

Table A2. World total primary energy consumption by region and fuel, High Zero-carbon Technology Cost case

quadrillion British thermal units

Region and fuel	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
Americas								
Liquid fuels	57.6	57.7	56.9	56.7	57.5	59.1	61.1	0.2%
Natural gas	45.7	43.7	45.6	45.8	47.6	49.8	52.3	0.5%
Coal	11.3	10.3	7.8	8.2	8.3	8.4	8.3	-1.1%
Nuclear	9.4	9.3	9.6	9.1	8.9	8.6	8.5	-0.3%
Other	28.6	30.9	35.9	40.2	42.7	45.1	48.0	1.9%
Total	152.6	152.0	155.8	160.0	164.9	171.1	178.2	0.6%
Europe and Eurasia								
Liquid fuels	38.0	38.4	37.4	36.6	36.7	37.3	38.2	0.0%
Natural gas	43.7	44.4	45.8	47.0	49.0	51.2	53.8	0.7%
Coal	16.5	16.2	14.7	14.8	14.9	16.1	16.4	0.0%
Nuclear	10.4	10.6	11.1	11.3	11.2	11.0	11.1	0.2%
Other	21.4	22.8	24.9	27.9	30.8	32.2	34.1	1.7%
Total	130.0	132.4	134.0	137.7	142.6	147.9	153.6	0.6%
Asia Pacific								
Liquid fuels	71.4	77.0	83.3	88.5	92.9	97.7	101.8	1.3%
Natural gas	35.2	37.5	40.6	43.2	46.5	50.8	54.7	1.6%
Coal	133.7	133.2	140.3	144.4	144.2	143.0	144.2	0.3%
Nuclear	7.6	8.7	10.5	12.0	13.2	14.0	14.9	2.4%
Other	44.7	52.5	61.6	71.8	83.5	96.7	106.1	3.1%
Total	292.6	309.0	336.2	360.0	380.2	402.1	421.7	1.3%
Africa and Middle East								
Liquid fuels	23.3	24.8	24.7	25.6	27.2	29.0	31.0	1.0%
Natural gas	28.6	29.8	31.2	33.7	36.1	38.6	41.0	1.3%
Coal	4.6	4.5	5.2	5.8	6.4	7.2	7.9	2.0%
Nuclear	0.4	0.6	0.9	1.2	1.4	1.4	1.4	4.9%
Other	5.7	7.1	9.2	10.5	12.0	13.8	15.4	3.6%
Total	62.5	66.7	71.3	76.9	83.0	90.1	96.7	1.6%
World								
Liquid fuels	190.3	197.9	202.3	207.5	214.3	223.2	232.1	0.7%
Natural gas	153.2	155.4	163.2	169.8	179.1	190.5	201.8	1.0%
Coal	166.0	164.3	168.0	173.2	173.7	174.8	176.7	0.2%
Nuclear	27.7	29.3	32.1	33.7	34.7	35.0	35.9	0.9%
Other	100.4	113.4	131.7	150.5	169.0	187.8	203.7	2.6%
Total	637.7	660.2	697.3	734.6	770.7	811.2	850.2	1.0%

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run hz_230821.151430 and Annual Energy Outlook 2023 (March 2023), www.eia.gov/aeo

Note: Totals may not equal sum of components due to independent rounding. 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).