

**Table 10.1 Renewable Energy Production and Consumption by Primary Energy Source, Selected Years, 1949-2011**  
(Trillion Btu)

Year	Production <sup>1</sup>			Consumption								Total Renewable Energy
	Biomass		Total Renewable Energy <sup>4</sup>	Hydro-electric Power <sup>5</sup>	Geo-thermal <sup>6</sup>	Solar/PV <sup>7</sup>	Wind <sup>8</sup>	Biomass				
	Biofuels <sup>2</sup>	Total <sup>3</sup>						Wood <sup>9</sup>	Waste <sup>10</sup>	Biofuels <sup>11</sup>	Total	
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	2,928	1,608	(s)	NA	NA	1,320	NA	NA	1,320	2,928
1965	NA	1,335	3,396	2,059	2	NA	NA	1,335	NA	NA	1,335	3,396
1970	NA	1,431	4,070	2,634	6	NA	NA	1,429	2	NA	1,431	4,070
1975	NA	1,499	4,687	3,155	34	NA	NA	1,497	2	NA	1,499	4,687
1976	NA	1,713	4,727	2,976	38	NA	NA	1,711	2	NA	1,713	4,727
1977	NA	1,838	4,209	2,333	37	NA	NA	1,837	2	NA	1,838	4,209
1978	NA	2,038	5,005	2,937	31	NA	NA	2,036	1	NA	2,038	5,005
1979	NA	2,152	5,123	2,931	40	NA	NA	2,150	2	NA	2,152	5,123
1980	NA	2,476	5,428	2,900	53	NA	NA	2,474	2	NA	2,476	5,428
1981	13	2,596	5,414	2,758	59	NA	NA	2,496	88	13	2,596	5,414
1982	34	2,663	5,980	3,266	51	NA	NA	2,510	119	34	2,663	5,980
1983	63	2,904	6,496	3,527	64	NA	(s)	2,684	157	63	2,904	6,496
1984	77	2,971	6,438	3,386	81	(s)	(s)	2,686	208	77	2,971	6,438
1985	93	3,016	6,084	2,970	97	(s)	(s)	2,687	236	93	3,016	6,084
1986	107	2,932	6,111	3,071	108	(s)	(s)	2,562	263	107	2,932	6,111
1987	123	2,875	5,622	2,635	112	(s)	(s)	2,463	289	123	2,875	5,622
1988	124	3,016	5,457	2,334	106	(s)	(s)	2,577	315	124	3,016	5,457
1989	125	3,159	6,235	2,837	162	55	22	2,680	354	125	3,159	6,235
1990	111	2,735	6,041	3,046	171	59	29	2,216	408	111	2,735	6,041
1991	128	2,782	6,069	3,016	178	62	31	2,214	440	128	2,782	6,069
1992	145	2,932	5,821	2,617	179	64	30	2,313	473	145	2,932	5,821
1993	169	2,908	6,083	2,892	186	66	31	2,260	479	169	2,908	6,083
1994	188	3,028	5,988	2,683	173	68	36	2,324	515	188	3,028	5,988
1995	198	3,099	6,558	3,205	152	69	33	2,370	531	200	3,101	6,560
1996	141	3,155	7,012	3,590	163	70	33	2,437	577	143	3,157	7,014
1997	186	3,108	7,018	3,640	167	70	34	2,371	551	184	3,105	7,016
1998	202	2,929	6,494	3,297	168	69	31	2,184	542	201	2,927	6,493
1999	211	2,965	6,517	3,268	171	68	46	2,214	540	209	2,963	6,516
2000	233	3,006	6,104	2,811	164	R66	57	2,262	511	236	3,008	6,106
2001	254	2,624	5,164	2,242	164	64	70	2,006	364	253	2,622	5,163
2002	308	2,705	5,734	2,689	171	63	105	1,995	402	303	2,701	5,729
2003	402	2,805	5,982	2,825	175	62	115	2,002	401	404	2,807	5,983
2004	487	2,998	6,070	2,690	178	63	142	2,121	389	499	3,010	6,082
2005	564	3,104	6,229	2,703	181	63	178	R2,137	403	577	R3,117	6,242
2006	720	R3,216	R6,599	2,869	181	68	264	R2,099	397	771	R3,267	R6,649
2007	978	R3,461	R6,509	2,446	186	76	341	R2,070	413	991	R3,474	R6,523
2008	1,387	R3,864	R7,202	2,511	192	89	546	R2,040	436	1,372	R3,849	R7,186
2009	R1,584	R3,928	R7,616	2,669	200	98	721	R1,891	R453	R1,568	R3,912	R7,600
2010	R1,884	R4,341	R8,136	R2,539	R208	R126	R923	R1,988	R469	R1,837	R4,294	R8,090
2011 <sup>P</sup>	2,047	4,511	9,236	3,171	226	158	1,168	1,987	477	1,947	4,411	9,135

<sup>1</sup> Production equals consumption for all renewable energy sources except biofuels.

<sup>2</sup> Total biomass inputs to the production of fuel ethanol and biodiesel.

<sup>3</sup> Wood and wood-derived fuels, biomass waste, and total biomass inputs to the production of fuel ethanol and biodiesel.

<sup>4</sup> Hydroelectric power, geothermal, solar thermal/photovoltaic, wind, and biomass.

<sup>5</sup> Conventional hydroelectricity net generation (converted to Btu using the fossil-fuels heat rate—see Table A6).

<sup>6</sup> Geothermal electricity net generation (converted to Btu using the fossil-fuels heat rate—see Table A6), and geothermal heat pump and direct use energy.

<sup>7</sup> 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.

<sup>8</sup> Wind electricity net generation (converted to Btu using the fossil-fuels heat rate—see Table A6).

<sup>9</sup> Wood and wood-derived fuels.

<sup>10</sup> 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).

<sup>11</sup> 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/monthly/#renewable> for updated monthly and annual data. • See <http://www.eia.gov/totalenergy/data/annual/#renewable> for all annual data beginning in 1949. • See <http://www.eia.gov/renewable/> for related information.

Sources: **Biofuels:** Tables 10.3 and 10.4. **All Other Data:** Tables 10.2a–10.2c.