

Table 898. Renewable Energy Consumption Estimates by Source: 1990 to 2008

[In quadrillion Btu (6.21 represents 6,210,000,000,000). For definition of Btu, see source and text, this section. Renewable energy is obtained from sources that are essentially inexhaustible, unlike fossil fuels of which there is a finite supply]

Source and sector	1990	2000	2004	2005	2006	2007	2008 ¹
Consumption, total	6.21	6.26	6.26	6.42	6.91	6.81	7.30
Conventional hydroelectric power ² . . .	3.05	2.81	2.69	2.70	2.87	2.45	2.45
Geothermal energy ³	0.34	0.32	0.34	0.34	0.34	0.35	0.36
Biomass ⁴	2.74	3.01	3.02	3.13	3.36	3.60	3.88
Solar energy ⁵	0.06	0.07	0.06	0.07	0.07	0.08	0.09
Wind energy ⁶	0.03	0.06	0.14	0.18	0.26	0.34	0.51
Residential ⁷	0.64	0.49	0.48	0.51	0.48	0.53	0.60
Biomass ⁴	0.58	0.42	0.41	0.43	0.39	0.43	0.49
Geothermal ³	0.01	0.01	0.01	0.02	0.02	0.02	0.03
Solar ⁵	0.06	0.06	0.06	0.06	0.07	0.07	0.08
Commercial ⁸	0.10	0.13	0.12	0.12	0.12	0.12	0.12
Biomass ⁴	0.09	0.12	0.11	0.10	0.10	0.10	0.11
Geothermal ³	(Z)	0.01	0.01	0.01	0.01	0.01	0.01
Hydroelectric ²	(Z)	(Z)	(Z)	(Z)	(Z)	(Z)	(Z)
Industrial ⁹	1.72	1.93	1.86	1.88	2.01	2.05	2.06
Biomass ⁴	1.69	1.88	1.82	1.85	1.97	2.03	2.03
Geothermal ³	(Z)	(Z)	(Z)	(Z)	(Z)	(Z)	0.01
Hydroelectric ²	0.03	0.04	0.03	0.03	0.03	0.02	0.02
Transportation ¹⁰	0.06	0.14	0.30	0.35	0.48	0.61	0.83
Fuel ethanol ¹¹	0.06	0.14	0.29	0.33	0.45	0.57	0.79
Biodiesel ¹¹	(NA)	(NA)	(Z)	0.01	0.03	0.05	0.04
Electric power ¹²	3.69	3.58	3.50	3.57	3.83	3.51	3.69
Biomass ⁴	0.32	0.45	0.39	0.41	0.41	0.42	0.42
Geothermal ³	0.33	0.30	0.31	0.31	0.31	0.31	0.31
Hydroelectric ²	3.01	2.77	2.66	2.67	2.84	2.43	2.43
Solar ⁵	(Z)	0.01	0.01	0.01	0.01	0.01	0.01

³ Z Less than 5 trillion Btu. ¹ Preliminary. ² Power produced from natural stream flow as regulated by available storage. ³ As used at electric power plants, hot water or steam extracted from geothermal reservoirs in the Earth's crust that is supplied to steam turbines at electric power plants that drive generators to produce electricity. ⁴ Wood and wood-derived fuels, municipal solid waste (from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass), fuel ethanol, and biodiesel. ⁵ The radiant energy of the sun, which can be converted into other forms of energy, such as heat or electricity. Solar thermal and photovoltaic electricity net generation and solar thermal direct use energy. ⁶ Energy present in wind motion that can be converted to mechanical energy for driving pumps, mills, and electric power generators. Wind pushes against sails, vanes, or blades radiating from a central rotating shaft. ⁷ Consists of living quarters for private households, but excludes institutional living quarters. ⁸ Consists of service-providing facilities and equipment of businesses, governments, and other private and public organizations. Includes institutional living quarters and sewage treatment facilities. Includes commercial combined-heat-and-power and commercial electricity-only plants. ⁹ Consists of all facilities and equipment used for producing, processing, or assembling goods. Includes industrial combined-heat-and-power and industrial electricity-only plants. ¹⁰ Ethanol primarily derived from corn. ¹¹ Any liquid biofuel suitable as a diesel fuel substitute, additive, or extender. ¹² Consists of electricity-only and combined-heat-and-power plants whose primary business is to sell electricity and/or heat to the public. Includes sources not shown separately.