

**Table 10.1 Renewable Energy Production and Consumption by Source**  
(Trillion Btu)

	Production <sup>a</sup>				Consumption								
	Biomass			Total Renewable Energy <sup>e</sup>	Hydroelectric Power <sup>f</sup>	Geothermal <sup>g</sup>	Solar <sup>h</sup>	Wind <sup>i</sup>	Biomass				Total Renewable Energy
	Wood <sup>b</sup>	Bio-fuels <sup>c</sup>	Total <sup>d</sup>						Wood <sup>j</sup>	Waste <sup>k</sup>	Bio-fuels <sup>l</sup>	Total	
1950 Total	1,562	NA	1,562	1,907	344	NA	NA	NA	1,562	NA	NA	1,562	1,907
1955 Total	1,424	NA	1,424	1,821	397	NA	NA	NA	1,424	NA	NA	1,424	1,821
1960 Total	1,320	NA	1,320	1,830	510	(s)	NA	NA	1,320	NA	NA	1,320	1,830
1965 Total	1,335	NA	1,335	2,008	672	1	NA	NA	1,335	NA	NA	1,335	2,008
1970 Total	1,429	NA	1,431	2,289	856	2	NA	NA	1,429	2	NA	1,431	2,289
1975 Total	1,497	NA	1,499	2,544	1,034	11	NA	NA	1,497	2	NA	1,499	2,544
1980 Total	2,474	NA	2,475	3,445	953	17	NA	NA	2,474	2	NA	2,475	3,445
1985 Total	2,687	93	3,016	4,018	970	32	(s)	(s)	2,687	236	93	3,016	4,018
1990 Total	2,216	111	2,735	3,863	999	63	56	10	2,216	408	111	2,735	3,863
1995 Total	2,370	198	3,099	4,295	1,061	60	64	11	2,370	531	200	3,101	4,297
2000 Total	2,262	233	3,006	4,093	940	69	59	19	2,262	511	236	3,008	4,096
2005 Total	2,137	561	3,101	4,220	922	84	52	61	2,137	403	574	3,114	4,233
2010 Total	2,217	1,868	4,553	5,943	888	111	68	323	2,217	468	1,821	4,506	5,896
2011 Total	2,213	2,037	4,712	6,404	1,090	116	76	410	2,213	462	1,941	4,616	6,308
2012 Total	2,151	1,936	4,554	6,187	943	117	94	480	2,151	467	1,899	4,517	6,150
2013 Total	2,338	2,000	4,835	6,561	916	117	120	573	2,338	496	2,026	4,861	6,587
2014 Total	2,398	2,135	5,049	6,833	885	118	161	620	2,398	516	2,099	5,013	6,796
2015 Total	2,305	2,201	5,025	6,840	850	118	196	651	2,305	518	2,185	5,008	6,823
2016 Total	2,289	2,329	5,122	7,178	914	117	251	774	2,216	503	2,333	5,053	7,110
2017 Total	2,254	2,407	5,156	7,495	1,025	118	329	868	2,175	495	2,364	5,035	7,373
2018 Total	2,346	2,471	5,304	7,734	998	118	384	930	2,252	487	2,355	5,094	7,524
2019 Total	2,331	2,432	5,205	7,743	982	116	430	1,010	2,227	442	2,376	5,046	7,584
2020 Total	2,066	2,194	4,700	7,455	973	118	511	1,153	1,960	440	2,136	4,535	7,290
2021 Total	2,099	2,374	4,904	7,797	858	118	627	1,290	1,979	430	2,331	4,740	7,634
2022 January	184	214	434	697	83	10	42	128	174	37	193	403	665
February	170	190	393	651	73	9	47	128	159	33	177	369	627
March	180	212	430	732	83	10	63	147	168	37	207	411	714
April	172	198	405	712	68	10	71	158	163	34	195	392	699
May	181	214	429	742	80	10	79	144	169	35	208	411	724
June	182	214	429	725	89	10	83	115	167	33	213	413	709
July	184	218	435	712	84	10	83	101	174	34	206	414	691
August	183	211	428	672	72	10	77	84	173	34	213	420	664
September	176	193	401	632	58	10	70	93	162	32	192	386	617
October	173	217	425	658	49	10	63	112	162	34	216	412	646
November	173	219	427	685	61	10	47	141	163	34	209	406	664
December	182	211	428	680	70	10	40	132	168	35	205	408	660
Total	2,140	2,511	5,063	8,297	869	118	765	1,482	2,002	412	2,433	4,847	8,081
2023 January	179	219	434	696	78	10	44	131	172	35	208	415	677
February	161	198	390	660	68	9	51	141	152	31	189	373	643
March	181	221	436	735	73	10	67	149	167	34	220	421	720
April	161	212	405	709	68	10	80	146	153	32	207	392	695
May	174	228	435	741	94	10	91	110	163	34	234	430	736
June	167	229	428	698	74	10	93	94	155	32	231	418	688
July	173	232	438	716	75	10	98	96	163	33	224	420	698
August	179	230	441	713	73	10	93	97	165	33	235	433	705
September	171	226	427	673	58	10	82	97	157	31	222	410	656
October	168	232	433	694	53	10	74	123	157	33	234	424	685
November	170	230	433	682	58	10	57	124	160	33	219	413	662
December	182	248	465	721	65	10	50	130	166	36	235	437	692
Total	2,066	2,705	5,165	8,437	836	119	880	1,437	1,931	394	2,659	4,984	8,256
2024 January	168	225	427	684	75	10	53	119	160	34	212	406	663
February	157	227	414	699	69	10	65	141	145	31	221	397	682
March	169	241	443	772	80	10	84	155	156	33	233	422	750
April	163	222	416	751	66	10	98	161	152	31	219	401	737
May	168	232	432	762	77	10	112	132	156	33	240	428	758
June	160	237	428	758	72	10	119	130	149	30	233	412	742
July	166	252	449	746	72	10	119	95	154	32	251	437	734
August	172	250	453	751	73	10	117	98	159	31	244	434	732
September	165	235	430	695	57	10	100	99	154	30	231	414	679
October	162	247	440	735	54	9	95	137	150	32	246	427	722
10-Month Total	1,650	2,368	4,333	7,354	694	97	962	1,267	1,535	315	2,329	4,180	7,200
2023 10-Month Total	1,714	2,227	4,267	7,034	713	99	773	1,183	1,604	326	2,204	4,134	6,902
2022 10-Month Total	1,785	2,080	4,209	6,933	739	98	678	1,209	1,670	343	2,019	4,032	6,756

<sup>a</sup> For hydroelectric power, geothermal, solar, wind, and biomass waste, production equals consumption.

<sup>b</sup> Wood and wood-derived fuels. Through 2015, wood production equals consumption. Beginning in 2016, wood production equals consumption plus densified biomass exports.

<sup>c</sup> Total biomass inputs to the production of fuel ethanol and biodiesel. Beginning in 2011, also includes production of renewable diesel fuel. Beginning in 2014, also includes production of other biofuels.

<sup>d</sup> Includes biomass waste.

<sup>e</sup> Hydroelectric power, geothermal, solar, wind, and biomass.

<sup>f</sup> Conventional hydroelectricity net generation (converted to Btu by multiplying by the heat content of electricity in Table A6).

<sup>g</sup> Geothermal electricity net generation (converted to Btu by multiplying by the heat content of electricity in Table A6), and geothermal heat pump and direct use energy.

<sup>h</sup> Solar photovoltaic (PV) and solar thermal electricity net generation (converted to Btu by multiplying by the heat content of electricity in Table A6), and solar thermal direct use energy.

<sup>i</sup> Wind electricity net generation (converted to Btu by multiplying by the heat content of electricity in Table A6).

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

<sup>k</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>l</sup> Fuel ethanol (minus denaturant), biodiesel, renewable diesel fuel, and other biofuels consumption; plus losses and co-products from the production of fuel ethanol and biodiesel.

NA=Not available. (s)=Less than 0.5 trillion Btu.

Notes: • Production data are estimates. Consumption data are estimates, except for hydroelectric power in 1949–1978 and 1989 forward, and wind. • See Note, "Renewable Energy Production and Consumption," at end of section.

• Totals may not equal sum of components due to independent rounding.

• Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#renewable> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

Sources: • **Production:** Tables 10.2a–10.4c and U.S. Energy Information Administration, Form EIA-63C, "Densified Biomass Fuel Report."

• **Consumption:** Tables 10.2a–10.2c.