

# KEEI

## MONTHLY KOREA ENERGY TRENDS

KOREA ENERGY ECONOMICS INSTITUTE

2024/04

COAL	-1.5%
PETROLEUM	5.5%
GAS	3.2%
NUCLEAR	-4.4%
NEW & RENEWABLE	1.4%
JANUARY. 2024	



This publication is derived from Energy Demand & Supply Statistics and Energy Price Statistics issued until January 2024.

Disclaimer: The translations provided here are the result of an automatic translation of Korean Energy Trends for the convenience of international readers. They have been reviewed by our editors, but in case of any confusion in interpretation, the Korean version takes precedence.

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## 1. The Economy and the Industry

### □ The industrial production index rose 12.9% y/y in January as production increased in most industries, led by semiconductors.

- The semiconductor production index rose 44.7% year-on-year (y-o-y) as demand continued to recover, led by a strong increase in exports (56.2%), offsetting the base effect of sluggish production in the same month of the previous year due to the recession. Capacity utilization and shipments rose 28.8% and 62.7% y/y, respectively, while the inventory index turned negative (-16.4%).
- The automobile production index rose 13.3% y/y, rebounding because of more working days compared to the same month a year earlier (up 2.5 days y/y) and strong exports (up 24.7% y/y, by value).
- The steel production index rose 12.6% year-on-year (y-o-y) due to strong production of automobiles among demand industries, which led to increased demand for some steel products such as plate and bar, and increased exports (3.6%, by value).
- The basic chemicals production index rose 1.7% year-on-year due to a base effect from a decline in the same month of the previous year and an increase in exports.

### □ The service industry production index continued its moderate upward trend, rising 4.5% year-on-year.

- Service industry production increased due to modest increases in production in wholesale & retail trade and accommodation & food services, with production also rising in other sectors.

#### ► Major economic and industrial indicators

	2022		2023p				2024p
		M1	M1		M11	M12	M1
GDP (trillion won)	1 968.8	-	-	1 995.6	-	525.1	-
	(2.6)	-	-	(1.4)	-	(2.2)	-
Total export (\$billion, customs clearance basis)	683.6	55.5	46.3	632.2	55.6	57.6	54.8
	(6.1)	(15.5)	(-16.4)	(-7.5)	(7.3)	(5.0)	(18.2)
Industrial production index (2020=100)	109.6	110.8	96.9	106.8	114.1	116.1	109.4
	(1.0)	(6.0)	(-12.5)	(-2.6)	(6.1)	(6.3)	(12.9)
Semi-conductors	135.7	143.5	95.4	133.0	157.2	172.2	138.0
	(5.4)	(36.1)	(-33.5)	(-2.0)	(40.7)	(47.1)	(44.7)
Basic chemical products	98.9	111.0	100.4	95.5	91.6	98.6	102.1
	(-6.5)	(6.1)	(-9.6)	(-3.5)	(5.0)	(2.0)	(1.7)
Iron&Steel	96.3	109.9	91.0	98.9	95.8	96.2	102.5
	(-8.4)	(5.3)	(-17.2)	(2.8)	(20.8)	(11.7)	(12.6)
Cars	115.8	101.7	112.4	127.6	133.8	130.5	127.3
	(9.1)	(-6.8)	(10.5)	(10.2)	(-1.7)	(-0.4)	(13.3)
Service production index (2020=100)	112.3	104.7	109.1	115.9	116.9	130.9	114.0
	(6.9)	(8.1)	(4.2)	(3.2)	(2.5)	(1.2)	(4.5)
Wholesale & Retail	107.1	104.9	104.7	106.4	109.4	111.3	105.8
	(2.7)	(4.6)	(-0.2)	(-0.6)	(0.3)	(-0.9)	(1.1)
Food & Accommodation	119.1	105.3	114.0	120.0	115.8	126.9	114.3
	(16.9)	(35.9)	(8.3)	(0.7)	(-3.4)	(-2.3)	(0.3)

Note: Figures are based on the real price of 2020, P means provisional, ( ) is year-on-year growth rates (%).  
Source: Bank of Korea, Korea International Trade Association, Korea Statistical Information Service

## 2. Energy Prices

### Global Energy Prices

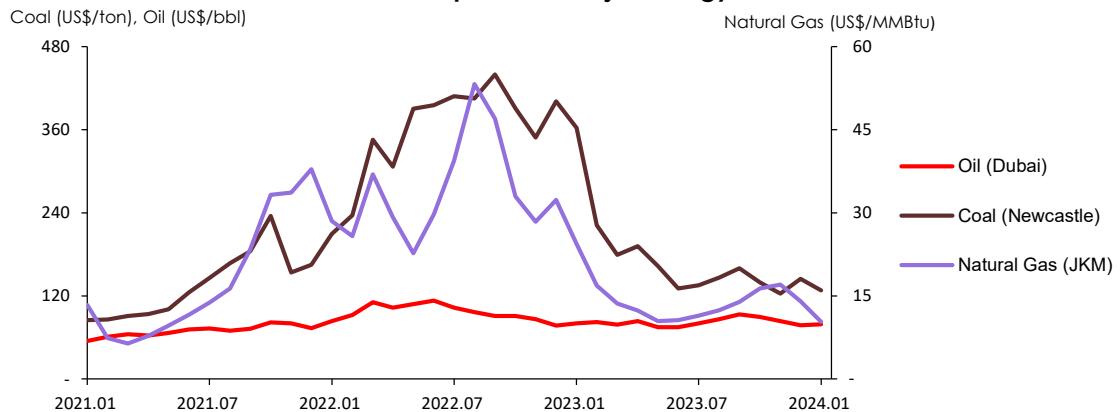
- International oil prices increased by 2.0% m/m in January, despite a stronger US dollar and rising tensions in the Middle East.
  - US December CPI (released on January 11) beat market expectations, lowering interest rate cut expectations and boosting the dollar index.
  - Major shipping lines suspended operations and rerouted ships due to attacks by Yemeni Houthi rebels in the Red Sea.
  - International thermal coal prices fell 11.3% month-over-month on concerns about a slowdown in China's coal production and the aftermath of the country's economic slowdown.
  - Henry Hub prices increased, while TTF and JKM prices decreased.

#### ► Global energy prices

	2021	2022	2023		2024		
			M1	M1	M11	M12	M1
Crude oil (US\$/bbl)	69.3 (64.2)	96.4 (39.1)	83.5 (14.0)	80.4 (4.1)	82.1 (-14.8)	83.6 (-6.9)	77.3 (-7.5)
Coal (US\$/ton)	136.4 (126.5)	357.1 (161.8)	209.6 (27.3)	362.3 (-9.6)	174.7 (-51.1)	123.2 (-11.7)	144.3 (17.2)
Natural gas (US\$/MMBtu)							
Henry Hub	3.7 (74.6)	6.5 (75.3)	4.3 (10.1)	3.4 (-40.7)	2.7 (-59.1)	3.1 (-3.0)	2.5 (-16.9)
TTF	16.1 (397.9)	40.2 (149.6)	28.2 (-25.0)	19.8 (-46.1)	13.0 (-67.6)	14.5 (-0.7)	11.6 (-20.1)
JKM	17.9 (325.7)	33.9 (89.2)	28.5 (-24.6)	24.3 (-24.7)	14.4 (-57.4)	17.0 (4.4)	14.0 (-17.5)

Note: Oil and coal prices are based on Dubai oil and Newcastle thermal coal in Australia, respectively. ( ) is month-on-month growth rates (%).  
Source: Korea National Oil Corporation, World Bank, CME Group

#### ► Global prices of major energy sources



## Domestic energy prices

### □ Gas station prices for gasoline and diesel in January decreased by 2.0% and 3.0% month-on-month, respectively, due to lower international prices in the previous month.

- Prices of gasoline and diesel products in the Singapore spot market in December decreased by 5.5% and 6.3% month-on-month, respectively.
- Fuel taxes (excluding VAT) for gasoline and diesel in January stood at 559.4 won and 335.6 won per liter respectively, 186.5 won and 193.2 won per liter lower than before the fuel tax cut (November 12, 2021), with the temporary fuel tax cut scheduled to be implemented by June.
- Retail prices of propane and butane remained at the previous month's level as domestic LPG importers (SK Gas, E1, etc.) froze their supply prices.
- The relative price (propane/city gas) of industrial propane supply price and city gas retail price fell for the second consecutive month, down 8.6% month-on-month to 1.08.

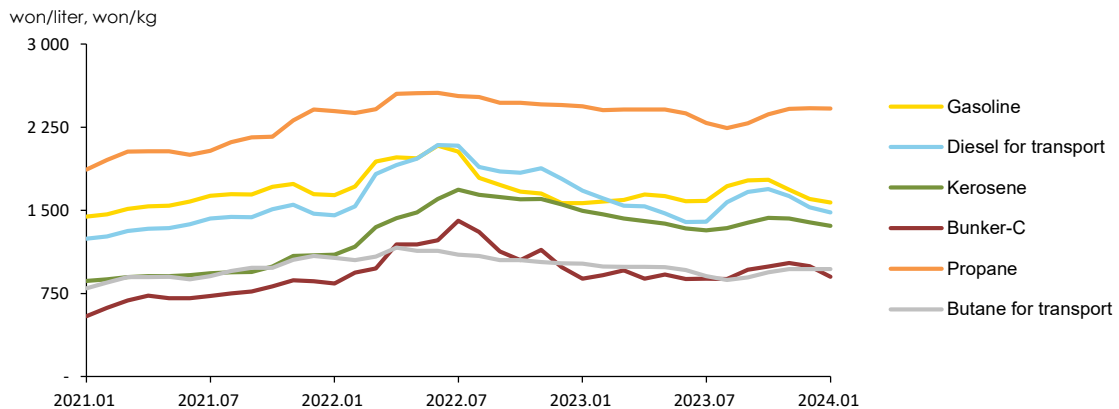
### ► Domestic petroleum product prices

	2021	2022		2023				2024
			M1	M1		M11	M12	M1
Gasoline (won/liter)	1 591.2 (15.2)	1 812.7 (13.9)	1 635.2 (-0.7)	1 562.9 (-0.1)	1 643.3 (-9.3)	1 684.1 (-5.2)	1 600.6 (-5.0)	1 569.2 (-2.0)
Diesel for transport (won/liter)	1 392.0 (17.0)	1 843.4 (32.4)	1 453.5 (-1.0)	1 675.4 (-6.1)	1 558.4 (-15.5)	1 628.2 (-3.7)	1 526.3 (-6.3)	1 480.1 (-3.0)
Bunker-C (won/liter)	732.2 (27.8)	1 116.1 (52.4)	840.4 (-2.2)	883.8 (-10.4)	931.5 (-16.5)	1 024.1 (3.2)	994.7 (-2.9)	900.9 (-9.4)
Propane (won/kg)	2 093.4 (13.1)	2 480.1 (18.5)	2 395.0 (-0.6)	2 440.0 (-0.4)	2 372.0 (-4.4)	2 416.6 (2.1)	2 420.1 (0.1)	2 418.8 (-0.1)
Butane for transport (won/liter)	932.3 (17.9)	1 081.8 (16.0)	1 071.8 (-1.4)	1 019.7 (-0.2)	957.4 (-11.5)	970.8 (3.3)	970.8 (-0.0)	970.5 (-0.0)

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: Korea National Oil Corporation

### ► Domestic petroleum product prices



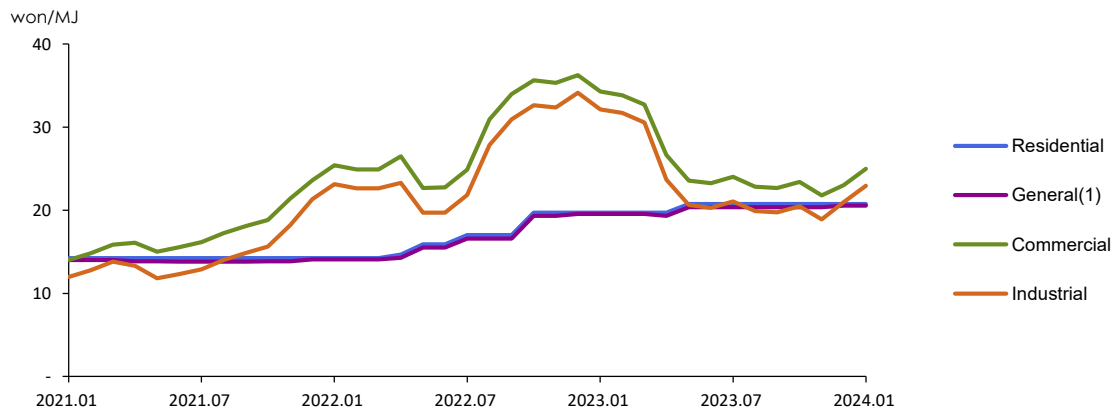
□ **In January, residential and general city gas rates were frozen, but office heating and industrial rates increased by around 9% month-on-month.**

- Residential and general rates remained at 20.7 won and 20.6 won per MJ, respectively, as raw material and supply costs were frozen.
- Office heating and industrial rates increased by around 9% month-on-month due to higher raw material costs, although supply cost was frozen.

□ **Electricity rates remained frozen for the second consecutive month for all uses after the November 2023 industrial energy charge increase.**

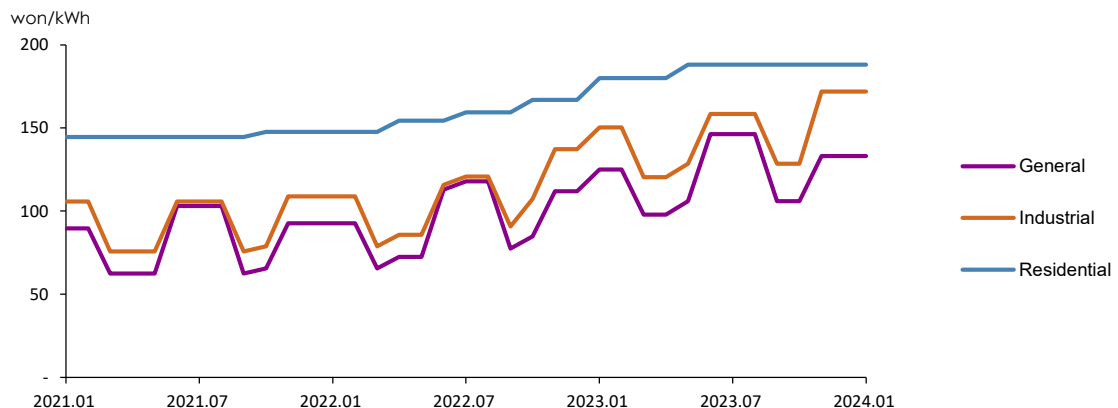
- Residential rates were frozen for the eighth consecutive month since May 2023, when the energy charge was increased by 4.8% to 174.0 won per kWh.
- General rates remained at 133.0 won per kWh in November, up 25.6 percent due to the application of winter (November-February) energy charges.
- Industrial rates increased by 33.9% to 171.9 won per kWh in November due to the increase in energy charges and the application of winter tariffs.

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



Source: Seoul City Gas

► **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

#### □ Energy imports increased by 8.0% y/y in January, with growth across all energy sources.

- Crude oil imports increased by 9.2% year-on-year due to the continued decline in import unit prices and a base effect from the previous year's decline.
- Petroleum product imports increased by 7.8% y/y, led by naphtha and B-C oil.
- Coal imports increased by 8.2% YoY, with bituminous coal, the largest component, up 8.5% YoY and anthracite coal up 2.5% YoY, due to increased domestic industrial consumption.
- Natural gas imports increased by 1.3% y/y, driven by lower international gas prices and a base effect from the previous year's decline.
- The value of energy imports decreased by 14.2% y/y due to lower import unit prices (-20.6%) despite higher import volumes (8.0%), while exports increased by 13.6% y/y due to higher export volumes (9.5%) and higher export unit prices (3.8%).

#### ► Import and domestic production of energy

	2022		2023p				2024p
		M1	M1		M11	M12	M1
Import volume (Mtoe)	333.4	31.7	28.8	324.4	27.3	30.0	31.1
	(2.8)	(23.6)	(-9.3)	(-2.7)	(0.0)	(3.5)	(8.0)
Crude oil (Mbbl)	1 031.3	94.8	81.6	1 005.8	85.7	89.9	89.1
	(7.4)	(23.3)	(-13.9)	(-2.5)	(3.3)	(2.6)	(9.2)
Petroleum product (Mbbl)	367.1	36.2	33.4	372.1	35.8	30.9	35.9
	(-6.4)	(25.4)	(-7.9)	(1.4)	(13.7)	(1.0)	(7.8)
Coal (Mton)	125.6	11.3	10.7	119.8	8.9	10.7	11.6
	(-0.4)	(32.3)	(-5.1)	(-4.6)	(-15.3)	(-0.9)	(8.2)
LNG (Mton)	46.4	5.0	4.8	44.1	3.7	5.0	4.9
	(1.0)	(13.0)	(-4.2)	(-4.9)	(-1.3)	(10.3)	(1.3)
Import value (billion US\$, CIF)	222.8	19.0	18.4	176.4	14.6	15.8	15.8
	(58.0)	(123.4)	(-3.3)	(-20.8)	(-17.5)	(-15.1)	(-14.2)
Energy share of total import value (%)	30.4	31.4	31.2	27.4	28.1	29.8	29.1
Foreign energy dependence (%)	94.3	95.7	95.2	93.8	95.1	95.9	95.4
Export volume (Mtoe)	69.0	5.2	5.4	68.2	6.0	6.1	6.0
	(11.2)	(26.9)	(5.8)	(-1.2)	(8.0)	(2.6)	(9.5)
Export value (billion US\$, FOB)	63.1	3.7	4.2	52.2	4.5	4.5	4.8
	(63.5)	(95.6)	(14.3)	(-17.3)	(-6.7)	(-4.1)	(13.6)
Domestic production							
Hydropower (TWh)	3.5	0.2	0.2	3.7	0.2	0.3	0.2
	(16.0)	(-1.6)	(7.6)	(4.9)	(7.4)	(41.2)	(7.3)
Renewable energy (Mtoe)	15.9	1.3	1.3	16.8	1.4	1.3	1.3
	(10.7)	(16.0)	(-1.7)	(5.9)	(18.1)	(1.7)	(1.2)

Note: p means provisional, ( ) is year-on-year growth rates (%), 'Foreign energy dependence (%) including Nuclear energy, Most of exports are petroleum products.

Source: Korea Energy Economics Institute, Korea International Trade Association

## 4. Energy Consumption

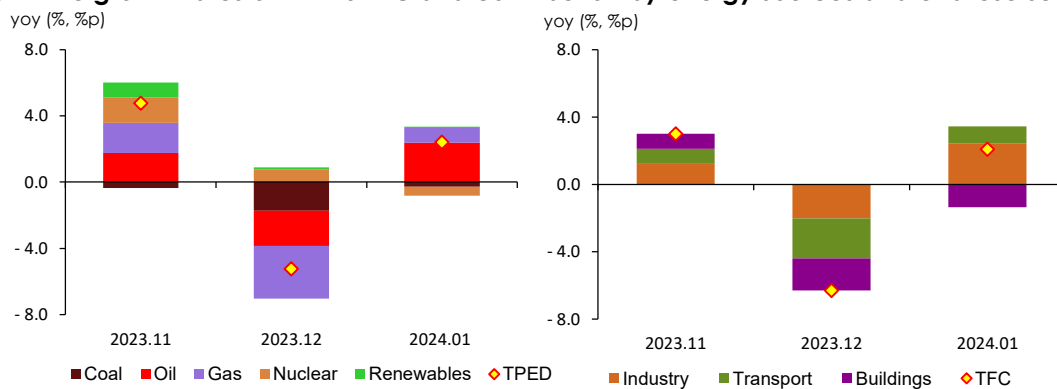
- **Total primary energy consumption increased by 2.4% y/y in January, led by oil, with gas consumption also rising.**
  - Coal consumption decreased by 1.3% y/y due to lower consumption for power generation, although final consumption increased slightly due to more working days and higher production in the steel industry despite a decline in the cement industry.
  - Oil consumption increased by 6.4% y/y on the back of higher consumption for feedstock in the industrial sector and higher consumption in the road sector due to the base effect of lower storage demand for gasoline following the narrowing of the fuel tax cut in January 2023.
  - Gas consumption increased by 3.2% y-o-y, as consumption in the building sector declined amid mild winter weather, but consumption in the industrial sector increased due to an increase in working days; gas consumption for power generation increased slightly.
- **Total final consumption of energy increased by 2.1% y/y, with increases in all sectors, led by the industrial sector.**
  - Industrial sector consumption increased 4.4% y/y, driven by a 2.5-day increase in working days and signs of a modest economic recovery in many sectors, led by semiconductor exports.
  - Transportation sector consumption rose 7.5% y/y, led by a base effect of lower gasoline consumption after the January 2023 fuel tax cut was scaled back, and an increase in road sector consumption amid signs of recovery in the economy, including a rise in the shipping index.
  - Building sector consumption decreased by 4.4% y/y due to a decrease in heating demand due to the temperature effect of mild winter weather, with heating degree days decreasing by 7.8% y/y, and the price effect of higher energy prices.

### ► Energy consumption

	2022		2023p				2024p
		M1	M1		M11	M12	M1
<b>TPED (Mtoe)</b>	<b>305.1</b>	<b>30.0</b>	<b>28.0</b>	<b>297.6</b>	<b>25.1</b>	<b>27.5</b>	<b>28.7</b>
	(0.6)	(6.5)	(-6.6)	(-2.5)	(4.8)	(-5.2)	(2.4)
<b>TFC (Mtoe)</b>	<b>214.5</b>	<b>21.7</b>	<b>20.1</b>	<b>207.6</b>	<b>17.5</b>	<b>19.3</b>	<b>20.5</b>
	(-0.5)	(7.0)	(-7.3)	(-3.2)	(3.0)	(-6.3)	(2.1)
- Feedstock exclude	142.2	14.9	14.1	138.1	11.7	13.3	14.2
	(0.7)	(3.4)	(-5.6)	(-2.9)	(3.7)	(-7.8)	(1.1)

Note: p means provisional, ( ) is year-on-year growth rates.  
Source: Korea Energy Economics Institute

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



## 5. Coal

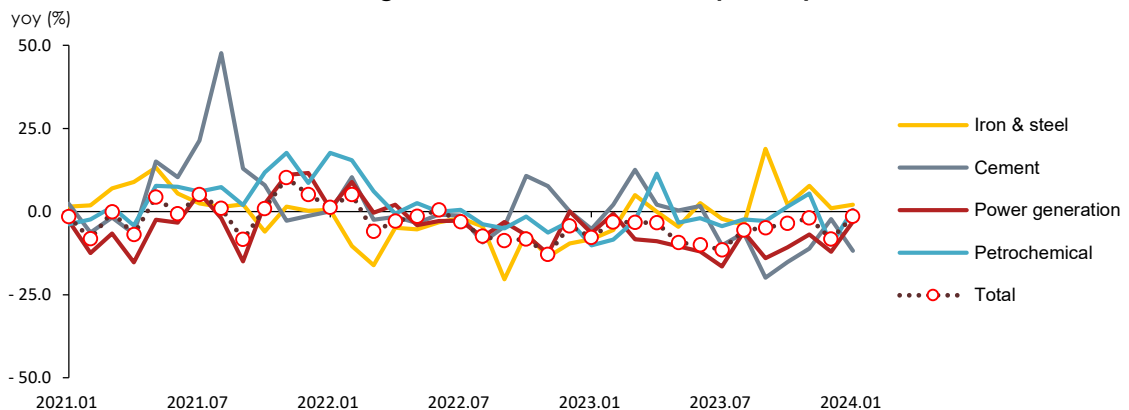
- ☐ Coal consumption in January decreased by 1.5% y-o-y due to a decline in power generation despite an increase in the industrial sector.
  - Coal consumption in the industrial sector fell sharply in the cement industry (-11.9%), but rose in the steel industry due to an increase in the number of working days (2.5 days) compared to the previous year, resulting in an overall increase of 0.9%.
  - Coal consumption for power generation decreased by 3.0% y/y as total generation was stagnant (0.1%), with a decline in nuclear power generation (-4.4%), but strong growth in renewable & other power generation and transmission line constraints in the metropolitan area holding back coal generation.

### ► Coal consumption

	2022	2023p						2024p
		M1	M1		M11	M12	M1	
<b>Coal (Mton)</b>	<b>115.0</b>	<b>11.0</b>	<b>10.1</b>	<b>107.7</b>	<b>8.6</b>	<b>9.5</b>	<b>10.0</b>	
	(-4.1)	(1.3)	(-7.8)	(-6.3)	(-2.0)	(-8.3)	(-1.5)	
Industry	47.4	4.4	4.0	46.6	4.0	3.9	4.0	
	(-6.2)	(2.0)	(-9.7)	(-1.7)	(4.3)	(-2.0)	(0.9)	
Iron and Steel	32.5	3.0	2.8	32.7	2.7	2.8	2.8	
	(-8.1)	(0.5)	(-8.3)	(0.7)	(7.8)	(1.0)	(2.1)	
- Coking coal	23.6	2.2	2.0	23.8	2.0	2.0	2.0	
	(-7.5)	(2.6)	(-8.8)	(0.8)	(8.3)	(1.2)	(1.3)	
Buildings	0.4	0.0	0.0	0.4	0.1	0.1	0.0	
	(-5.3)	(-8.9)	(-6.0)	(-8.2)	(1.2)	(-17.3)	(0.1)	
Power generation	67.1	6.5	6.1	60.7	4.6	5.6	5.9	
	(-2.6)	(0.9)	(-6.5)	(-9.6)	(-6.9)	(-12.1)	(-3.0)	

Note: p means provisional, ( ) is year-on-year growth rates (%).  
Source: Korea Energy Economics Institute

### ► The growth rate of coal consumption by use



## 6. Petroleum

- Final consumption of oil increased by 5.5% y-o-y in January, with growth evenly split between industry and transport.
  - Industrial sector consumption increased by 5.2% y/y, driven by higher consumption of petrochemicals as feedstock and an increase in working days.
  - Consumption in the transportation sector increased by 7.7% y-o-y, with a base effect of lower gasoline consumption in the road sector in the same month a year earlier.

### ► Petroleum product consumption by end-use sectors

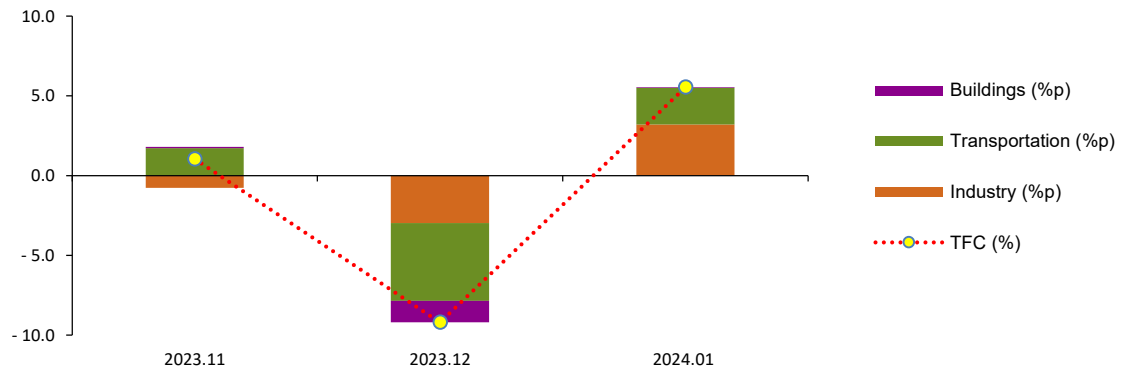
	2022		2023p				2024p
		M1	M1		M11	M12	M1
<b>TFC (Mbbbl)</b>	<b>798.9</b>	<b>75.8</b>	<b>66.9</b>	<b>761.0</b>	<b>64.3</b>	<b>66.9</b>	<b>70.6</b>
	(-1.3)	(15.0)	(-11.8)	(-4.7)	(1.0)	(-9.2)	(5.5)
Industry	496.9	47.0	41.5	469.0	39.1	40.4	43.7
	(-1.8)	(17.7)	(-11.7)	(-5.6)	(-1.2)	(-5.2)	(5.2)
- Naphtha	356.0	33.8	30.7	337.9	27.7	30.1	32.4
	(-3.8)	(15.8)	(-9.1)	(-5.1)	(-1.3)	(-2.0)	(5.5)
Transport	258.0	22.6	20.0	250.2	21.2	21.5	21.5
	(-0.4)	(14.7)	(-11.9)	(-3.0)	(5.4)	(-14.3)	(7.7)
Buildings	44.0	6.2	5.4	41.8	4.0	5.0	5.4
	(-0.6)	(-1.8)	(-12.0)	(-4.8)	(1.4)	(-16.5)	(0.5)
<b>Power generation (Mbbbl)</b>	<b>5.02</b>	<b>0.94</b>	<b>0.34</b>	<b>3.00</b>	<b>0.16</b>	<b>0.21</b>	<b>0.20</b>
	(20.0)	(96.7)	(-63.6)	(-40.2)	(-46.9)	(-35.6)	(-41.1)

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

Source: Korea Energy Economics Institute

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

yoy(%), %p)



## 7. Gas

### □ Gas consumption in January increased by 3.2% y/y, driven by a surge in consumption in the industrial sector despite a decline in the building sector

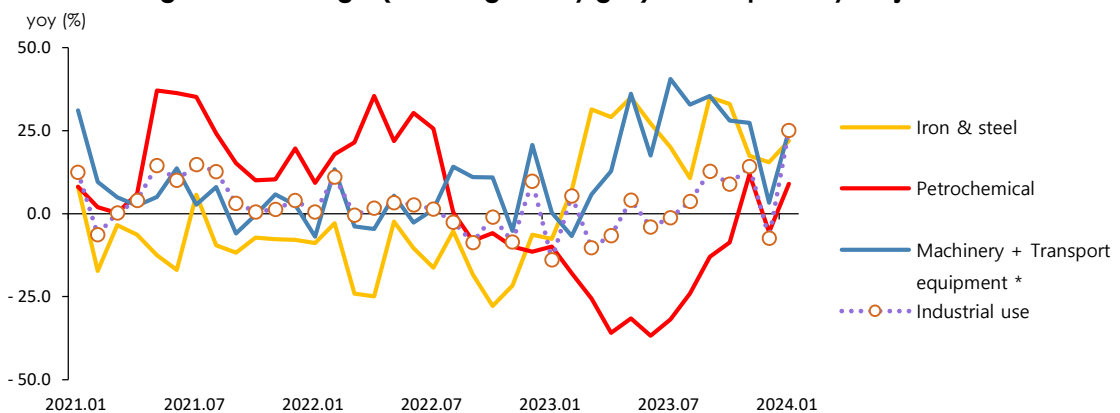
- Gas consumption in the industrial sector surged 25.4% y/y, with increases in most industries, led by machinery and others.
- Gas consumption in the buildings sector declined for the second consecutive month due to temperature and price effects.
- Gas consumption for power generation increased by 0.6% YoY as total power generation remained at the same level (0.1%), while base (nuclear + coal) and renewable & other power generation decreased slightly to 0.7% YoY

#### ► Natural gas and city gas consumption

	2022		2023p				2024p
		M1	M1		M11	M12	M1
<b>Gas(TPED) (Mtoe)</b>	<b>59.5</b>	<b>7.0</b>	<b>6.8</b>	<b>57.5</b>	<b>4.8</b>	<b>6.3</b>	<b>7.0</b>
(Natural gas + City gas)	(-1.0)	(-5.9)	(-3.5)	(-3.3)	(4.7)	(-9.6)	(3.2)
Power generation	30.0	2.9	2.9	28.5	2.2	2.6	2.9
	(-2.3)	(-11.2)	(1.3)	(-5.0)	(-4.9)	(-18.3)	(0.6)
Industry	10.0	1.0	0.9	10.0	0.9	1.0	1.1
	(0.3)	(-0.2)	(-14.0)	(-0.3)	(14.3)	(-7.3)	(25.4)
Buildings	15.0	2.7	2.6	13.9	1.2	2.1	2.4
	(3.9)	(-2.1)	(-0.4)	(-7.4)	(1.7)	(-7.5)	(-8.0)
<b>Natural gas(TPED) (Mton)</b>	<b>45.6</b>	<b>5.5</b>	<b>5.2</b>	<b>43.9</b>	<b>3.9</b>	<b>5.0</b>	<b>5.4</b>
	(-0.5)	(-5.8)	(-4.0)	(-3.7)	(9.3)	(-12.4)	(3.6)
<b>City gas(TFC) (Bm<sup>3</sup>)</b>	<b>23.4</b>	<b>3.5</b>	<b>3.4</b>	<b>21.7</b>	<b>1.9</b>	<b>2.8</b>	<b>3.2</b>
	(2.9)	(-1.4)	(-2.0)	(-7.4)	(2.8)	(-8.1)	(-6.1)

Note: p means provisional, ( ) is year-on-year growth rates (%).  
Source: Korea Energy Economics Institute

#### ► The growth rate of gas(natural gas+city gas)consumption by major industries



Note: The transport equipment sector includes only city gas consumption. Natural gas consumption in the transport equipment sector is highly variable, including the amount of LNG loaded (+) and unloaded (-) during the test operation of the LNG carrier.

## 8. Electricity

- Electricity consumption in January decreased by 2.9% year-on-year, led by industrial, due to increased auto power generation.
  - Electricity consumption in the industrial sector increased in transportation equipment and petrochemicals, but decreased in machinery, steel, etc.
  - Building sector consumption decreased in both residential and commercial sectors due to lower heating degree days (-7.8%) and higher electricity tariffs for household use.

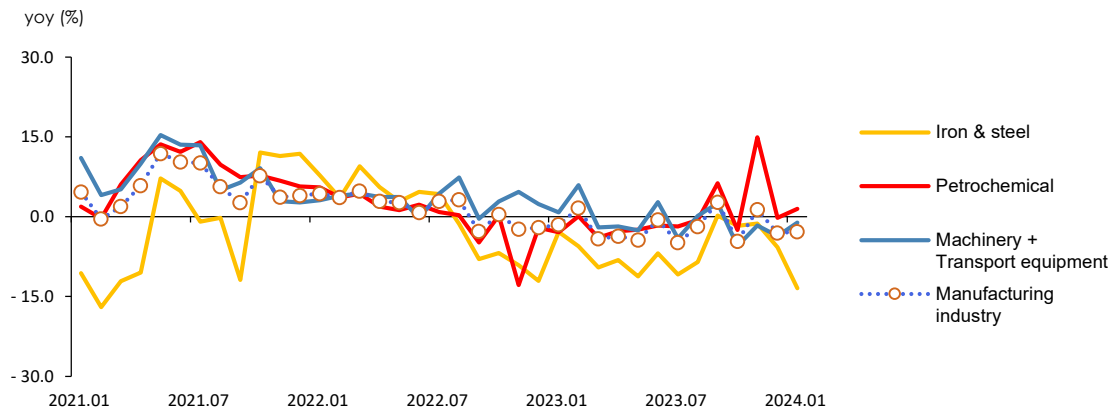
### ► Electricity consumption by end-use sectors

	2022	2023p						2024p
		M1	M1		M11	M12	M1	
<b>Electricity (TWh)</b>	<b>535.4</b>	<b>48.7</b>	<b>50.2</b>	<b>534.7</b>	<b>42.0</b>	<b>45.3</b>	<b>48.7</b>	
	(2.9)	(2.1)	(3.0)	(-0.1)	(1.3)	(-1.2)	(-2.9)	
Industry	274.1	24.5	24.2	268.5	22.0	22.4	23.4	
	(1.7)	(4.2)	(-1.3)	(-2.0)	(0.6)	(-3.1)	(-3.2)	
Transport	4.1	0.3	0.4	4.7	0.4	0.4	0.4	
	(9.5)	(5.8)	(14.1)	(16.5)	(16.1)	(14.5)	(11.3)	
Buildings	257.2	23.9	25.6	261.5	19.6	22.4	24.9	
	(4.1)	(-0.0)	(7.1)	(1.7)	(1.8)	(0.6)	(-2.8)	
Residential	78.6	6.9	7.0	79.9	6.0	6.4	7.0	
	(1.3)	(-1.2)	(1.9)	(1.7)	(1.0)	(1.6)	(-0.1)	
Commercial	147.0	13.8	15.3	149.2	11.1	13.0	14.7	
	(5.9)	(0.1)	(10.3)	(1.5)	(2.0)	(0.3)	(-3.7)	

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

Source: Korea Energy Economics Institute

### ► The growth rate of electricity consumption in manufacturing industry



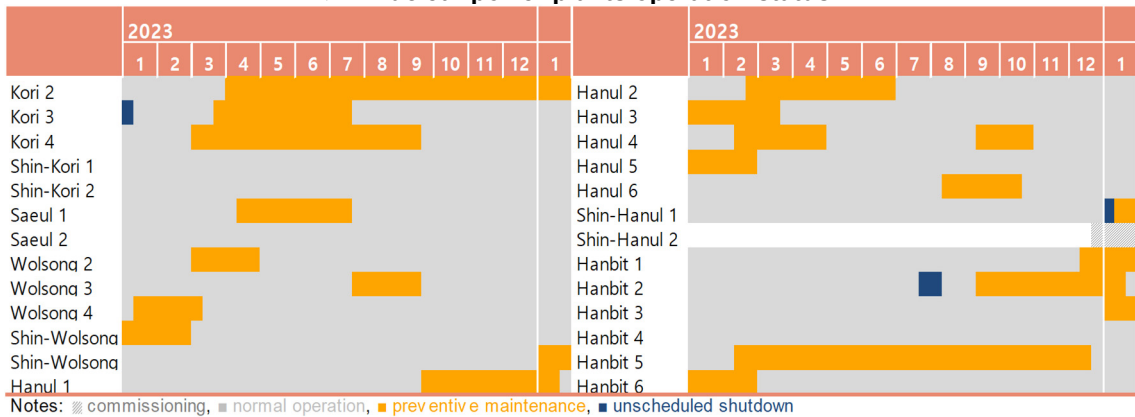


## 9. Nuclear

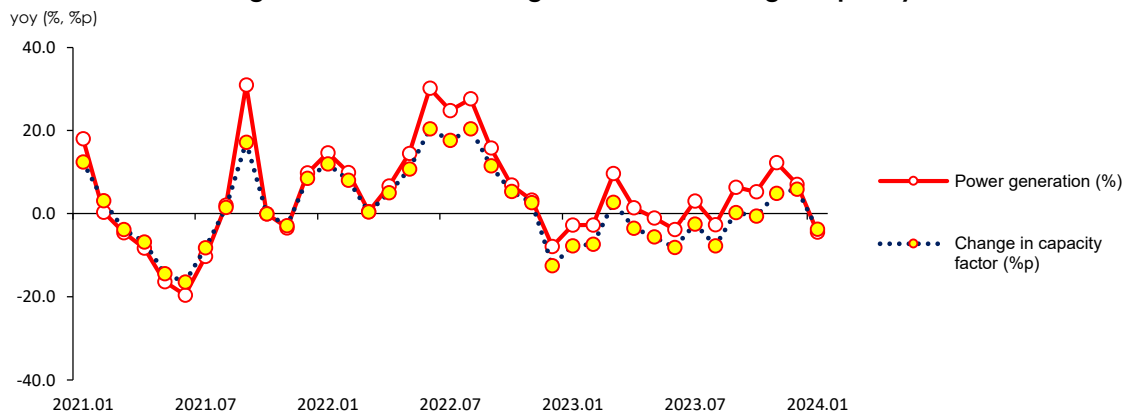
### □ Nuclear power generation in January decreased by 4.4% y-o-y due to a decrease in capacity factor due to an increase in daily average preventive maintenance.

- The number of planned and unplanned shutdowns increased by 1 unit year-on-year to 7, and the daily average preventive maintenance increased by 35.5% year-on-year to 1.6 GW, resulting in a 3.8 percentage point decline in the capacity factor to 81.6%.
- Meanwhile, Shin-Hanul Unit 2 (1.4GW) started test operation ('23.12.21.~) after fuel loading in September 2023.
- The share of nuclear power generation in total power generation decreased by 1.3 percentage points year-on-year to 27.6%.

#### ► Nuclear power plants operation status



#### ► 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

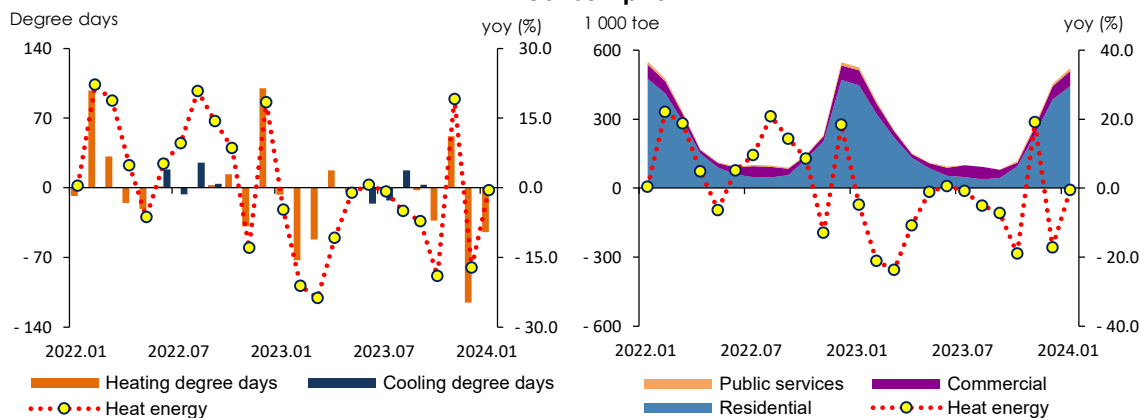
□ **Heat energy consumption decreased by 0.5% year-on-year in January due to factors such as temperature and price effects.**

- Thermal energy consumption decreased for the second consecutive month due to mild winter weather (heating degree days -7.8%) and price increase effect (13.0%).

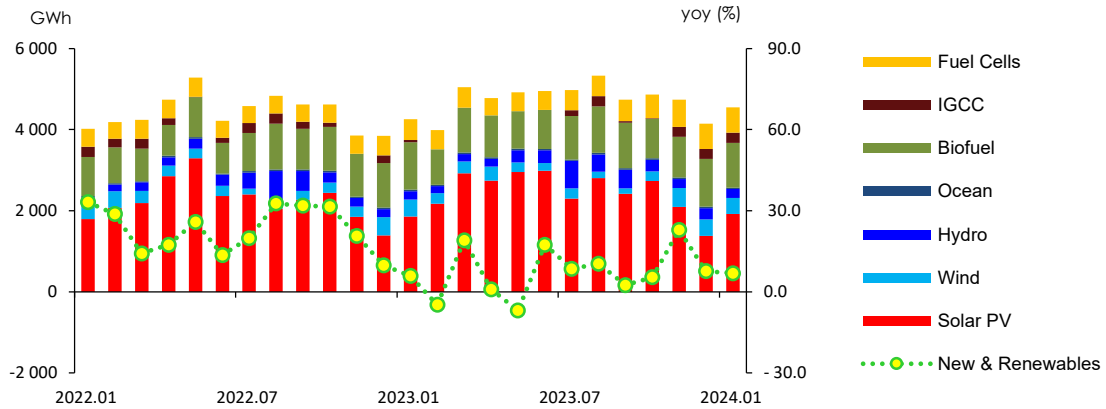
□ **Renewable power generation increased by 6.9% YoY, led by IGCC, fuel cells, and solar.**

- Solar power generation, which accounts for the largest share of renewable power generation, increased by 3.3% due to an increase in installed capacity.
- IGCC power generation surged 334.8% YoY because Taean IGCC facility stopped running due to fire accident in the same month of the previous year, which resulted in a shutdown (January-June 2023).
- Fuel cell power generation increased by 22.0% YoY due to higher installed capacity (0.2 GW).
- Hydropower generation increased by 7.3% due to more precipitation days (1.8 days) despite lower precipitation (-8.7 mm).
- Wind power generation continued to decline for the second consecutive month, falling 5.2% in January, following a surge in November (82.9%).

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



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



Note: The power generation from and installed capacity of renewable energy sources are based on the data from KEPCO's 'The Monthly Report on Electric Power Statistics'.

## 11. Industry

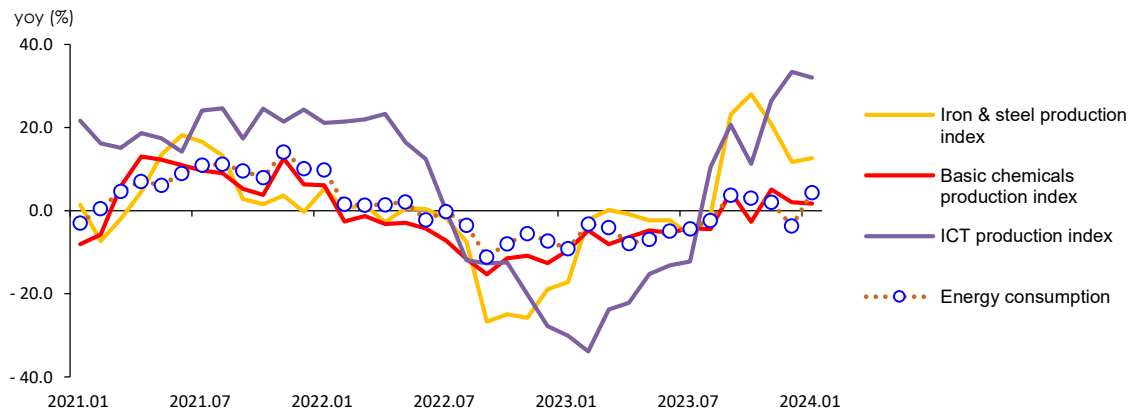
- Consumption in the industrial sector increased by 4.4% y/y in January, driven by increased production activity as a result of an increase in the working day (2.5 days).
  - Consumption in the industrial sector increased by 4.4% y/y due to increased production in energy-intensive industries such as petrochemicals and steel (industrial production index rose 12.9%).

### ► Industrial energy consumption

	2022		2023p				2024p
		M1	M1		M11	M12	M1
<b>Industry (Mtoe)</b>	<b>130.5</b>	<b>12.2</b>	<b>11.1</b>	<b>126.2</b>	<b>10.6</b>	<b>10.9</b>	<b>11.6</b>
	(-1.9)	(9.8)	(-9.1)	(-3.3)	(2.0)	(-3.7)	(4.4)
Petrochemical	66.2	6.2	5.6	62.2	5.2	5.4	5.8
	(-1.3)	(16.5)	(-10.6)	(-6.0)	(1.3)	(-4.6)	(4.5)
- Naphtha	43.6	4.1	3.8	41.4	3.4	3.7	4.0
	(-3.9)	(15.7)	(-9.1)	(-5.1)	(-1.3)	(-2.0)	(5.5)
Iron & Steel	25.9	2.4	2.2	26.3	2.2	2.3	2.3
	(-7.3)	(0.9)	(-7.9)	(1.4)	(7.6)	(1.7)	(2.3)
- Coking coal	16.6	1.6	1.4	16.7	1.4	1.4	1.4
	(-6.7)	(3.5)	(-8.8)	(0.8)	(8.3)	(1.2)	(1.3)
Machinery + Transport Equipment	13.2	1.2	1.1	13.2	1.1	1.2	1.3
	(6.2)	(2.4)	(-6.5)	(0.4)	(3.8)	(-9.6)	(14.2)
Share of feedstock (%)	55.3	55.6	54.4	55.1	54.6	54.4	54.4

Note: p means provisional, ( ) is year-on-year growth rates (%).  
Source: Korea Energy Economics Institute

### ► Industrial energy consumption & production index



## 12. Transport

□ **Transportation sector consumption grew by 7.5% y/y in January, driven by lower gasoline consumption in the road sector in the same month last year.**

- Road sector consumption increased by 11.2% y-o-y, with a base effect of lower consumption following the scaling back of fuel tax cuts in the same month last year.
- Aviation consumption fell 64.3% y-o-y, with domestic flights down 2.3% y-o-y, as consumption continued to decline due to changes in the criteria for compiling statistics by the working group on the collection of aviation fuel statistics after June 2023.

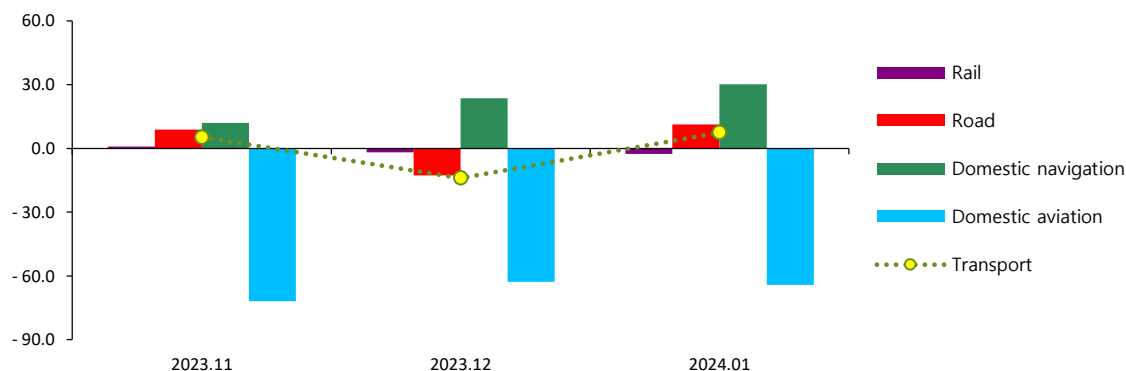
### ► The growth rate of petroleum consumption in the transport sector

	2022		2023p				2024p
		M1	M1		M11	M12	M1
<b>Transport (Mtoe)</b>	<b>36.3</b>	<b>3.2</b>	<b>2.8</b>	<b>35.2</b>	<b>3.0</b>	<b>3.0</b>	<b>3.0</b>
	(-0.9)	(13.7)	(-11.6)	(-2.9)	(5.3)	(-13.9)	(7.5)
Road	33.9	2.9	2.6	33.6	2.9	2.9	2.9
	(-1.0)	(12.5)	(-10.9)	(-0.8)	(8.9)	(-12.6)	(11.2)
Gasoline	10.7	0.9	0.8	11.0	0.9	1.0	1.0
	(3.5)	(19.3)	(-9.5)	(2.3)	(11.3)	(-15.4)	(20.1)
Diesel	18.3	1.6	1.4	17.9	1.6	1.6	1.6
	(-3.5)	(11.7)	(-12.7)	(-2.1)	(12.8)	(-11.9)	(8.5)
LPG	3.0	0.2	0.2	2.8	0.2	0.2	0.2
	(-1.1)	(2.3)	(-8.5)	(-5.2)	(-13.5)	(-7.7)	(-1.6)
<b>Sales of gas station (Mtoe)</b>							
Gasoline	10.6	0.9	0.9	11.1	0.9	0.9	0.9
	(3.1)	(14.0)	(-0.0)	(4.5)	(4.5)	(1.5)	(3.0)
Diesel	19.6	1.7	1.5	19.3	1.7	1.6	1.5
	(-3.2)	(5.0)	(-10.5)	(-1.6)	(-0.1)	(-1.1)	(0.7)

Note: p means provisional, ( ) is year-on-year growth rates (%). Road sector consumption is the figure that gas stations and refiners supply.  
Source: Korea Energy Economics Institute, Korea National Oil Corporation

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

전년 동월 대비, %



## 13. Buildings

□ Consumption in the buildings sector declined in January across all subsectors, with lower consumption for heating due to temperature effects.

- Household sector consumption decreased, led by city gas, kerosene and heat energy, due to mild winter weather.
- Commercial sector consumption decreased, led by electricity, due to temperature effects and slowdown in production in large energy consuming service sectors.
- Contributions to the buildings sector decline (-4.4%) were -3.4 percentage points for city gas, -1.0 percentage point for electricity, -0.2 percentage points for kerosene, and -0.05 percentage points for heat.

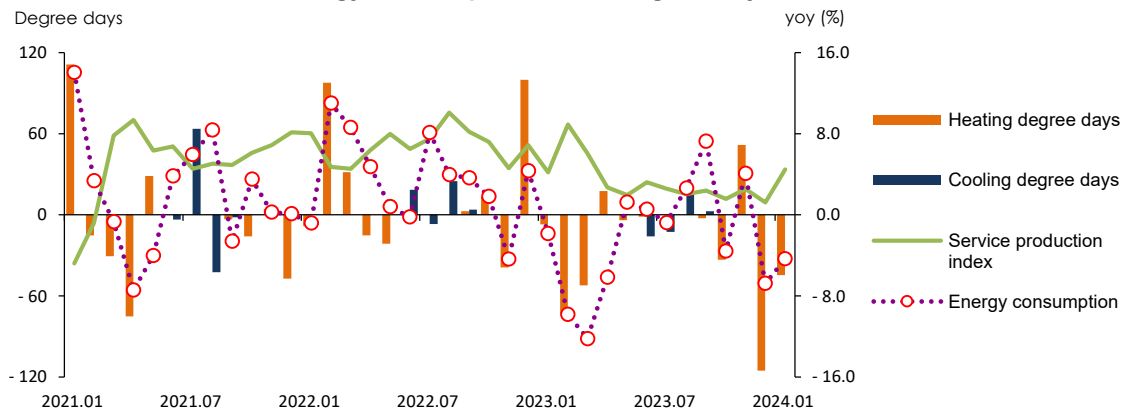
### ► Energy consumption in buildings

	2022	2023p		2024p	
		M1	M1	M11	M12
<b>Buildings (Mtoe)</b>	<b>47.7</b>	<b>6.3</b>	<b>6.2</b>	<b>46.2</b>	<b>3.9</b>
	(3.6)	(-0.8)	(-1.8)	(-3.2)	(4.1)
Residential	23.6	3.8	3.6	21.8	1.9
	(2.7)	(-1.7)	(-4.4)	(-7.3)	(2.8)
Commercial	18.9	2.0	2.1	19.0	1.5
	(5.4)	(1.1)	(4.6)	(0.5)	(4.4)
Public services	5.2	0.6	0.5	5.3	0.4
	(1.2)	(-1.2)	(-7.6)	(2.0)	(8.9)
Heating degree days	2 567.1	583.1	576.1	2 347.8	303.3
	(6.8)	(-1.4)	(-1.2)	(-8.5)	(20.5)
Cooling degree days	141.9	-	-	133.6	-
	(40.1)	-	-	(-5.8)	-
Service production index (2020=100)	112.3	104.7	109.1	115.9	116.9
	(6.9)	(8.1)	(4.2)	(3.2)	(2.5)

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

Source: Korea Energy Economics Institute, Korea Meteorological Administration, Korean Statistical Information Service

### ► Energy consumption in buildings & major indicators



## 14. Power Generation

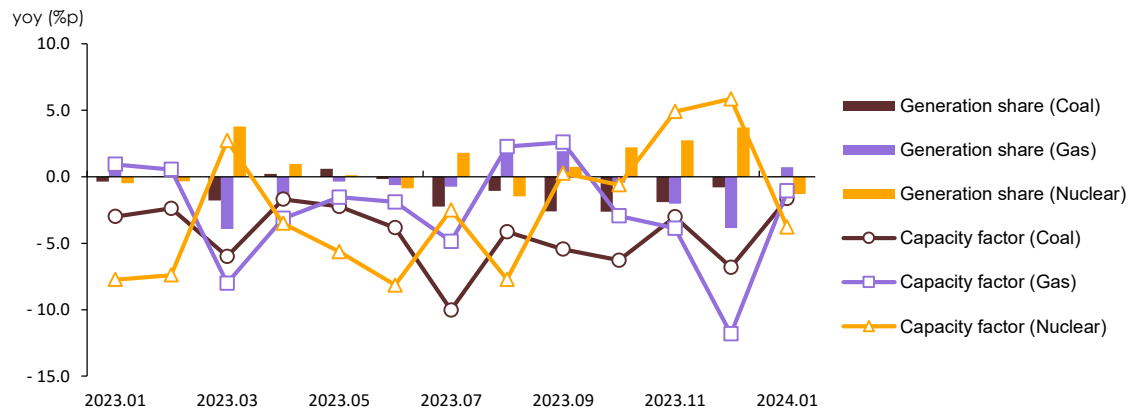
- **January power generation increased by 0.1% YoY due to decrease in nuclear power but increase in coal, gas, renewable & other power generation.**
  - Nuclear power generation decreased by 4.4% YoY due to an increase in preventive maintenance at nuclear power plants, despite the test run of Shin-Hanul Unit 2.
  - Renewable & other power generation increased 8.3% YoY, led by IGCC (334.8%), fuel cell (22.0%), and solar (3.3%).
  - Coal generation increased by 0.1%, with nuclear + renewable & other generation declining (-1.5%) amid transmission constraints in the metropolitan area.
  - Gas power generation increased by 2.6% y/y due to a decrease in baseload + renewable & other generation amid an increase in total power generation.

### ► Power generation by energy sources

	2022	2023p		2023p		2024p	
		M1	M1		M11	M12	M1
<b>Power Generation (TWh)</b>	<b>594.4</b>	<b>54.8</b>	<b>54.2</b>	<b>588.0</b>	<b>47.6</b>	<b>52.4</b>	<b>54.2</b>
	(3.1)	(3.2)	(-1.1)	(-1.1)	(2.9)	(-5.7)	(0.1)
Coal	193.2	18.4	18.0	184.9	14.5	17.4	18.0
	(-2.4)	(3.2)	(-2.2)	(-4.3)	(-3.2)	(-7.9)	(0.1)
Oil	2.0	0.5	0.2	1.5	0.1	0.1	0.1
	(-16.5)	(58.8)	(-58.0)	(-24.4)	(-37.0)	(-38.2)	(-39.5)
Gas	163.6	15.3	15.5	157.7	12.1	13.9	15.9
	(-2.8)	(-11.7)	(1.9)	(-3.6)	(-4.6)	(-17.7)	(2.6)
Nuclear	176.1	16.1	15.7	180.5	15.7	16.3	15.0
	(11.4)	(14.7)	(-2.8)	(2.5)	(12.2)	(7.0)	(-4.4)
Renewables	59.6	4.6	4.8	63.4	5.1	4.7	5.2
	(18.9)	(25.1)	(4.9)	(6.4)	(17.0)	(7.1)	(8.3)
Coal + Nuclear + Renewables	428.9	39.1	38.4	428.8	35.3	38.4	38.1
	(20.5)	(22.7)	(-1.6)	(-0.0)	(5.9)	(-0.3)	(-0.7)

Notes: p means provisional, ( ) is year-on-year growth rates (%).  
Source: Korea Electric Power Corporation

### ► Power generation by major energy sources



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

### Major Statistics & Indicators of the Economy

	2021	2022			2023p				2024p
			M11	M12	M1		M11	M12	M1
GDP (trillion won)	1 918.7 (4.3)	1 968.8 (2.6)	- (-)	513.8 (1.4)	- (-)	1 995.6 (1.4)	- (-)	525.1 (2.2)	- (-)
Private consumption	881.4 (3.6)	917.8 (4.1)	- (-)	235.7 (3.3)	- (-)	934.3 (1.8)	- (-)	237.9 (0.9)	- (-)
Facilities investment	182.1 (9.3)	180.5 (-0.9)	- (-)	49.0 (6.5)	- (-)	181.4 (0.5)	- (-)	47.3 (-3.6)	- (-)
Construction investment	265.0 (-1.6)	257.6 (-2.8)	- (-)	70.5 (-1.8)	- (-)	261.0 (1.3)	- (-)	69.2 (-1.9)	- (-)
Consumer price index (2020=100)	102.5	107.7	109.1	109.3	110.1	111.6	112.7	112.7	113.2
USD to KRW exchange rate (won)	1 144.0	1 291.4	1 364.1	1 296.2	1 247.3	1 305.7	1 310.4	1 304.0	1 323.6
Benchmark rate (%)	0.6	2.1	3.3	3.3	3.5	3.5	3.5	3.5	3.5
Coincident composite index (2020=100)	103.7	108.2	109.1	108.8	108.5	110.2	111.0	111.1	111.5
Mining & manufacturing production index (2020=100)	108.5	109.6	107.5	109.2	96.9	106.8	114.1	116.1	109.4
Manufacturing operation ratio index (2020=100)	105.0	104.8	103.2	103.3	92.3	100.8	106.5	104.5	100.9
Average temperature	13.3	12.9	9.6	- 1.4	- 0.6	13.7	7.9	2.4	0.9
- year-on-year difference	0.3	- 0.4	1.3	- 3.2	0.2	0.7	- 1.7	3.7	1.4
Heating degree days	2 404.7 (-1.8)	2 567.1 (6.8)	251.6 (-13.4)	600.3 (20.0)	576.1 (-1.2)	2 347.8 (-8.5)	303.3 (20.5)	484.9 (-19.2)	531.4 (-7.8)
Cooling degree days	101.3 (18.9)	141.9 (40.1)	- (-)	- (-)	- (-)	133.6 (-5.8)	- (-)	- (-)	- (-)
Energy intensity	0.16 (0.8)	0.16 (-1.9)	- (-)	0.15 (-4.2)	- (-)	0.15 (-3.8)	- (-)	0.15 (-2.2)	- (-)
Per capita consumption									
Oil (bbl)	15.6 (7.7)	15.5 (-1.1)	1.2 (-3.2)	1.4 (-5.6)	1.3 (-11.8)	14.7 (-4.8)	1.2 (1.0)	1.3 (-9.3)	1.4 (5.5)
Electricity (MWh)	10.1 (4.9)	10.4 (3.1)	0.8 (-0.4)	0.9 (-0.2)	1.0 (2.9)	10.3 (-0.2)	0.8 (1.2)	0.9 (-1.2)	0.9 (-2.9)
City gas (1 000 Nm3)	0.4 (3.4)	0.5 (3.1)	0.0 (-8.5)	0.1 (5.7)	0.1 (-2.1)	0.4 (-7.5)	0.0 (2.7)	0.1 (-8.2)	0.1 (-6.2)
Total energy (toe)	5.9 (5.3)	5.9 (0.8)	0.5 (-4.3)	0.6 (-0.9)	0.5 (-6.7)	5.8 (-2.5)	0.5 (4.7)	0.5 (-5.3)	0.6 (2.3)

Note: Figures are based on the real price of 2020 and each quarterly figures are indicated in March, June, September and December, p means provisional, ( ) is year-on-year growth rates (%).

Source: Bank of Korea, Korea Statistical Information Service, Korea Meteorological Administration, Korea Energy Economics Institute



## The Index of Production & Operating Ratio by Sectors

	2021	2022			2023				2024
			M11	M12	M1			M11	
Industrial production index									
All industry	105.5 (5.5)	110.6 (4.9)	112.0 (2.6)	126.0 (1.9)	103.1 (-1.6)	111.7 (1.0)	114.5 (2.2)	126.5 (0.4)	110.7 (7.4)
Mining & manufacturing	108.5 (8.5)	109.6 (1.0)	107.5 (-5.5)	109.2 (-10.7)	96.9 (-12.5)	106.8 (-2.6)	114.1 (6.1)	116.1 (6.3)	109.4 (12.9)
Semiconductor	128.7 (28.7)	135.7 (5.4)	111.7 (-22.6)	117.1 (-26.0)	95.4 (-33.5)	133.0 (-2.0)	157.2 (40.7)	172.2 (47.1)	138.0 (44.7)
Iron & steel	105.1 (5.1)	96.3 (-8.4)	79.3 (-25.8)	86.1 (-18.9)	91.0 (-17.2)	98.9 (2.8)	95.8 (20.8)	96.2 (11.7)	102.5 (12.6)
Cement	102.8 (2.8)	100.0 (-2.8)	106.0 (-6.8)	94.2 (-16.1)	75.4 (-13.1)	90.9 (-9.1)	99.0 (-6.6)	86.8 (-7.9)	77.6 (2.9)
Basic compound	105.8 (5.8)	98.9 (-6.5)	87.2 (-10.8)	96.7 (-12.6)	100.4 (-9.5)	95.5 (-3.5)	91.6 (5.0)	98.6 (2.0)	102.1 (1.7)
Transport equipment	106.1 (6.1)	115.8 (9.1)	136.1 (21.3)	131.0 (10.9)	112.4 (10.5)	127.6 (10.2)	133.8 (-1.7)	130.5 (-0.4)	127.3 (13.3)
Electric & electronic	108.7 (8.7)	112.6 (3.6)	113.8 (-1.1)	119.8 (-2.8)	106.5 (1.5)	111.0 (-1.4)	106.3 (-6.6)	110.8 (-7.5)	99.2 (-6.9)
Service	105.0 (5.0)	112.3 (6.9)	114.0 (4.6)	129.3 (6.9)	109.1 (4.2)	115.9 (3.2)	116.9 (2.5)	130.9 (1.2)	114.0 (4.5)
Wholesale and retail	104.3 (4.3)	107.1 (2.7)	109.1 (0.1)	112.3 (1.2)	104.7 (-0.2)	106.4 (-0.6)	109.4 (0.3)	111.3 (-0.9)	105.8 (1.1)
Food & Accommodation	101.9 (1.8)	119.1 (16.9)	119.9 (3.7)	129.9 (12.8)	114.0 (8.3)	120.0 (0.7)	115.8 (-3.4)	126.9 (-2.3)	114.3 (0.3)
Production output									
Iron & steel - Pig iron	46 440.5 (2.4)	42 658.2 (-8.1)	3 231.9 (-17.1)	3 568.4 (-9.8)	3 737.1 (-3.5)	45 205.0 (6.0)	3 852.4 (19.2)	3 773.5 (5.7)	3 894.1 (4.2)
Iron & steel - Crude steel	70 418.0 (5.0)	65 846.2 (-6.5)	4 807.4 (-17.6)	5 232.3 (-11.8)	5 626.2 (-7.3)	66 683.3 (1.3)	5 383.4 (12.0)	5 382.3 (2.9)	5 720.7 (1.7)
Petrochemical - Basic petrochemicals	34 434.5 (12.7)	32 854.1 (-4.6)	2 484.2 (-12.3)	2 618.8 (-16.0)	2 775.5 (-11.3)	31 157.9 (-5.2)	2 611.7 (5.1)	2 827.8 (8.0)	2 821.9 (1.7)
Petrochemical - Intermediate raw material	15 764.6 (2.6)	13 852.5 (-12.1)	1 077.1 (-13.6)	1 097.2 (-17.0)	1 217.5 (-4.3)	12 973.5 (-6.3)	995.9 (-7.5)	1 150.8 (4.9)	1 210.3 (-0.6)
Petrochemical - 3 major products	23 224.7 (9.2)	22 129.4 (-4.7)	1 520.4 (-19.4)	1 754.8 (-19.4)	1 852.4 (-14.4)	21 472.1 (-3.0)	1 703.8 (12.1)	1 791.5 (2.1)	1 736.8 (-6.2)
The number of cars	3 462.4 (-1.3)	3 756.5 (8.5)	379.8 (25.4)	353.4 (10.8)	306.7 (13.2)	4 240.3 (12.9)	370.1 (-2.5)	367.6 (4.0)	358.4 (16.8)

Note: p means provisional, The three major petrochemical products are synthetic resin, synthetic fiber raw material, and synthetic rubber.  
Source: Korea Statistical Information Service, Korea Iron & Steel Association, Korea Petrochemical Industry Association

## International Energy Prices

	2021	2022			2023				2024
			M11	M12	M1		M11	M12	
Crude oil (USD/bbl)									
WTI	67.9 (72.4)	94.2 (38.7)	84.4 (7.3)	76.5 (6.7)	78.2 (-5.8)	77.6 (-17.6)	77.4 (-8.3)	72.1 (-5.7)	73.9 (-5.5)
Dubai	69.3 (64.1)	96.4 (39.1)	86.3 (7.4)	77.2 (5.5)	80.4 (-3.7)	82.1 (-14.8)	83.6 (-3.1)	77.3 (0.1)	78.8 (-2.0)
Brent	70.8 (63.8)	98.9 (39.7)	90.9 (12.4)	81.3 (8.7)	83.9 (-1.9)	82.2 (-16.9)	82.0 (-9.7)	77.3 (-4.9)	79.1 (-5.7)
Unit value of import (C&F)	70.2 (56.9)	102.3 (45.6)	94.8 (14.7)	89.5 (12.7)	86.0 (4.7)	85.9 (-16.0)	91.2 (-3.8)	85.9 (-4.1)	82.5 (-4.1)
LNG									
Henry Hub (USD/MMBTU)	3.7 (74.6)	6.5 (75.2)	6.4 (25.6)	5.8 (49.3)	3.4 (-19.6)	2.7 (-59.1)	3.1 (-52.5)	2.5 (-56.0)	2.7 (-20.7)
TTF (USD/MMBTU)	16.0 (396.1)	40.1 (150.0)	35.9 (29.5)	36.7 (-2.6)	19.8 (-30.0)	13.0 (-67.5)	14.5 (-59.7)	11.6 (-68.5)	9.6 (-51.7)
JKM (USD/MMBTU)	17.9 (324.7)	33.9 (89.5)	28.4 (-15.6)	32.3 (-14.5)	24.3 (-14.7)	14.4 (-57.3)	17.0 (-40.0)	14.0 (-56.6)	10.3 (-57.6)
Unit value of import (USD/ton, CIF)	550.8 (41.2)	1 053.5 (91.3)	1 259.0 (56.3)	1 255.2 (40.6)	1 295.6 (13.8)	781.8 (-25.8)	643.1 (-48.9)	768.8 (-38.8)	711.9 (-45.1)
Coal (USD/ton)									
Thermal coal (Newcastle)	136.0 (125.8)	356.3 (161.9)	348.6 (126.7)	400.9 (143.5)	362.3 (72.8)	174.8 (-50.9)	123.2 (-64.7)	144.3 (-64.0)	128.0 (-64.7)
Unit value of import (CIF)	115.1 (48.1)	226.3 (96.7)	204.0 (15.6)	204.6 (9.1)	195.8 (5.8)	169.7 (-25.0)	145.1 (-28.9)	144.3 (-29.5)	166.1 (-15.1)
Petroleum product (USD/bbl)									
Gasoline	80.3 (72.2)	115.2 (43.4)	98.5 (3.7)	89.4 (1.7)	99.0 (1.0)	98.8 (-14.3)	98.0 (-0.5)	91.3 (2.1)	96.0 (-3.1)
Kerosene	75.1 (67.9)	126.7 (68.6)	121.2 (35.9)	110.5 (32.3)	115.0 (20.2)	104.6 (-17.4)	106.5 (-12.1)	101.5 (-8.2)	101.5 (-11.7)
Diesel	77.6 (57.2)	135.3 (74.3)	127.8 (39.6)	114.0 (32.7)	116.2 (17.1)	106.4 (-21.4)	106.5 (-16.7)	99.8 (-12.5)	102.8 (-11.5)
Bunker-C	64.4 (64.3)	82.3 (27.8)	65.5 (-7.9)	59.6 (-9.5)	61.4 (-19.4)	71.8 (-12.8)	72.5 (10.7)	68.8 (15.5)	69.6 (13.4)
Propane	647.9 (63.2)	737.1 (13.8)	610.0 (-29.9)	650.0 (-18.2)	590.0 (-20.3)	575.0 (-22.0)	610.0 -	610.0 (-6.2)	620.0 (5.1)
Butane	629.6 (55.9)	734.2 (16.6)	610.0 (-26.5)	650.0 (-13.3)	605.0 (-14.8)	577.1 (-21.4)	620.0 (1.6)	620.0 (-4.6)	630.0 (4.1)
Naphtha	70.6 (74.6)	83.1 (17.7)	73.8 (-12.2)	65.7 (-15.4)	72.4 (-14.3)	69.1 (-16.8)	69.4 (-6.0)	72.3 (10.0)	72.5 (0.1)

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: Korea National Oil Corporation, World Bank, Korea Energy Economics Institute, CME Group, Korea International Trade Association

## Domestic Energy Prices

	2021	2022			2023				2024
			M11	M12	M1		M11	M12	M1
Petroleum product									
Gasoline (won/liter)	1 590.5 (15.1)	1 812.4 (14.0)	1 650.3 (-5.0)	1 563.8 (-5.0)	1 562.9 (-4.4)	1 643.0 (-9.3)	1 684.1 (2.0)	1 600.6 (2.4)	1 569.2 (0.4)
Diesel (won/liter)	1 391.3 (16.9)	1 841.8 (32.4)	1 879.2 (21.3)	1 783.3 (21.4)	1 675.4 (15.3)	1 558.7 (-15.4)	1 628.2 (-13.4)	1 526.3 (-14.4)	1 480.1 (-11.7)
Bunker-C (won/liter)	731.7 (27.6)	1 115.2 (52.4)	1 142.2 (31.7)	986.7 (14.9)	883.8 (5.2)	931.5 (-16.5)	1 024.1 (-10.3)	994.7 (0.8)	900.9 (1.9)
Propane (won/kg)	2 092.6 (13.1)	2 479.6 (18.5)	2 455.4 (6.2)	2 449.7 (1.6)	2 440.0 (1.9)	2 372.2 (-4.3)	2 416.6 (-1.6)	2 420.1 (-1.2)	2 418.8 (-0.9)
Butane (won/liter)	931.8 (17.8)	1 081.7 (16.1)	1 032.2 (-2.0)	1 021.4 (-6.1)	1 019.7 (-4.9)	957.6 (-11.5)	970.8 (-5.9)	970.8 (-5.0)	970.5 (-4.8)
City gas(won/MJ)									
Residential	14.2 (-5.7)	16.6 (16.7)	19.7 (38.4)	19.7 (38.4)	19.7 (38.4)	20.4 (22.9)	20.7 (5.3)	20.7 (5.3)	20.7 (5.3)
General(1)	13.9 (-6.5)	16.3 (17.3)	19.3 (39.7)	19.5 (38.6)	19.5 (38.6)	20.1 (23.3)	20.4 (5.4)	20.6 (5.2)	20.6 (5.2)
Commercial	17.2 (14.2)	28.7 (66.6)	35.3 (65.3)	36.2 (53.8)	34.3 (35.0)	26.0 (-9.3)	21.8 (-38.3)	23.0 (-36.5)	25.0 (-27.1)
Industry	14.4 (14.2)	25.9 (79.9)	32.4 (77.9)	34.1 (60.1)	32.1 (39.0)	23.3 (-9.9)	18.9 (-41.6)	21.0 (-38.5)	22.9 (-28.6)
Heat(won/Mcal)									
Residential	65.2 (-1.4)	74.1 (13.7)	89.9 (37.8)	89.9 (37.8)	89.9 (37.8)	96.1 (29.6)	101.6 (13.0)	101.6 (13.0)	101.6 (13.0)
Commercial	84.7 (-1.4)	96.3 (13.7)	116.7 (37.8)	116.7 (37.8)	116.7 (37.8)	124.7 (29.6)	131.9 (13.0)	131.9 (13.0)	131.9 (13.0)
Public	74.0 (-1.4)	84.1 (13.7)	101.9 (37.8)	101.9 (37.8)	101.9 (37.8)	108.9 (29.6)	115.2 (13.0)	115.2 (13.0)	115.2 (13.0)
Electricity(won/kWh)									
Residential	142.3 (-3.4)	147.8 (3.9)	154.6 (8.6)	154.6 (8.6)	166.0 (16.7)	171.3 (15.9)	174.0 (12.5)	174.0 (12.5)	174.0 (4.8)
General	79.4 (-5.9)	84.9 (7.0)	99.6 (14.1)	99.6 (14.1)	111.0 (27.1)	108.4 (27.7)	119.0 (19.5)	119.0 (19.5)	119.0 (7.2)
Industry	91.0 (-5.2)	98.8 (8.6)	125.0 (20.8)	125.0 (20.8)	136.4 (31.8)	131.5 (33.0)	157.9 (26.3)	157.9 (26.3)	157.9 (15.8)

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, optionII mid-load).  
Source: Korea National Oil Corporation, Seoul City Gas, Korean District Heating Corporation, Korea Electric Power Corporation

## Total Primary Energy Demand (TPED)

	2021	2022			2023p				2024p
			M11	M12	M1		M11	M12	M1
Coal (Mton)	119.9 (-0.0)	115.0 (-4.1)	8.8 (-12.9)	10.4 (-4.3)	10.1 (-7.8)	107.7 (-6.3)	8.6 (-2.0)	9.5 (-8.3)	10.0 (-1.5)
- Coking coal excluded	94.4 (-0.8)	91.4 (-3.2)	7.0 (-13.1)	8.4 (-3.3)	8.1 (-7.5)	83.9 (-8.1)	6.6 (-4.7)	7.5 (-10.6)	7.9 (-2.2)
Oil (Mbbl)	830.7 (7.1)	814.5 (-1.9)	65.2 (-3.2)	75.7 (-5.2)	69.8 (-10.6)	779.9 (-4.3)	66.4 (1.9)	69.1 (-8.7)	72.3 (3.7)
Natural Gas (Mton)	45.8 (10.4)	45.6 (-0.5)	3.6 (-9.7)	5.7 (13.0)	5.2 (-4.0)	43.9 (-3.7)	3.9 (9.3)	5.0 (-12.4)	5.4 (3.6)
Nuclear (TWh)	158.0 (-1.4)	176.1 (11.4)	14.0 (3.2)	15.2 (-7.9)	15.7 (-2.8)	180.5 (2.5)	15.7 (12.2)	16.3 (6.9)	15.0 (-4.4)
Heat (Mtoe)	0.1 (-7.6)	0.1 (2.6)	0.0 (-13.1)	0.0 (-13.1)	0.0 (12.4)	0.1 (4.9)	0.0 (-16.4)	0.0 (25.6)	0.0 (-0.2)
Others (Mtoe)	15.0 (11.7)	16.7 (10.9)	1.2 (5.9)	1.3 (-2.1)	1.4 (-1.4)	17.6 (5.8)	1.5 (17.7)	1.4 (2.9)	1.4 (1.4)
<b>TPED (Mtoe)</b>	<b>303.2</b> (5.1)	<b>305.1</b> (0.6)	<b>24.0</b> (-4.4)	<b>29.0</b> (-1.1)	<b>28.0</b> (-6.6)	<b>297.6</b> (-2.5)	<b>25.1</b> (4.8)	<b>27.5</b> (-5.2)	<b>28.7</b> (2.4)

Note: p means provisional, ( ) is year-on-year growth rates (%). Oil value is the sum of TPED of crude oil & refinery feedstocks and petroleum.  
Source: Korea Energy Economics Institute

## Share of TPED by Sources

(unit: %)

	2021	2022			2023p				2024p
			M11	M12	M1		M11	M12	M1
Coal	24.0	22.8	22.2	21.7	21.9	22.0	20.9	21.0	21.1
- Coking coal excluded	18.1	17.4	16.8	16.8	16.8	16.4	15.3	15.8	16.1
Oil	40.1	39.9	41.0	38.5	37.1	39.8	40.8	38.4	38.6
Gas	19.8	19.5	19.2	24.0	24.2	19.3	19.2	22.9	24.4
Nuclear	11.1	12.3	12.4	11.2	11.9	12.9	13.3	12.6	11.1
Heat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Others	5.0	5.5	5.2	4.6	4.9	5.9	5.8	4.9	4.8
<b>TPED</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Note: p means provisional. Gas value is the sum of TPED of natural gas and city gas.  
Source: Korea Energy Economics Institute

## Total Final Consumption (TFC)

(Unit: Mtoe)

	2021	2022			2023p			2024p	
			M11	M12	M1		M11	M12	M1
Industry	133.0 (7.2)	130.5 (-1.9)	10.4 (-5.5)	11.3 (-7.3)	11.1 (-9.1)	126.2 (-3.3)	10.6 (2.0)	10.9 (-3.7)	11.6 (4.4)
Transport	36.6 (5.4)	36.3 (-0.9)	2.8 (-6.1)	3.5 (0.4)	2.8 (-11.6)	35.2 (-2.9)	3.0 (5.3)	3.0 (-13.9)	3.0 (7.5)
Residential	22.9 (2.6)	23.6 (2.7)	1.9 (-7.8)	3.3 (5.6)	3.6 (-4.4)	21.8 (-7.3)	1.9 (2.8)	3.0 (-8.7)	3.4 (-5.4)
commercial	17.9 (1.7)	18.9 (5.4)	1.4 (-0.5)	1.9 (4.4)	2.1 (4.6)	19.0 (0.5)	1.5 (4.4)	1.8 (-4.7)	2.0 (-2.7)
Public	5.2 (4.0)	5.2 (1.2)	0.4 (-0.7)	0.5 (-3.1)	0.5 (-7.6)	5.3 (2.0)	0.4 (8.9)	0.5 (-2.1)	0.5 (-3.7)
<b>TFC</b>	<b>215.7</b> (5.8)	<b>214.5</b> (-0.5)	<b>16.9</b> (-5.4)	<b>20.6</b> (-3.0)	<b>20.1</b> (-7.3)	<b>207.6</b> (-3.2)	<b>17.5</b> (3.0)	<b>19.3</b> (-6.3)	<b>20.5</b> (2.1)
Coal (Mton)	51.0 (3.6)	47.8 (-6.2)	3.9 (-13.2)	4.0 (-10.5)	4.0 (-9.7)	47.0 (-1.7)	4.1 (4.2)	3.9 (-2.2)	4.1 (0.9)
Oil (Mbbbl)	809.1 (7.6)	798.9 (-1.3)	63.6 (-3.4)	73.7 (-5.8)	66.9 (-11.8)	761.0 (-4.7)	64.3 (1.0)	66.9 (-9.2)	70.6 (5.5)
- Non-energy oil excluded	350.6 (4.3)	345.8 (-1.4)	27.8 (-4.6)	35.8 (4.1)	29.4 (-11.9)	333.4 (-3.6)	28.8 (3.8)	30.7 (-14.3)	31.5 (7.3)
Electricity (TWh)	520.3 (4.7)	535.4 (2.9)	41.5 (-0.6)	45.8 (-0.3)	50.2 (3.0)	534.7 (-0.1)	42.0 (1.3)	45.3 (-1.2)	48.7 (-2.9)
City gas (Bm³)	22.7 (3.3)	23.4 (2.9)	1.8 (-8.6)	3.1 (5.5)	3.4 (-2.0)	21.7 (-7.4)	1.9 (2.8)	2.8 (-8.1)	3.2 (-6.1)
Heat (1 000 toe)	2.7 (4.2)	2.9 (9.1)	0.2 (-13.0)	0.5 (18.4)	0.5 (-4.8)	2.6 (-10.7)	0.3 (19.1)	0.5 (-17.2)	0.5 (-0.5)
Others (1 000 toe)	7.1 (7.1)	7.3 (1.7)	0.6 (-4.2)	0.6 (-11.5)	0.6 (-12.4)	7.3 (0.5)	0.6 (11.3)	0.7 (5.1)	0.6 (2.0)

Note: p means provisional, ( ) is year-on-year growth rates (%), Non-energy oil value includes TFC of propane and butane for petrochemical feedstock.  
Source: Korea Energy Economics Institute

## Share of the Total Final Consumption by Sources

(unit: %)

	2021	2022			2023p			2024p	
			M11	M12	M1		M11	M12	M1
Industry	61.7	60.8	61.4	55.1	55.1	60.8	60.8	56.6	56.3
Transport	17.0	16.9	16.7	17.0	13.9	17.0	17.0	15.6	14.7
Residential	10.6	11.0	11.1	16.0	17.9	10.5	11.1	15.6	16.6
Commercial	8.3	8.8	8.4	9.4	10.4	9.2	8.5	9.5	9.9
Public	2.4	2.4	2.4	2.5	2.7	2.6	2.5	2.6	2.5
<b>TFC</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Coal	15.0	14.3	14.6	12.5	12.9	14.5	14.8	13.1	12.7
Oil	47.9	47.4	47.8	45.7	42.2	46.6	47.0	44.2	43.8
- Non-energy oil excluded	21.6	21.4	21.7	23.0	19.2	21.1	21.8	20.9	20.1
Electricity	20.7	21.5	21.0	19.2	21.4	22.1	20.7	20.2	20.4
City gas	11.8	12.2	12.0	16.9	17.8	12.0	12.4	16.7	17.5
Heat	1.3	1.4	1.4	2.7	2.6	1.3	1.6	2.4	2.5
Others	3.3	3.4	3.3	3.0	3.1	3.5	3.5	3.4	3.1

Note: p means provisional, Non-energy oil value includes TFC of propane and butane for petrochemical feedstock.  
Source: Korea Energy Economics Institute

## Statistics on Energy Production Facilities

	2021	2022			2023p				2024p
			M11	M12	M1		M11	M12	M1
Total capacity (GW)	134.0 (3.7)	138.0 (3.0)	136.3 (1.8)	138.0 (3.0)	138.8 (7.8)	144.4 (7.8)	144.1 (7.6)	144.4 (7.8)	144.7 (8.8)
Nuclear	23.3 -	24.7 (6.0)	23.3 -	24.7 (6.0)	24.7 (6.0)	24.7 (6.0)	24.7 (6.0)	24.7 (6.0)	24.7 (6.0)
Bituminous coal	36.9 (1.3)	37.3 (1.0)	37.3 (-0.4)	37.3 (1.0)	37.2 (4.9)	38.2 (3.5)	38.2 (2.1)	38.2 (3.5)	38.2 (5.2)
Gas	41.2 (0.1)	41.2 -	41.2 (0.1)	41.2 -	41.2 (0.1)	43.2 (4.8)	43.2 (4.9)	43.2 (4.8)	43.2 (4.8)
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: Korea Electric Power Corporation, Korea National Oil Corporation

## Statistics on Energy Consumption

	2021	2022			2023p				2024p
			M11	M12	M1		M11	M12	M1
The number of household demanding city gas (mil)	20.5 (2.0)	20.9 (1.7)	20.9 (2.3)	20.9 (1.7)	20.9 (1.6)	21.1 (1.3)	21.0 (0.6)	21.1 (1.3)	21.3 (1.9)
Registered cars (mil)	24.9 (2.2)	25.5 (2.4)	25.5 (2.4)	25.5 (2.4)	25.6 (2.3)	25.9 (1.7)	25.9 (1.8)	25.9 (1.7)	26.0 (1.7)
- gasoline	11.8 (3.1)	12.1 (2.6)	12.0 (2.7)	12.1 (2.6)	12.1 (2.6)	12.3 (2.0)	12.3 (2.2)	12.3 (2.0)	12.3 (1.9)
- diesel	9.9 (-1.2)	9.8 (-1.2)	9.8 (-1.1)	9.8 (-1.2)	9.8 (-1.2)	9.5 (-2.6)	9.5 (-2.6)	9.5 (-2.6)	9.5 (-2.8)
- LPG	1.9 (-1.7)	1.9 (-2.1)	1.9 (-2.0)	1.9 (-2.1)	1.9 (-2.2)	1.8 (-3.8)	1.8 (-3.9)	1.8 (-3.8)	1.8 (-3.4)
- hybrid	0.9 (34.0)	1.1 (28.5)	1.1 (28.8)	1.1 (28.5)	1.1 (28.7)	1.5 (32.1)	1.4 (31.9)	1.5 (32.1)	1.5 (33.3)

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

Source: Korea City Gas Association, Ministry of Land, Infrastructure and Transport