

Table 10.1 Renewable Energy Production and Consumption by Primary Energy Source, Selected Years, 1949-2010
(Trillion Btu)

Year	Production ¹			Consumption								Total Renewable Energy
	Biomass		Total Renewable Energy ⁴	Hydro-electric Power ⁵	Geo-thermal ⁶	Solar/PV ⁷	Wind ⁸	Biomass			Total	
	Biofuels ²	Total ³						Wood ⁹	Waste ¹⁰	Biofuels ¹¹		
1949	NA	1,549	2,974	1,425	NA	NA	NA	1,549	NA	NA	1,549	2,974
1950	NA	1,562	2,978	1,415	NA	NA	NA	1,562	NA	NA	1,562	2,978
1955	NA	1,424	2,784	1,360	NA	NA	NA	1,424	NA	NA	1,424	2,784
1960	NA	1,320	R ² 2,928	1,608	R ^(s) NA	NA	NA	1,320	NA	NA	1,320	R ² 2,928
1965	NA	1,335	R ³ 3,396	2,059	R ² NA	NA	NA	1,335	NA	NA	1,335	R ³ 3,396
1970	NA	1,431	R ⁴ 4,070	2,634	R ⁶ NA	NA	NA	1,429	2	NA	1,431	R ⁴ 4,070
1975	NA	1,499	R ⁴ 4,687	3,155	R ³⁴ NA	NA	NA	1,497	2	NA	1,499	R ⁴ 4,687
1976	NA	1,713	R ⁴ 4,727	2,976	R ³⁸ NA	NA	NA	1,711	2	NA	1,713	R ⁴ 4,727
1977	NA	1,838	R ⁴ 4,209	2,333	R ³⁷ NA	NA	NA	1,837	2	NA	1,838	R ⁴ 4,209
1978	NA	2,038	R ⁵ 5,005	2,937	R ³¹ NA	NA	NA	2,036	1	NA	2,038	R ⁵ 5,005
1979	NA	2,152	R ⁵ 5,123	2,931	R ⁴⁰ NA	NA	NA	2,150	2	NA	2,152	R ⁵ 5,123
1980	NA	2,476	R ⁵ 5,428	2,900	R ⁵³ NA	NA	NA	2,474	2	NA	2,476	R ⁵ 5,428
1981	13	2,596	R ⁵ 5,414	2,758	R ⁵⁹ NA	NA	NA	2,496	88	13	2,596	R ⁵ 5,414
1982	34	2,663	R ⁵ 5,980	3,266	R ⁵¹ NA	NA	NA	2,510	119	34	2,663	R ⁵ 5,980
1983	63	2,904	R ⁶ 6,496	3,527	R ⁶⁴ NA	(s)	(s)	2,684	157	63	2,904	R ⁶ 6,496
1984	77	2,971	R ⁶ 6,438	3,386	R ⁸¹ (s)	(s)	(s)	2,686	208	77	2,971	R ⁶ 6,438
1985	93	3,016	R ⁶ 6,084	2,970	R ⁹⁷ (s)	(s)	(s)	2,687	236	93	3,016	R ⁶ 6,084
1986	107	2,932	R ⁶ 6,111	3,071	R ¹⁰⁸ (s)	(s)	(s)	2,562	263	107	2,932	R ⁶ 6,111
1987	123	2,875	R ⁵ 6,222	2,635	R ¹¹² (s)	(s)	(s)	2,463	289	123	2,875	R ⁵ 6,222
1988	124	3,016	R ⁵ 5,457	2,334	R ¹⁰⁶ (s)	(s)	(s)	2,577	315	124	3,016	R ⁵ 5,457
1989	125	3,159	R ⁶ 6,235	2,837	R ¹⁶² 55	22	22	2,680	354	125	3,159	R ⁶ 6,235
1990	111	2,735	R ⁶ 6,041	3,046	R ¹⁷¹ 59	29	29	2,216	408	111	2,735	R ⁶ 6,041
1991	128	2,782	R ⁶ 6,069	3,016	R ¹⁷⁸ 62	31	31	2,214	440	128	2,782	R ⁶ 6,069
1992	145	2,932	R ⁵ 5,821	2,617	R ¹⁷⁹ 64	30	30	2,313	473	145	2,932	R ⁵ 5,821
1993	169	2,908	R ⁶ 6,083	2,892	R ¹⁸⁶ 66	31	31	2,260	479	169	2,908	R ⁶ 6,083
1994	188	3,028	R ⁵ 5,988	2,683	R ¹⁷³ 68	36	36	2,324	515	188	3,028	R ⁵ 5,988
1995	198	3,099	R ⁶ 6,558	3,205	R ¹⁵² 69	33	33	2,370	531	200	3,101	R ⁶ 6,560
1996	141	3,155	R ⁷ 7,012	3,590	R ¹⁶³ 70	33	33	2,437	577	143	3,157	R ⁷ 7,014
1997	186	3,108	R ⁷ 7,018	3,640	R ¹⁶⁷ 70	34	34	2,371	551	184	3,105	R ⁷ 7,016
1998	202	2,929	R ⁶ 6,494	3,297	R ¹⁶⁸ 69	31	31	2,184	542	201	R ² 2,927	R ⁶ 6,493
1999	211	2,965	R ⁶ 6,517	3,268	R ¹⁷¹ 68	46	46	2,214	540	209	2,963	R ⁶ 6,516
2000	233	3,006	R ⁶ 6,104	2,811	R ¹⁶⁴ 65	57	57	2,262	511	236	3,008	R ⁶ 6,106
2001	254	2,624	R ⁵ 5,164	2,242	R ¹⁶⁴ 64	70	70	2,006	364	253	2,622	R ⁵ 5,163
2002	308	2,705	R ⁵ 5,734	2,689	R ¹⁷¹ 63	105	105	1,995	402	303	2,701	R ⁵ 5,729
2003	402	2,805	R ⁵ 5,982	2,825	R ¹⁷⁵ 62	115	115	2,002	401	404	2,807	R ⁵ 5,983
2004	487	2,998	R ⁶ 6,070	2,690	R ¹⁷⁸ 63	142	142	2,121	389	R ⁴⁹⁹ 499	3,010	R ⁶ 6,082
2005	564	3,104	R ⁶ 6,229	2,703	R ¹⁸¹ 63	178	178	2,136	403	577	R ³ 3,116	R ⁶ 6,242
2006	720	3,226	R ⁶ 6,608	2,869	R ¹⁸¹ 68	264	264	2,109	397	771	R ³ 3,276	R ⁶ 6,659
2007	978	3,489	R ⁶ 6,537	2,446	R ¹⁸⁶ 76	341	341	2,098	413	991	R ³ 3,502	R ⁶ 6,551
2008	1,387	3,867	R ⁷ 7,205	2,511	R ¹⁹² 89	546	546	2,044	436	1,372	3,852	R ⁷ 7,190
2009	R ¹ 1,583	R ³ 3,915	R ⁷ 7,603	R ² 2,669	R ²⁰⁰ 98	R ⁷²¹ 98	R ⁷²¹ 98	R ¹ 1,881	R ⁴⁵² 452	R ¹ 1,567	R ³ 3,899	R ⁷ 7,587
2010 ^P	1,870	4,310	8,064	2,509	212	109	924	1,986	454	1,855	4,295	8,049

¹ Production equals consumption for all renewable energy sources except biofuels.
² Total biomass inputs to the production of fuel ethanol and biodiesel.
³ Wood and wood-derived fuels, biomass waste, and total biomass inputs to the production of fuel ethanol and biodiesel.
⁴ Hydroelectric power, geothermal, solar thermal/photovoltaic, wind, and biomass.
⁵ Conventional hydroelectricity net generation (converted to Btu using the fossil-fuels heat rate—see Table A6).
⁶ Geothermal electricity net generation (converted to Btu using the fossil-fuels heat rate—see Table A6), and geothermal heat pump and direct use energy.
⁷ Solar thermal and photovoltaic (PV) electricity net generation (converted to Btu using the fossil-fuels heat rate—see Table A6), and solar thermal direct use energy.
⁸ Wind electricity net generation (converted to Btu using the fossil-fuels heat rate—see Table A6).
⁹ Wood and wood-derived fuels.
¹⁰ Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from

non-biogenic sources, and tire-derived fuels).
¹¹ Fuel ethanol (minus denaturant) and biodiesel consumption, plus losses and co-products from the production of fuel ethanol and biodiesel.
R=Revised. P=Preliminary. NA=Not available. (s)=Less than 0.5 trillion Btu.
Notes: • Most data for the residential, commercial, industrial, and transportation sectors are estimates. See notes and sources for Tables 10.2a and 10.2b. • See Tables 8.2a-8.2d and 8.3a-8.3c for electricity net generation and useful thermal output from renewable energy sources; Tables 8.4a-8.4c, 8.5a-8.5d, 8.6a-8.6c, and 8.7a-8.7c for renewable energy consumption for electricity generation and useful thermal output; and Tables 8.11a-8.11d for renewable energy electric net summer capacity. • See Note, "Renewable Energy Production and Consumption," at end of section. • See Table E1 for estimated renewable energy consumption for 1635-1945. • Totals may not equal sum of components due to independent rounding.
Web Pages: • See <http://www.eia.gov/totalenergy/data/annual/#renewable> for all data beginning in 1949. • For related information, see <http://www.eia.gov/renewable/>.
Sources: **Biofuels:** Tables 10.3 and 10.4. **All Other Data:** Tables 10.2a-10.2c.