

**Table 17. Renewable Energy Generating Capacity and Generation  
(Gigawatts, Unless Otherwise Noted)**

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
<b>Electric Power Sector 1/</b>												
<b>Net Summer Capacity</b>												
Conventional Hydropower	78.13	78.29	78.43	78.50	78.57	78.71	78.71	78.71	78.71	78.69	78.68	78.68
Geothermal 2/	2.88	2.89	2.90	2.81	2.90	3.15	3.28	3.51	3.76	4.01	4.27	4.49
Municipal Solid Waste 3/	3.38	3.49	3.61	3.65	3.66	3.69	3.83	3.89	3.89	3.92	3.92	3.92
Wood and Other Biomass 4,5/	1.79	1.83	1.85	1.87	1.89	1.99	2.04	2.09	2.14	2.20	2.24	2.24
Solar Thermal	0.33	0.33	0.33	0.34	0.42	0.42	0.42	0.43	0.43	0.43	0.46	0.46
Solar Photovoltaic 6/	0.02	0.02	0.04	0.05	0.06	0.08	0.10	0.12	0.14	0.15	0.17	0.18
Wind	4.15	4.83	6.50	6.62	6.68	6.91	7.40	7.57	7.68	8.01	8.46	8.69
Total	90.67	91.69	93.66	93.83	94.19	94.96	95.78	96.31	96.74	97.42	98.20	98.66
<b>Generation (billion kilowatthours)</b>												
Conventional Hydropower	213.75	255.78	269.65	303.07	303.43	304.15	304.43	304.45	304.47	304.37	304.34	304.37
Geothermal 2/	13.74	13.36	13.82	13.66	14.23	15.95	17.23	19.14	21.21	23.25	25.38	27.21
Municipal Solid Waste 3/	19.22	20.02	25.58	25.97	26.12	26.30	27.36	27.81	27.90	28.11	28.12	28.13
Wood and Other Biomass 5/	8.56	8.67	15.74	15.90	19.14	20.01	21.05	21.64	22.31	23.53	23.77	23.98
Dedicated Plants	7.22	6.32	10.75	10.86	11.16	11.72	12.15	12.56	12.90	13.26	13.48	13.62
Cofiring	1.34	2.35	4.99	5.05	7.98	8.29	8.90	9.07	9.42	10.26	10.29	10.37
Solar Thermal	0.54	0.54	0.52	0.52	0.72	0.80	0.81	0.82	0.83	0.84	0.90	0.93
Solar Photovoltaic 6/	0.00	0.00	0.08	0.11	0.15	0.19	0.23	0.28	0.32	0.36	0.40	0.44
Wind	6.74	10.51	17.38	19.08	19.40	20.07	21.56	22.46	22.94	24.07	25.78	26.59
Total	262.55	308.87	342.77	378.32	383.19	387.46	392.67	396.60	399.98	404.52	408.69	411.66
<b>End Use Sector</b>												
<b>Net Summer Capacity</b>												
<b>Combined Heat and Power 7/</b>												
Municipal Solid Waste	0.21	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Biomass	3.80	3.91	3.97	4.26	4.54	4.73	4.86	4.98	5.15	5.36	5.57	5.81
Total	4.01	4.16	4.23	4.51	4.79	4.98	5.11	5.23	5.40	5.61	5.83	6.06
<b>Other End-Use Generators 8/</b>												
Conventional Hydropower 9/	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solar Photovoltaic	0.03	0.04	0.06	0.08	0.10	0.14	0.19	0.24	0.31	0.39	0.39	0.40
Total	1.05	1.06	1.08	1.10	1.12	1.16	1.21	1.27	1.33	1.41	1.42	1.42
<b>Generation (billion kwh)</b>												
<b>Combined Heat and Power 7/</b>												
Municipal Solid Waste	1.78	1.84	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10
Biomass	26.91	28.16	28.56	30.23	31.85	32.96	33.72	34.45	35.40	36.63	37.90	39.25
Total	28.68	30.00	30.66	32.33	33.95	35.06	35.82	36.55	37.50	38.73	40.00	41.36
<b>Other End-Use Generators 8/</b>												
Conventional Hydropower 9/	3.21	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solar Photovoltaic	0.06	0.09	0.12	0.16	0.22	0.30	0.41	0.52	0.66	0.82	0.84	0.86
Total	3.27	4.20	4.23	4.27	4.33	4.41	4.52	4.63	4.77	4.93	4.95	4.97

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	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
<b>Electric Power Sector 1/</b>												
<b>Net Summer Capacity</b>												
Conventional Hydropower	78.68	78.68	78.68	78.68	78.68	78.68	78.68	78.68	78.68	78.68	78.68	78.68
Geothermal 2/	4.73	4.91	5.11	5.24	5.43	5.54	5.82	6.06	6.24	6.34	6.39	6.57
Municipal Solid Waste 3/	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.95	3.95	3.95	3.95	3.95
Wood and Other Biomass 4,5/	2.24	2.27	2.31	2.31	2.55	2.69	2.85	3.04	3.22	3.25	3.28	3.40
Solar Thermal	0.47	0.47	0.47	0.48	0.48	0.49	0.49	0.49	0.50	0.50	0.51	0.51
Solar Photovoltaic 6/	0.20	0.22	0.24	0.25	0.27	0.29	0.31	0.32	0.34	0.36	0.38	0.39
Wind	9.38	9.81	10.48	10.78	11.00	11.33	11.84	13.39	14.42	14.57	14.79	15.52
Total	99.62	100.28	101.22	101.67	102.33	102.94	103.91	105.93	107.35	107.65	107.97	109.02
<b>Generation (billion kilowatthours)</b>												
Conventional Hydropower	304.41	304.45	304.48	304.51	304.54	304.57	304.60	304.63	304.66	304.70	304.73	304.77
Geothermal 2/	29.21	30.69	32.31	33.44	34.99	35.94	38.16	40.14	41.70	42.59	43.08	44.53
Municipal Solid Waste 3/	28.14	28.17	28.18	28.19	28.20	28.21	28.21	28.44	28.45	28.46	28.47	28.48
Wood and Other Biomass 5/	24.18	24.40	25.07	25.49	26.12	26.43	27.13	27.64	28.17	28.66	28.71	28.86
Dedicated Plants	13.66	13.79	14.03	14.13	15.19	16.11	17.30	18.47	19.68	20.33	20.73	21.32
Cofiring	10.51	10.62	11.05	11.35	10.93	10.32	9.83	9.17	8.49	8.33	7.98	7.54
Solar Thermal	0.94	0.96	0.97	0.98	1.00	1.01	1.02	1.04	1.05	1.06	1.08	1.09
Solar Photovoltaic 6/	0.49	0.53	0.57	0.62	0.66	0.71	0.75	0.79	0.84	0.88	0.93	0.97
Wind	29.05	30.56	32.95	34.04	34.85	36.03	37.88	43.54	47.34	47.87	48.69	51.40
Total	416.41	419.76	424.54	427.27	430.35	432.89	437.76	446.22	452.20	454.23	455.69	460.10
<b>End Use Sector</b>												
<b>Net Summer Capacity</b>												
<b>Combined Heat and Power 7/</b>												
Municipal Solid Waste	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Biomass	6.05	6.27	6.44	6.61	6.79	6.97	7.11	7.26	7.40	7.55	7.71	7.86
Total	6.30	6.52	6.69	6.86	7.04	7.22	7.36	7.51	7.65	7.80	7.96	8.11
<b>Other End-Use Generators 8/</b>												
Conventional Hydropower 9/	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solar Photovoltaic	0.41	0.42	0.42	0.43	0.44	0.48	0.51	0.58	0.67	0.78	0.88	1.00
Total	1.43	1.44	1.45	1.45	1.46	1.50	1.54	1.61	1.70	1.80	1.91	2.02
<b>Generation (billion kwh)</b>												
<b>Combined Heat and Power 7/</b>												
Municipal Solid Waste	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10
Biomass	40.69	41.95	42.96	43.93	45.01	46.05	46.87	47.72	48.54	49.41	50.35	51.25
Total	42.79	44.05	45.06	46.03	47.11	48.15	48.97	49.82	50.64	51.51	52.45	53.35
<b>Other End-Use Generators 8/</b>												
Conventional Hydropower 9/	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solar Photovoltaic	0.87	0.89	0.91	0.92	0.94	1.02	1.10	1.26	1.45	1.67	1.90	2.14
Total	4.98	5.00	5.02	5.03	5.05	5.13	5.21	5.37	5.56	5.78	6.01	6.25

**Table 17. Renewable Energy Generating Capacity and Generation  
(Gigawatts, Unless Otherwise Noted)**

	2025	2002- 2025
<b>Electric Power Sector 1/</b>		
Net Summer Capacity		
Conventional Hydropower	78.68	0.0%
Geothermal 2/	6.84	3.8%
Municipal Solid Waste 3/	3.95	0.5%
Wood and Other Biomass 4,5/	3.74	3.2%
Solar Thermal	0.52	1.9%
Solar Photovoltaic 6/	0.41	13.5%
Wind	15.99	5.3%
Total	110.13	0.8%
<b>Generation (billion kilowatthours)</b>		
Conventional Hydropower	304.80	0.8%
Geothermal 2/	46.66	5.6%
Municipal Solid Waste 3/	28.50	1.5%
Wood and Other Biomass 5/	29.16	5.4%
Dedicated Plants	22.90	5.8%
Cofiring	6.25	4.3%
Solar Thermal	1.11	3.2%
Solar Photovoltaic 6/	1.02	28.8%
Wind	53.16	7.3%
Total	464.40	1.8%
<b>End Use Sector</b>		
Net Summer Capacity		
Combined Heat and Power 7/		
Municipal Solid Waste	0.25	0.0%
Biomass	8.03	3.2%
Total	8.29	3.0%
Other End-Use Generators 8/		
Conventional Hydropower 9/	1.02	0.0%
Geothermal	0.00	N/A
Solar Photovoltaic	1.13	15.4%
Total	2.15	3.1%
<b>Generation (billion kwh)</b>		
Combined Heat and Power 7/		
Municipal Solid Waste	2.10	0.6%
Biomass	52.26	2.7%
Total	54.36	2.6%
Other End-Use Generators 8/		
Conventional Hydropower 9/	4.11	0.0%
Geothermal	0.00	N/A
Solar Photovoltaic	2.42	15.4%
Total	6.53	1.9%

**Table 17. Renewable Energy Generating Capacity and Generation  
(Gigawatts, Unless Otherwise Noted)**

1/ Includes electricity-only and combined heat and power (CHP) plants whose primary business is to sell electricity, or electricity and heat, to the public.

2/ Includes hydrothermal resources only (hot water and steam).

3/ Includes landfill gas.

4/ Facilities co-firing biomass and coal are classified as coal.

5/ Includes projections for energy crops after 2010.

6/ Does not include off-grid photovoltaics (PV). See Annual Energy Review 2001 Table 10.6 for estimates of 1989-2000 PV shipments, including exports, for both grid-connected and off-grid applications.

7/ Includes combined heat and power plants and electricity-only plants in the commercial and industrial sectors.

8/ Includes small on-site generating systems in the residential, commercial, and industrial sectors used primarily for own-use generation, but which may also sell some power to the grid.

8/ Represents own-use industrial hydroelectric power.

N/A = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2001 and 2002 are model results and may differ slightly from official EIA data reports.

Sources: 2001 and 2002 capacity: Energy Information Administration (EIA), Form EIA-860, "Annual Electric Generator Report," 2002 (preliminary). 2001 and 2002 generation: EIA, Annual Energy Review 2002, DOE/EIA-0384(2002) (Washington, DC, October 2003). Projections: EIA, AEO2004 National Energy Modeling System run AEO2004.D101703E.