

KEEI

# Korea Mid-term Energy Demand Outlook

(2021-2026)

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Published by the Korea Energy Economics Institute (KEEI), Energy Demand Outlook takes a closer look at the global energy market and supply and demand trends in domestic energy and examines the outlook for mid-term energy demand.

This report outlines the recent changes in the supply and demand of energy and provides important data and policy implications in an effort to contribute to the establishment and adjustment of a series of energy policies by the government.

This report is written by the Energy Outlook Research Team of the Center for Energy Information and Statistics in cooperation with the Energy Supply Statistics Research Team of KEEI and other related research divisions.

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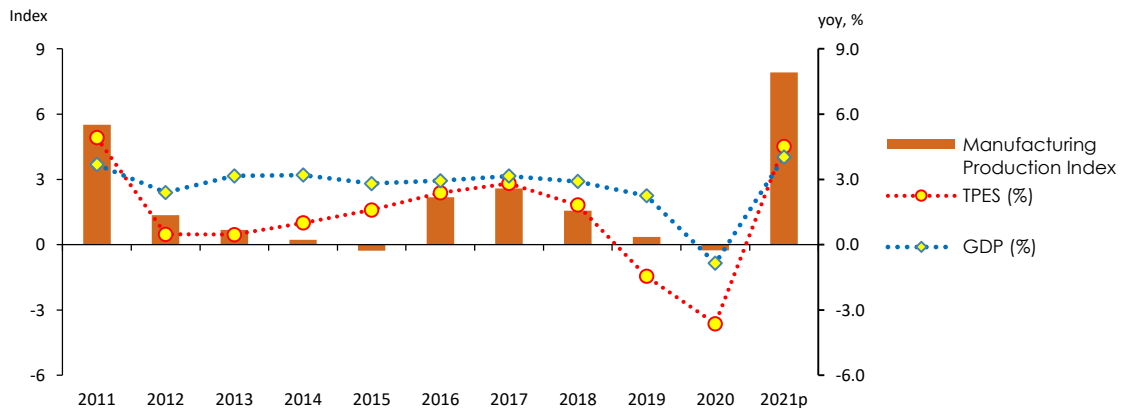
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## 1. Total Primary Energy Supply and Total Final Consumption

□ **Total Primary Energy Supply (“TPES”) went up by 0.8% on annual average between 2016 and 2021, reaching 305.3Mtoe.**

- TPES grew by 2-3% annually from 2016 to 2018 and then dropped by 1.5% and 3.6% respectively in 2019 and 2020. In 2021, it grew by 4.5% due to base effect of the decline in previous years.

**Figure 1.1 TPES & GDP growth rates and fluctuation of manufacturing production index**

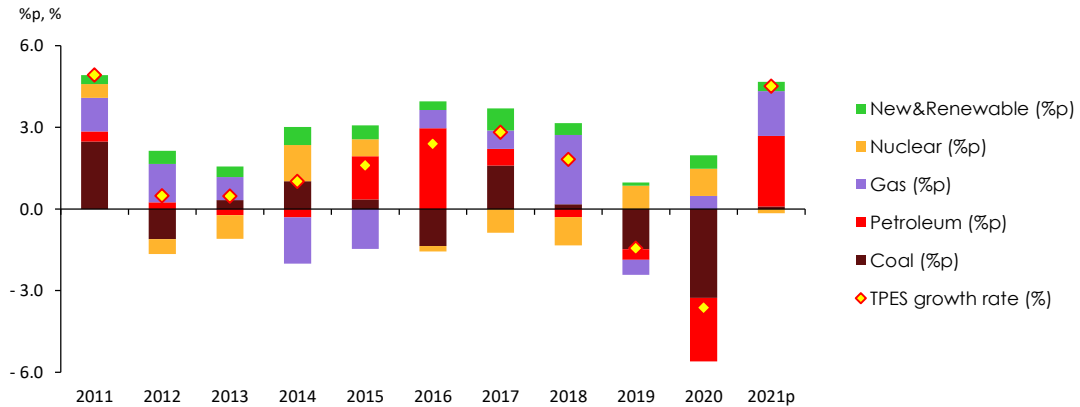


- TPES peaked at 307.6Mtoe in 2018 and then declined for two consecutive years. It strongly rebounded to 305.3Mtoe in 2021, though it was still lower than the 2018’s record.

□ **Energy intensity improved rapidly until 2020 but slightly deteriorated in 2021.**

- Energy intensity (toe/KRW 1 million), which is an indicator of energy efficiency, improved (dropped) faster from 2016 to 2020 than in previous years.
- In 2021, the economy and energy consumption grew rapidly, as the economic activities picked up fast after the COVID-19 slowdown. Energy intensity slightly increased, with TPES (4.5%) growing faster than GDP (4.0%).

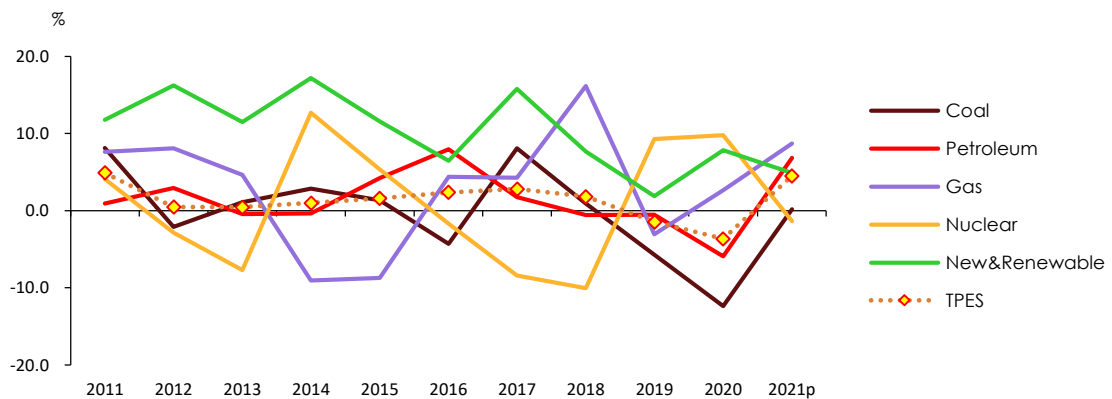
**Figure 1.2 Contribution by energy source to fluctuation of total energy consumption**



□ For the past five years, gas and nuclear energy use remained stagnant, and coal use declined, while gas and renewable energy use increased quite fast.

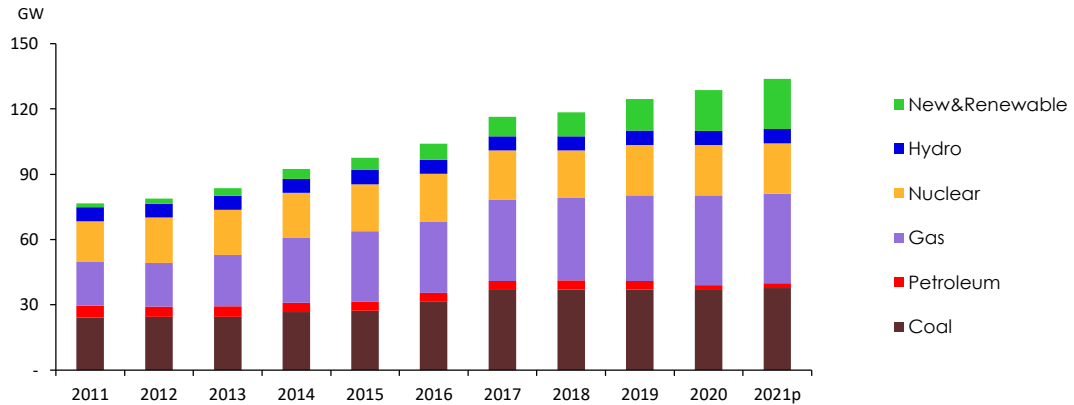
- Petroleum use kept fluctuating between 2016 and 2021, affected by the rise and fall of oil prices and COVID-19 crisis. In 2021, it grew by mere 0.2% to 932.2Mbbl, which is similar to the 2016's record.

**Figure 1.3 TPES growth rates by energy source**



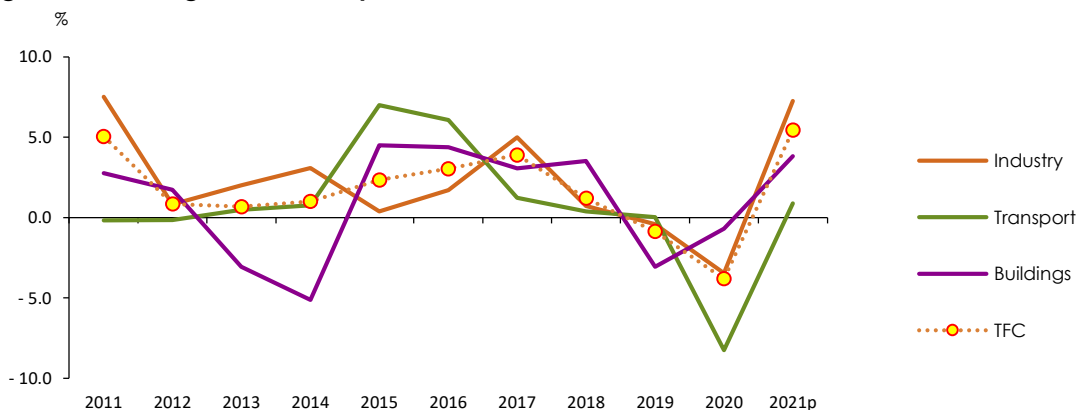
- Coal use had surged until the early 2010s, led by the power generation and steelmaking sectors, however, it declined by 2.0% on annual average from 2016 to 2021 due to the sluggish iron & steel business and the government's restriction on coal-fired power plants, which was aimed at reducing fine dust and greenhouse gas emissions.
- Natural gas use posted an annual growth rate of 5.6% between 2016 to 2021, as it grew fast in the power generation sector, driven by the energy transition policy, and as its final use also increased especially in the industrial sector.

**Figure 1.4 Generation capacity trends by energy source**



- Nuclear generation decreased by 0.5% on annual average from 2016 to 2021, despite the growth in installed capacity, as preventive maintenance was extended due to the nuclear phase-out policy that started in the aftermath of the Gyeongju and Pohang earthquakes, and accordingly nuclear capacity factor declined.
- Renewable & other energy use jumped 8.1% annually from 2016 to 2021 as a result of the government policy to expand the renewable energy deployment.
- Electricity use grew at an annual rate of 1.4% from 2016 to 2021 and fluctuated widely, which was affected by abnormal weather conditions such as heat and cold waves as well as more volatile production during the COVID-19 pandemic.

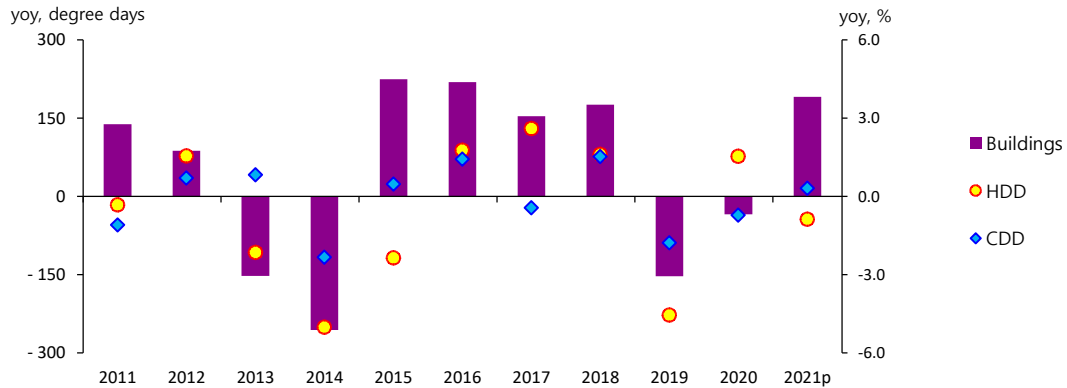
**Figure 1.5 TFC growth rates by end-use sector**



□ **TFC increased at an annual rate of 1.1% from 2016-2021 to reach 234.7Mtoe.**

- Industrial energy use, which accounts for the largest share of TFC, grew by 1.7% on annual average between 2016 and 2021, leading the growth in TFC.

**Figure 1.6 Heating & cooling degree days and energy use in buildings**

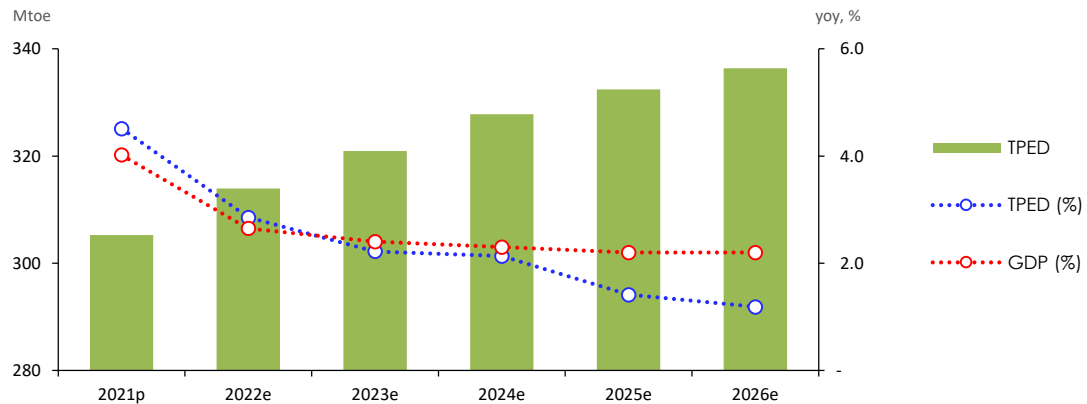


- Energy use in buildings had been growing at slower pace due to the stagnant population growth and enhanced energy efficiency. From 2016 to 2021, however, it grew quite strongly at an annual rate of 1.3%, affected by abnormal weather events such as heat and cold waves.
- Transport energy use declined by 1.2% on annual average from 2016 to 2021, as the sector has not been fully recovered from the impact of COVID-19.

## 2. TPES & TFC Outlook<sup>1</sup>

- **TPES is expected to grow by 2.0% on annual average from 2021 to 2026, reaching 336.4Mtoe in 2026.**
  - TPES is expected to grow fast in the early outlook period, as the economy recovers from the impact of COVID-19 and stabilizes at lower level of 1-2% in the later period.

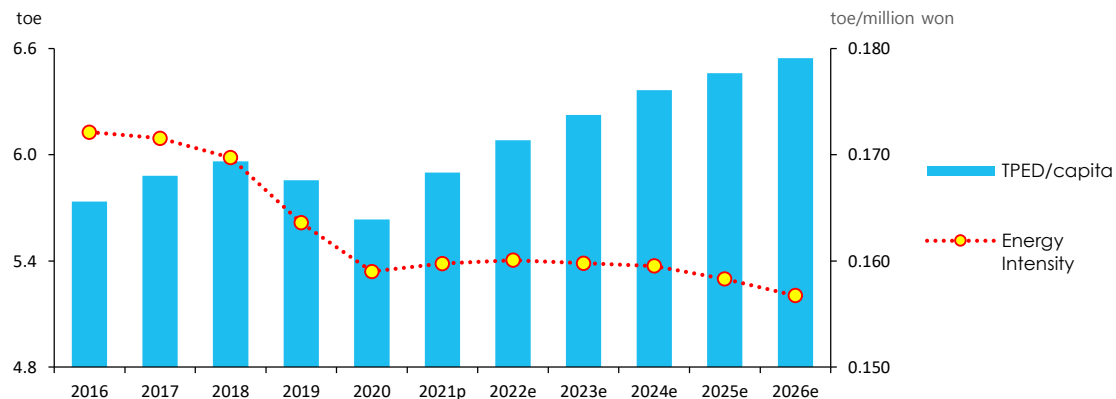
**Figure 2.1 TPES outlook**



- **Energy intensity has rapidly improved in recent years, but it is expected to improve at much slower pace during the current outlook period.**
  - Energy intensity (toe/KRW 1 million) had rapidly improved(declined) at an annual rate of 1.5% for the past five years, but the rate of improvement is projected to slow down to 0.4% on annual average during the outlook period.

<sup>1</sup> The lowercase p and e, which are added to each year, indicates provisional and forecast values, respectively

**Figure 2.2 Energy consumption per capita and energy intensity outlook**



- Energy consumption per capita is projected to increase from 5.9toe in 2021 to 6.5toe in 2026, at an annual growth rate of 2.1%.

**□ Nuclear energy and renewable & other energy are expected to lead the growth in TPES, while coal demand declines.**

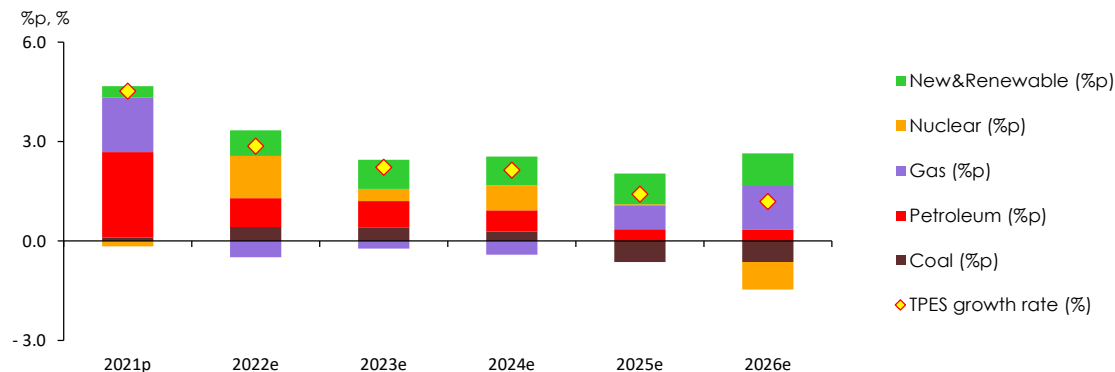
- Nuclear generation will grow at an annual rate of 2.7% during the outlook period, despite the retirement of several old nuclear plants<sup>2</sup>, as its installed capacity increases with the commissioning of four large-scale nuclear plants, and the capacity factor increases to the low to mid 80% range.
- Renewable & other energy<sup>3</sup> generation is expected to grow fast, especially solar PV, with strong political support for renewable energy deployment, and accordingly, the demand is forecasted to grow by over 10% on annual average during the outlook period.
- Petroleum demand is likely to grow at an annual rate of 1.8% during the outlook period, led by petrochemical feedstocks such as naphtha and LPG and growing demand from the transport sector.

<sup>2</sup> Generation facility plan in this outlook is based on “the 9<sup>th</sup> Electricity Supply and Demand Master Plan”.

<sup>3</sup> Power generation from renewable energy sources such as solar PV, wind energy, hydropower (pumped storage excluded), ocean energy, bio energy and new energy sources such as fuel cell, IGCC as well as pumped storage and waste & other energy sources are included.

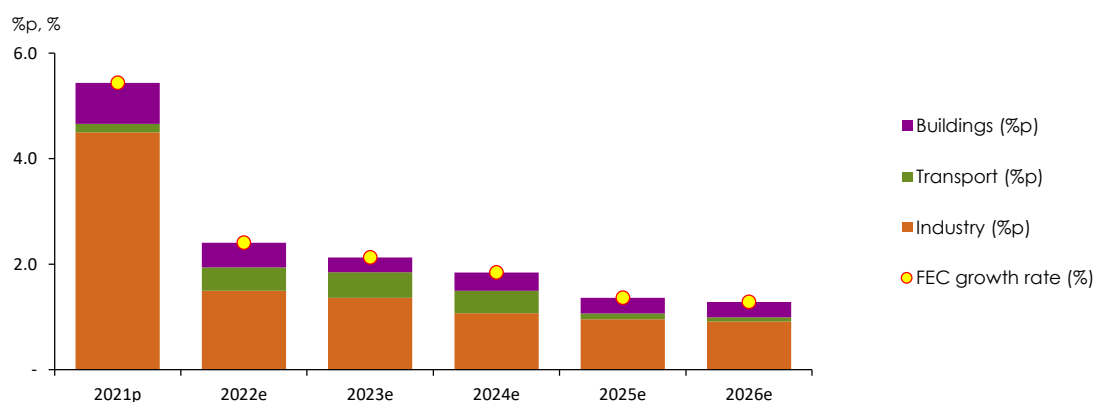


**Figure 2.3 Contribution by energy source to fluctuation of total energy consumption**



- Coal demand is expected to decline by 0.3% on annual average, despite a steady growth in demand in the end-use sectors, as it declines in the power generation sector due to the shutdown of several old coal power plants later in the outlook period.
- Natural gas demand is projected to grow by mere 1.1% on annual average during the outlook period, despite growing demand in the end-use sectors, as it remains stagnant in the power generation sector due to global LNG price hikes and increased baseload generation, especially nuclear generation, early in the outlook period.
- Electricity demand of the end-use sectors is expected to grow quite fast early in the outlook period, owing to the recovery from COVID-19, but later, it is likely to grow at much slower pace, posting an average growth rate of 2.0% annually during the outlook period.

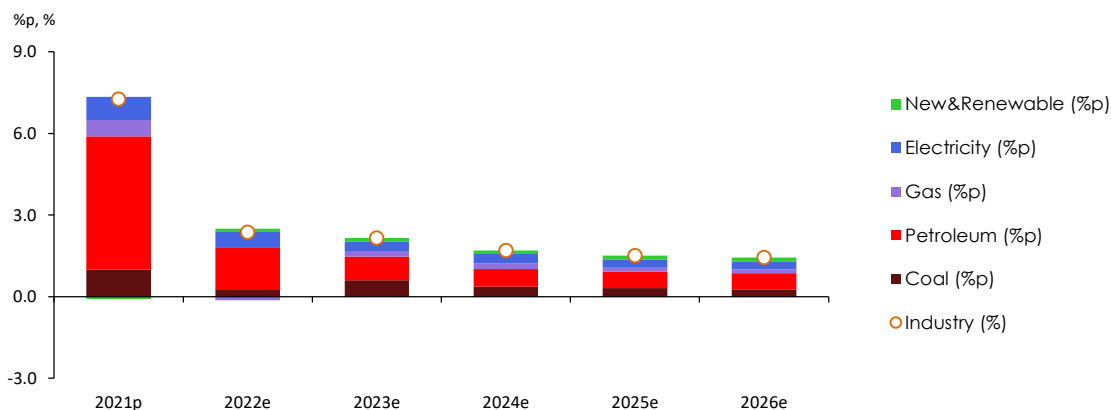
**Figure 2.4 Contribution by end-use sector to fluctuation of final energy consumption**



□ **Energy demand in the end-use sectors is projected to grow at an annual rate of 1.8% during the outlook period to reach 256.6Mtoe in 2026.**

- Industrial energy demand is projected to increase at an annual rate of 1.8% during the outlook period, driven by enhanced production activities. The demand growth rate, however, is likely to drop from 2.4% to 1.4%, as the pace of economic growth slows gradually.

**Figure 2.5 Contribution by energy source to fluctuation of industrial energy use**



- Since 2020, transport energy demand plunged due to the impact of COVID-19, and then it has been stagnant. During the outlook period, the demand is expected to recover, growing at an annual rate of 1.8%, with the road transport and aviation sectors leading the growth.
- In the building sector, energy demand is estimated to grow at an annual rate of 1.7% during the outlook period, with the commercial sector leading the growth, and the demand for electricity and gas will be particularly strong among energy sources.

### 3. Key Features and Implications

#### Energy Supply Chain Crisis and Energy Price Outlook

- **Global energy prices are expected to maintain the upward trend for a while amid ongoing instability in energy supply chain, although there is a high degree of uncertainty.**

- As the COVID-19 pandemic eased, global oil price started a strong upward move since 2H 2021, and the war in Ukraine is further pushing up the price. However, there is an expectation of a drop in oil price considering the possibility of a global economic recession.

**Table 3.1 Global oil price (Brent oil) outlook dot plot (US\$/bbl), as of July 2022**

Brent (US\$/bbl)	Quarter				Year				
	2022 3Q	2022 4Q	2023 1Q	2023 2Q	2022	2023	2024	2025	2026
135~140									.
130~135									
125~130	...	.	.	.				.	.
120~125	..	.		.					
115~120	...	...	..		..		.	.	.
110~115	.....	....	...	.	.....		.		
105~110	.....	.....	.....	...	.....	....		.	
100~105	...	.....	.....	....	.....	.....			
95~100	..	....	.....	....	.....	.....	...		
90~95	.	..	..	.....		.....	.	.	.
85~90		.	.			...	.....	....	..
80~85		.		.		.	..	....	...
75~80			..	.		.	..	....	....
70~75				.		.	.	..	.
65~70								.	....
60~65							.	..	.
55~60									
50~55							.		
45~50									

Source: Refinitiv Eikon, "Reuters Commodity Polls"(2022.7.29)

- A group of experts reached a consensus on an expectation that oil prices will remain high until 2023 and then stabilize at low level.

**Table 3.2 Comparison of global oil price outlooks of April and July (brent oil)**

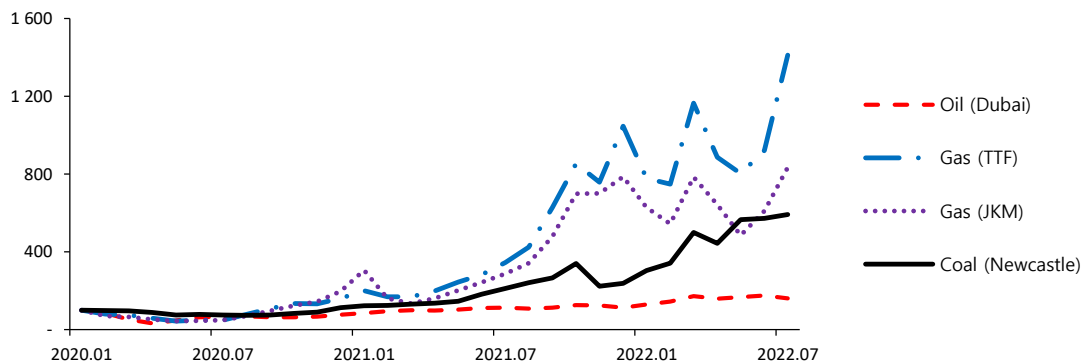
Brent (US\$/bbl)		Year				
		2022	2023	2024	2025	2026
Polls in April 2022	Mean	100.2	88.6	78.0	75.2	73.6
	Median	102.7	88.7	78.0	74.5	73.1
Polls in July 2022	Mean	105.8	95.4	85.7	83.4	83.6
	Median	105.1	97.0	86.4	80.0	78.0

Source: Refinitiv Eikon, "Reuters Commodity Polls"(2022.4.29/2022.7.29)

- Global natural gas (LNG) and coal prices surged after the outbreak of the war in Ukraine and once temporarily declined, but since then, they have been on an upward trajectory, as uncertainties are growing amid the prolonged war in Ukraine and a new cold war.

**Figure 3.1 Global energy price trend**

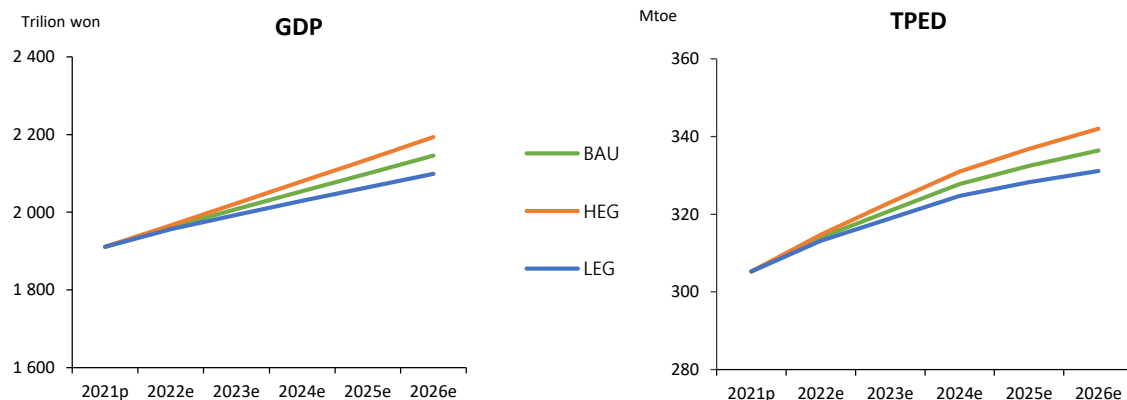
2020.01=100



## Economic Growth Scenario

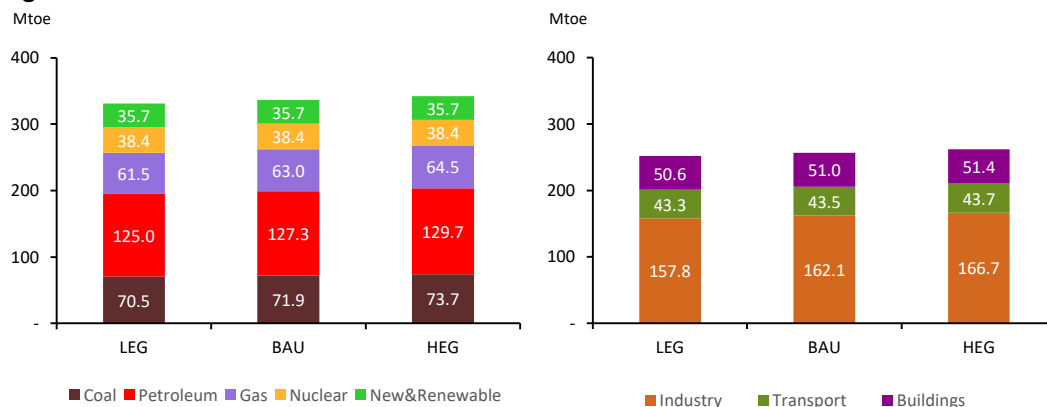
- **TPES is forecast to grow at an annual rate of 2.3% in the high economic growth("HEG") scenario and 1.6% in the low economic growth("LEG") scenario during the forecast period.**
  - The HEG and LEG scenarios were developed in consideration of the economic uncertainties during the outlook period (2021-2026).
  - In 2026, TPES is expected to reach 342Mtoe in the HEG scenario and 331Mtoe in the LEG scenario.

**Figure 3.2 GDP assumptions and TPES outlook across three scenarios**



- In the HEG scenario, TFC grows by 2.2% on annual average to reach 262Mtoe in 2026, while in the LEG scenario, it grows by 1.4% on annual average to reach 252Mtoe in 2026.

**Figure 3.3 TPES & TFC outlook in 2026 across three scenarios**



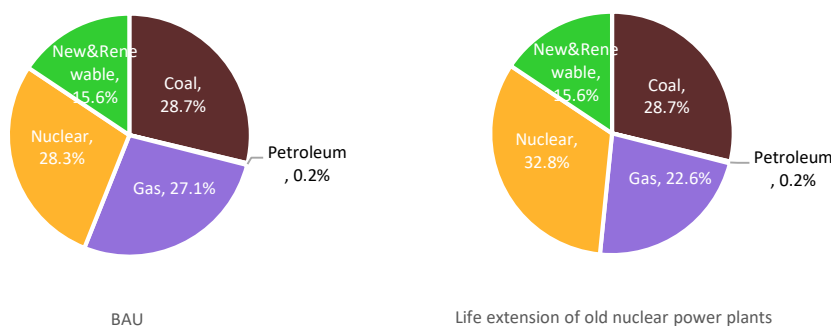
- Energy intensity improves by 0.5% on annual average in the HEG scenario, reaching 0.156(toe/KRW 1 million) in 2026, while it improves by 0.3% on annual average in the LEG scenario, reaching 0.158(toe/KRW 1 million) in 2026.

### Life extension of old nuclear power plants scenario

- The new government's energy policy suggests that a number of old nuclear reactors that were set to be retired are highly likely to get life extension.

- According to the 9<sup>th</sup> Electricity Demand and Supply Master Plan (Ministry of Trade, Industry and Energy, Dec. 2020), the commissioning of four new reactors and the shutdown of six old reactors were planned between 2022 and 2026.
  - However, the new government, which took office in May, announced the plan to scrap the former government's nuclear phase-out policy, suggesting that it will consider extending the life of old reactors that were scheduled to be shut down as stipulated in the Electricity Supply and Demand Master Plan.
  - The business-as-usual("BAU") scenario in this report was established based on the generation facility plan of the 9<sup>th</sup> Electricity Supply and Demand Master Plan. However, there is a high possibility of granting life extension to old nuclear reactors instead of the retirement in the 10<sup>TH</sup> Electricity Supply and Demand Master Plan, which is being drawn up as of July 2022.
- ☐ **If all of the old nuclear reactors continue to operate, nuclear energy will emerge as the largest power generation source by 2026.**
- If the six reactors (5.2GW), which are scheduled to be retired between 2022 and 2026, continue to operate, the nuclear installed capacity is projected to reach 28.9GW by 2026.
  - The BAU scenario assumed that the average capacity factor of nuclear power units would be in the low 80% range in 2026. If the same capacity factor is applied to the "life extension" scenario, nuclear generation is estimated to be 209TWh, accounting for 33% of the total power generation.

**Figure 3.4 2026 Power generation mix in the BAU & life extension scenarios**



- In the case of extending the life of all the old nuclear reactors instead of shutting them down, greenhouse gas emission from the power generation sector is expected to drop by 4.9% compared to the BAU scenario as of 2026.

# The Main Indicator and Energy Outlook Result

## Main Economic and Energy Indicators - BAU Scenario

											CAGR (%)	
	2018	2019	2020	2021p	2022e	2023e	2024e	2025e	2026e	16-21	21-26	
Economy and Population												
GDP (2010 trillion won)	1 812.0	1 852.7	1 836.9	1 910.7	1 961.4	2 008.5	2 054.7	2 099.9	2 146.1	2.3	2.4	
Industrial Production (2010=100)	106.3	106.7	106.4	114.3	117.6	121.4	125.5	129.1	133.1	2.3	3.1	
Crude Oil Price (Dubai, USD/bbl)	69.4	63.5	42.2	69.3	99.7	94.4	83.1	80.2	79.5	10.9	2.8	
Working Days	270.0	272.5	275.5	272.5	272.5	273.5	272.5	274.0	275.0	-0.0	0.2	
Population (million)	51.6	51.8	51.8	51.7	51.6	51.6	51.5	51.4	51.4	0.2	-0.1	
Average Temperature (°C)	13.0	13.5	13.0	13.3	13.1	13.2	13.2	13.2	13.2	-0.4	-0.3	
Cooling Degree days	209.0	120.4	85.2	101.3	106.6	106.6	106.6	106.6	106.6	-8.0	1.0	
Heating Degree days	2 597.8	2 370.9	2 448.0	2 404.7	2 499.0	2 452.9	2 468.5	2 452.9	2 452.9	0.1	0.4	
Energy Indicators												
Total Primary Energy Demand (Mtoe)	307.6	303.1	292.1	305.3	314.0	320.9	327.8	332.4	336.4	0.8	2.0	
Energy Intensity (toe/million won)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	-1.5	-0.4	
TPED/capita (toe/capita)	6.0	5.9	5.6	5.9	6.1	6.2	6.4	6.5	6.5	0.6	2.1	
Electricity Generation (TWh)	570.6	563.0	552.2	576.1	596.3	606.6	617.8	627.5	637.2	1.3	2.0	
Electricity Generation/capita (MWh/capita)	11.1	10.9	10.7	11.1	11.5	11.8	12.0	12.2	12.4	1.1	2.2	
Electricity Demand/capita (MWh/capita)	10.2	10.1	9.8	10.3	10.7	10.9	11.1	11.3	11.5	1.2	2.1	

## Energy Demand - BAU Scenario

										CAGR (%)	
	2018	2019	2020	2021p	2022e	2023e	2024e	2025e	2026e	16-21	21-26
<b>Total Primary Energy Supply</b>											
Coal (Mton)	141.1	133.0	116.6	116.8	119.0	121.1	122.6	119.0	115.3	-2.0	-0.3
Oil (Mbbl)	931.8	927.1	872.4	932.2	961.6	981.0	997.2	1 007.4	1 017.1	0.2	1.8
Gas (Bm³)	42.3	41.0	42.1	45.8	44.6	44.1	43.0	44.9	48.2	5.6	1.1
Hydro (TWh)	7.3	6.2	7.1	6.7	6.5	7.3	7.4	7.3	7.3	0.3	1.7
Nuclear (TWh)	133.5	145.9	160.2	158.0	176.3	181.6	192.9	193.4	180.4	-0.5	2.7
New-Renewable (Mtoe)	17.1	17.7	19.0	20.1	22.5	25.1	27.8	30.9	34.1	8.1	11.2
<b>Total (Mtoe)</b>	<b>307.6</b>	<b>303.1</b>	<b>292.1</b>	<b>305.3</b>	<b>314.0</b>	<b>320.9</b>	<b>327.8</b>	<b>332.4</b>	<b>336.4</b>	<b>0.8</b>	<b>2.0</b>
Coal	86.7	82.1	72.2	72.5	73.8	75.2	76.1	74.0	71.9	-2.3	-0.2
Oil	118.5	117.3	110.2	117.8	120.5	122.9	125.0	126.2	127.3	0.0	1.6
Gas	55.2	53.5	55.0	59.8	58.3	57.5	56.2	58.6	63.0	5.6	1.1
Nuclear	1.5	1.3	1.5	1.4	1.4	1.6	1.6	1.6	1.6	0.5	1.7
Hydro	28.4	31.1	34.1	33.7	37.5	38.7	41.1	41.2	38.4	-0.3	2.7
New-Renewable	17.1	17.7	19.0	20.1	22.5	25.1	27.8	30.9	34.1	8.1	11.2
<b>Total Final Consumption</b>											
Coal (Mton)	49.3	48.2	45.8	47.8	48.4	49.8	50.6	51.3	51.9	-0.5	1.6
Oil (Mbbl)	920.0	918.5	865.8	923.6	953.9	973.0	989.1	999.1	1 008.6	0.5	1.8
Gas (Bm³)	26.3	26.1	25.9	27.0	27.3	27.7	28.2	28.6	29.0	3.9	1.5
Electricity (TWh)	526.1	520.5	509.3	533.4	551.1	561.2	571.2	580.3	589.3	1.4	2.0
Heat (Mtoe)	2.7	2.6	2.8	2.9	3.1	3.2	3.3	3.4	3.5	5.9	3.8
New-Renewable (Mtoe)	9.1	8.9	9.5	9.6	10.0	10.5	10.9	11.3	11.8	6.0	4.2
<b>Total (Mtoe)</b>	<b>233.4</b>	<b>231.4</b>	<b>222.6</b>	<b>234.7</b>	<b>240.3</b>	<b>245.4</b>	<b>249.9</b>	<b>253.3</b>	<b>256.6</b>	<b>1.1</b>	<b>1.8</b>
Coal	32.5	32.1	30.5	31.8	32.1	33.0	33.6	34.0	34.5	-0.3	1.6
Oil	116.8	116.1	109.3	116.7	119.6	122.0	124.0	125.2	126.3	0.4	1.6
Gas	27.0	26.9	26.7	27.8	28.1	28.5	29.0	29.4	29.8	3.6	1.5
Electricity	45.2	44.8	43.8	45.9	47.4	48.3	49.1	49.9	50.7	1.4	2.0
Heat	2.7	2.6	2.8	2.9	3.1	3.2	3.3	3.4	3.5	5.9	3.8
New-Renewable	9.1	8.9	9.5	9.6	10.0	10.5	10.9	11.3	11.8	6.0	4.2
Industry	143.5	142.9	138.0	148.0	151.5	154.8	157.4	159.8	162.1	1.7	1.8
Transport	43.0	43.0	39.4	39.8	40.8	42.0	43.0	43.3	43.5	-1.2	1.8
Buildings	46.9	45.5	45.2	46.9	48.0	48.7	49.5	50.3	51.0	1.3	1.7



## Energy Demand - BAU Scenario

(yoy, %)

	CAGR (%)										
	2018	2019	2020	2021p	2022e	2023e	2024e	2025e	2026e	16-21	21-26
Total Primary Energy Supply											
Coal (Mton)	0.9	- 5.7	- 12.4	0.2	1.9	1.8	1.2	- 2.9	- 3.1	- 2.0	- 0.3
Oil (Mbbl)	- 0.6	- 0.5	- 5.9	6.9	3.1	2.0	1.7	1.0	1.0	0.2	1.8
Gas (Bm³)	16.2	- 3.1	2.7	8.7	- 2.5	- 1.2	- 2.3	4.2	7.5	5.6	1.1
Hydro (TWh)	3.9	- 14.1	14.4	- 5.8	- 3.8	13.2	0.2	- 0.2	-	0.3	1.7
Nuclear (TWh)	- 10.1	9.3	9.8	- 1.4	11.6	3.0	6.3	0.2	- 6.7	- 0.5	2.7
New-Renewable (Mtoe)	8.0	3.3	7.3	5.8	12.0	11.5	11.0	10.9	10.6	8.1	11.2
Total (Mtoe)	1.8	- 1.5	- 3.6	4.5	2.9	2.2	2.1	1.4	1.2	0.8	2.0
Coal	0.6	- 5.3	- 12.1	0.4	1.8	1.8	1.3	- 2.7	- 2.8	- 2.3	- 0.2
Oil	- 0.7	- 1.0	- 6.0	6.9	2.3	2.1	1.7	1.0	0.9	0.0	1.6
Gas	16.2	- 3.1	2.7	8.7	- 2.5	- 1.2	- 2.3	4.2	7.5	5.6	1.1
Nuclear	3.9	- 14.1	14.4	- 5.8	- 3.8	13.2	0.2	- 0.2	-	0.5	1.7
Hydro	- 10.1	9.3	9.8	- 1.4	11.6	3.0	6.3	0.2	- 6.7	- 0.3	2.7
New-Renewable	8.0	3.3	7.3	5.8	12.0	11.5	11.0	10.9	10.6	8.1	11.2
Total Final Consumption											
Coal (Mton)	- 2.1	- 2.2	- 4.9	4.4	1.2	2.8	1.6	1.4	1.2	- 0.5	1.6
Oil (Mbbl)	- 0.7	- 0.2	- 5.7	6.7	3.3	2.0	1.7	1.0	1.0	0.5	1.8
Gas (Bm³)	9.7	- 0.6	- 0.6	4.0	1.3	1.2	1.9	1.4	1.4	3.9	1.5
Electricity (TWh)	3.6	- 1.1	- 2.2	4.7	3.3	1.8	1.8	1.6	1.5	1.4	2.0
Heat (Mtoe)	9.9	- 1.3	4.7	4.7	5.2	4.6	3.6	3.1	2.7	5.9	3.8
New-Renewable (Mtoe)	5.5	- 2.2	6.5	1.1	4.5	4.3	4.2	4.0	4.0	6.0	4.2
Total (Mtoe)	1.2	- 0.9	- 3.8	5.4	2.4	2.1	1.8	1.4	1.3	1.1	1.8
Coal	- 2.6	- 1.3	- 5.0	4.4	1.1	2.8	1.6	1.4	1.2	- 0.3	1.6
Oil	- 0.9	- 0.6	- 5.8	6.7	2.4	2.0	1.7	0.9	0.9	0.4	1.6
Gas	9.7	- 0.6	- 0.6	4.0	1.3	1.2	1.9	1.4	1.4	3.6	1.5
Electricity	3.6	- 1.1	- 2.2	4.7	3.3	1.8	1.8	1.6	1.5	1.4	2.0
Heat	9.9	- 1.3	4.7	4.7	5.2	4.6	3.6	3.1	2.7	5.9	3.8
New-Renewable	5.5	- 2.2	6.5	1.1	4.5	4.3	4.2	4.0	4.0	6.0	4.2
Industry	0.7	- 0.4	- 3.5	7.3	2.4	2.2	1.7	1.5	1.4	1.7	1.8
Transport	0.4	0.0	- 8.2	0.9	2.6	2.9	2.5	0.6	0.5	- 1.2	1.8
Buildings	3.5	- 3.1	- 0.7	3.8	2.3	1.4	1.7	1.5	1.5	1.3	1.7

## Energy Demand by Sector - BAU Scenario

(Mtoe)

										CAGR (%)	
	2018	2019	2020	2021p	2022e	2023e	2024e	2025e	2026e	16-21	21-26
Industry	143.5	142.9	138.0	148.0	151.5	154.8	157.4	159.8	162.1	1.7	1.8
Coal	32.0	31.8	30.2	31.6	31.9	32.9	33.4	33.9	34.3	-0.1	1.7
Oil	69.3	69.2	66.5	73.2	75.5	76.9	77.9	78.8	79.8	1.9	1.7
Gas	11.1	11.4	11.4	12.2	12.0	12.3	12.6	12.9	13.1	7.4	1.3
Electricity	24.4	24.1	23.1	24.3	25.2	25.7	26.2	26.7	27.2	0.9	2.3
Heat	-	-	-	-	-	-	-	-	-	-	-
New-Renewable	6.7	6.4	6.7	6.6	6.8	7.0	7.2	7.4	7.7	4.5	3.0
Transport	43.0	43.0	39.4	39.8	40.8	42.0	43.0	43.3	43.5	-1.2	1.8
Coal	-	-	-	-	-	-	-	-	-	-	-
Oil	40.8	40.8	37.4	37.8	38.8	39.9	41.0	41.2	41.3	-1.3	1.8
Gas	1.2	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0	-3.6	-1.9
Electricity	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	3.0	4.5
Heat	-	-	-	-	-	-	-	-	-	-	-
New-Renewable	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.9	9.7	4.1
Buildings*	46.9	45.5	45.2	46.9	48.0	48.7	49.5	50.3	51.0	1.3	1.7
Coal	0.4	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	-17.9	-12.2
Oil	6.8	6.1	5.5	5.7	5.2	5.2	5.2	5.1	5.1	-4.3	-2.1
Gas	14.7	14.2	14.2	14.5	15.1	15.2	15.4	15.6	15.8	1.6	1.8
Electricity	20.6	20.5	20.4	21.3	22.0	22.3	22.6	22.9	23.2	2.0	1.7
Heat	2.7	2.6	2.8	2.9	3.1	3.2	3.3	3.4	3.5	5.9	3.8
New-Renewable	1.7	1.8	2.1	2.3	2.5	2.7	2.9	3.1	3.3	9.8	7.5
Transform	147.1	143.1	139.2	143.7	148.8	151.9	155.7	158.1	160.0	0.7	2.2
Coal	54.2	50.1	41.8	40.7	41.7	42.1	42.5	40.0	37.5	-3.7	-1.6
Oil	1.7	1.2	0.9	1.1	0.9	1.0	1.0	1.0	1.0	-20.0	-1.6
Gas	53.2	50.6	51.4	56.3	54.8	54.0	52.6	54.9	59.2	4.8	1.0
Nuclear	28.4	31.1	34.1	33.7	37.5	38.7	41.1	41.2	38.4	-0.3	2.7
Hydro	1.5	1.3	1.5	1.4	1.4	1.6	1.6	1.6	1.6	0.5	1.7
New-Renewable	8.0	8.8	9.5	10.5	12.5	14.6	16.9	19.5	22.3	10.3	16.4

\* include residential, commercial, public-etc usage

## Coal - BAU Scenario

	(Mton)											
											CAGR (%)	
	2018	2019	2020	2021p	2022e	2023e	2024e	2025e	2026e	16-21	21-26	
Total Coal Demand	141.1	133.0	116.6	116.8	119.0	121.1	122.6	119.0	115.3	-2.0	-0.3	
Transform	91.8	84.8	70.7	68.9	70.5	71.3	71.9	67.7	63.4	-3.0	-1.7	
Power Generation	91.8	84.8	70.7	68.9	70.5	71.3	71.9	67.7	63.4	-3.0	-1.7	
Heat	-	-	-	-	-	-	-	-	-	-	-	
Gas Manufacture	-	-	-	-	-	-	-	-	-	-	-	
Total Final Consumption	49.3	48.2	45.8	47.8	48.4	49.8	50.6	51.3	51.9	-0.5	1.6	
Industry	48.4	47.6	45.3	47.4	48.0	49.4	50.3	51.0	51.7	-0.2	1.7	
Transport	-	-	-	-	-	-	-	-	-	-	-	
Buildings	0.9	0.6	0.5	0.5	0.4	0.4	0.3	0.3	0.2	-18.5	-12.2	
Consumption by products												
Anthracite	9.3	7.9	7.2	7.3	7.6	8.0	8.0	8.1	8.1	-7.5	2.1	
Bituminous	131.8	125.1	109.4	109.5	111.3	113.1	114.5	110.9	107.2	-1.6	-0.4	
Iron making	34.6	35.0	33.8	35.3	35.4	36.2	36.9	37.4	37.9	1.1	1.4	
Cement	3.7	4.0	3.4	3.6	3.6	3.7	3.8	3.8	3.8	-4.5	0.9	
Power Generation	90.8	83.6	69.8	68.0	69.8	70.6	71.3	67.1	62.9	-2.6	-1.6	

## Oil - BAU Scenario

(Mbbbl)

										CAGR (%)	
	2018	2019	2020	2021p	2022e	2023e	2024e	2025e	2026e	16-21	21-26
<b>Total Oil Demand</b>	<b>931.8</b>	<b>927.1</b>	<b>872.4</b>	<b>932.2</b>	<b>961.6</b>	<b>981.0</b>	<b>997.2</b>	<b>1 007.4</b>	<b>1 017.1</b>	<b>0.2</b>	<b>1.8</b>
Transform	11.7	8.6	6.6	8.7	7.7	8.0	8.2	8.3	8.4	-16.8	-0.5
Power Generation	8.6	5.7	3.8	4.1	1.8	1.8	1.8	1.8	1.8	-26.7	-15.5
Heat	1.1	1.7	1.6	1.8	3.1	3.4	3.5	3.6	3.6	7.1	15.7
Gas Manufacture	2.0	1.2	1.2	2.8	2.8	2.9	2.9	3.0	3.0	18.3	1.5
<b>Total Final Consumption</b>	<b>920.0</b>	<b>918.5</b>	<b>865.8</b>	<b>923.6</b>	<b>953.9</b>	<b>973.0</b>	<b>989.1</b>	<b>999.1</b>	<b>1 008.6</b>	<b>0.5</b>	<b>1.8</b>
Industry	564.1	566.2	543.9	597.1	620.9	632.3	641.3	649.8	658.1	1.9	2.0
Transport	302.3	303.2	277.2	280.1	287.5	295.5	302.7	304.3	305.5	-1.4	1.7
Buildings	53.7	49.1	44.7	46.4	45.5	45.2	45.1	45.0	45.0	-3.8	-0.6
<b>Consumption by products</b>											
Gasoline	79.7	82.7	81.0	84.9	85.8	86.6	87.2	87.8	88.1	1.5	0.8
Diesel (including Transformation)	164.1	166.9	158.9	161.2	162.8	164.0	164.3	164.8	165.1	-0.3	0.5
Kerosene (including Transformation)	18.9	17.1	17.0	16.7	16.0	15.9	15.9	15.9	15.9	-2.6	-1.0
B-C (including Transformation)	33.7	24.0	23.8	22.3	22.3	22.9	23.4	23.8	24.1	-14.0	1.6
Jet Oil	39.9	38.8	21.7	21.2	26.9	33.2	39.6	40.0	40.3	-10.6	13.8
LPG (including Transformation)	109.4	122.1	121.3	123.4	141.2	144.1	147.1	150.3	153.3	2.5	4.4
Naphtha	451.2	438.6	405.3	450.9	459.9	467.0	472.3	477.7	483.0	0.9	1.4
Other Non-Energy	35.1	36.7	43.5	51.8	46.8	47.3	47.4	47.3	47.1	7.5	-1.9

## Gas - BAU Scenario

	2018	2019	2020	2021p	2022e	2023e	2024e	2025e	2026e	CAGR (%)	
										16-21	21-26
<b>Total Gas Demand (Mton)</b>	<b>42.3</b>	<b>41.0</b>	<b>42.1</b>	<b>45.8</b>	<b>44.6</b>	<b>44.1</b>	<b>43.0</b>	<b>44.9</b>	<b>48.2</b>	<b>5.6</b>	<b>1.1</b>
Transform	40.7	38.8	39.3	43.1	42.0	41.3	40.2	42.0	45.3	4.8	1.0
Power Generation	18.5	17.9	18.6	21.5	19.9	19.0	17.4	18.8	21.8	7.4	0.2
Heat	2.3	1.9	1.8	2.1	2.2	2.3	2.4	2.5	2.5	6.3	3.6
Gas Manufacture	20.0	18.9	18.9	19.5	19.9	20.1	20.4	20.7	21.0	2.2	1.6
Industry	1.6	2.2	2.8	2.7	2.6	2.7	2.8	2.8	2.9	27.2	1.7
<b>City Gas (Bm<sup>3</sup>)</b>	<b>24.3</b>	<b>23.3</b>	<b>22.4</b>	<b>23.6</b>	<b>24.0</b>	<b>24.2</b>	<b>24.6</b>	<b>25.0</b>	<b>25.3</b>	<b>2.1</b>	<b>1.4</b>
Industry*	8.8	8.3	7.6	8.5	8.4	8.5	8.7	8.9	9.0	3.3	1.2
Transport	1.2	1.2	1.1	1.0	1.0	1.0	1.0	1.0	0.9	- 3.3	- 1.9
Buildings	14.3	13.8	13.8	14.1	14.6	14.7	15.0	15.2	15.4	1.9	1.8

\* exclude industrial LNG usage

## Electricity - BAU Scenario

(TWh)

	2018	2019	2020	2021p	2022e	2023e	2024e	2025e	2026e	CAGR (%)	
										16-21	21-26
<b>Net Electricity Demand</b>	<b>570.6</b>	<b>563.0</b>	<b>552.2</b>	<b>576.1</b>	<b>596.3</b>	<b>606.6</b>	<b>617.8</b>	<b>627.5</b>	<b>637.2</b>	<b>1.3</b>	<b>2.0</b>
Own use and Losses	44.5	42.5	42.9	42.7	45.2	45.4	46.6	47.1	47.9	- 0.3	2.4
<b>Total Final Consumption</b>	<b>526.1</b>	<b>520.5</b>	<b>509.3</b>	<b>533.4</b>	<b>551.1</b>	<b>561.2</b>	<b>571.2</b>	<b>580.3</b>	<b>589.3</b>	<b>1.4</b>	<b>2.0</b>
Industry	283.7	279.8	268.7	282.4	292.4	298.8	304.9	310.5	316.0	0.9	2.3
Transport	3.0	2.9	3.2	3.1	3.0	3.2	3.4	3.6	3.9	3.0	4.5
Buildings	239.5	237.8	237.4	247.9	255.6	259.2	262.9	266.2	269.4	2.0	1.7
<b>Installed Electrical Capacity (GW)*</b>	<b>118.5</b>	<b>124.6</b>	<b>128.7</b>	<b>133.8</b>	<b>139.4</b>	<b>147.8</b>	<b>154.9</b>	<b>161.9</b>	<b>165.8</b>	<b>5.2</b>	<b>4.4</b>
Coal	37.0	37.0	36.9	37.7	38.4	40.5	41.1	39.7	37.9	3.7	0.1
Oil	4.3	3.9	2.2	2.2	1.0	1.0	1.0	1.0	1.0	- 12.2	- 15.0
Gas	37.9	39.4	41.2	41.2	42.2	42.2	43.2	45.8	47.6	4.8	2.9
Nuclear	21.9	23.3	23.3	23.3	23.7	25.4	25.9	26.0	23.9	0.9	0.6
Hydro	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	0.2	0.0
New-Renewable	11.0	14.6	18.7	23.0	27.6	32.2	37.3	42.9	48.9	25.8	16.3
<b>Electricity Generation of Power Plants*</b>	<b>570.6</b>	<b>563.0</b>	<b>552.1</b>	<b>576.7</b>	<b>596.3</b>	<b>606.6</b>	<b>617.8</b>	<b>627.5</b>	<b>637.2</b>	<b>1.3</b>	<b>2.0</b>
Coal	238.4	227.4	196.3	198.0	202.8	205.6	207.7	195.3	183.1	- 1.5	- 1.6
Oil	5.7	3.3	2.3	2.4	1.5	1.5	1.5	1.5	1.5	- 30.0	- 8.1
Gas	153.5	144.4	145.9	168.3	157.7	150.3	138.4	149.3	172.6	6.8	0.5
Nuclear	133.5	145.9	160.2	158.0	176.3	181.6	192.9	193.4	180.4	- 0.5	2.7
Hydro	7.3	6.2	7.1	6.7	6.5	7.3	7.4	7.3	7.3	0.3	1.7
New-Renewable	32.2	35.9	40.3	43.3	51.4	60.3	69.9	80.6	92.3	13.5	16.4
<b>Fuel Consumption of Power Plants (Mtoe)*</b>	<b>117.7</b>	<b>115.6</b>	<b>111.8</b>	<b>115.0</b>	<b>119.3</b>	<b>122.0</b>	<b>125.1</b>	<b>127.1</b>	<b>128.5</b>	<b>0.2</b>	<b>2.3</b>
Coal	54.2	50.1	41.8	40.7	41.7	42.1	42.5	40.0	37.5	- 3.7	- 1.6
Oil	1.3	0.8	0.6	0.6	0.3	0.3	0.3	0.3	0.3	- 28.0	- 15.5
Gas	24.2	23.4	24.3	28.1	26.0	24.8	22.8	24.6	28.5	7.4	0.2
Nuclear	28.4	31.1	34.1	33.7	37.5	38.7	41.1	41.2	38.4	- 0.3	2.7
Hydro	1.5	1.3	1.5	1.4	1.4	1.6	1.6	1.6	1.6	0.5	1.7
New-Renewable	8.0	8.8	9.5	10.5	12.5	14.6	16.9	19.5	22.3	10.3	16.4

\* District Heat is classified by fuel type since 2014

## Heat and New-Renewable - BAU Scenario

(Mtoe)

	CAGR (%)										
	2018	2019	2020	2021p	2022e	2023e	2024e	2025e	2026e	16-21	21-26
Net Heat Demand	2.6	2.6	2.8	2.9	3.0	3.1	3.3	3.4	3.5	5.5	3.8
Own use and Losses	- 0.0	0.0	0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 222.0	4.3
Total Final Consumption	2.7	2.6	2.8	2.9	3.1	3.2	3.3	3.4	3.5	5.9	3.8
Industry	-	-	-	-	-	-	-	-	-	-	-
Transport	-	-	-	-	-	-	-	-	-	-	-
Buildings	2.7	2.6	2.8	2.9	3.1	3.2	3.3	3.4	3.5	5.9	3.8
Heat Production by fuel	2.6	2.6	2.8	2.9	3.0	3.1	3.3	3.4	3.5	4.9	7.6
Coal	-	-	-	-	-	-	-	-	-	-	-
Oil	1.7	1.7	2.2	2.2	2.3	2.5	2.6	2.6	2.7	10.4	3.9
Gas	0.9	0.9	0.6	0.6	0.7	0.7	0.7	0.7	0.8	- 5.5	3.8
Nuclear	-	-	-	-	-	-	-	-	-	-	-
Hydro	-	-	-	-	-	-	-	-	-	-	-
New-Renewable	-	-	-	-	-	-	-	-	-	-	-
Fuel Consumption of District Heat	3.1	2.7	2.5	3.0	3.3	3.5	3.5	3.7	3.8	9.7	18.2
Coal	-	-	-	-	-	-	-	-	-	-	-
Oil	0.2	0.2	0.2	0.2	0.4	0.4	0.4	0.4	0.5	3.4	14.6
Gas	2.9	2.5	2.3	2.8	2.9	3.0	3.1	3.2	3.3	6.3	3.6
Nuclear	-	-	-	-	-	-	-	-	-	-	-
Hydro	-	-	-	-	-	-	-	-	-	-	-
New-Renewable	-	-	-	-	-	-	-	-	-	-	-
New-Renewable	18.7	19.0	20.5	21.5	23.9	26.6	29.4	32.4	35.7	7.5	10.7
Hydro	1.5	1.3	1.5	1.4	1.4	1.6	1.6	1.6	1.6	0.5	1.7
Transform	8.0	8.8	9.5	10.5	12.5	14.6	16.9	19.5	22.3	10.3	16.4
Total Final Consumption	9.1	8.9	9.5	9.6	10.0	10.5	10.9	11.3	11.8	6.0	4.2
Industry	6.7	6.4	6.7	6.6	6.8	7.0	7.2	7.4	7.7	4.5	3.0
Transport	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.9	9.7	4.1
Buildings	1.7	1.8	2.1	2.3	2.5	2.7	2.9	3.1	3.3	9.8	7.5

## Main Economic and Energy Indicators - HEG Scenario

	CAGR (%)											
	2018	2019	2020	2021p	2022e	2023e	2024e	2025e	2026e	16-21	21-26	
Economy and Population												
GDP (2010 trillion won)	1 812.0	1 852.7	1 836.9	1 910.7	1 966.3	2 023.4	2 080.0	2 136.2	2 193.9	2.3	2.8	
Industrial Production (2010=100)	106.3	106.7	106.4	114.3	117.8	122.4	127.4	131.9	136.9	2.3	3.7	
Crude Oil Price (Dubai, USD/bbl)	69.4	63.5	42.2	69.3	99.7	94.4	83.1	80.2	79.5	10.9	2.8	
Working Days	270.0	272.5	275.5	272.5	272.5	273.5	272.5	274.0	275.0	- 0.0	0.2	
Population (million)	51.6	51.8	51.8	51.7	51.6	51.6	51.5	51.4	51.4	0.2	- 0.1	
Average Temperature (°C)	13.0	13.5	13.0	13.3	13.1	13.2	13.2	13.2	13.2	- 0.4	- 0.3	
Cooling Degree days	209.0	120.4	85.2	101.3	106.6	106.6	106.6	106.6	106.6	- 8.0	1.0	
Heating Degree days	2 597.8	2 370.9	2 448.0	2 404.7	2 499.0	2 452.9	2 468.5	2 452.9	2 452.9	0.1	0.4	
Energy Indicators												
Total Primary Energy Demand (Mtoe)	307.6	303.1	292.1	305.3	314.7	323.0	331.0	336.8	342.0	0.8	2.3	
Energy Intensity (toe/million won)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	- 1.5	- 0.5	
TPED/capita (toe/capita)	6.0	5.9	5.6	5.9	6.1	6.3	6.4	6.5	6.7	0.6	2.4	
Electricity Generation (TWh)	570.6	563.0	552.2	576.1	597.1	609.5	622.3	634.0	645.7	1.3	2.3	
Electricity Generation/capita (MWh/capita)	11.1	10.9	10.7	11.1	11.6	11.8	12.1	12.3	12.6	1.1	2.4	
Electricity Demand/capita (MWh/capita)	10.2	10.1	9.8	10.3	10.7	10.9	11.2	11.4	11.6	1.2	2.4	



## Energy Demand - HEG Scenario

										CAGR (%)	
	2018	2019	2020	2021p	2022e	2023e	2024e	2025e	2026e	16-21	21-26
<b>Total Primary Energy Supply</b>											
Coal (Mton)	141.1	133.0	116.6	116.8	119.4	122.2	124.2	121.2	118.0	-2.0	0.2
Oil (Mbbl)	931.8	927.1	872.4	932.2	964.0	987.9	1 007.9	1 022.2	1 036.5	0.2	2.1
Gas (Bm³)	42.3	41.0	42.1	45.8	44.7	44.4	43.7	45.7	49.4	5.6	1.5
Hydro (TWh)	7.3	6.2	7.1	6.7	6.5	7.3	7.4	7.3	7.3	0.3	1.7
Nuclear (TWh)	133.5	145.9	160.2	158.0	176.3	181.6	192.9	193.4	180.4	-0.5	2.7
New-Renewable (Mtoe)	17.1	17.7	19.0	20.1	22.5	25.1	27.8	30.9	34.1	8.1	11.2
<b>Total (Mtoe)</b>	<b>307.6</b>	<b>303.1</b>	<b>292.1</b>	<b>305.3</b>	<b>314.7</b>	<b>323.0</b>	<b>331.0</b>	<b>336.8</b>	<b>342.0</b>	<b>0.8</b>	<b>2.3</b>
Coal	86.7	82.1	72.2	72.5	74.1	75.9	77.2	75.5	73.7	-2.3	0.3
Oil	118.5	117.3	110.2	117.8	120.8	123.8	126.3	128.0	129.7	0.0	1.9
Gas	55.2	53.5	55.0	59.8	58.4	58.0	57.0	59.7	64.5	5.6	1.5
Nuclear	1.5	1.3	1.5	1.4	1.4	1.6	1.6	1.6	1.6	0.5	1.7
Hydro	28.4	31.1	34.1	33.7	37.5	38.7	41.1	41.2	38.4	-0.3	2.7
New-Renewable	17.1	17.7	19.0	20.1	22.5	25.1	27.8	30.9	34.1	8.1	11.2
<b>Total Final Consumption</b>											
Coal (Mton)	49.3	48.2	45.8	47.8	48.9	50.9	52.3	53.5	54.6	-0.5	2.7
Oil (Mbbl)	920.0	918.5	865.8	923.6	956.3	979.8	999.7	1 013.9	1 028.0	0.5	2.2
Gas (Bm³)	26.3	26.1	25.9	27.0	27.4	27.8	28.4	28.9	29.4	3.9	1.7
Electricity (TWh)	526.1	520.5	509.3	533.4	551.8	563.8	575.4	586.3	597.1	1.4	2.3
Heat (Mtoe)	2.7	2.6	2.8	2.9	3.1	3.2	3.3	3.4	3.5	5.9	3.8
New-Renewable (Mtoe)	9.1	8.9	9.5	9.6	10.0	10.5	10.9	11.3	11.8	6.0	4.2
<b>Total (Mtoe)</b>	<b>233.4</b>	<b>231.4</b>	<b>222.6</b>	<b>234.7</b>	<b>241.0</b>	<b>247.4</b>	<b>252.9</b>	<b>257.4</b>	<b>261.8</b>	<b>1.1</b>	<b>2.2</b>
Coal	32.5	32.1	30.5	31.8	32.4	33.8	34.7	35.5	36.3	-0.3	2.7
Oil	116.8	116.1	109.3	116.7	119.8	122.8	125.3	127.0	128.6	0.4	2.0
Gas	27.0	26.9	26.7	27.8	28.2	28.6	29.3	29.8	30.2	3.6	1.7
Electricity	45.2	44.8	43.8	45.9	47.5	48.5	49.5	50.4	51.4	1.4	2.3
Heat	2.7	2.6	2.8	2.9	3.1	3.2	3.3	3.4	3.5	5.9	3.8
New-Renewable	9.1	8.9	9.5	9.6	10.0	10.5	10.9	11.3	11.8	6.0	4.2
Industry	143.5	142.9	138.0	148.0	152.2	156.5	160.1	163.4	166.7	1.7	2.4
Transport	43.0	43.0	39.4	39.8	40.8	42.0	43.1	43.4	43.7	-1.2	1.9
Buildings	46.9	45.5	45.2	46.9	48.0	48.8	49.8	50.6	51.4	1.3	1.9

## Energy Demand - HEG Scenario

(yoy, %)

											CAGR (%)	
	2018	2019	2020	2021p	2022e	2023e	2024e	2025e	2026e	16-21	21-26	
Total Primary Energy Supply												
Coal (Mton)	0.9	- 5.7	- 12.4	0.2	2.2	2.3	1.7	- 2.5	- 2.6	- 2.0	0.2	
Oil (Mbbl)	- 0.6	- 0.5	- 5.9	6.9	3.4	2.5	2.0	1.4	1.4	0.2	2.1	
Gas (Bm³)	16.2	- 3.1	2.7	8.7	- 2.2	- 0.7	- 1.8	4.8	8.0	5.6	1.5	
Hydro (TWh)	3.9	- 14.1	14.4	- 5.8	- 3.8	13.2	0.2	- 0.2	-	0.3	1.7	
Nuclear (TWh)	- 10.1	9.3	9.8	- 1.4	11.6	3.0	6.3	0.2	- 6.7	- 0.5	2.7	
New-Renewable (Mtoe)	8.0	3.3	7.3	5.8	12.0	11.5	11.0	10.9	10.6	8.1	11.2	
Total (Mtoe)	1.8	- 1.5	- 3.6	4.5	3.1	2.6	2.5	1.8	1.5	0.8	2.3	
Coal	0.6	- 5.3	- 12.1	0.4	2.2	2.4	1.7	- 2.2	- 2.3	- 2.3	0.3	
Oil	- 0.7	- 1.0	- 6.0	6.9	2.5	2.5	2.0	1.4	1.3	0.0	1.9	
Gas	16.2	- 3.1	2.7	8.7	- 2.2	- 0.7	- 1.8	4.8	8.0	5.6	1.5	
Nuclear	3.9	- 14.1	14.4	- 5.8	- 3.8	13.2	0.2	- 0.2	-	0.5	1.7	
Hydro	- 10.1	9.3	9.8	- 1.4	11.6	3.0	6.3	0.2	- 6.7	- 0.3	2.7	
New-Renewable	8.0	3.3	7.3	5.8	12.0	11.5	11.0	10.9	10.6	8.1	11.2	
Total Final Consumption												
Coal (Mton)	- 2.1	- 2.2	- 4.9	4.4	2.1	4.2	2.6	2.4	2.0	- 0.5	2.7	
Oil (Mbbl)	- 0.7	- 0.2	- 5.7	6.7	3.6	2.5	2.0	1.4	1.4	0.5	2.2	
Gas (Bm³)	9.7	- 0.6	- 0.6	4.0	1.5	1.6	2.2	1.7	1.6	3.9	1.7	
Electricity (TWh)	3.6	- 1.1	- 2.2	4.7	3.5	2.2	2.1	1.9	1.8	1.4	2.3	
Heat (Mtoe)	9.9	- 1.3	4.7	4.7	5.2	4.6	3.6	3.1	2.7	5.9	3.8	
New-Renewable (Mtoe)	5.5	- 2.2	6.5	1.1	4.5	4.3	4.2	4.0	4.0	6.0	4.2	
Total (Mtoe)	1.2	- 0.9	- 3.8	5.4	2.7	2.6	2.3	1.8	1.7	1.1	2.2	
Coal	- 2.6	- 1.3	- 5.0	4.4	2.0	4.2	2.7	2.4	2.1	- 0.3	2.7	
Oil	- 0.9	- 0.6	- 5.8	6.7	2.7	2.5	2.0	1.3	1.3	0.4	2.0	
Gas	9.7	- 0.6	- 0.6	4.0	1.5	1.6	2.2	1.7	1.6	3.6	1.7	
Electricity	3.6	- 1.1	- 2.2	4.7	3.5	2.2	2.1	1.9	1.8	1.4	2.3	
Heat	9.9	- 1.3	4.7	4.7	5.2	4.6	3.6	3.1	2.7	5.9	3.8	
New-Renewable	5.5	- 2.2	6.5	1.1	4.5	4.3	4.2	4.0	4.0	6.0	4.2	
Industry	0.7	- 0.4	- 3.5	7.3	2.8	2.9	2.3	2.1	2.0	1.7	2.4	
Transport	0.4	0.0	- 8.2	0.9	2.6	3.0	2.6	0.7	0.5	- 1.2	1.9	
Buildings	3.5	- 3.1	- 0.7	3.8	2.4	1.6	1.9	1.7	1.6	1.3	1.9	

## Energy Demand by Sector - HEG Scenario

(Mtoe)

	2018	2019	2020	2021p	2022e	2023e	2024e	2025e	2026e	CAGR (%)	
										16-21	21-26
<b>Industry</b>	<b>143.5</b>	<b>142.9</b>	<b>138.0</b>	<b>148.0</b>	<b>152.2</b>	<b>156.5</b>	<b>160.1</b>	<b>163.4</b>	<b>166.7</b>	<b>1.7</b>	<b>2.4</b>
Coal	32.0	31.8	30.2	31.6	32.2	33.6	34.5	35.4	36.1	-0.1	2.7
Oil	69.3	69.2	66.5	73.2	75.8	77.7	79.1	80.5	82.0	1.9	2.3
Gas	11.1	11.4	11.4	12.2	12.1	12.4	12.8	13.1	13.4	7.4	1.8
Electricity	24.4	24.1	23.1	24.3	25.2	25.8	26.4	27.0	27.5	0.9	2.5
Heat	-	-	-	-	-	-	-	-	-	-	-
New-Renewable	6.7	6.4	6.7	6.6	6.8	7.0	7.2	7.4	7.7	4.5	3.0
<b>Transport</b>	<b>43.0</b>	<b>43.0</b>	<b>39.4</b>	<b>39.8</b>	<b>40.8</b>	<b>42.0</b>	<b>43.1</b>	<b>43.4</b>	<b>43.7</b>	<b>-1.2</b>	<b>1.9</b>
Coal	-	-	-	-	-	-	-	-	-	-	-
Oil	40.8	40.8	37.4	37.8	38.8	40.0	41.1	41.3	41.5	-1.3	1.9
Gas	1.2	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0	-3.6	-1.9
Electricity	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	3.0	4.5
Heat	-	-	-	-	-	-	-	-	-	-	-
New-Renewable	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.9	9.7	4.1
<b>Buildings*</b>	<b>46.9</b>	<b>45.5</b>	<b>45.2</b>	<b>46.9</b>	<b>48.0</b>	<b>48.8</b>	<b>49.8</b>	<b>50.6</b>	<b>51.4</b>	<b>1.3</b>	<b>1.9</b>
Coal	0.4	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	-17.9	-12.2
Oil	6.8	6.1	5.5	5.7	5.2	5.2	5.1	5.1	5.1	-4.3	-2.1
Gas	14.7	14.2	14.2	14.5	15.1	15.2	15.5	15.7	15.9	1.6	1.9
Electricity	20.6	20.5	20.4	21.3	22.0	22.4	22.8	23.1	23.5	2.0	2.0
Heat	2.7	2.6	2.8	2.9	3.1	3.2	3.3	3.4	3.5	5.9	3.8
New-Renewable	1.7	1.8	2.1	2.3	2.5	2.7	2.9	3.1	3.3	9.8	7.5
<b>Transform</b>	<b>147.1</b>	<b>143.1</b>	<b>139.2</b>	<b>143.7</b>	<b>149.0</b>	<b>152.4</b>	<b>156.4</b>	<b>159.2</b>	<b>161.5</b>	<b>0.7</b>	<b>2.4</b>
Coal	54.2	50.1	41.8	40.7	41.7	42.1	42.5	40.0	37.5	-3.7	-1.6
Oil	1.7	1.2	0.9	1.1	0.9	1.0	1.0	1.0	1.0	-20.0	-1.6
Gas	53.2	50.6	51.4	56.3	55.0	54.5	53.3	55.9	60.6	4.8	1.5
Nuclear	28.4	31.1	34.1	33.7	37.5	38.7	41.1	41.2	38.4	-0.3	2.7
Hydro	1.5	1.3	1.5	1.4	1.4	1.6	1.6	1.6	1.6	0.5	1.7
New-Renewable	8.0	8.8	9.5	10.5	12.5	14.6	16.9	19.5	22.3	10.3	16.4

\* include residential, commercial, public-etc usage

## Coal - HEG Scenario

(Mton)												
											CAGR (%)	
	2018	2019	2020	2021p	2022e	2023e	2024e	2025e	2026e	16-21	21-26	
Total Coal Demand	141.1	133.0	116.6	116.8	119.4	122.2	124.2	121.2	118.0	- 2.0	0.2	
Transform	91.8	84.8	70.7	68.9	70.5	71.3	71.9	67.7	63.4	- 3.0	- 1.7	
Power Generation	91.8	84.8	70.7	68.9	70.5	71.3	71.9	67.7	63.4	- 3.0	- 1.7	
Heat	-	-	-	-	-	-	-	-	-	-	-	
Gas Manufacture	-	-	-	-	-	-	-	-	-	-	-	
Total Final Consumption	49.3	48.2	45.8	47.8	48.9	50.9	52.3	53.5	54.6	- 0.5	2.7	
Industry	48.4	47.6	45.3	47.4	48.5	50.6	52.0	53.2	54.4	- 0.2	2.8	
Transport	-	-	-	-	-	-	-	-	-	-	-	
Buildings	0.9	0.6	0.5	0.5	0.4	0.4	0.3	0.3	0.2	- 18.5	- 12.2	
Consumption by products												
Anthracite	9.3	7.9	7.2	7.3	7.7	8.2	8.3	8.5	8.5	- 7.5	3.1	
Bituminous	131.8	125.1	109.4	109.5	111.7	114.0	115.9	112.7	109.5	- 1.6	0.0	
Iron making	34.6	35.0	33.8	35.3	35.8	37.1	38.1	39.1	40.0	1.1	2.5	
Cement	3.7	4.0	3.4	3.6	3.6	3.8	3.9	3.9	4.0	- 4.5	1.7	
Power Generation	90.8	83.6	69.8	68.0	69.8	70.6	71.3	67.1	62.9	- 2.6	- 1.6	

## Oil - HEG Scenario

(Mbbbl)

	2018	2019	2020	2021p	2022e	2023e	2024e	2025e	2026e	CAGR (%)	
										16-21	21-26
<b>Total Oil Demand</b>	<b>931.8</b>	<b>927.1</b>	<b>872.4</b>	<b>932.2</b>	<b>964.0</b>	<b>987.9</b>	<b>1 007.9</b>	<b>1 022.2</b>	<b>1 036.5</b>	<b>0.2</b>	<b>2.1</b>
Transform	11.7	8.6	6.6	8.7	7.7	8.0	8.2	8.3	8.4	- 16.8	- 0.5
Power Generation	8.6	5.7	3.8	4.1	1.8	1.8	1.8	1.8	1.8	- 26.7	- 15.5
Heat	1.1	1.7	1.6	1.8	3.1	3.4	3.5	3.6	3.6	7.1	15.7
Gas Manufacture	2.0	1.2	1.2	2.8	2.8	2.9	2.9	3.0	3.0	18.3	1.5
<b>Total Final Consumption</b>	<b>920.0</b>	<b>918.5</b>	<b>865.8</b>	<b>923.6</b>	<b>956.3</b>	<b>979.8</b>	<b>999.7</b>	<b>1 013.9</b>	<b>1 028.0</b>	<b>0.5</b>	<b>2.2</b>
Industry	564.1	566.2	543.9	597.1	623.4	639.0	651.4	663.8	676.5	1.9	2.5
Transport	302.3	303.2	277.2	280.1	287.4	295.7	303.3	305.2	306.7	- 1.4	1.8
Buildings	53.7	49.1	44.7	46.4	45.5	45.1	45.0	44.9	44.8	- 3.8	- 0.7
<b>Consumption by products</b>											
Gasoline	79.7	82.7	81.0	84.9	85.8	86.6	87.2	87.8	88.1	1.5	0.8
Diesel (including Transformation)	164.1	166.9	158.9	161.2	162.7	164.1	164.5	165.1	165.6	- 0.3	0.5
Kerosene (including Transformation)	18.9	17.1	17.0	16.7	16.0	15.9	15.9	15.9	15.9	- 2.6	- 1.0
B-C (including Transformation)	33.7	24.0	23.8	22.3	22.3	22.9	23.4	23.8	24.1	- 14.0	1.6
Jet Oil	39.9	38.8	21.7	21.2	26.9	33.4	40.0	40.5	41.1	- 10.6	14.2
LPG (including Transformation)	109.4	122.1	121.3	123.4	141.6	145.1	148.6	152.4	156.1	2.5	4.8
Naphtha	451.2	438.6	405.3	450.9	461.9	472.2	480.1	488.5	497.1	0.9	2.0
Other Non-Energy	35.1	36.7	43.5	51.8	46.9	47.7	48.2	48.3	48.5	7.5	- 1.3

## Gas - HEG Scenario

	2018	2019	2020	2021p	2022e	2023e	2024e	2025e	2026e	CAGR (%)	
										16-21	21-26
<b>Total Gas Demand (Mton)</b>	<b>42.3</b>	<b>41.0</b>	<b>42.1</b>	<b>45.8</b>	<b>44.7</b>	<b>44.4</b>	<b>43.7</b>	<b>45.7</b>	<b>49.4</b>	<b>5.6</b>	<b>1.5</b>
Transform	40.7	38.8	39.3	43.1	42.1	41.7	40.8	42.8	46.4	4.8	1.5
Power Generation	18.5	17.9	18.6	21.5	20.0	19.3	18.0	19.6	22.9	7.4	1.2
Heat	2.3	1.9	1.8	2.1	2.2	2.3	2.4	2.5	2.5	6.3	3.6
Gas Manufacture	20.0	18.9	18.9	19.5	19.9	20.1	20.4	20.7	21.0	2.2	1.6
Industry	1.6	2.2	2.8	2.7	2.6	2.7	2.8	2.9	3.0	27.2	2.2
<b>City Gas (Bm<sup>3</sup>)</b>	<b>24.3</b>	<b>23.3</b>	<b>22.4</b>	<b>23.6</b>	<b>24.1</b>	<b>24.3</b>	<b>24.8</b>	<b>25.2</b>	<b>25.6</b>	<b>2.1</b>	<b>1.7</b>
Industry*	8.8	8.3	7.6	8.5	8.4	8.6	8.8	9.0	9.2	3.3	1.6
Transport	1.2	1.2	1.1	1.0	1.0	1.0	1.0	1.0	0.9	- 3.3	- 1.9
Buildings	14.3	13.8	13.8	14.1	14.7	14.8	15.0	15.3	15.5	1.9	1.9

\* exclude industrial LNG usage

## Electricity - HEG Scenario

(TWh)

	2018	2019	2020	2021p	2022e	2023e	2024e	2025e	2026e	CAGR (%)	
										16-21	21-26
<b>Net Electricity Demand</b>	<b>570.6</b>	<b>563.0</b>	<b>552.2</b>	<b>576.1</b>	<b>597.1</b>	<b>609.5</b>	<b>622.3</b>	<b>634.0</b>	<b>645.7</b>	<b>1.3</b>	<b>2.3</b>
Own use and Losses	44.5	42.5	42.9	42.7	45.3	45.7	46.9	47.6	48.6	-0.3	2.6
<b>Total Final Consumption</b>	<b>526.1</b>	<b>520.5</b>	<b>509.3</b>	<b>533.4</b>	<b>551.8</b>	<b>563.8</b>	<b>575.4</b>	<b>586.3</b>	<b>597.1</b>	<b>1.4</b>	<b>2.3</b>
Industry	283.7	279.8	268.7	282.4	292.9	300.3	307.1	313.5	319.9	0.9	2.5
Transport	3.0	2.9	3.2	3.1	3.0	3.2	3.4	3.6	3.9	3.0	4.5
Buildings	239.5	237.8	237.4	247.9	256.0	260.4	265.0	269.2	273.3	2.0	2.0
<b>Installed Electrical Capacity (GW)*</b>	<b>118.5</b>	<b>124.6</b>	<b>128.7</b>	<b>133.8</b>	<b>139.4</b>	<b>147.8</b>	<b>154.9</b>	<b>161.9</b>	<b>165.8</b>	<b>5.2</b>	<b>4.4</b>
Coal	37.0	37.0	36.9	37.7	38.4	40.5	41.1	39.7	37.9	3.7	0.1
Oil	4.3	3.9	2.2	2.2	1.0	1.0	1.0	1.0	1.0	-12.2	-15.0
Gas	37.9	39.4	41.2	41.2	42.2	42.2	43.2	45.8	47.6	4.8	2.9
Nuclear	21.9	23.3	23.3	23.3	23.7	25.4	25.9	26.0	23.9	0.9	0.6
Hydro	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	0.2	0.0
New-Renewable	11.0	14.6	18.7	23.0	27.6	32.2	37.3	42.9	48.9	25.8	16.3
<b>Electricity Generation of Power Plants*</b>	<b>570.6</b>	<b>563.0</b>	<b>552.1</b>	<b>576.7</b>	<b>597.1</b>	<b>609.5</b>	<b>622.3</b>	<b>634.0</b>	<b>645.7</b>	<b>1.3</b>	<b>2.3</b>
Coal	238.4	227.4	196.3	198.0	202.8	205.6	207.7	195.3	183.1	-1.5	-1.6
Oil	5.7	3.3	2.3	2.4	1.5	1.5	1.5	1.5	1.5	-30.0	-8.1
Gas	153.5	144.4	145.9	168.3	158.6	153.1	142.9	155.8	181.1	6.8	1.5
Nuclear	133.5	145.9	160.2	158.0	176.3	181.6	192.9	193.4	180.4	-0.5	2.7
Hydro	7.3	6.2	7.1	6.7	6.5	7.3	7.4	7.3	7.3	0.3	1.7
New-Renewable	32.2	35.9	40.3	43.3	51.4	60.3	69.9	80.6	92.3	13.5	16.4
<b>Fuel Consumption of Power Plants (Mtoe)*</b>	<b>117.7</b>	<b>115.6</b>	<b>111.8</b>	<b>115.0</b>	<b>119.5</b>	<b>122.4</b>	<b>125.9</b>	<b>128.2</b>	<b>129.9</b>	<b>0.2</b>	<b>2.5</b>
Coal	54.2	50.1	41.8	40.7	41.7	42.1	42.5	40.0	37.5	-3.7	-1.6
Oil	1.3	0.8	0.6	0.6	0.3	0.3	0.3	0.3	0.3	-28.0	-15.5
Gas	24.2	23.4	24.3	28.1	26.2	25.2	23.5	25.7	29.9	7.4	1.2
Nuclear	28.4	31.1	34.1	33.7	37.5	38.7	41.1	41.2	38.4	-0.3	2.7
Hydro	1.5	1.3	1.5	1.4	1.4	1.6	1.6	1.6	1.6	0.5	1.7
New-Renewable	8.0	8.8	9.5	10.5	12.5	14.6	16.9	19.5	22.3	10.3	16.4

\* District Heat is classified by fuel type since 2014

## Heat and New-Renewable - HEG Scenario

(Mtoe)

										CAGR (%)	
	2018	2019	2020	2021p	2022e	2023e	2024e	2025e	2026e	16-21	21-26
<b>Net Heat Demand</b>	<b>2.6</b>	<b>2.6</b>	<b>2.8</b>	<b>2.9</b>	<b>3.0</b>	<b>3.1</b>	<b>3.3</b>	<b>3.4</b>	<b>3.5</b>	<b>5.5</b>	<b>3.8</b>
Own use and Losses	- 0.0	0.0	0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 222.0	4.3
<b>Total Final Consumption</b>	<b>2.7</b>	<b>2.6</b>	<b>2.8</b>	<b>2.9</b>	<b>3.1</b>	<b>3.2</b>	<b>3.3</b>	<b>3.4</b>	<b>3.5</b>	<b>5.9</b>	<b>3.8</b>
Industry	-	-	-	-	-	-	-	-	-	-	-
Transport	-	-	-	-	-	-	-	-	-	-	-
Buildings	2.7	2.6	2.8	2.9	3.1	3.2	3.3	3.4	3.5	5.9	3.8
<b>Heat Production by fuel</b>	<b>2.6</b>	<b>2.6</b>	<b>2.8</b>	<b>2.9</b>	<b>3.0</b>	<b>3.1</b>	<b>3.3</b>	<b>3.4</b>	<b>3.5</b>	<b>4.9</b>	<b>7.6</b>
Coal	-	-	-	-	-	-	-	-	-	-	-
Oil	1.7	1.7	2.2	2.2	2.3	2.5	2.6	2.6	2.7	10.4	3.9
Gas	0.9	0.9	0.6	0.6	0.7	0.7	0.7	0.7	0.8	- 5.5	3.8
Nuclear	-	-	-	-	-	-	-	-	-	-	-
Hydro	-	-	-	-	-	-	-	-	-	-	-
New-Renewable	-	-	-	-	-	-	-	-	-	-	-
<b>Fuel Consumption of District Heat</b>	<b>3.1</b>	<b>2.7</b>	<b>2.5</b>	<b>3.0</b>	<b>3.3</b>	<b>3.5</b>	<b>3.5</b>	<b>3.7</b>	<b>3.8</b>	<b>9.7</b>	<b>18.2</b>
Coal	-	-	-	-	-	-	-	-	-	-	-
Oil	0.2	0.2	0.2	0.2	0.4	0.4	0.4	0.4	0.5	3.4	14.6
Gas	2.9	2.5	2.3	2.8	2.9	3.0	3.1	3.2	3.3	6.3	3.6
Nuclear	-	-	-	-	-	-	-	-	-	-	-
Hydro	-	-	-	-	-	-	-	-	-	-	-
New-Renewable	-	-	-	-	-	-	-	-	-	-	-
<b>New-Renewable</b>	<b>18.7</b>	<b>19.0</b>	<b>20.5</b>	<b>21.5</b>	<b>23.9</b>	<b>26.6</b>	<b>29.4</b>	<b>32.4</b>	<b>35.7</b>	<b>7.5</b>	<b>10.7</b>
Hydro	1.5	1.3	1.5	1.4	1.4	1.6	1.6	1.6	1.6	0.5	1.7
Transform	8.0	8.8	9.5	10.5	12.5	14.6	16.9	19.5	22.3	10.3	16.4
<b>Total Final Consumption</b>	<b>9.1</b>	<b>8.9</b>	<b>9.5</b>	<b>9.6</b>	<b>10.0</b>	<b>10.5</b>	<b>10.9</b>	<b>11.3</b>	<b>11.8</b>	<b>6.0</b>	<b>4.2</b>
Industry	6.7	6.4	6.7	6.6	6.8	7.0	7.2	7.4	7.7	4.5	3.0
Transport	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.9	9.7	4.1
Buildings	1.7	1.8	2.1	2.3	2.5	2.7	2.9	3.1	3.3	9.8	7.5



## Main Economic and Energy Indicators - *LEG Scenario*

											CAGR (%)		
	2018	2019	2020	2021p	2022e	2023e	2024e	2025e	2026e	16-21	21-26		
Economy and Population													
GDP (2010 trillion won)	1 812.0	1 852.7	1 836.9	1 910.7	1 956.5	1 993.7	2 029.6	2 064.1	2 099.2	2.3	1.9		
Industrial Production (2010=100)	106.3	106.7	106.4	114.3	117.4	120.4	123.6	126.3	129.3	2.3	2.5		
Crude Oil Price (Dubai, USD/bbl)	69.4	63.5	42.2	69.3	99.7	94.4	83.1	80.2	79.5	10.9	2.8		
Working Days	270.0	272.5	275.5	272.5	272.5	273.5	272.5	274.0	275.0	- 0.0	0.2		
Population (million)	51.6	51.8	51.8	51.7	51.6	51.6	51.5	51.4	51.4	0.2	- 0.1		
Average Temperature (°C)	13.0	13.5	13.0	13.3	13.1	13.2	13.2	13.2	13.2	- 0.4	- 0.3		
Cooling Degree days	209.0	120.4	85.2	101.3	106.6	106.6	106.6	106.6	106.6	- 8.0	1.0		
Heating Degree days	2 597.8	2 370.9	2 448.0	2 404.7	2 499.0	2 452.9	2 468.5	2 452.9	2 452.9	0.1	0.4		
Energy Indicators													
Total Primary Energy Demand (Mtoe)	307.6	303.1	292.1	305.3	313.2	318.9	324.7	328.2	331.1	0.8	1.6		
Energy Intensity (toe/million won)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	- 1.5	- 0.3		
TPED/capita (toe/capita)	6.0	5.9	5.6	5.9	6.1	6.2	6.3	6.4	6.4	0.6	1.8		
Electricity Generation (TWh)	570.6	563.0	552.2	576.1	595.4	604.3	613.3	621.0	628.8	1.3	1.8		
Electricity Generation/capita (MWh/capita)	11.1	10.9	10.7	11.1	11.5	11.7	11.9	12.1	12.2	1.1	1.9		
Electricity Demand/capita (MWh/capita)	10.2	10.1	9.8	10.3	10.7	10.8	11.0	11.2	11.3	1.2	1.9		

## Energy Demand - *LEG Scenario*

										CAGR (%)	
	2018	2019	2020	2021p	2022e	2023e	2024e	2025e	2026e	16-21	21-26
<b>Total Primary Energy Supply</b>											
Coal (Mton)	141.1	133.0	116.6	116.8	118.5	120.0	121.0	117.1	113.1	- 2.0	- 0.6
Oil (Mbbl)	931.8	927.1	872.4	932.2	958.8	973.9	986.5	992.6	997.9	0.2	1.4
Gas (Bm³)	42.3	41.0	42.1	45.8	44.5	43.7	42.4	44.0	47.1	5.6	0.6
Hydro (TWh)	7.3	6.2	7.1	6.7	6.5	7.3	7.4	7.3	7.3	0.3	1.7
Nuclear (TWh)	133.5	145.9	160.2	158.0	176.3	181.6	192.9	193.4	180.4	- 0.5	2.7
New-Renewable (Mtoe)	17.1	17.7	19.0	20.1	22.5	25.1	27.8	30.9	34.1	8.1	11.2
<b>Total (Mtoe)</b>	<b>307.6</b>	<b>303.1</b>	<b>292.1</b>	<b>305.3</b>	<b>313.2</b>	<b>318.9</b>	<b>324.7</b>	<b>328.2</b>	<b>331.1</b>	<b>0.8</b>	<b>1.6</b>
Coal	86.7	82.1	72.2	72.5	73.5	74.4	75.1	72.8	70.5	- 2.3	- 0.6
Oil	118.5	117.3	110.2	117.8	120.1	122.1	123.7	124.4	125.0	0.0	1.2
Gas	55.2	53.5	55.0	59.8	58.1	57.1	55.4	57.4	61.5	5.6	0.6
Nuclear	1.5	1.3	1.5	1.4	1.4	1.6	1.6	1.6	1.6	0.5	1.7
Hydro	28.4	31.1	34.1	33.7	37.5	38.7	41.1	41.2	38.4	- 0.3	2.7
New-Renewable	17.1	17.7	19.0	20.1	22.5	25.1	27.8	30.9	34.1	8.1	11.2
<b>Total Final Consumption</b>											
Coal (Mton)	49.3	48.2	45.8	47.8	48.0	48.7	49.1	49.4	49.7	- 0.5	0.8
Oil (Mbbl)	920.0	918.5	865.8	923.6	951.2	965.9	978.3	984.2	989.5	0.5	1.4
Gas (Bm³)	26.3	26.1	25.9	27.0	27.3	27.5	27.9	28.3	28.6	3.9	1.2
Electricity (TWh)	526.1	520.5	509.3	533.4	550.3	559.0	567.1	574.4	581.5	1.4	1.7
Heat (Mtoe)	2.7	2.6	2.8	2.9	3.1	3.2	3.3	3.4	3.5	5.9	3.8
New-Renewable (Mtoe)	9.1	8.9	9.5	9.6	10.0	10.5	10.9	11.3	11.8	6.0	4.2
<b>Total (Mtoe)</b>	<b>233.4</b>	<b>231.4</b>	<b>222.6</b>	<b>234.7</b>	<b>239.5</b>	<b>243.5</b>	<b>247.0</b>	<b>249.4</b>	<b>251.7</b>	<b>1.1</b>	<b>1.4</b>
Coal	32.5	32.1	30.5	31.8	31.8	32.3	32.6	32.8	33.0	- 0.3	0.8
Oil	116.8	116.1	109.3	116.7	119.2	121.1	122.7	123.4	124.0	0.4	1.2
Gas	27.0	26.9	26.7	27.8	28.1	28.3	28.7	29.1	29.4	3.6	1.2
Electricity	45.2	44.8	43.8	45.9	47.3	48.1	48.8	49.4	50.0	1.4	1.7
Heat	2.7	2.6	2.8	2.9	3.1	3.2	3.3	3.4	3.5	5.9	3.8
New-Renewable	9.1	8.9	9.5	9.6	10.0	10.5	10.9	11.3	11.8	6.0	4.2
Industry	143.5	142.9	138.0	148.0	150.8	153.0	154.8	156.4	157.8	1.7	1.3
Transport	43.0	43.0	39.4	39.8	40.8	41.9	42.9	43.1	43.3	- 1.2	1.7
Buildings	46.9	45.5	45.2	46.9	47.9	48.5	49.3	49.9	50.6	1.3	1.5

## Energy Demand - *LEG Scenario*

(yoy, %)

	CAGR (%)										
	2018	2019	2020	2021p	2022e	2023e	2024e	2025e	2026e	16-21	21-26
<b>Total Primary Energy Supply</b>											
Coal (Mton)	0.9	- 5.7	- 12.4	0.2	1.5	1.2	0.9	- 3.3	- 3.4	- 2.0	- 0.6
Oil (Mbbbl)	- 0.6	- 0.5	- 5.9	6.9	2.9	1.6	1.3	0.6	0.5	0.2	1.4
Gas (Bm³)	16.2	- 3.1	2.7	8.7	- 2.8	- 1.7	- 3.0	3.7	7.1	5.6	0.6
Hydro (TWh)	3.9	- 14.1	14.4	- 5.8	- 3.8	13.2	0.2	- 0.2	-	0.3	1.7
Nuclear (TWh)	- 10.1	9.3	9.8	- 1.4	11.6	3.0	6.3	0.2	- 6.7	- 0.5	2.7
New-Renewable (Mtoe)	8.0	3.3	7.3	5.8	12.0	11.5	11.0	10.9	10.6	8.1	11.2
<b>Total (Mtoe)</b>	<b>1.8</b>	<b>- 1.5</b>	<b>- 3.6</b>	<b>4.5</b>	<b>2.6</b>	<b>1.8</b>	<b>1.8</b>	<b>1.1</b>	<b>0.9</b>	<b>0.8</b>	<b>1.6</b>
Coal	0.6	- 5.3	- 12.1	0.4	1.4	1.2	0.9	- 3.1	- 3.2	- 2.3	- 0.6
Oil	- 0.7	- 1.0	- 6.0	6.9	2.0	1.6	1.3	0.6	0.5	0.0	1.2
Gas	16.2	- 3.1	2.7	8.7	- 2.8	- 1.7	- 3.0	3.7	7.1	5.6	0.6
Nuclear	3.9	- 14.1	14.4	- 5.8	- 3.8	13.2	0.2	- 0.2	-	0.5	1.7
Hydro	- 10.1	9.3	9.8	- 1.4	11.6	3.0	6.3	0.2	- 6.7	- 0.3	2.7
New-Renewable	8.0	3.3	7.3	5.8	12.0	11.5	11.0	10.9	10.6	8.1	11.2
<b>Total Final Consumption</b>											
Coal (Mton)	- 2.1	- 2.2	- 4.9	4.4	0.3	1.5	0.8	0.7	0.6	- 0.5	0.8
Oil (Mbbbl)	- 0.7	- 0.2	- 5.7	6.7	3.0	1.5	1.3	0.6	0.5	0.5	1.4
Gas (Bm³)	9.7	- 0.6	- 0.6	4.0	1.1	0.8	1.6	1.2	1.2	3.9	1.2
Electricity (TWh)	3.6	- 1.1	- 2.2	4.7	3.2	1.6	1.4	1.3	1.2	1.4	1.7
Heat (Mtoe)	9.9	- 1.3	4.7	4.7	5.2	4.6	3.6	3.1	2.7	5.9	3.8
New-Renewable (Mtoe)	5.5	- 2.2	6.5	1.1	4.5	4.3	4.2	4.0	4.0	6.0	4.2
<b>Total (Mtoe)</b>	<b>1.2</b>	<b>- 0.9</b>	<b>- 3.8</b>	<b>5.4</b>	<b>2.1</b>	<b>1.6</b>	<b>1.5</b>	<b>1.0</b>	<b>0.9</b>	<b>1.1</b>	<b>1.4</b>
Coal	- 2.6	- 1.3	- 5.0	4.4	0.1	1.5	0.8	0.7	0.6	- 0.3	0.8
Oil	- 0.9	- 0.6	- 5.8	6.7	2.1	1.6	1.3	0.6	0.5	0.4	1.2
Gas	9.7	- 0.6	- 0.6	4.0	1.1	0.8	1.6	1.2	1.2	3.6	1.2
Electricity	3.6	- 1.1	- 2.2	4.7	3.2	1.6	1.4	1.3	1.2	1.4	1.7
Heat	9.9	- 1.3	4.7	4.7	5.2	4.6	3.6	3.1	2.7	5.9	3.8
New-Renewable	5.5	- 2.2	6.5	1.1	4.5	4.3	4.2	4.0	4.0	6.0	4.2
Industry	0.7	- 0.4	- 3.5	7.3	1.9	1.5	1.2	1.0	0.9	1.7	1.3
Transport	0.4	0.0	- 8.2	0.9	2.5	2.8	2.4	0.5	0.4	- 1.2	1.7
Buildings	3.5	- 3.1	- 0.7	3.8	2.2	1.2	1.6	1.3	1.3	1.3	1.5

## Energy Demand by Sector - *LEG Scenario*

(Mtoe)

											CAGR (%)	
	2018	2019	2020	2021p	2022e	2023e	2024e	2025e	2026e	16-21	21-26	
Industry	143.5	142.9	138.0	148.0	150.8	153.0	154.8	156.4	157.8	1.7	1.3	
Coal	32.0	31.8	30.2	31.6	31.6	32.1	32.4	32.7	32.9	-0.1	0.8	
Oil	69.3	69.2	66.5	73.2	75.2	76.1	76.7	77.2	77.6	1.9	1.2	
Gas	11.1	11.4	11.4	12.2	12.0	12.2	12.4	12.6	12.8	7.4	0.9	
Electricity	24.4	24.1	23.1	24.3	25.1	25.6	26.0	26.5	26.8	0.9	2.0	
Heat	-	-	-	-	-	-	-	-	-	-	-	
New-Renewable	6.7	6.4	6.7	6.6	6.8	7.0	7.2	7.4	7.7	4.5	3.0	
Transport	43.0	43.0	39.4	39.8	40.8	41.9	42.9	43.1	43.3	-1.2	1.7	
Coal	-	-	-	-	-	-	-	-	-	-	-	
Oil	40.8	40.8	37.4	37.8	38.8	39.9	40.8	41.0	41.2	-1.3	1.7	
Gas	1.2	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0	-3.6	-1.9	
Electricity	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	3.0	4.5	
Heat	-	-	-	-	-	-	-	-	-	-	-	
New-Renewable	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.9	9.7	4.1	
Buildings*	46.9	45.5	45.2	46.9	47.9	48.5	49.3	49.9	50.6	1.3	1.5	
Coal	0.4	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	-17.9	-12.2	
Oil	6.8	6.1	5.5	5.7	5.2	5.2	5.2	5.2	5.2	-4.3	-2.0	
Gas	14.7	14.2	14.2	14.5	15.1	15.1	15.3	15.5	15.7	1.6	1.6	
Electricity	20.6	20.5	20.4	21.3	22.0	22.2	22.4	22.6	22.8	2.0	1.4	
Heat	2.7	2.6	2.8	2.9	3.1	3.2	3.3	3.4	3.5	5.9	3.8	
New-Renewable	1.7	1.8	2.1	2.3	2.5	2.7	2.9	3.1	3.3	9.8	7.5	
Transform	147.1	143.1	139.2	143.7	148.7	151.5	154.9	157.1	158.7	0.7	2.0	
Coal	54.2	50.1	41.8	40.7	41.7	42.1	42.5	40.0	37.5	-3.7	-1.6	
Oil	1.7	1.2	0.9	1.1	0.9	1.0	1.0	1.0	1.0	-20.0	-1.6	
Gas	53.2	50.6	51.4	56.3	54.7	53.6	51.8	53.8	57.8	4.8	0.5	
Nuclear	28.4	31.1	34.1	33.7	37.5	38.7	41.1	41.2	38.4	-0.3	2.7	
Hydro	1.5	1.3	1.5	1.4	1.4	1.6	1.6	1.6	1.6	0.5	1.7	
New-Renewable	8.0	8.8	9.5	10.5	12.5	14.6	16.9	19.5	22.3	10.3	16.4	

\* include residential, commercial, public-etc usage

## Coal - LEG Scenario

(Mton)

	2018	2019	2020	2021p	2022e	2023e	2024e	2025e	2026e	CAGR (%)	
										16-21	21-26
<b>Total Coal Demand</b>	<b>141.1</b>	<b>133.0</b>	<b>116.6</b>	<b>116.8</b>	<b>118.5</b>	<b>120.0</b>	<b>121.0</b>	<b>117.1</b>	<b>113.1</b>	<b>- 2.0</b>	<b>- 0.6</b>
Transform	91.8	84.8	70.7	68.9	70.5	71.3	71.9	67.7	63.4	- 3.0	- 1.7
Power Generation	91.8	84.8	70.7	68.9	70.5	71.3	71.9	67.7	63.4	- 3.0	- 1.7
Heat	-	-	-	-	-	-	-	-	-	-	-
Gas Manufacture	-	-	-	-	-	-	-	-	-	-	-
<b>Total Final Consumption</b>	<b>49.3</b>	<b>48.2</b>	<b>45.8</b>	<b>47.8</b>	<b>48.0</b>	<b>48.7</b>	<b>49.1</b>	<b>49.4</b>	<b>49.7</b>	<b>- 0.5</b>	<b>0.8</b>
Industry	48.4	47.6	45.3	47.4	47.6	48.3	48.8	49.1	49.5	- 0.2	0.9
Transport	-	-	-	-	-	-	-	-	-	-	-
Buildings	0.9	0.6	0.5	0.5	0.4	0.4	0.3	0.3	0.2	- 18.5	- 12.2
<b>Consumption by products</b>											
Anthracite	9.3	7.9	7.2	7.3	7.6	7.7	7.6	7.6	7.5	- 7.5	0.6
Bituminous	131.8	125.1	109.4	109.5	110.9	112.3	113.4	109.5	105.6	- 1.6	- 0.7
Iron making	34.6	35.0	33.8	35.3	35.1	35.5	35.9	36.2	36.4	1.1	0.6
Cement	3.7	4.0	3.4	3.6	3.6	3.6	3.7	3.7	3.7	- 4.5	0.2
Power Generation	90.8	83.6	69.8	68.0	69.8	70.6	71.3	67.1	62.9	- 2.6	- 1.6

## Oil - LEG Scenario

(Mbbbl)

	2018	2019	2020	2021p	2022e	2023e	2024e	2025e	2026e	CAGR (%)	
										16-21	21-26
<b>Total Oil Demand</b>	<b>931.8</b>	<b>927.1</b>	<b>872.4</b>	<b>932.2</b>	<b>958.8</b>	<b>973.9</b>	<b>986.5</b>	<b>992.6</b>	<b>997.9</b>	<b>0.2</b>	<b>1.4</b>
Transform	11.7	8.6	6.6	8.7	7.7	8.0	8.2	8.3	8.4	-16.8	-0.5
Power Generation	8.6	5.7	3.8	4.1	1.8	1.8	1.8	1.8	1.8	-26.7	-15.5
Heat	1.1	1.7	1.6	1.8	3.1	3.4	3.5	3.6	3.6	7.1	15.7
Gas Manufacture	2.0	1.2	1.2	2.8	2.8	2.9	2.9	3.0	3.0	18.3	1.5
<b>Total Final Consumption</b>	<b>920.0</b>	<b>918.5</b>	<b>865.8</b>	<b>923.6</b>	<b>951.2</b>	<b>965.9</b>	<b>978.3</b>	<b>984.2</b>	<b>989.5</b>	<b>0.5</b>	<b>1.4</b>
Industry	564.1	566.2	543.9	597.1	618.4	625.7	631.2	635.9	640.2	1.9	1.4
Transport	302.3	303.2	277.2	280.1	287.2	294.9	301.9	303.2	304.1	-1.4	1.7
Buildings	53.7	49.1	44.7	46.4	45.6	45.3	45.2	45.2	45.2	-3.8	-0.5
<b>Consumption by products</b>											
Gasoline	79.7	82.7	81.0	84.9	85.8	86.6	87.2	87.8	88.1	1.5	0.8
Diesel (including Transformation)	164.1	166.9	158.9	161.2	162.5	163.7	163.8	164.1	164.4	-0.3	0.4
Kerosene (including Transformation)	18.9	17.1	17.0	16.7	16.0	15.9	15.9	15.9	15.9	-2.6	-1.0
B-C (including Transformation)	33.7	24.0	23.8	22.3	22.3	22.9	23.4	23.8	24.1	-14.0	1.6
Jet Oil	39.9	38.8	21.7	21.2	26.9	33.0	39.2	39.4	39.6	-10.6	13.4
LPG (including Transformation)	109.4	122.1	121.3	123.4	140.8	143.1	145.6	148.2	150.6	2.5	4.1
Naphtha	451.2	438.6	405.3	450.9	457.8	461.8	464.6	467.1	469.3	0.9	0.8
Other Non-Energy	35.1	36.7	43.5	51.8	46.8	46.9	46.7	46.3	45.8	7.5	-2.4

## Gas - *LEG Scenario*

	2018	2019	2020	2021p	2022e	2023e	2024e	2025e	2026e	CAGR (%)	
										16-21	21-26
<b>Total Gas Demand (Mton)</b>	<b>42.3</b>	<b>41.0</b>	<b>42.1</b>	<b>45.8</b>	<b>44.5</b>	<b>43.7</b>	<b>42.4</b>	<b>44.0</b>	<b>47.1</b>	<b>5.6</b>	<b>0.6</b>
Transform	40.7	38.8	39.3	43.1	41.9	41.0	39.7	41.2	44.3	4.8	0.5
Power Generation	18.5	17.9	18.6	21.5	19.8	18.7	16.9	18.0	20.7	7.4	-0.8
Heat	2.3	1.9	1.8	2.1	2.2	2.3	2.4	2.5	2.5	6.3	3.6
Gas Manufacture	20.0	18.9	18.9	19.5	19.9	20.1	20.4	20.7	21.0	2.2	1.6
Industry	1.6	2.2	2.8	2.7	2.6	2.7	2.8	2.8	2.8	27.2	1.2
<b>City Gas (Bm<sup>3</sup>)</b>	<b>24.3</b>	<b>23.3</b>	<b>22.4</b>	<b>23.6</b>	<b>24.0</b>	<b>24.1</b>	<b>24.4</b>	<b>24.7</b>	<b>25.0</b>	<b>2.1</b>	<b>1.2</b>
Industry*	8.8	8.3	7.6	8.5	8.3	8.4	8.6	8.7	8.8	3.3	0.7
Transport	1.2	1.2	1.1	1.0	1.0	1.0	1.0	1.0	0.9	-3.3	-1.9
Buildings	14.3	13.8	13.8	14.1	14.6	14.7	14.9	15.1	15.3	1.9	1.6

\* exclude industrial LNG usage

## Electricity - *LEG Scenario*

(TWh)

	2018	2019	2020	2021p	2022e	2023e	2024e	2025e	2026e	CAGR (%)	
										16-21	21-26
<b>Net Electricity Demand</b>	<b>570.6</b>	<b>563.0</b>	<b>552.2</b>	<b>576.1</b>	<b>595.4</b>	<b>604.3</b>	<b>613.3</b>	<b>621.0</b>	<b>628.8</b>	<b>1.3</b>	<b>1.8</b>
Own use and Losses	44.5	42.5	42.9	42.7	45.1	45.2	46.2	46.6	47.3	- 0.3	2.1
<b>Total Final Consumption</b>	<b>526.1</b>	<b>520.5</b>	<b>509.3</b>	<b>533.4</b>	<b>550.3</b>	<b>559.0</b>	<b>567.1</b>	<b>574.4</b>	<b>581.5</b>	<b>1.4</b>	<b>1.7</b>
Industry	283.7	279.8	268.7	282.4	292.0	297.8	302.9	307.6	312.1	0.9	2.0
Transport	3.0	2.9	3.2	3.1	3.0	3.2	3.4	3.6	3.9	3.0	4.5
Buildings	239.5	237.8	237.4	247.9	255.3	258.1	260.9	263.2	265.5	2.0	1.4
<b>Installed Electrical Capacity (GW)*</b>	<b>118.5</b>	<b>124.6</b>	<b>128.7</b>	<b>133.8</b>	<b>139.4</b>	<b>147.8</b>	<b>154.9</b>	<b>161.9</b>	<b>165.8</b>	<b>5.2</b>	<b>4.4</b>
Coal	37.0	37.0	36.9	37.7	38.4	40.5	41.1	39.7	37.9	3.7	0.1
Oil	4.3	3.9	2.2	2.2	1.0	1.0	1.0	1.0	1.0	- 12.2	- 15.0
Gas	37.9	39.4	41.2	41.2	42.2	42.2	43.2	45.8	47.6	4.8	2.9
Nuclear	21.9	23.3	23.3	23.3	23.7	25.4	25.9	26.0	23.9	0.9	0.6
Hydro	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	0.2	0.0
New-Renewable	11.0	14.6	18.7	23.0	27.6	32.2	37.3	42.9	48.9	25.8	16.3
<b>Electricity Generation of Power Plants*</b>	<b>570.6</b>	<b>563.0</b>	<b>552.1</b>	<b>576.7</b>	<b>595.4</b>	<b>604.3</b>	<b>613.3</b>	<b>621.0</b>	<b>628.8</b>	<b>1.3</b>	<b>1.7</b>
Coal	238.4	227.4	196.3	198.0	202.8	205.6	207.7	195.3	183.1	- 1.5	- 1.6
Oil	5.7	3.3	2.3	2.4	1.5	1.5	1.5	1.5	1.5	- 30.0	- 8.1
Gas	153.5	144.4	145.9	168.3	156.9	147.9	133.9	142.8	164.2	6.8	- 0.5
Nuclear	133.5	145.9	160.2	158.0	176.3	181.6	192.9	193.4	180.4	- 0.5	2.7
Hydro	7.3	6.2	7.1	6.7	6.5	7.3	7.4	7.3	7.3	0.3	1.7
New-Renewable	32.2	35.9	40.3	43.3	51.4	60.3	69.9	80.6	92.3	13.5	16.4
<b>Fuel Consumption of Power Plants (Mtoe)*</b>	<b>117.7</b>	<b>115.6</b>	<b>111.8</b>	<b>115.0</b>	<b>119.2</b>	<b>121.6</b>	<b>124.4</b>	<b>126.0</b>	<b>127.1</b>	<b>0.2</b>	<b>2.0</b>
Coal	54.2	50.1	41.8	40.7	41.7	42.1	42.5	40.0	37.5	- 3.7	- 1.6
Oil	1.3	0.8	0.6	0.6	0.3	0.3	0.3	0.3	0.3	- 28.0	- 15.5
Gas	24.2	23.4	24.3	28.1	25.9	24.4	22.0	23.5	27.1	7.4	- 0.8
Nuclear	28.4	31.1	34.1	33.7	37.5	38.7	41.1	41.2	38.4	- 0.3	2.7
Hydro	1.5	1.3	1.5	1.4	1.4	1.6	1.6	1.6	1.6	0.5	1.7
New-Renewable	8.0	8.8	9.5	10.5	12.5	14.6	16.9	19.5	22.3	10.3	16.4

\* District Heat is classified by fuel type since 2014



## Heat and New-Renewable - LEG Scenario

(Mtoe)

	CAGR (%)										
	2018	2019	2020	2021p	2022e	2023e	2024e	2025e	2026e	16-21	21-26
Net Heat Demand	2.6	2.6	2.8	2.9	3.0	3.1	3.3	3.4	3.5	5.5	3.8
Own use and Losses	- 0.0	0.0	0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 222.0	4.3
Total Final Consumption	2.7	2.6	2.8	2.9	3.1	3.2	3.3	3.4	3.5	5.9	3.8
Industry	-	-	-	-	-	-	-	-	-	-	-
Transport	-	-	-	-	-	-	-	-	-	-	-
Buildings	2.7	2.6	2.8	2.9	3.1	3.2	3.3	3.4	3.5	5.9	3.8
Heat Production by fuel	2.6	2.6	2.8	2.9	3.0	3.1	3.3	3.4	3.5	4.9	7.6
Coal	-	-	-	-	-	-	-	-	-	-	-
Oil	1.7	1.7	2.2	2.2	2.3	2.5	2.6	2.6	2.7	10.4	3.9
Gas	0.9	0.9	0.6	0.6	0.7	0.7	0.7	0.7	0.8	- 5.5	3.8
Nuclear	-	-	-	-	-	-	-	-	-	-	-
Hydro	-	-	-	-	-	-	-	-	-	-	-
New-Renewable	-	-	-	-	-	-	-	-	-	-	-
Fuel Consumption of District Heat	3.1	2.7	2.5	3.0	3.3	3.5	3.5	3.7	3.8	9.7	18.2
Coal	-	-	-	-	-	-	-	-	-	-	-
Oil	0.2	0.2	0.2	0.2	0.4	0.4	0.4	0.4	0.5	3.4	14.6
Gas	2.9	2.5	2.3	2.8	2.9	3.0	3.1	3.2	3.3	6.3	3.6
Nuclear	-	-	-	-	-	-	-	-	-	-	-
Hydro	-	-	-	-	-	-	-	-	-	-	-
New-Renewable	-	-	-	-	-	-	-	-	-	-	-
New-Renewable	18.7	19.0	20.5	21.5	23.9	26.6	29.4	32.4	35.7	7.5	10.7
Hydro	1.5	1.3	1.5	1.4	1.4	1.6	1.6	1.6	1.6	0.5	1.7
Transform	8.0	8.8	9.5	10.5	12.5	14.6	16.9	19.5	22.3	10.3	16.4
Total Final Consumption	9.1	8.9	9.5	9.6	10.0	10.5	10.9	11.3	11.8	6.0	4.2
Industry	6.7	6.4	6.7	6.6	6.8	7.0	7.2	7.4	7.7	4.5	3.0
Transport	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.9	9.7	4.1
Buildings	1.7	1.8	2.1	2.3	2.5	2.7	2.9	3.1	3.3	9.8	7.5



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