

**Table 18. Renewable Energy Consumption by Sector and Source 1/  
(Quadrillion Btu per Year)**

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Marketed Renewable Energy 2/												
Residential	0.36	0.39	0.41	0.41	0.40	0.40	0.40	0.41	0.40	0.40	0.40	0.41
Wood	0.36	0.39	0.41	0.41	0.40	0.40	0.40	0.41	0.40	0.40	0.40	0.41
Commercial	0.09	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Biomass	0.09	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Industrial 3/	1.64	1.66	1.66	1.72	1.79	1.84	1.87	1.91	1.95	2.00	2.05	2.10
Conventional Hydroelectric	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Municipal Solid Waste	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Biomass	1.59	1.60	1.61	1.67	1.74	1.78	1.82	1.85	1.89	1.95	2.00	2.05
Transportation	0.14	0.17	0.23	0.26	0.27	0.27	0.28	0.28	0.29	0.29	0.30	0.30
Ethanol used in E85 4/	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ethanol used in Gasoline Blending	0.14	0.17	0.23	0.26	0.27	0.27	0.28	0.28	0.28	0.29	0.29	0.30
Electric Generators 5/	3.16	3.69	3.81	4.18	4.25	4.33	4.42	4.50	4.59	4.68	4.77	4.84
Conventional Hydroelectric	2.29	2.75	2.78	3.12	3.12	3.13	3.13	3.13	3.13	3.13	3.13	3.13
Geothermal	0.29	0.30	0.30	0.30	0.32	0.37	0.41	0.47	0.54	0.61	0.67	0.73
Municipal Solid Waste 6/	0.33	0.34	0.35	0.36	0.36	0.36	0.38	0.38	0.38	0.39	0.39	0.39
Biomass	0.15	0.17	0.20	0.20	0.24	0.25	0.26	0.27	0.28	0.29	0.29	0.30
Dedicated Plants	0.12	0.11	0.13	0.13	0.13	0.13	0.14	0.14	0.15	0.15	0.15	0.15
Cofiring	0.03	0.06	0.07	0.08	0.11	0.12	0.12	0.13	0.13	0.14	0.14	0.14
Solar Thermal	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Solar Photovoltaic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wind	0.08	0.13	0.18	0.20	0.20	0.21	0.22	0.23	0.24	0.25	0.27	0.27
Total Marketed Renewable Energy	5.40	6.01	6.22	6.67	6.81	6.94	7.07	7.20	7.32	7.47	7.61	7.74
Sources of Ethanol												
From Corn	0.14	0.17	0.23	0.26	0.27	0.27	0.28	0.28	0.29	0.29	0.29	0.29
From Cellulose	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Total	0.14	0.17	0.23	0.26	0.27	0.27	0.28	0.28	0.29	0.29	0.30	0.30
Non-Marketed Renewable Energy												
-- Selected Consumption 7/												
Residential	0.04	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04
Solar Hot Water Heating	0.04	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Geothermal Heat Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Solar Photovoltaic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Commercial	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Solar Thermal	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Solar Photovoltaic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**Table 18. Renewable Energy Consumption by Sector and Source 1/  
(Quadrillion Btu per Year)**

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Marketed Renewable Energy 2/												
Residential	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41
Wood	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41
Commercial	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Biomass	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Industrial 3/	2.16	2.21	2.26	2.30	2.35	2.40	2.44	2.48	2.52	2.56	2.60	2.65
Conventional Hydroelectric	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Municipal Solid Waste	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Biomass	2.11	2.16	2.20	2.25	2.30	2.35	2.39	2.43	2.47	2.51	2.55	2.60
Transportation	0.31	0.31	0.31	0.32	0.32	0.32	0.33	0.33	0.33	0.34	0.34	0.35
Ethanol used in E85 4/	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ethanol used in Gasoline Blending	0.30	0.31	0.31	0.32	0.32	0.32	0.33	0.33	0.33	0.34	0.34	0.35
Electric Generators 5/	4.93	4.99	5.08	5.13	5.19	5.24	5.34	5.47	5.56	5.60	5.62	5.70
Conventional Hydroelectric	3.13	3.13	3.13	3.13	3.13	3.13	3.13	3.13	3.13	3.13	3.13	3.13
Geothermal	0.80	0.84	0.90	0.93	0.98	1.01	1.09	1.15	1.20	1.23	1.24	1.29
Municipal Solid Waste 6/	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39
Biomass	0.30	0.30	0.30	0.31	0.32	0.32	0.32	0.33	0.33	0.33	0.33	0.33
Dedicated Plants	0.15	0.15	0.16	0.16	0.17	0.18	0.20	0.21	0.22	0.23	0.23	0.24
Cofiring	0.14	0.14	0.15	0.15	0.14	0.14	0.13	0.12	0.11	0.11	0.10	0.10
Solar Thermal	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Solar Photovoltaic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wind	0.30	0.31	0.34	0.35	0.36	0.37	0.39	0.45	0.49	0.49	0.50	0.53
<b>Total Marketed Renewable Energy</b>	<b>7.89</b>	<b>8.02</b>	<b>8.15</b>	<b>8.25</b>	<b>8.37</b>	<b>8.47</b>	<b>8.61</b>	<b>8.78</b>	<b>8.92</b>	<b>9.00</b>	<b>9.07</b>	<b>9.20</b>
Sources of Ethanol												
From Corn	0.29	0.30	0.30	0.30	0.30	0.31	0.31	0.31	0.31	0.31	0.31	0.31
From Cellulose	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.03	0.03	0.04	0.04
Total	0.31	0.31	0.31	0.32	0.32	0.32	0.33	0.33	0.33	0.34	0.34	0.35
Non-Marketed Renewable Energy												
-- Selected Consumption 7/												
Residential	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.05	0.05	0.05
Solar Hot Water Heating	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04
Geothermal Heat Pumps	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Solar Photovoltaic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Commercial	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Solar Thermal	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Solar Photovoltaic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01

**Table 18. Renewable Energy Consumption by Sector and Source 1/  
(Quadrillion Btu per Year)**

	2025	2002- 2025
<b>Marketed Renewable Energy 2/</b>		
Residential	0.41	0.1%
Wood	0.41	0.1%
Commercial	0.10	0.0%
Biomass	0.10	0.0%
Industrial 3/	2.70	2.1%
Conventional Hydroelectric	0.04	N/A
Municipal Solid Waste	0.01	N/A
Biomass	2.65	2.2%
Transportation	0.35	3.2%
Ethanol used in E85 4/	0.00	N/A
Ethanol used in Gasoline Blending	0.35	3.2%
Electric Generators 5/	5.79	2.0%
Conventional Hydroelectric	3.13	0.6%
Geothermal	1.36	6.9%
Municipal Solid Waste 6/	0.39	0.6%
Biomass	0.34	3.1%
Dedicated Plants	0.26	3.8%
Cofiring	0.08	1.4%
Solar Thermal	0.02	6.0%
Solar Photovoltaic	0.00	N/A
Wind	0.55	6.6%
<b>Total Marketed Renewable Energy</b>	<b>9.35</b>	<b>1.9%</b>
<b>Sources of Ethanol</b>		
From Corn	0.31	2.5%
From Cellulose	0.05	N/A
Total	0.35	3.2%
<b>Non-Marketed Renewable Energy</b>		
<b>-- Selected Consumption 7/</b>		
Residential	0.05	3.2%
Solar Hot Water Heating	0.04	2.2%
Geothermal Heat Pumps	0.01	9.0%
Solar Photovoltaic	0.00	15.0%
Commercial	0.03	1.5%
Solar Thermal	0.03	0.6%
Solar Photovoltaic	0.01	15.5%

**Table 18. Renewable Energy Consumption by Sector and Source 1/  
(Quadrillion Btu per Year)**

1/ Actual heat rates used to determine fuel consumption for all renewable fuels except hydropower, solar, and wind. Consumption at hydroelectric, solar, and wind facilities determined by using the fossil fuel equivalent of 10,280 Btu per kilowatt-hour.

2/ Includes nonelectric renewable energy groups for which the energy source is bought and sold in the marketplace, although all transactions may not necessarily be marketed, and marketed renewable energy inputs for electricity entering the marketplace on the electric power grid. Excludes electricity imports; see Table A8.

3/ Includes all electricity production by industrial and other combined heat and power for the grid and for own use.

4/ Excludes motor gasoline component of E85.

5/ Includes consumption of energy by electricity-only and combined heat and power (CHP) plants whose primary business is to sell electricity, or electricity and heat, to the public. Includes small power producers and exempt wholesale generators.

6/ Includes landfill gas.

7/ Includes selected renewable energy consumption data for which the energy is not bought or sold, either directly or indirectly as an input to marketed energy. The Energy Information Administration does not estimate or project total consumption of nonmarketed renewable energy.

N/A = Not applicable.

Btu = British thermal unit.

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 ethanol: Energy Information Administration (EIA), Annual Energy Review 2002, DOE/EIA-0384(2002) (Washington, DC, October 2003). 2001 and 2002 electric generators: EIA, Form EIA-860, "Annual Electric Generator Report," 2002 (preliminary). Other 2001 and 2002 values: EIA, Office of Integrated Analysis and Forecasting. Projections: EIA, AEO2004 National Energy Modeling System run AEO2004.D101703E.