	2.82 (-17.1)
Road	34.07 (1.8)	10.76 (5.5)	2.92 (10.4)	10.17 (-5.5)	2.49 (-4.5)	2.44 (-8.1)	2.34 (-19.7)
Navigation	3.18 (2.3)	1.05 (1.2)	0.27 (7.8)	1.18 (12.9)	0.25 (10.4)	0.33 (20.2)	0.28 (4.6)
Aviation	2.46 (-3.9)	0.76 (-21.9)	0.19 (209.8)	0.86 (13.9)	0.21 (20.9)	0.21 (1.3)	0.18 (-8.1)
Rail	0.31 (-4.5)	0.10 (-7.7)	0.02 (-8.2)	0.10 (-1.1)	0.03 (-1.3)	0.02 (-3.1)	0.02 (-6.2)

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 increased by 5.1% year-on-year in April, which was led by the commercial sector amid the recovery of the service industry.**

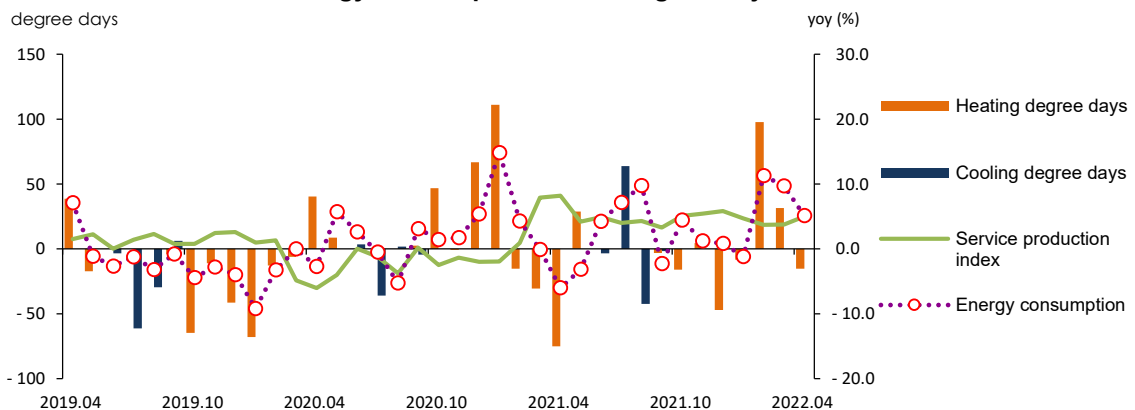
- Energy use in buildings was up 5.1% year-on-year, as the use of major energy sources increased except petroleum and coal in line with the growth in service production (5.0%, based on production index).
- Energy use rose by 3.6% year-on-year in the residential sector due to the base effect of a sharp drop during the same period last year (-12.5%), despite the mark-up in residential city gas and electricity rates (3.0%, 4.7%) and the decreased number of heating degree days (-10.5%).
- Energy use surged in the commercial sector, especially city gas and electricity, owing to the vigorous production in the face-to-face service sector.

► Energy consumption in buildings

	2021p			2022p			
		M1~4	M4	M1~4	M2	M3	M4
Buildings (Mtoe)	46.6	19.5	3.4	20.6	5.9	4.7	3.6
	(3.3)	(4.4)	(-6.0)	(5.8)	(11.3)	(9.7)	(5.1)
Residential	23.8	11.2	1.8	11.8	3.5	2.6	1.8
	(2.4)	(5.2)	(-12.5)	(5.3)	(11.4)	(10.9)	(3.6)
Commercial	17.3	6.3	1.3	6.8	1.9	1.6	1.4
	(3.6)	(2.4)	(0.8)	(8.2)	(12.2)	(10.0)	(7.3)
Public:others	5.6	2.0	0.4	2.0	0.5	0.5	0.4
	(6.0)	(6.8)	(5.4)	(0.2)	(7.6)	(2.9)	(4.9)
Heating degree days	2 404.7	1 434.7	146.2	1 540.3	506.7	319.7	130.8
	(-1.8)	(-0.7)	(-33.9)	(7.4)	(23.9)	(11.0)	(-10.5)
Cooling degree days	101.3	-	-	-	-	-	-
	(18.9)	-	-	-	-	-	-
Service production index (2015=100)	110.9	106.9	109.5	111.5	105.4	115.8	115.0
	(4.3)	(3.7)	-	(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 fuel input went up by 2.7% and 3.6% respectively in April on a year-on-year basis, as electricity use increased quite significantly.
 - The baseload (nuclear + coal) generation grew by around 5%, and renewable & other (including hydropower) energy generation was up over 10%, while gas-fired generation fell by around 5%. Overall, the total power generation grew at slower pace.

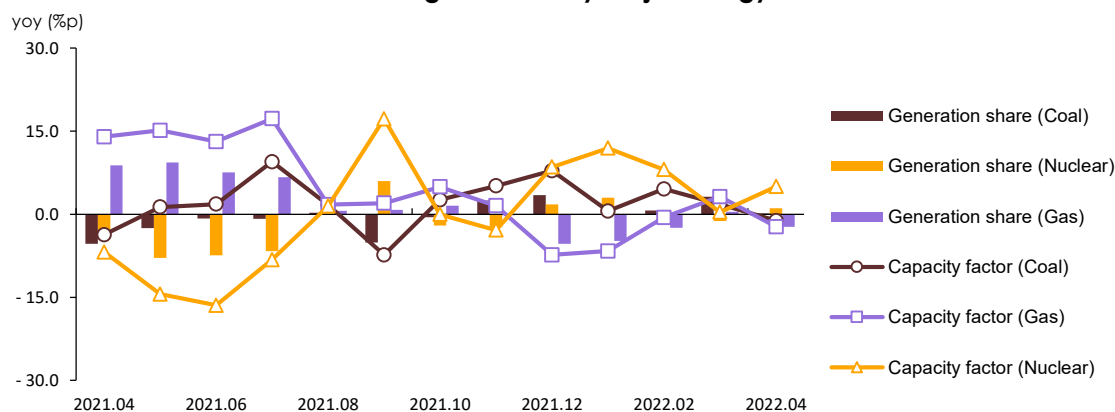
► Electricity Generation in the power generation sector

	2021p	2022p		2022p			
		M1~4	M4	M1~4	M2	M3	M4
Electricity Generation (TWh)	576.7	188.9	43.6	197.8	48.5	49.7	44.8
	(4.5)	(2.3)	(3.3)	(4.7)	(7.8)	(5.2)	(2.7)
Coal	198.0	58.3	12.9	61.6	15.9	14.0	13.3
	(0.8)	(-7.7)	(-12.5)	(5.5)	(10.1)	(6.0)	(3.2)
Oil	2.4	0.7	0.1	1.0	0.2	0.2	0.1
	(4.4)	(6.9)	(38.3)	(36.3)	(34.1)	(36.3)	(-9.6)
Gas	168.3	60.2	13.5	58.3	13.6	16.7	12.8
	(15.4)	(14.9)	(44.5)	(-3.1)	(-1.1)	(6.3)	(-4.9)
Nuclear	158.0	53.1	12.6	57.3	14.0	13.9	13.4
	(-1.4)	(0.7)	(-8.3)	(7.9)	(9.9)	(0.5)	(6.7)
Hydro/other renewables	50.1	16.6	4.6	19.6	4.8	5.0	5.2
	(5.5)	(5.4)	(4.1)	(18.1)	(23.3)	(13.2)	(13.0)
Baseload	356.0	111.5	25.4	118.9	29.9	27.9	26.7
	(-0.2)	(-3.9)	(-10.5)	(6.7)	(10.0)	(3.2)	(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

	2020	2021					2022			
			M1~4	M2	M3	M4	M1~4	M2	M3	M4
GDP (trillion won)	1 839.5 (-0.7)	1 915.8 (4.1)	453.8 (2.2)	- (-)	453.8 (2.2)	- (-)	467.4 (3.0)	- (-)	467.4 (3.0)	- (-)
Private consumption	851.0 (-4.8)	882.5 (3.7)	215.7 (1.4)	- (-)	215.7 (1.4)	- (-)	225.0 (4.3)	- (-)	225.0 (4.3)	- (-)
Facilities investment	166.6 (7.2)	181.6 (9.0)	45.0 (14.5)	- (-)	45.0 (14.5)	- (-)	42.2 (-6.2)	- (-)	42.2 (-6.2)	- (-)
Construction investment	269.3 (1.5)	265.0 (-1.6)	54.5 (-2.3)	- (-)	54.5 (-2.3)	- (-)	51.4 (-5.5)	- (-)	51.4 (-5.5)	- (-)
Consumer price index (2015=100)	105.4	102.5	101.6	101.6	101.8	102.0	105.7	105.3	106.1	106.9
USD to KRW exchange rate (won)	1 180.3	1 144.0	1 114.9	1 111.7	1 131.0	1 119.4	1 211.4	1 198.3	1 221.0	1 232.3
Benchmark rate (%)	0.7	0.6	0.5	0.5	0.5	0.5	1.3	1.3	1.3	1.5
Coincident composite index (2015=100)	112.5	116.9	115.1	114.6	115.3	116.3	120.7	120.8	120.8	120.7
Mining & manufacturing production index (2015=100)	106.4	114.3	111.0	100.7	118.9	114.0	115.9	107.1	123.3	118.0
Manufacturing operation ratio index (2015=100)	95.3	99.8	97.0	87.8	103.7	100.4	101.0	92.9	107.2	103.7
Average temperature	13.0	13.3	6.0	3.4	8.7	13.2	5.1	-0.1	7.7	13.8
- year-on-year difference	- 0.4	0.3	-0.0	0.0	1.0	2.5	-0.9	-3.5	-1.0	0.6
Heating degree days	2 448.0 (3.3)	2 404.7 (-1.8)	1 434.7 (-0.7)	408.9 (-3.6)	288.1 (-9.6)	146.2 (-33.9)	1 540.3 (7.4)	506.7 (23.9)	319.7 (11.0)	130.8 (-10.5)
Cooling degree days	85.2 (- 29.2)	101.3 (18.9)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
Energy intensity	0.16 (-3.1)	0.16 (0.4)	0.17 (0.0)	- (-)	0.17 (0.0)	- (-)	0.18 (1.4)	- (-)	0.18 (1.4)	- (-)
Per capita consumption										
oil (bbl)	16.8 (-6.0)	18.0 (7.1)	5.8 (2.9)	1.4 (0.6)	1.5 (8.1)	1.5 (10.6)	6.1 (4.8)	1.4 (3.9)	1.5 (3.2)	1.4 (-2.9)
Electricity (MWh)	9.8 (-2.3)	10.3 (4.9)	3.5 (2.9)	0.9 (1.7)	0.8 (0.7)	0.8 (3.7)	3.6 (4.7)	0.9 (5.4)	0.9 (6.7)	0.8 (4.7)
City gas (1 000 m ³)	0.4 (-3.7)	0.5 (5.3)	0.2 (6.6)	0.1 (5.3)	0.0 (1.8)	0.0 (-4.4)	0.2 (4.9)	0.1 (9.3)	0.1 (7.6)	0.0 (9.0)
Total energy (toe)	5.6 (-3.8)	5.9 (4.7)	2.0 (2.9)	0.5 (-1.1)	0.5 (4.3)	0.5 (4.6)	2.0 (3.2)	0.5 (5.9)	0.5 (1.7)	0.5 (-1.4)

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

The Index of Production Ratio & Output by Sectors

(2015=100)

2013=100

	2020	2021					2022			
			M1~4	M2	M3	M4	M1~4	M2	M3	M4
Industrial production index										
All industry	107.4 (-1.0)	112.7 (4.9)	108.7 (4.0)	101.4 (0.5)	116.1 (5.7)	111.1 (8.3)	113.1 (4.1)	105.7 (4.2)	120.0 (3.4)	116.0 (4.4)
Mining & manufacturing	106.4 (-0.3)	114.3 (7.4)	111.0 (6.5)	100.7 (1.1)	118.9 (4.7)	114.0 (12.2)	115.9 (4.4)	107.1 (6.4)	123.3 (3.7)	118.0 (3.5)
Semiconductor	230.7 (22.7)	298.6 (29.4)	255.5 (23.6)	244.6 (19.7)	284.4 (25.5)	249.2 (29.6)	333.7 (30.6)	320.3 (30.9)	359.9 (26.5)	336.0 (34.8)
Iron & steel	92.1 (-6.3)	97.4 (5.8)	95.7 (-0.2)	89.0 (-6.6)	98.7 (-1.3)	98.8 (5.7)	96.2 (0.6)	89.0 -	100.5 (1.8)	95.0 (-3.8)
Cement	87.2 (-7.5)	91.6 (5.0)	86.6 (4.0)	71.6 (-1.8)	101.7 (8.0)	105.1 (6.5)	84.5 (-2.5)	71.1 (-0.7)	92.5 (-9.0)	98.6 (-6.2)
Basic compound	101.1 (-7.1)	107.9 (6.7)	106.8 (1.0)	102.4 (-4.7)	111.5 (5.5)	106.3 (10.3)	107.3 (0.5)	100.8 (-1.6)	111.6 (0.1)	104.1 (-2.1)
Transport equipment	84.4 (-9.6)	88.2 (4.5)	92.3 (13.8)	79.3 (23.3)	100.9 (-0.4)	96.9 (18.5)	88.7 (-3.9)	82.1 (3.5)	94.5 (-6.3)	94.5 (-2.5)
Electric & electronic	108.5 (-1.0)	115.2 (6.1)	110.0 (7.2)	97.6 (0.7)	119.6 (6.4)	114.7 (11.3)	112.6 (2.4)	106.0 (8.6)	118.6 (-0.8)	114.3 (-0.3)
Service	106.2 (-2.0)	110.9 (4.3)	106.9 (3.7)	101.6 (0.9)	111.6 (7.9)	109.5 (8.2)	111.5 (4.3)	105.4 (3.7)	115.8 (3.8)	115.0 (5.0)
Wholesale and retail	101.9 (-2.6)	106.0 (4.0)	103.2 (4.6)	95.2 (3.0)	109.4 (8.3)	106.9 (9.3)	106.1 (2.9)	96.9 (1.8)	112.4 (2.7)	109.6 (2.5)
Food & Accommodation	79.6 (-18.4)	80.7 (1.4)	70.3 (-8.0)	65.7 (-11.1)	76.7 (19.5)	78.5 (8.3)	82.2 (17.0)	73.0 (11.1)	81.4 (6.1)	91.8 (16.9)
Production output										
Iron & steel - Pig iron	45 359.6 (-4.5)	46 440.5 (2.4)	15 457.2 (6.6)	3 724.9 (4.2)	3 983.7 (8.3)	3 635.1 (10.5)	14 181.1 (-8.3)	3 336.6 (-10.4)	3 549.6 (-10.9)	3 422.7 (-5.8)
Iron & steel - Crude steel	67 078.8 (-6.1)	70 418.0 (5.0)	23 347.2 (6.0)	5 489.5 (1.3)	6 062.1 (4.8)	5 753.0 (13.3)	22 445.4 (-3.9)	5 145.5 (-6.3)	5 707.6 (-5.8)	5 521.6 (-4.0)
Petrochemical - Basic petrochemicals	30 323.6 (-4.7)	34 434.5 (13.6)	10 828.9 (1.7)	2 605.7 (-0.9)	2 828.2 (8.0)	2 797.7 (12.7)	11 753.1 (8.5)	2 751.3 (5.6)	3 015.5 (6.6)	2 856.7 (2.1)
Petrochemical - Intermediate raw material	15 355.4 (-4.1)	15 764.6 (2.7)	5 329.1 (-2.2)	1 300.1 (-5.0)	1 409.0 (5.3)	1 281.2 (-0.4)	4 900.4 (-8.0)	1 147.9 (-11.7)	1 294.3 (-8.1)	1 185.9 (-7.4)
Petrochemical - 3 major products	21 252.7 (-1.5)	23 197.8 (9.2)	7 393.1 (0.7)	1 746.7 (-3.6)	1 920.4 (3.2)	1 858.4 (5.9)	8 046.7 (8.8)	1 904.0 (9.0)	2 083.8 (8.5)	1 911.8 (2.9)
The number of cars	3 506.8 (-11.2)	3 462.4 (-1.3)	1 232.7 (12.1)	261.0 (37.9)	333.9 (-9.6)	323.6 (11.8)	1 143.6 (-7.2)	264.0 (1.1)	302.2 (-9.5)	306.5 (-5.3)

Note: p means provisional

Source: Monthly energy statistics, Korea Petrochemical Industry Association

International Energy Prices

	2020	2021					2022			
			M1~4	M2	M3	M4	M1~4	M2	M3	M4
Crude oil (USD/bbl)										
WTI	39.4 (-30.9)	67.9 (72.4)	58.8 (51.5)	59.1 (16.9)	62.4 (104.8)	61.7 (269.5)	96.1 (63.5)	91.6 (55.1)	108.3 (73.6)	101.6 (64.7)
Dubai	42.2 (-33.6)	69.3 (64.1)	60.8 (40.8)	60.9 (12.3)	64.4 (91.2)	62.9 (208.6)	97.4 (60.3)	92.4 (51.7)	110.9 (72.1)	102.8 (63.4)
Brent	43.2 (-32.7)	70.8 (63.8)	62.2 (38.5)	62.3 (12.3)	65.7 (94.8)	65.3 (145.3)	99.5 (60.1)	94.1 (51.1)	112.5 (71.2)	105.9 (62.1)
Unit value of import (C&F)	44.8 (-31.7)	70.2 (56.9)	60.5 (10.0)	59.2 (-7.8)	64.1 (21.4)	65.1 (91.2)	95.7 (58.1)	90.1 (52.3)	100.9 (57.4)	110.2 (69.2)
LNG										
TTF (USD/MMBTU)	3.2 (-32.5)	16.1 (396.9)	6.7 (134.9)	6.2 (111.8)	6.1 (125.1)	7.2 (239.0)	32.5 (386.4)	27.2 (342.0)	42.3 (591.5)	32.2 (348.5)
JKM (USD/MMBTU)	4.2 (-25.4)	17.8 (324.9)	9.0 (163.2)	7.6 (126.7)	6.3 (103.4)	7.6 (204.3)	30.8 (241.6)	25.8 (240.0)	37.2 (486.7)	30.5 (299.7)
Import price(Japan) (USD/MMBTU)	8.3 (-21.3)	10.8 (29.5)	8.8 (-12.4)	9.9 (-0.2)	7.9 (-22.7)	8.3 (-17.3)	15.8 (79.9)	17.0 (72.0)	15.1 (91.4)	16.3 (96.8)
Unit value of import (USD/ton, CIF)	390.2 (-22.8)	550.7 (41.2)	442.3 (-4.8)	531.5 (18.9)	438.5 (-5.1)	385.4 (-19.5)	923.4 (108.8)	843.9 (58.8)	1 016.7 (131.9)	694.9 (80.3)
Bituminous coal (USD/ton)										
From Australia	60.3 (-22.8)	136.0 (125.8)	88.9 (34.5)	86.1 (25.8)	90.9 (37.3)	93.9 (54.4)	274.4 (208.5)	236.2 (174.5)	345.3 (279.8)	306.6 (226.6)
Unit value of import (CIF)	77.7 (-22.9)	115.1 (48.1)	84.6 (-3.8)	80.4 (-6.2)	89.6 (-0.4)	91.4 (2.1)	212.3 (150.8)	196.9 (144.7)	215.5 (140.4)	253.4 (177.2)
Petroleum product (USD/bbl)										
Gasoline	46.7 (-35.7)	80.3 (72.2)	68.9 (43.0)	67.9 (5.4)	73.5 (101.6)	74.0 (260.7)	116.7 (69.5)	110.8 (63.2)	131.2 (78.5)	127.0 (71.5)
Kerosene	44.7 (-42.1)	75.1 (67.9)	64.2 (29.0)	65.2 (3.3)	66.8 (69.9)	66.8 (214.0)	117.4 (83.0)	106.2 (63.0)	133.5 (99.8)	134.4 (101.4)
Diesel	49.4 (-36.8)	77.6 (57.2)	66.6 (21.5)	67.9 (3.0)	69.7 (53.3)	68.9 (119.2)	125.1 (87.8)	110.8 (63.0)	141.8 (103.3)	148.8 (116.1)
Bunker-C	39.2 (-31.9)	64.4 (64.3)	57.2 (49.2)	57.6 (23.4)	60.7 (93.0)	59.0 (153.0)	93.2 (63.0)	82.6 (43.4)	103.1 (69.7)	111.1 (88.3)
Propane	397.1 (-8.6)	647.9 (63.2)	585.0 (35.3)	605.0 (19.8)	625.0 (45.3)	560.0 (143.5)	837.5 (43.2)	775.0 (28.1)	895.0 (43.2)	940.0 (67.9)
Butane	403.8 (-8.6)	629.6 (55.9)	560.0 (20.8)	585.0 (7.3)	595.0 (24.0)	530.0 (120.8)	841.3 (50.2)	775.0 (32.5)	920.0 (54.6)	960.0 (81.1)
Naphtha	40.5 (-28.9)	70.6 (74.6)	61.1 (51.9)	61.6 (17.8)	64.8 (114.0)	62.2 (259.2)	96.8 (58.5)	95.5 (54.9)	110.6 (70.7)	96.6 (55.3)

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

	2020	2021					2022			
		M1~4	M2	M3	M4	M1~4	M2	M3	M4	
Petroleum product										
Gasoline (won/liter)	1 381.6 (-6.1)	1 590.5 (15.1)	1 488.2 (0.8)	1 463.2 (-5.3)	1 513.3 (3.0)	1 534.5 (15.9)	1 816.2 (22.0)	1 714.6 (17.2)	1 938.5 (28.1)	1 976.5 (28.8)
Diesel (won/liter)	1 189.8 (-11.2)	1 391.3 (16.9)	1 287.8 (-0.6)	1 263.4 (-7.8)	1 312.6 (2.5)	1 332.7 (17.7)	1 680.9 (30.5)	1 536.6 (21.6)	1 826.9 (39.2)	1 906.4 (43.0)
Bunker-C (won/liter)	573.6 (-22.9)	731.7 (27.6)	645.3 (-5.9)	619.6 (-22.3)	686.0 (-2.4)	730.1 (36.0)	985.9 (52.8)	937.4 (51.3)	974.0 (42.0)	1 191.7 (63.2)
Propane (won/kg)	1 850.7 (-1.0)	2 092.6 (13.1)	1 970.7 (2.1)	1 952.5 (-1.0)	2 029.2 (2.8)	2 032.9 (7.8)	2 434.5 (23.5)	2 379.0 (21.8)	2 412.1 (18.9)	2 552.2 (25.5)
Butane (won/liter)	791.1 (-1.9)	931.9 (17.8)	860.7 (1.6)	847.8 (-3.0)	898.6 (2.8)	899.2 (9.9)	1 092.2 (26.9)	1 050.7 (23.9)	1 083.0 (20.5)	1 163.2 (29.3)
City gas(won/MJ)										
Residential	15.1 (-3.6)	14.2 (-5.7)	14.2 (-10.7)	14.2 (-10.7)	14.2 (-10.7)	14.2 (-10.7)	14.3 (0.8)	14.2 -	14.2 -	14.7 (3.0)
General(1)	14.9 (-4.7)	13.9 (-6.5)	14.0 (-12.3)	14.0 (-12.3)	14.0 (-12.3)	13.8 (-12.3)	14.1 (1.2)	14.1 (0.6)	14.1 (0.6)	14.3 (3.1)
Commercial	15.1 (-6.4)	17.2 (14.2)	15.2 (-7.8)	14.8 (-10.1)	15.9 (-3.7)	16.1 (-2.4)	25.4 (67.3)	24.9 (68.1)	24.9 (56.9)	26.5 (64.7)
Industry	12.6 (-8.4)	14.4 (14.2)	13.0 (-10.0)	12.8 (-12.2)	13.8 (-4.9)	13.3 (-4.8)	22.9 (76.8)	22.6 (77.2)	22.6 (63.7)	23.3 (75.1)
Heat(won/Mcal)										
Residential	66.2 (0.7)	65.2 (-1.4)	65.2 (-2.8)	65.2 (-2.8)	65.2 (-2.8)	65.2 (-2.8)	65.7 (0.7)	65.2 -	65.2 -	67.0 (2.7)
Commercial	85.9 (0.7)	84.7 (-1.4)	84.7 (-2.8)	84.7 (-2.8)	84.7 (-2.8)	84.7 (-2.8)	85.3 (0.7)	84.7 -	84.7 -	87.0 (2.7)
Public	75.1 (0.7)	74.0 (-1.4)	74.0 (-2.9)	74.0 (-2.9)	74.0 (-2.9)	74.0 (-2.9)	74.5 (0.7)	74.0 -	74.0 -	76.0 (2.7)
Electricity(won/kWh)										
Residential	147.3 -	142.3 (-3.4)	142.3 (-3.4)	142.3 (-3.4)	142.3 (-3.4)	142.3 (-3.4)	143.5 (0.9)	142.3 -	142.3 -	147.2 (3.4)
General	84.4 -	79.4 (-5.9)	73.8 (-6.3)	87.3 (-5.4)	60.2 (-7.7)	60.2 (-7.7)	75.0 (1.7)	87.3 -	60.2 -	65.1 (8.1)
Industry	96.0 -	91.0 (-5.2)	88.5 (-5.3)	103.5 (-4.6)	73.5 (-6.4)	73.5 (-6.4)	89.7 (1.4)	103.5 -	73.5 -	78.4 (6.7)

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

2.Electricity prices are based on Residential(High-voltage, 201~400kWh), General((A) 1, 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)

	2020	2021p					2022p			
			M1~4	M2	M3	M4	M1~4	M2	M3	M4
Coal (Mton)	116.6 (-12.4)	116.8 (0.2)	36.3 (-3.8)	8.5 (-8.1)	8.9 (0.4)	8.3 (-6.3)	35.5 (-2.2)	8.9 (3.9)	8.2 (-7.7)	7.9 (-5.2)
- Coking coal excluded	82.8 (-15.6)	81.5 (-1.6)	24.6 (-7.9)	5.7 (-13.0)	5.8 (-3.2)	5.5 (-13.4)	24.8 (0.8)	6.4 (11.4)	5.6 (-2.9)	5.3 (-4.2)
Oil (Mbbbl)	872.4 (-5.9)	932.4 (6.9)	299.9 (2.7)	72.2 (0.4)	76.6 (8.0)	75.7 (10.4)	313.7 (4.6)	74.8 (3.6)	78.8 (2.9)	73.3 (-3.2)
- Non-energy oil excluded	423.6 (-6.2)	429.6 (1.4)	139.5 (1.2)	34.1 (1.3)	33.8 (1.7)	34.3 (5.1)	145.7 (4.5)	36.7 (7.5)	35.5 (5.2)	31.1 (-9.3)
LNG (Mton)	42.1 (2.7)	45.8 (8.7)	18.0 (9.1)	4.5 (0.2)	4.3 (6.6)	3.4 (13.9)	18.2 (1.4)	4.8 (7.5)	4.6 (7.7)	3.4 (-1.4)
Hydro (TWh)	7.1 (14.4)	6.7 (-5.7)	2.1 (-2.3)	0.5 (-9.5)	0.5 (-4.1)	0.6 (8.8)	2.0 (-1.2)	0.5 (2.8)	0.6 (8.1)	0.5 (-15.0)
Nuclear (TWh)	160.2 (9.8)	158.0 (-1.4)	53.1 (0.7)	12.7 (0.3)	13.8 (-4.6)	12.6 (-8.3)	57.3 (7.9)	14.0 (9.9)	13.9 (0.5)	13.4 (6.7)
Others (Mtoe)	19.0 (7.3)	20.0 (5.6)	6.6 (5.7)	1.5 (4.9)	1.7 (2.1)	1.8 (4.5)	7.6 (13.8)	1.8 (17.7)	1.9 (10.9)	2.0 (10.7)
TPES (Mtoe)	292.1 (-3.6)	305.2 (4.5)	102.4 (2.8)	24.6 (-1.2)	25.6 (4.1)	23.9 (4.4)	105.5 (3.0)	26.0 (5.7)	26.0 (1.5)	23.5 (-1.6)
- Non-energy oil excluded	236.1 (-3.2)	242.3 (2.6)	82.3 (2.3)	19.9 (-1.6)	20.2 (1.8)	18.7 (1.8)	84.5 (2.6)	21.3 (7.0)	20.6 (1.6)	18.2 (-2.4)
- Non-energy oil&coal excluded	212.5 (-3.2)	217.7 (2.4)	74.2 (1.9)	17.9 (-2.2)	18.1 (1.1)	16.7 (0.8)	77.0 (3.9)	19.5 (9.0)	18.8 (3.8)	16.4 (-1.9)

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

Share of TPES by Sources

(unit: %)

	2020	2021p					2022p			
			M1~4	M2	M3	M4	M1~4	M2	M3	M4
Coal	24.7	23.8	22.1	21.7	21.7	21.8	21.0	21.2	19.7	21.1
- Coking coal excluded	16.7	15.7	14.1	13.8	13.3	13.6	13.9	14.5	12.8	13.3
Oil	37.7	38.6	37.0	37.0	37.8	40.2	37.3	36.0	38.0	39.0
- non-energy oil excluded	18.6	18.0	17.4	17.7	16.9	18.5	17.5	17.7	17.2	16.7
LNG	18.8	19.6	22.9	23.6	21.8	18.8	22.6	24.0	23.2	18.9
Hydro	0.5	0.5	0.4	0.4	0.4	0.5	0.4	0.4	0.5	0.4
Nuclear	11.7	11.0	11.1	11.0	11.5	11.2	11.6	11.4	11.4	12.1
Others	6.5	6.6	6.5	6.3	6.7	7.5	7.2	7.0	7.3	8.4
TPES	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: p means provisional
Source: Monthly energy statistics

Total Final Consumption (TFC)

(Unit: Mtoe)

	2020	2021p					2022p			
			M1~4	M2	M3	M4	M1~4	M2	M3	M4
Industry	138.0 (-3.5)	148.0 (7.3)	48.1 (3.1)	11.3 (0.3)	12.5 (6.9)	12.0 (8.5)	49.2 (2.4)	11.5 (1.8)	12.5 (-0.4)	12.0 (-0.2)
Transport	39.4 (-8.2)	40.0 (1.5)	12.7 (2.9)	3.0 (-3.4)	3.2 (7.1)	3.4 (14.2)	12.3 (-2.7)	3.0 (-1.9)	3.0 (-5.0)	2.8 (-17.1)
Residential	23.2 (2.6)	23.8 (2.4)	11.2 (5.2)	3.1 (6.4)	2.4 (-3.2)	1.8 (-12.5)	11.8 (5.3)	3.5 (11.4)	2.6 (10.9)	1.8 (3.6)
commercial	16.7 (-4.3)	17.3 (3.6)	6.3 (2.4)	1.7 (1.3)	1.4 (1.3)	1.3 (0.8)	6.8 (8.2)	1.9 (12.2)	1.6 (10.0)	1.4 (7.3)
Public	5.3 (-2.6)	5.6 (6.0)	2.0 (6.8)	0.5 (2.1)	0.5 (13.1)	0.4 (5.4)	2.0 (0.2)	0.5 (7.6)	0.5 (2.9)	0.4 (4.9)
TFC	222.6 (-3.8)	234.7 (5.4)	80.2 (3.3)	19.7 (0.8)	20.0 (5.3)	18.8 (6.5)	82.1 (2.4)	20.5 (3.8)	20.2 (1.0)	18.4 (-2.3)
Coal (Mton)	45.8 (-4.9)	47.9 (4.4)	15.7 (4.2)	3.5 (0.1)	4.2 (9.2)	3.9 (6.2)	14.3 (-8.9)	3.4 (-3.3)	3.6 (-15.8)	3.3 (-13.6)
Oil (Mbbbl)	865.8 (-5.7)	923.5 (6.7)	296.6 (2.3)	71.3 (-0.2)	76.1 (7.9)	75.3 (10.4)	308.4 (4.0)	73.3 (2.9)	77.6 (2.0)	72.6 (-3.5)
Electricity (TWh)	509.3 (-2.2)	533.4 (4.7)	178.9 (2.7)	45.2 (1.5)	43.1 (0.5)	41.9 (3.5)	186.9 (4.5)	47.5 (5.2)	45.8 (6.4)	43.8 (4.4)
City gas (Bm³)	22.4 (-3.5)	23.6 (5.1)	10.9 (6.4)	3.0 (5.1)	2.5 (1.7)	1.8 (-4.6)	11.4 (4.6)	3.2 (9.0)	2.6 (7.3)	2.0 (8.8)
Heat:others (1 000 toe)	12.3 (6.1)	12.5 (2.0)	4.7 (2.9)	1.2 (-2.2)	1.1 (0.4)	1.0 (1.6)	4.9 (5.5)	1.3 (10.3)	1.2 (9.6)	1.0 (2.7)

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

Share of the Total Final Consumption by Sources

(unit: %)

	2020	2021p					2022p			
			M1~4	M2	M3	M4	M1~4	M2	M3	M4
Industry	62.0	63.1	60.0	57.6	62.7	63.7	60.0	56.4	61.8	65.1
Transport	17.7	17.1	15.8	15.4	15.8	18.1	15.0	14.5	14.9	15.3
Residential	10.4	10.1	13.9	15.9	11.9	9.3	14.3	17.1	13.0	9.9
Commercial	7.5	7.4	7.9	8.6	7.2	6.7	8.3	9.3	7.8	7.3
Public	2.4	2.4	2.4	2.5	2.5	2.2	2.4	2.6	2.5	2.4
Final energy	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Coal	13.7	13.6	13.0	12.0	14.0	13.6	11.6	11.0	11.7	12.2
Oil	49.1	49.7	46.7	45.7	48.0	50.6	47.1	45.0	48.1	49.4
Electricity	19.7	19.6	19.2	19.7	18.5	19.1	19.6	20.0	19.5	20.4
City gas	12.0	11.8	15.3	16.7	14.0	11.4	15.7	17.8	14.7	12.4
Heat:others	5.5	5.3	5.8	5.9	5.5	5.3	6.0	6.3	6.0	5.6

Note: p means provisional
Source: Monthly energy statistics

Statistics on Energy Production Facilities

	2018	2019	2021	2022			2022	M3	M4
				M2	M3	M4			
Total capacity (GW)	119.1 (1.9)	125.3 (5.2)	134.0 (3.7)	129.1 (2.6)	129.4 (2.8)	128.4 (1.7)	133.6 (3.4)	133.7 (3.3)	133.9 (4.3)
Nuclear	21.9 (-3.0)	23.3 (6.4)	23.3 -	23.3 -	23.3 -	23.3 -	23.3 -	23.3 -	23.3 -
Bituminous coal	36.4 (0.7)	36.4 (0.1)	36.9 (1.3)	35.5 (-2.7)	35.5 (-2.7)	34.3 (-5.8)	36.3 (2.4)	36.3 (2.4)	36.3 (5.8)
Gas	37.9 (-0.0)	39.6 (4.5)	41.2 (0.1)	41.2 -	41.2 -	41.2 -	41.2 (0.1)	41.2 (0.1)	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 -	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

	2018	2019	2021	2022			2022	M3	M4
				M2	M3	M4			
The number of household demanding city gas (mil)	19.1 (3.1)	19.7 (2.8)	20.5 (2.0)	20.3 (2.5)	20.3 (2.5)	20.2 (2.5)	20.6 (1.8)	20.6 (1.8)	20.6 (1.8)
Registered cars (mil)	23.2 (3.0)	23.7 (2.0)	24.9 (2.2)	24.5 (3.1)	24.5 (3.1)	24.6 (2.9)	25.0 (2.2)	25.1 (2.2)	25.1 (2.3)
- gasoline	10.6 (2.5)	11.0 (3.1)	11.8 (3.1)	11.5 (4.2)	11.5 (4.1)	11.5 (4.0)	11.8 (3.0)	11.8 (2.9)	11.9 (2.8)
- diesel	9.9 (3.7)	10.0 (0.3)	9.9 (-1.2)	10.0 (0.5)	10.0 (0.5)	10.0 (0.2)	9.9 (-1.4)	9.9 (-1.4)	9.9 (-1.2)
- LPG	2.0 (-3.3)	2.0 (-1.5)	1.9 (-1.7)	2.0 (-1.6)	2.0 (-1.7)	2.0 (-1.8)	1.9 (-1.6)	1.9 (-1.7)	1.9 (-1.9)
- hybrid	0.4 (30.9)	0.5 (26.1)	0.9 (34.0)	0.7 (36.2)	0.7 (37.2)	0.7 (37.7)	0.9 (32.8)	0.9 (32.6)	1.0 (32.5)

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

Source: Monthly energy statistics