Table 10.1 Renewable Energy Production and Consumption by Source

(Trillion Btu)

	Production[a]				Consumption								
	Biomass			Total Renewable Energy[e]	Hydroelectric Power[f]	Geothermal[g]	Solar[h]	Wind[i]	Biomass				Total Renewable Energy
	Wood[b]	Biofuels[c]	Total[d]						Wood[j]	Waste[k]	Biofuels[l]	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	**[R]2,290**	**2,329**	**5,122**	**[R]7,179**	**914**	**117**	**251**	**774**	**[R]2,217**	**503**	**2,333**	**5,053**	**7,110**
2017 Total	**2,254**	**2,407**	**5,156**	**7,495**	**1,025**	**118**	**329**	**868**	**[R]2,176**	**495**	**2,364**	**5,035**	**[R]7,374**
2018 Total	**[R]2,348**	**2,471**	**[R]5,306**	**[R]7,736**	**998**	**118**	**384**	**930**	**[R]2,254**	**487**	**2,355**	**[R]5,096**	**[R]7,526**
2019 Total	**[R]2,333**	**2,432**	**[R]5,207**	**[R]7,745**	**982**	**116**	**430**	**1,010**	**[R]2,229**	**442**	**2,376**	**[R]5,048**	**[R]7,586**
2020 Total	**2,066**	**2,194**	**4,700**	**[R]7,454**	**973**	**118**	**511**	**1,153**	**1,960**	**440**	**2,136**	**4,535**	**7,290**
2021 Total	**[R]2,112**	**2,374**	**[R]4,916**	**[R]7,808**	**858**	**118**	**[R]625**	**1,290**	**[R]1,992**	**430**	**2,331**	**[R]4,753**	**[R]7,645**
2022 Total	**[R]2,167**	**2,511**	**[R]5,090**	**[R]8,324**	**869**	**118**	**[R]764**	**1,482**	**[R]2,029**	**412**	**2,433**	**[R]4,874**	**[R]8,107**
2023 January	[R]174	219	[R]428	[R]690	78	10	44	131	[R]166	35	208	[R]409	[R]671
February	[R]155	198	[R]384	[R]654	68	9	51	141	[R]147	31	189	[R]368	[R]637
March	[R]176	221	[R]430	[R]729	73	10	67	149	[R]161	34	220	[R]415	[R]714
April	[R]156	212	[R]399	[R]703	68	10	80	146	[R]148	32	207	[R]386	[R]690
May	[R]168	228	[R]429	[R]735	94	10	91	110	[R]157	34	234	[R]425	[R]730
June	[R]162	229	[R]423	[R]692	74	10	[R]92	94	[R]150	32	231	[R]412	[R]682
July	[R]167	232	[R]432	[R]710	75	10	[R]97	96	[R]157	33	224	[R]414	[R]692
August	[R]173	230	[R]436	[R]707	73	10	93	97	[R]159	33	235	[R]427	[R]699
September	[R]165	226	[R]421	[R]667	58	10	[R]81	97	[R]152	31	222	[R]404	[R]650
October	[R]162	232	[R]427	[R]688	53	10	74	123	[R]151	33	234	[R]418	[R]679
November	[R]164	230	[R]427	[R]676	58	10	57	124	[R]155	33	219	[R]407	[R]656
December	[R]176	248	[R]460	[R]715	65	10	50	130	[R]160	36	235	[R]431	[R]687
Total	**[R]1,998**	**2,705**	**[R]5,097**	**[R]8,367**	**836**	**119**	**[R]878**	**1,437**	**[R]1,863**	**394**	**2,659**	**[R]4,916**	**[R]8,186**
2024 January	[R]165	225	[R]424	[R]681	75	10	53	119	[R]157	34	212	[R]403	[R]660
February	[R]153	227	[R]411	[R]696	69	10	65	142	[R]142	31	221	[R]394	[R]679
March	[R]166	241	[R]440	[R]769	80	10	84	156	[R]153	33	233	[R]418	[R]747
April	[R]159	222	[R]412	[R]748	66	10	98	162	[R]148	31	219	[R]398	[R]734
May	[R]165	232	[R]429	[R]760	77	10	112	132	[R]153	33	240	[R]425	[R]756
June	[R]157	237	[R]425	[R]756	72	10	119	130	[R]146	30	233	[R]409	[R]740
July	[R]163	252	[R]446	[R]743	72	10	[R]119	95	[R]151	32	251	[R]434	[R]731
August	[R]169	250	[R]451	[R]749	73	10	[R]117	98	[R]156	31	244	[R]432	[R]730
September	[R]163	235	[R]427	[R]693	57	10	101	99	[R]151	30	231	[R]411	[R]677
October	[R]158	247	[R]437	[R]732	54	9	95	137	[R]146	32	246	[R]424	[R]719
November	[R]163	251	[R]445	[R]726	62	10	70	140	[R]151	31	239	[R]421	[R]703
December	[R]168	253	[R]452	[R]734	70	10	65	138	[R]156	32	235	[R]423	[R]705
Total	**[R]1,949**	**2,871**	**[R]5,199**	**[R]8,788**	**826**	**117**	**[R]1,098**	**1,547**	**[R]1,811**	**379**	**2,802**	**[R]4,992**	**[R]8,581**
2025 January	167	235	434	740	72	10	74	149	155	32	210	398	704

[a] For hydroelectric power, geothermal, solar, wind, and biomass waste, production equals consumption.

[b] Wood and wood-derived fuels. Through 2015, wood production equals consumption. Beginning in 2016, wood production equals consumption plus densified biomass exports.

[c] 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.

[d] Includes biomass waste.

[e] Hydroelectric power, geothermal, solar, wind, and biomass.

[f] Conventional hydroelectricity net generation (converted to Btu by multiplying by the heat content of electricity in Table A6).

[g] 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.

[h] 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.

[i] Wind electricity net generation (converted to Btu by multiplying by the heat content of electricity in Table A6).

[j] Wood and wood-derived fuels.

[k] 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).

[l] 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.

R=Revised. 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.