

**Table 1.2 Renewable energy consumption by energy-use sector and energy source, 2005 – 2009**

(quadrillion Btu)

<b>Sector and Source</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
Total	6.242	6.659	6.551	7.191	7.587
Biomass	3.117	3.277	3.503	3.852	3.899
Biofuels	0.577	0.771	0.991	1.372	1.567
Biodiesel <sup>1</sup>	0.012	0.033	0.046	0.040	0.040
Ethanol <sup>2</sup>	0.335	0.453	0.569	0.800	0.910
Losses and Coproducts	0.230	0.285	0.377	0.532	0.617
Biodiesel Feedstock <sup>3</sup>	*	*	0.001	0.001	0.001
Ethanol Feedstock <sup>4</sup>	0.230	0.285	0.376	0.531	0.616
Waste	0.403	0.397	0.413	0.436	0.452
Landfill Gas	0.148	0.157	0.173	0.187	0.204
MSW Biogenic <sup>5</sup>	0.168	0.171	0.165	0.169	0.168
Other Biomass <sup>6</sup>	0.088	0.069	0.075	0.079	0.079
Wood and Derived Fuels <sup>7</sup>	2.136	2.109	2.098	2.044	1.881
Geothermal	0.181	0.181	0.186	0.192	0.200
Hydroelectric Conventional	2.703	2.869	2.446	2.512	2.669
Solar Thermal/PV	0.063	0.068	0.076	0.089	0.098
Wind	0.178	0.264	0.341	0.546	0.721
Residential	0.504	0.472	0.522	0.556	0.552
Biomass	0.430	0.390	0.430	0.450	0.430
Wood and Derived Fuels <sup>8</sup>	0.430	0.390	0.430	0.450	0.430
Geothermal	0.016	0.018	0.022	0.026	0.033
Solar Thermal/PV <sup>9</sup>	0.058	0.063	0.070	0.080	0.089
Commercial	0.119	0.117	0.118	0.125	0.129
Biomass	0.105	0.102	0.102	0.109	0.112
Biofuels	0.001	0.001	0.002	0.002	0.003
Ethanol <sup>2</sup>	0.001	0.001	0.002	0.002	0.003
Waste	0.034	0.036	0.031	0.034	0.036
Landfill Gas	0.003	0.004	0.003	0.003	0.003
MSW Biogenic <sup>5</sup>	0.025	0.026	0.021	0.026	0.028
Other Biomass <sup>6</sup>	0.007	0.007	0.007	0.005	0.005
Wood and Derived Fuels <sup>7</sup>	0.070	0.065	0.069	0.073	0.072
Geothermal	0.014	0.014	0.014	0.015	0.017
Hydroelectric Conventional	0.001	0.001	0.001	0.001	0.001
Solar Thermal/PV	-	-	-	*	-
Wind	-	-	-	-	*
Industrial	1.873	1.930	1.964	2.053	2.005
Biomass	1.837	1.897	1.944	2.031	1.982
Biofuels	0.237	0.295	0.387	0.544	0.630
Ethanol <sup>2</sup>	0.007	0.010	0.010	0.012	0.013
Losses and Coproducts	0.230	0.285	0.377	0.532	0.617
Biodiesel Feedstock <sup>3</sup>	*	*	0.001	0.001	0.001

See footnotes at end of table.

**Table 1.2 Renewable energy consumption by energy-use sector and energy source, 2005 – 2009 (cont.)**

<b>Sector and Source</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
Ethanol Feedstock <sup>4</sup>	0.230	0.285	0.376	0.531	0.616
Waste	0.148	0.130	0.144	0.144	0.154
Landfill Gas	0.081	0.081	0.093	0.093	0.104
MSW Biogenic <sup>5</sup>	0.007	0.006	0.006	0.003	0.004
Other Biomass <sup>6</sup>	0.061	0.043	0.046	0.048	0.047
Wood and Derived Fuels <sup>7</sup>	1.452	1.472	1.413	1.344	1.198
Geothermal	0.004	0.004	0.005	0.005	0.004
Hydroelectric Conventional	0.032	0.029	0.016	0.017	0.018
Solar Thermal/PV	-	-	-	-	-
Wind	-	-	-	-	-
Transportation	0.339	0.475	0.603	0.827	0.934
Biomass	0.339	0.475	0.603	0.827	0.934
Biofuels	0.339	0.475	0.603	0.827	0.934
Biodiesel <sup>1</sup>	0.012	0.033	0.046	0.040	0.040
Ethanol <sup>2</sup>	0.328	0.442	0.557	0.786	0.894
Electric Power <sup>10</sup>	3.407	3.665	3.345	3.630	3.967
Biomass	0.406	0.412	0.423	0.435	0.441
Waste	0.221	0.231	0.237	0.258	0.261
Landfill Gas	0.065	0.073	0.077	0.092	0.097
MSW Biogenic <sup>5</sup>	0.136	0.139	0.138	0.141	0.137
Other Biomass <sup>6</sup>	0.020	0.019	0.022	0.026	0.027
Wood and Derived Fuels <sup>7</sup>	0.185	0.182	0.186	0.177	0.180
Geothermal	0.147	0.145	0.145	0.146	0.146
Hydroelectric Conventional	2.670	2.839	2.430	2.495	2.650
Solar Thermal/PV	0.006	0.005	0.006	0.009	0.009
Wind	0.178	0.264	0.341	0.546	0.721

<sup>1</sup>Biodiesel primarily derived from soybean oil.

<sup>2</sup>Ethanol primarily derived from corn minus denaturant.

<sup>3</sup>Losses and co-products from the production of biodiesel. Does not include natural gas, electricity, and other non-biomass energy used in the production of biodiesel.

include natural gas, electricity, and other non-biomass energy used in the production of fuel ethanol.

<sup>5</sup>Includes paper and paper board, wood, food, leather, textiles and yard trimmings.

<sup>6</sup>Agriculture byproducts/crops, sludge waste, and other biomass solids, liquids and gases.

<sup>7</sup>Black liquor, and wood/wood waste solids and liquids.

<sup>8</sup>Wood and wood pellet fuels.

<sup>9</sup>Includes small amounts of distributed solar thermal and photovoltaic energy used in the commercial, industrial and electric power sectors.

American Classification System (NAICS) 22 category whose primary business is to sell electricity, or electricity

MSW = Municipal Solid Waste.

PV = Photovoltaic.

\* = Less than 500 billion Btu.

- = No data reported.

**Table 1.2 Renewable energy consumption by energy-use sector and energy source, 2005 – 2009 (cont.)**

**Notes:** Totals may not equal sum of components due to independent rounding.

Data revisions are discussed in the Highlights section.

Energy consumption for the noncombustible renewable energy sources (hydroelectric conventional, solar thermal, PV and wind) used in electricity generation is determined by multiplying generation times the fossil fuel equivalent heat rate. Energy consumption for geothermal energy used in electricity generation is determined by multiplying generation times the geothermal heat rate. See U.S. Energy Information Administration (EIA), Annual Energy Review (AER) 2009, DOE/EIA-0384 (2009) (Washington, DC, August 2010), Table A6. Sources: Analysis conducted by U.S. Energy Information Administration (EIA), Office of Electricity, Coal, Nuclear and Renewables Analysis and specific sources described as follows. Residential: U.S. Energy Information Administration, Form EIA-457A/G, "Residential Energy Consumption Survey;" Oregon Institute of Technology, Geo-Heat Center; and U.S. Energy Information Administration, Form EIA-63-A, "Annual Solar Thermal Collector Manufacturers Survey" and Form EIA-63B, "Annual Photovoltaic Module/Cell Manufacturers Survey." Commercial: U.S. Energy Information Administration, Form EIA-906, "Power Plant Report," Form EIA-920, "Combined Heat and Power Plant Report," and Form EIA-923, "Power Plant Operations Report;" and Oregon Institute of Technology, Geo-Heat Center. Industrial: U.S. Energy Information Administration, Form EIA-846 (A, B, C) "Manufacturing Energy Consumption Survey," Form EIA-906, "Power Plant Report," Form EIA-920, "Combined Heat and Power Plant Report," and Form EIA-923, "Power Plant Operations Report;" and Oregon Institute of Technology, Geo-Heat Center;

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U.S. Environmental Protection Agency, Landfill Methane Outreach Program estimates; and losses and coproducts from the production of biodiesel calculated as the difference between energy in feedstocks and production and from the production of ethanol calculated as the difference between energy feedstocks and production less denaturants. Biofuels for Transportation: Biodiesel: Consumption: 2005-2008: Calculated as biodiesel production plus net imports, 2009: January and February: EIA, Petroleum Supply Monthly, Table 1, data for refinery and blender net inputs of renewable fuels except ethanol. March through December: Calculated as biodiesel production plus biodiesel net imports minus biodiesel stock change; Production: 2001-2005: U.S. Department of Agriculture (USDA), Commodity Credit Corporation, Bioenergy Program, 2006: U.S. Department of Commerce, Bureau of Census, Current Industrial Reports, Fats and Oils - Production, Consumption and Stocks, data for soybean oil in methyl esters (biodiesel), 2007: U.S. Department of Commerce, Bureau of Census, Current Industrial Reports, Fats and Oils - Production, Consumption and Stocks, data for fats and oils in methyl esters, and 2008: U.S. Energy Information Administration, Form EIA-22S, "Supplement to the Monthly Biodiesel Production Survey," 2009: U.S. Energy Information Administration, "Form EIA-22M, Monthly Biodiesel Production Survey;" Trade: USDA imports data for Harmonized Tariff Schedule code 3824.90.40.20 (Fatty Esters Animal/ Vegetable Mixture) and exports data for Schedule B code 3824.90.40.00 (Fatty Substances Animal/ Vegetable Mixture; Stock Change: EIA Petroleum Supply Annual (PSA) various reports. Table 1 data for renewable fuels except ethanol; and Ethanol: 2005-2008: EIA Petroleum Supply Annual (Various Issues), Tables 1 and 15. Calculated as motor gasoline blending components adjustments (Table 1), plus finished motor gasoline adjustments (Table 1), plus fuel ethanol refinery and blender net inputs (Table 15). 2009: EIA Petroleum Supply Annual 2009, Table 1. Calculated as fuel ethanol refinery and blender net inputs minus fuel ethanol adjustments. Small amounts of ethanol consumption are distributed to the commercial and industrial sectors according to those sector's shares of U.S. motor gasoline supplied. Electric Power: U.S. Energy Information Administration, Form EIA-906, "Power Plant Report," Form EIA-920, "Combined Heat and Power Plant Report," and Form EIA-923, "Power Plant Operations Report."