

**Table F1. Total world delivered energy consumption by end-use sector and fuel, Low Oil Price case**

quadrillion British thermal units

Sector and fuel	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
<b>Residential</b>								
Liquid fuels	9.4	9.8	10.2	10.6	11.0	11.4	11.8	0.8%
Natural gas	23.1	23.8	24.9	25.9	27.0	28.2	29.4	0.9%
Coal	3.6	3.5	3.5	3.4	3.3	3.3	3.2	-0.4%
Electricity	25.4	26.8	29.9	32.8	36.5	40.6	44.8	2.0%
Renewables	1.6	1.5	1.5	1.5	1.5	1.6	1.6	-0.1%
<b>Total</b>	<b>63.1</b>	<b>65.4</b>	<b>69.9</b>	<b>74.3</b>	<b>79.4</b>	<b>85.0</b>	<b>90.8</b>	<b>1.3%</b>
<b>Commercial</b>								
Liquid fuels	3.5	3.8	3.9	4.1	4.2	4.3	4.4	0.8%
Natural gas	9.4	9.6	10.1	10.5	10.8	11.2	11.5	0.7%
Coal	1.3	1.3	1.4	1.4	1.4	1.4	1.5	0.5%
Electricity	18.4	19.3	20.9	22.4	24.0	25.7	27.3	1.4%
Renewables	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4%
<b>Total</b>	<b>32.8</b>	<b>34.2</b>	<b>36.6</b>	<b>38.5</b>	<b>40.7</b>	<b>42.9</b>	<b>45.0</b>	<b>1.1%</b>
<b>Industrial</b>								
Liquid fuels	62.4	65.5	70.0	74.4	78.5	82.5	86.2	1.2%
Natural gas	63.9	65.0	69.8	74.0	78.5	83.1	87.7	1.1%
Coal	62.8	63.1	63.5	63.5	63.7	64.5	65.3	0.1%
Electricity	41.5	43.3	46.4	49.0	51.2	53.4	55.4	1.0%
Renewables	24.1	26.7	30.2	33.6	36.8	39.8	42.7	2.1%
<b>Total</b>	<b>254.6</b>	<b>263.8</b>	<b>279.9</b>	<b>294.5</b>	<b>308.5</b>	<b>323.3</b>	<b>337.2</b>	<b>1.0%</b>
<b>Transportation</b>								
Liquid fuels	109.7	114.5	116.9	120.0	124.2	130.0	136.5	0.8%
Natural gas	4.2	4.4	4.3	4.3	4.4	4.6	5.2	0.8%
Coal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Electricity	1.9	2.1	2.6	3.3	4.0	4.6	5.1	3.5%
<b>Total</b>	<b>115.8</b>	<b>121.0</b>	<b>123.8</b>	<b>127.6</b>	<b>132.6</b>	<b>139.3</b>	<b>146.8</b>	<b>0.9%</b>
<b>Components of energy use</b>								
<b>End-use consumption</b>								
Liquid fuels	184.9	193.5	201.0	209.1	217.9	228.3	239.0	0.9%
Natural gas	100.5	102.8	109.0	114.7	120.6	127.1	133.8	1.0%
Coal	67.7	68.0	68.3	68.3	68.4	69.2	70.0	0.1%
Electricity	87.3	91.6	99.9	107.4	115.6	124.4	132.5	1.5%
Renewables	25.9	28.5	31.9	35.4	38.6	41.6	44.5	2.0%
<b>Total end-use consumption</b>	<b>466.4</b>	<b>484.4</b>	<b>510.1</b>	<b>534.9</b>	<b>561.2</b>	<b>590.5</b>	<b>619.8</b>	<b>1.0%</b>
Electricity-related losses	171.3	178.9	192.6	205.9	216.4	228.6	240.0	1.2%
Discrepancy	0.0	-0.5	-0.1	0.2	0.5	0.8	1.0	12.7%
<b>Total</b>	<b>637.7</b>	<b>662.7</b>	<b>702.6</b>	<b>741.0</b>	<b>778.1</b>	<b>819.9</b>	<b>860.9</b>	<b>1.1%</b>
<b>Electric power</b>								
Liquid fuels	5.4	6.4	3.9	2.0	1.1	0.8	0.7	-7.2%
Natural gas	52.5	50.8	50.1	51.1	54.0	57.5	61.1	0.5%
Coal	98.3	97.8	99.9	103.8	102.5	102.0	101.9	0.1%
Nuclear	27.7	29.3	32.0	33.4	34.0	34.0	34.9	0.8%
Renewables	74.5	86.1	106.4	122.9	140.1	158.3	173.6	3.1%
<b>Total</b>	<b>258.4</b>	<b>270.3</b>	<b>292.3</b>	<b>313.1</b>	<b>331.8</b>	<b>352.7</b>	<b>372.2</b>	<b>1.3%</b>
<b>Total energy consumption</b>								
Liquid fuels	190.3	199.4	204.7	211.2	219.5	229.9	240.8	0.8%
Natural gas	153.2	153.7	159.3	166.0	174.9	184.7	195.0	0.9%
Coal	166.0	165.8	168.3	172.1	171.0	171.3	172.0	0.1%
Nuclear	27.7	29.3	32.0	33.4	34.0	34.0	34.9	0.8%
Renewables	100.4	114.6	138.3	158.2	178.7	200.0	218.2	2.8%

<b>Total</b>	<b>637.7</b>	<b>662.7</b>	<b>702.6</b>	<b>741.0</b>	<b>778.1</b>	<b>819.9</b>	<b>860.9</b>	<b>1.1%</b>
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Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run Ip\_230823.090253 and Annual Energy Outlook 2023 (March 2023), [www.eia.gov/aeo](http://www.eia.gov/aeo)

Note: Totals may not equal sum of components due to independent rounding. End-use sector electricity consumption and end-use sector delivered energy consumption do not include electrical system energy losses incurred in the generation, transmission, and distribution of electricity. Electricity-related losses include energy losses during generation due to thermal efficiency, energy losses during transmission and distribution, and parasitic load. In all regions except the United States, fuel consumed to produce district heat is allocated to the residential, commercial, and industrial end-use sectors according to their respective share of heat demand. We converted electricity generation from renewable sources such as hydroelectric, wind, or solar to British thermal units at a rate of 8,124 British thermal units per kilowatthour, which reflects the average projected conversion efficiency of the U.S. fossil-fueled generating fleet in the Annual Energy Outlook 2021 over the projection period (2022–2050).