International Energy Outlook 2023

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Table N13. Buildings delivered energy consumption in Japan by end-use sector and fuel, Low Economic Growth case

quadrillion British thermal units

sector_fuel	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
Commercial buildings								
Coal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4%
Electricity	1.2	1.2	1.2	1.1	1.1	1.1	1.1	-0.3%
Liquid fuels	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.1%
Natural gas	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.6%
Renewables	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8%
Total	**1.9**	**2.0**	**2.0**	**1.9**	**1.9**	**1.9**	**1.9**	**-0.1%**
Residential buildings								
Coal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Electricity	1.0	1.0	1.0	1.0	1.0	1.0	1.0	-0.1%
Liquid fuels	0.4	0.4	0.4	0.4	0.4	0.4	0.4	-0.2%
Natural gas	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.2%
Renewables	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8%
Total	**1.8**	**1.9**	**1.9**	**1.8**	**1.8**	**1.8**	**1.8**	**0.0%**
Total buildings								
Coal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4%
Electricity	2.2	2.2	2.2	2.1	2.1	2.1	2.1	-0.2%
Liquid fuels	0.8	0.8	0.8	0.8	0.8	0.8	0.8	-0.1%
Natural gas	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.4%
Renewables	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8%
Total	**3.8**	**3.8**	**3.9**	**3.7**	**3.7**	**3.7**	**3.7**	**-0.1%**

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run lm_230821.151939 and Annual Energy Outlook 2023 (March 2023), www.eia.gov/aeo

Note: Totals may not equal sum of components due to independent rounding. The commercial sector includes businesses, institutions, and service organizations. Most commercial energy use occurs in buildings or structures to provide space heating, water heating, lighting, cooking, and cooling. Energy consumed for services not associated with buildings, such as for traffic lights and city water and sewer services, is also categorized as commercial energy use. The residential sector includes households but excludes motor vehicle fuel consumption, which is covered in the transportation sector. Buildings electricity consumption and buildings 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 consumption in buildings includes fuel used to produce district heat that is delivered to the residential and commercial sectors. 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).