

# **Renewable Energy Consumption and Electricity Preliminary 2007 Statistics**

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## Preface

This report, *Renewable Energy Consumption and Electricity - Preliminary 2007 Statistics*, presents preliminary information on renewable energy consumption and electricity generation and capacity for 2007. Final renewable energy consumption and electricity data will be included as a chapter in the *Renewable Energy Annual 2007* scheduled to be released late in 2008.

The renewable energy resources in the report include: biomass (wood and derived fuels, municipal solid waste biogenic, landfill gas, ethanol and biodiesel and other biomass); geothermal; wind; solar/PV (solar thermal and photovoltaic); and hydroelectric conventional. Hydroelectric pumped storage is excluded, because it is usually based on non-renewable energy sources.

Definitions for terms used in this report can be found in EIA's Energy Glossary:

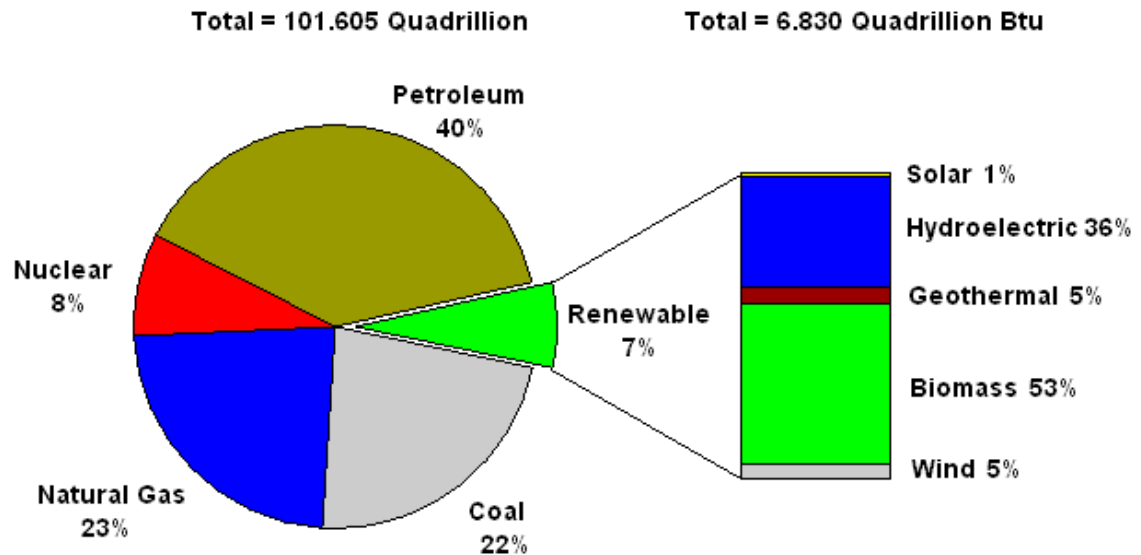
<http://www.eia.doe.gov/glossary/index.html>. General information about all the EIA surveys with data related to renewable energy and referenced in this report can be found at: <http://www.eia.doe.gov/oss/forms.html>.

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## Highlights

Figure 1. The Role of Renewable Energy Consumption in the Nation's Energy Supply, 2007



Source: Table 1 of this report.

Renewable energy consumption declined 1 percent between 2006 and 2007 to 6,830 trillion Btu, according to preliminary 2007 data (Table 1 and Figure 1). In contrast, both total and non-renewable energy consumption increased 2 percent.

There was wide variation in the consumption behavior of individual renewable energy sources. Hydro electricity dropped 14 percent in 2007 due to reduced precipitation in several regions of the country. On the plus side, biomass-based energy grew 7 percent and wind-generated electricity jumped 21 percent (Table 3). Major increases in consumption of biomass to produce and use biofuels (ethanol and biodiesel) were almost entirely responsible for the increase in biomass during 2007 (Table 1).

From 2003 through 2007, renewable energy consumption's average annual growth rate was 3 percent, compared with just 1 percent for total energy consumption. Again, biofuels and wind were largely responsible for the increase, with 5-year average annual growth rates of 25 and 29 percent, respectively.

Just over half of renewable energy consumption occurred in the electric power sector in 2007 (Table 2). The industrial sector was the second-leading consumer of renewable energy, accounting for nearly 30 percent. The transportation, residential, and commercial sectors accounted for 9, 8, and 2 percent, respectively. While the electric power sector currently consumes the most renewable energy (51 percent), its use dropped 8 percent between 2006 and 2007. In 2003, the electricity sector accounted for 59 percent of total renewable energy consumption.

In contrast, transportation sector renewable energy consumption increased 30 percent during 2007, and residential sector consumption grew 12 percent. Residential sector growth was due to healthy increases in all three energy sources: biomass, geothermal, and solar/photovoltaic. Commercial and industrial uses of renewable energy changed little between 2006 and 2007 and have also changed little as a fraction of total renewable consumption since 2003. That could change for the industrial sector if ethanol and biodiesel use continues to grow rapidly resulting in increased feedstock consumption. This is especially significant in view of the fact that the largest biomass fuel consumed in the industrial sector, wood and derived fuels, has grown little since 1989 and appears to have peaked in 1997.<sup>1</sup>

Within the electric power sector, wind energy consumption has grown each year since 1998.<sup>2</sup> From 2003 to 2007, wind's share of total renewable energy consumption increased from 2 percent to 5 percent. For the first time ever in 2007, wind energy consumption in the electric power sector exceeded geothermal. Hydro electricity accounted for 36 percent of total renewable consumption in 2007, down from 46 percent in 2003. However, hydro consumption is tied mostly to precipitation, which can vary year to year. Few plants are being built or retired.

Electricity generation from renewable sources fell 9 percent in 2007 to 351 billion kilowatthours (kWh), largely due to reduced precipitation (Table 3). Excluding hydro electricity, however, renewable electricity generation grew 7 percent. This gain was led by a 21 percent increase in electricity from wind and moderate increases in electricity from biomass waste. There has been little change in generation from the largest non-hydro renewable electricity source, wood and derived fuels, since 2003.

With the exception of hydro, changes in renewable electricity capacity generally reflected generation changes in 2007 (Table 4). Total renewable electricity capacity rose 5 percent to 107 thousand megawatts (MW), led by a 38 percent (or 4,000 MW) increase in wind capacity. Total nonrenewable electric capacity rose just 1 percent to 892 thousand megawatts.

The state distribution of renewable electricity generation changed somewhat between 2006 and 2007 (Table 5 and Table 6). Washington state widened its lead over California as the leading renewable electricity producer, largely due to the fact that precipitation decreases were much less in the Pacific Northwest than in California. Furthermore, Washington commissioned more new wind capacity (344 MW) than did California (63 MW) in 2007 (Table 7 and Table 8). The result was that Washington's wind-based generation increased by over 1 billion kWh in 2007, compared with about a 760 million kWh increase in California.

Texas continued its drive to build wind capacity in 2007, commissioning nearly 1,300 MW and increasing wind-based generation by 22 percent to over 8 billion kWh. Texas now derives 2

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<sup>1</sup> See Table 2 of this report and Energy Information Administration, Renewable Energy Annual 2006 Data Tables (Washington, DC, April 2008), Tables 1.5a and 1.5b, here:

[http://www.eia.doe.gov/cneaf/solar.renewables/page/rea\\_data/rea\\_sum.html](http://www.eia.doe.gov/cneaf/solar.renewables/page/rea_data/rea_sum.html).

<sup>2</sup> Ibid.

percent of its total generation from wind energy.<sup>3</sup> Minnesota and Iowa each raised wind generation by roughly 400 million kWh.

State-based generation from wood and derived fuels, the largest non-hydro renewable energy source, changed little between 2006 and 2007. The two major exceptions were New Hampshire and Washington. Wood and derived fuels-based generation increased from about 590 million kWh to 883 million kWh in New Hampshire, while dropping from 1,275 million kWh to 978 million kWh in Washington.

Nevada generated from central station solar power for the first time in 2007 with the opening of the 64 MW Nevada Solar One plant in Boulder City.

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<sup>3</sup> See Table 6 of this report and Energy Information Administration, *Electric Power Monthly March 2008* (Washington, DC, March 2008), table 1.6.B here: <http://tonto.eia.doe.gov/ftproot/electricity/epm/02260803.pdf>

**Table 1. U.S. Energy Consumption by Energy Source, 2003-2007  
(Quadrillion Btu)**

| Energy Source              | 2003   | 2004    | 2005    | 2006   | 2007    |
|----------------------------|--------|---------|---------|--------|---------|
| Total                      | 98.209 | 100.351 | 100.503 | 99.861 | 101.605 |
| Fossil Fuels               | 84.078 | 85.830  | 85.816  | 84.662 | 86.253  |
| Coal                       | 22.321 | 22.466  | 22.795  | 22.452 | 22.786  |
| Coal Coke Net Imports      | 0.051  | 0.138   | 0.044   | 0.061  | 0.025   |
| Natural Gas <sup>a</sup>   | 22.897 | 22.931  | 22.583  | 22.191 | 23.625  |
| Petroleum <sup>b</sup>     | 38.809 | 40.294  | 40.393  | 39.958 | 39.818  |
| Electricity Net Imports    | 0.022  | 0.039   | 0.084   | 0.063  | 0.106   |
| Nuclear                    | 7.959  | 8.222   | 8.160   | 8.214  | 8.415   |
| Renewable                  | 6.150  | 6.261   | 6.444   | 6.922  | 6.830   |
| Biomass <sup>c</sup>       | 2.817  | 3.023   | 3.154   | 3.374  | 3.615   |
| Biofuels                   | 0.414  | 0.513   | 0.595   | 0.795  | 1.018   |
| Waste                      | 0.401  | 0.389   | 0.403   | 0.407  | 0.431   |
| Wood Derived Fuels         | 2.002  | 2.121   | 2.156   | 2.172  | 2.165   |
| Geothermal                 | 0.331  | 0.341   | 0.343   | 0.343  | 0.353   |
| Hydroelectric Conventional | 2.825  | 2.690   | 2.703   | 2.869  | 2.463   |
| Solar/PV                   | 0.064  | 0.065   | 0.066   | 0.072  | 0.080   |
| Wind                       | 0.115  | 0.142   | 0.178   | 0.264  | 0.319   |

<sup>a</sup> Includes supplemental gaseous fuels.

<sup>b</sup> Petroleum products supplied, including natural gas plant liquids and crude oil burned as fuel.

<sup>c</sup> Biomass includes: biofuels, waste (landfill gas, MSW biogenic, and other biomass), wood and wood-derived fuels.

MSW=Municipal Solid Waste.

Note: Ethanol is included only in biofuels. In earlier issues of this report, ethanol was included in both petroleum and biofuels,

but counted only once in total energy consumption. Totals may not equal sum of components due to independent rounding. Data for 2007 is preliminary.

Sources: Non-renewable energy: Energy Information Administration (EIA), Monthly Energy Review (MER) March 2008, DOE/EIA-0035 (2008/3)

(Washington, DC, March 2008,) Tables 1.3, 1.4a and 1.4b. Renewable Energy: Table 2 of this report.



**Table 2. Renewable Energy Consumption by Energy Use Sector and Energy Source, 2003-2007**  
(Quadrillion Btu)

| Sector and Source                   | 2003  | 2004  | 2005  | 2006  | 2007  |
|-------------------------------------|-------|-------|-------|-------|-------|
| Total                               | 6.150 | 6.261 | 6.444 | 6.922 | 6.830 |
| Biomass                             | 2.817 | 3.023 | 3.154 | 3.374 | 3.615 |
| Biofuels                            | 0.414 | 0.513 | 0.595 | 0.795 | 1.018 |
| Biodiesel <sup>a</sup>              | 0.002 | 0.004 | 0.012 | 0.032 | 0.063 |
| Biodiesel Feedstock <sup>b</sup>    | *     | *     | *     | *     | 0.001 |
| Ethanol <sup>c</sup>                | 0.238 | 0.299 | 0.342 | 0.462 | 0.577 |
| Ethanol Feedstock <sup>d</sup>      | 0.174 | 0.210 | 0.241 | 0.301 | 0.378 |
| Waste                               | 0.401 | 0.389 | 0.403 | 0.407 | 0.431 |
| Landfill Gas                        | 0.141 | 0.144 | 0.148 | 0.150 | 0.174 |
| MSW Biogenic <sup>e</sup>           | 0.165 | 0.164 | 0.168 | 0.171 | 0.174 |
| Other Biomass <sup>f</sup>          | 0.096 | 0.081 | 0.088 | 0.086 | 0.083 |
| Wood and Derived Fuels              | 2.002 | 2.121 | 2.156 | 2.172 | 2.165 |
| Geothermal                          | 0.331 | 0.341 | 0.343 | 0.343 | 0.353 |
| Hydroelectric Conventional          | 2.825 | 2.690 | 2.703 | 2.869 | 2.463 |
| Solar/PV                            | 0.064 | 0.065 | 0.066 | 0.072 | 0.080 |
| Wind                                | 0.115 | 0.142 | 0.178 | 0.264 | 0.319 |
| Residential                         | 0.471 | 0.483 | 0.527 | 0.495 | 0.556 |
| Biomass                             | 0.400 | 0.410 | 0.450 | 0.410 | 0.460 |
| Wood and Derived Fuels <sup>g</sup> | 0.400 | 0.410 | 0.450 | 0.410 | 0.460 |
| Geothermal                          | 0.013 | 0.014 | 0.016 | 0.018 | 0.022 |
| Solar/PV <sup>h</sup>               | 0.058 | 0.059 | 0.061 | 0.067 | 0.074 |
| Commercial                          | 0.113 | 0.118 | 0.119 | 0.117 | 0.119 |
| Biomass                             | 0.101 | 0.105 | 0.105 | 0.102 | 0.104 |
| Biofuels                            | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 |
| Ethanol <sup>c</sup>                | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 |
| Waste                               | 0.029 | 0.034 | 0.034 | 0.036 | 0.037 |
| Landfill Gas                        | 0.002 | 0.002 | 0.003 | 0.004 | 0.005 |
| MSW Biogenic                        | 0.022 | 0.025 | 0.025 | 0.026 | 0.025 |
| Other Biomass <sup>f</sup>          | 0.005 | 0.007 | 0.007 | 0.007 | 0.007 |
| Wood and Derived Fuels <sup>i</sup> | 0.071 | 0.070 | 0.070 | 0.065 | 0.065 |
| Geothermal                          | 0.011 | 0.012 | 0.014 | 0.014 | 0.014 |
| Hydroelectric Conventional          | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 |
| Industrial                          | 1.731 | 1.861 | 1.884 | 1.999 | 2.025 |
| Biomass                             | 1.684 | 1.824 | 1.848 | 1.966 | 1.998 |
| Biofuels                            | 0.178 | 0.217 | 0.248 | 0.311 | 0.391 |
| Ethanol <sup>c</sup>                | 0.005 | 0.006 | 0.007 | 0.009 | 0.012 |
| Losses and Coproducts               | 0.174 | 0.210 | 0.241 | 0.301 | 0.379 |
| Biodiesel Feedstock <sup>b</sup>    | *     | *     | *     | *     | 0.001 |
| Ethanol Feedstock <sup>d</sup>      | 0.174 | 0.210 | 0.241 | 0.301 | 0.378 |
| Waste                               | 0.142 | 0.132 | 0.148 | 0.140 | 0.151 |
| Landfill Gas                        | 0.076 | 0.075 | 0.081 | 0.074 | 0.089 |
| MSW Biogenic <sup>e</sup>           | 0.005 | 0.006 | 0.007 | 0.006 | 0.006 |
| Other Biomass <sup>f</sup>          | 0.062 | 0.050 | 0.061 | 0.061 | 0.055 |
| Wood and Derived Fuels <sup>i</sup> | 1.363 | 1.476 | 1.452 | 1.515 | 1.457 |
| Geothermal                          | 0.003 | 0.004 | 0.004 | 0.004 | 0.005 |
| Hydroelectric Conventional          | 0.043 | 0.033 | 0.032 | 0.029 | 0.023 |
| Transportation                      | 0.235 | 0.296 | 0.346 | 0.483 | 0.626 |
| Biofuels                            | 0.235 | 0.296 | 0.346 | 0.483 | 0.626 |
| Biodiesel <sup>a</sup>              | 0.002 | 0.004 | 0.012 | 0.032 | 0.063 |
| Ethanol <sup>c</sup>                | 0.233 | 0.292 | 0.334 | 0.451 | 0.564 |
| Electric Power <sup>j</sup>         | 3.601 | 3.503 | 3.568 | 3.827 | 3.503 |
| Biomass                             | 0.397 | 0.388 | 0.406 | 0.412 | 0.427 |
| Waste                               | 0.230 | 0.223 | 0.221 | 0.231 | 0.243 |
| Landfill Gas                        | 0.063 | 0.066 | 0.065 | 0.073 | 0.080 |
| MSW Biogenic                        | 0.138 | 0.133 | 0.136 | 0.139 | 0.143 |
| Other Biomass <sup>f</sup>          | 0.029 | 0.023 | 0.020 | 0.019 | 0.021 |
| Wood and Derived Fuels <sup>i</sup> | 0.167 | 0.165 | 0.185 | 0.182 | 0.184 |
| Geothermal                          | 0.303 | 0.311 | 0.309 | 0.306 | 0.312 |
| Hydroelectric Conventional          | 2.781 | 2.656 | 2.670 | 2.839 | 2.440 |

See footnotes at end of table.

**Table 2. Renewable Energy Consumption by Energy Use Sector and Energy Source, 2003-2007**  
(Quadrillion Btu)

| Sector and Source | 2003  | 2004  | 2005  | 2006  | 2007  |
|-------------------|-------|-------|-------|-------|-------|
| Solar/PV          | 0.005 | 0.006 | 0.006 | 0.005 | 0.006 |
| Wind              | 0.115 | 0.142 | 0.178 | 0.264 | 0.319 |

<sup>a</sup> Biodiesel primarily derived from soy bean oil.

<sup>b</sup> Difference between the energy in biodiesel feedstocks (principally soy bean oil) and the energy in biodiesel consumed in the transportation sector.

<sup>c</sup> Ethanol primarily derived from corn.

<sup>d</sup> Difference between energy in ethanol feedstocks (primarily corn) and its coproducts (wet and dry distiller grains), and the energy in ethanol consumed in the transportation sector.

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

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

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

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

<sup>i</sup> Black liquor, and wood/woodwaste solids and liquids.

<sup>j</sup> The electric power sector comprises electricity-only and combined-heat-power (CHP) plants within North American Classification System (NAICS) 22 category whose primary business is to sell electricity, or electricity and heat, to the public.

PV=Photovoltaic.

MSW=Municipal Solid Waste.

\*=Less than 500 billion Btu.

NA=Not Applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2007 is preliminary.

Sources: Analysis conducted by Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternate Fuels and specific sources described as follows. Residential: Energy Information Administration, Form EIA-457A/G, "Residential Energy Consumption Survey;" Oregon Institute of Technology, Geo-Heat Center; and Energy Information Administration, Form EIA-63-A, "Annual Solar Thermal Collector Manufacturers Survey" and Form EIA-63B, "Annual Photovoltaic Module/Cell Manufacturers Survey." Commercial: Energy Information Administration, Form EIA-906, "Power Plant Report", Form EIA-920, "Combined Heat and Power Plant Report;" and Oregon Institute of Technology, Geo-Heat Center. Industrial: Energy Information Administration, Form EIA-846 (A, B, C) "Manufacturing Energy Consumption Survey," Form EIA-906, "Power Plant Report" and Form EIA-920, "Combined Heat and Power Plant Report;" Oregon Institute of Technology, Geo-Heat Center; Government Advisory Associates, Resource Recovery Yearbook and Methane Recovery Yearbook; U.S. Environmental Protection Agency, Landfill Methane Outreach Program estimates; and losses and coproducts from the production of biodiesel and ethanol calculated as the difference between energy in feedstocks and production. Biofuels for Transportation: Biodiesel: 2001-2005: U.S. Department of Agriculture, Commodity Credit Corporation, Bioenergy Program estimates of production assigned to consumption and 2006 and forward: U.S. Department of Commerce, Bureau of Census, Current Industrial Reports, Fats and Oils - Production, Consumption and Stocks, and Ethanol: 2001-2004: EIA, Petroleum Supply Annual, Tables 2 and 16. Calculated as ten percent of oxygenated finished motor gasoline field production (Table 2) plus fuel ethanol refinery input (Table 16). 2005: EIA Petroleum Supply Annual 2005, 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). 2006: EIA Petroleum Supply Monthly, monthly reports, Tables 1 and 27. 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 27). 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: Energy Information Administration, Form EIA-906, "Power Plant Report" and Form EIA-920, "Combined Heat and Power Plant Report."

**Table 3. Electricity Net Generation From Renewable Energy by Energy Use Sector and Energy Source, 2003-2007  
(Thousand Kilowatthours)**

| Sector/Source                       | 2003        | 2004        | 2005        | 2006        | 2007        |
|-------------------------------------|-------------|-------------|-------------|-------------|-------------|
| Total                               | 355,293,119 | 351,020,900 | 357,533,995 | 385,669,799 | 351,300,592 |
| Biomass                             | 53,341,092  | 53,073,722  | 54,160,152  | 54,758,512  | 55,400,235  |
| Waste                               | 15,811,993  | 15,497,303  | 15,479,005  | 16,109,652  | 16,884,973  |
| Landfill Gas                        | 5,077,451   | 5,128,416   | 5,135,256   | 5,677,253   | 6,199,777   |
| MSW Biogenic <sup>a</sup>           | 8,306,065   | 8,153,230   | 8,334,720   | 8,476,478   | 8,567,940   |
| Other Biomass <sup>b</sup>          | 2,428,478   | 2,215,658   | 2,009,029   | 1,955,921   | 2,117,257   |
| Wood and Derived Fuels <sup>c</sup> | 37,529,099  | 37,576,418  | 38,681,147  | 38,648,859  | 38,515,262  |
| Geothermal                          | 14,424,231  | 14,810,975  | 14,691,745  | 14,568,029  | 14,838,636  |
| Hydroelectric Conventional          | 275,806,329 | 268,417,308 | 270,321,255 | 289,246,416 | 248,312,395 |
| Solar/PV                            | 534,001     | 575,155     | 550,294     | 507,706     | 606,082     |
| Wind                                | 11,187,466  | 14,143,741  | 17,810,549  | 26,589,137  | 32,143,244  |
| Commercial                          | 1,374,208   | 1,645,981   | 1,752,519   | 1,688,360   | 1,723,575   |
| Biomass                             | 1,301,963   | 1,541,014   | 1,666,483   | 1,594,915   | 1,652,569   |
| Waste                               | 1,288,914   | 1,527,370   | 1,650,485   | 1,574,314   | 1,631,269   |
| Landfill Gas                        | 151,801     | 172,029     | 210,824     | 171,979     | 204,039     |
| MSW Biogenic <sup>a</sup>           | 716,921     | 945,812     | 953,591     | 956,337     | 969,342     |
| Other Biomass <sup>b</sup>          | 420,192     | 409,528     | 486,070     | 445,999     | 457,888     |
| Wood and Derived Fuels <sup>c</sup> | 13,049      | 13,644      | 15,998      | 20,600      | 21,300      |
| Hydroelectric Conventional          | 72,245      | 104,967     | 86,037      | 93,446      | 71,005      |
| Industrial                          | 32,926,242  | 31,923,522  | 32,082,295  | 31,796,137  | 31,026,204  |
| Biomass                             | 28,703,818  | 28,675,029  | 28,886,854  | 28,897,089  | 28,757,533  |
| Waste                               | 715,446     | 839,555     | 789,325     | 600,979     | 644,131     |
| Landfill Gas                        | 96,018      | 120,014     | 113,082     | 28,785      | 29,693      |
| MSW Biogenic <sup>a</sup>           | 35,997      | 31,333      | 37,463      | 33,689      | 42,025      |
| Other Biomass <sup>b</sup>          | 583,431     | 688,208     | 638,781     | 538,504     | 572,412     |
| Wood and Derived Fuels <sup>c</sup> | 27,988,372  | 27,835,474  | 28,097,529  | 28,296,111  | 28,113,402  |
| Hydroelectric Conventional          | 4,222,424   | 3,248,493   | 3,195,441   | 2,899,048   | 2,268,671   |
| Electric Power <sup>d</sup>         | 320,992,669 | 317,451,398 | 323,699,182 | 352,185,302 | 318,550,813 |
| Biomass                             | 23,335,311  | 22,857,679  | 23,606,816  | 24,266,508  | 24,990,133  |
| Waste                               | 13,807,633  | 13,130,379  | 13,039,195  | 13,934,359  | 14,609,573  |
| Landfill Gas                        | 4,829,632   | 4,836,372   | 4,811,350   | 5,476,488   | 5,966,044   |
| MSW Biogenic <sup>a</sup>           | 7,553,146   | 7,176,084   | 7,343,666   | 7,486,452   | 7,556,572   |
| Other Biomass <sup>b</sup>          | 1,424,855   | 1,117,922   | 884,178     | 971,419     | 1,086,957   |
| Wood and Derived Fuels <sup>c</sup> | 9,527,678   | 9,727,300   | 10,567,621  | 10,332,148  | 10,380,560  |
| Geothermal                          | 14,424,231  | 14,810,975  | 14,691,745  | 14,568,029  | 14,838,636  |
| Hydroelectric Conventional          | 271,511,660 | 265,063,848 | 267,039,777 | 286,253,922 | 245,972,718 |
| Solar/PV                            | 534,001     | 575,155     | 550,294     | 507,706     | 606,082     |
| Wind                                | 11,187,466  | 14,143,741  | 17,810,549  | 26,589,137  | 32,143,244  |

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

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

<sup>c</sup> Black liquor, and wood/woodwaste solids and liquids.

<sup>d</sup> The electric power sector comprises electricity-only and combined-heat-power (CHP) plants within North American Classification System (NAICS) 22 category whose primary business is to sell electricity, or electricity and heat, to the public.

PV=Photovoltaic

MSW=Municipal Solid Waste.

Note: Totals may not add due to independent rounding. Data for 2007 is preliminary.

Sources: Energy Information Administration, Form EIA-906, "Power Plant Report," and Form EIA-920, "Combined Heat and Power Plant Report."

**Table 4. U.S. Electric Net Summer Capacity, 2003-2007  
(Megawatts)**

| Source                              | 2003    | 2004    | 2005    | 2006    | 2007    |
|-------------------------------------|---------|---------|---------|---------|---------|
| Total                               | 948,446 | 962,942 | 978,020 | 986,215 | 998,837 |
| Renewable Total                     | 96,847  | 96,357  | 98,746  | 101,934 | 106,554 |
| Biomass                             | 9,628   | 9,711   | 9,802   | 10,100  | 10,313  |
| Waste                               | 3,758   | 3,529   | 3,609   | 3,727   | 3,881   |
| Landfill Gas                        | 863     | 859     | 887     | 978     | 1,034   |
| MSW <sup>a</sup>                    | 2,442   | 2,196   | 2,167   | 2,188   | 2,204   |
| Other Biomass <sup>b</sup>          | 453     | 474     | 554     | 561     | 643     |
| Wood and Derived Fuels <sup>c</sup> | 5,871   | 6,182   | 6,193   | 6,372   | 6,432   |
| Geothermal                          | 2,133   | 2,152   | 2,285   | 2,274   | 2,294   |
| Hydroelectric Conventional          | 78,694  | 77,641  | 77,541  | 77,821  | 77,833  |
| Solar/PV                            | 397     | 398     | 411     | 411     | 498     |
| Wind                                | 5,995   | 6,456   | 8,706   | 11,329  | 15,616  |
| Nonrenewable Total                  | 851,599 | 866,585 | 879,274 | 884,281 | 892,284 |

<sup>a</sup> Includes total capacity whose primary energy source is MSW.

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

<sup>c</sup> Black liquor, and wood/woodwaste solids and liquids.

MSW=Municipal Solid Waste.

Note: Totals may not add due to independent rounding. Data for 2007 is preliminary.

Sources: Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

**Table 5. Total Renewable Net Generation by Energy Source and State, 2006  
(Thousand Kilowatthours)**

| State                | Biomass  |                               |   | Geothermal | Hydroelectric<br>Conventional | Solar/PV | Wind       | Total       |
|----------------------|--|-------------------------------|---|------------|-------------------------------|----------|------------|-------------|
|                      | Waste  |                               | Wood and<br>Derived<br>Fuels <sup>c</sup> |            |                               |          |            |             |
|                      | Landfill Gas /<br>MSW<br>Biogenic <sup>a</sup> | Other<br>Biomass <sup>b</sup> |   |            |                               |          |            |             |
| Alabama              | 3,937  | 20,750                        | 3,881,054                                 | -          | 7,251,786                     | -        | -          | 11,157,527  |
| Alaska               | -  | 6,149                         | 514                                       | -          | 1,223,607                     | -        | 788        | 1,231,058   |
| Arizona              | 27,929   | 4,264                         | 8,240                                     | -          | 6,792,904                     | 13,134   | -          | 6,846,471   |
| Arkansas             | 7,407  | 25,880                        | 1,668,515                                 | -          | 1,550,558                     | -        | -          | 3,252,360   |
| California           | 1,684,321                                      | 585,392                       | 3,422,093                                 | 12,821,434 | 48,047,380                    | 494,572  | 4,882,801  | 71,937,993  |
| Colorado             | -  | 30,692                        | -   | -          | 1,791,207                     | -        | 865,536    | 2,687,435   |
| Connecticut          | 754,776  | -                             | 8,544                                     | -          | 543,892                       | -        | -          | 1,307,212   |
| Delaware             | *  | -                             | -   | -          | -                             | -        | -          | *           |
| District of Columbia | -  | -                             | -   | -          | -                             | -        | -          | -           |
| Florida              | 1,825,292                                      | 551,930                       | 1,995,254                                 | -          | 203,422                       | -        | -          | 4,575,897   |
| Georgia              | 24,749   | 36,984                        | 3,381,260                                 | -          | 2,568,837                     | -        | -          | 6,011,830   |
| Hawaii               | 189,162  | 136,530                       | -   | 212,276    | 120,087                       | -        | 79,674     | 737,729     |
| Idaho                | -  | -                             | 529,598                                   | -          | 11,242,372                    | -        | 169,617    | 11,941,587  |
| Illinois             | 581,899  | 12,383                        | -   | -          | 173,272                       | -        | 254,571    | 1,022,125   |
| Indiana              | 220,314  | -                             | -   | -          | 489,515                       | -        | -          | 709,829     |
| Iowa                 | 100,268  | 36,631                        | -   | -          | 909,348                       | -        | 2,317,821  | 3,364,068   |
| Kansas               | -  | -                             | -   | -          | 9,649                         | -        | 991,890    | 1,001,539   |
| Kentucky             | 87,713   | 1,691                         | 369,986                                   | -          | 2,591,701                     | -        | -          | 3,051,091   |
| Louisiana            | -  | 81,428                        | 2,949,599                                 | -          | 713,215                       | -        | -          | 3,744,242   |
| Maine                | 234,741  | 48,133                        | 3,691,210                                 | -          | 4,278,132                     | -        | -          | 8,252,216   |
| Maryland             | 408,102  | -                             | 221,140                                   | -          | 2,104,275                     | -        | -          | 2,733,517   |
| Massachusetts        | 1,126,129                                      | 27,442                        | 125,258                                   | -          | 1,512,645                     | -        | -          | 2,791,473   |
| Michigan             | 735,343  | 1,743                         | 1,712,730                                 | -          | 1,520,353                     | -        | 2,212      | 3,972,381   |
| Minnesota            | 411,782  | 4,398                         | 586,351                                   | -          | 571,730                       | -        | 2,054,947  | 3,629,208   |
| Mississippi          | -  | 6,480                         | 1,534,603                                 | -          | -                             | -        | -          | 1,541,083   |
| Missouri             | 15,195   | 7,612                         | *   | -          | 199,214                       | -        | -          | 222,117     |
| Montana              | -  | -                             | 88,119                                    | -          | 10,130,161                    | -        | 435,970    | 10,654,250  |
| Nebraska             | 37,404   | 14,610                        | -   | -          | 893,386                       | -        | 261,247    | 1,206,647   |
| Nevada               | -  | -                             | -   | 1,343,711  | 2,057,626                     | -        | -          | 3,401,337   |
| New Hampshire        | 156,399  | -                             | 590,003                                   | -          | 1,528,910                     | -        | -          | 2,275,311   |
| New Jersey           | 803,245  | 97,548                        | -   | -          | 35,436                        | -        | 15,991     | 952,220     |
| New Mexico           | -  | 21,885                        | -   | -          | 198,211                       | -        | 1,255,436  | 1,475,532   |
| New York             | 1,410,042                                      | 10,840                        | 530,234                                   | -          | 27,344,655                    | -        | 655,371    | 29,951,143  |
| North Carolina       | 88,110   | 3,744                         | 1,743,048                                 | -          | 3,839,012                     | -        | -          | 5,673,914   |
| North Dakota         | -  | 3,544                         | -   | -          | 1,521,034                     | -        | 369,485    | 1,894,063   |
| Ohio                 | 23,653   | 10,205                        | 350,637                                   | -          | 631,936                       | -        | 14,401     | 1,030,831   |
| Oklahoma             | -  | -                             | 300,480                                   | -          | 623,579                       | -        | 1,712,441  | 2,636,500   |
| Oregon               | 71,203   | 27,450                        | 839,984                                   | -          | 37,850,297                    | -        | 931,219    | 39,720,153  |
| Pennsylvania         | 1,410,596                                      | 17,815                        | 688,351                                   | -          | 2,844,142                     | -        | 361,108    | 5,322,011   |
| Rhode Island         | 148,913  | -                             | -   | -          | 5,909                         | -        | -          | 154,822     |
| South Carolina       | 106,093  | -                             | 1,730,781                                 | -          | 1,806,948                     | -        | -          | 3,643,822   |
| South Dakota         | -  | -                             | -   | -          | 3,396,833                     | -        | 148,965    | 3,545,798   |
| Tennessee            | 23,675   | 1,286                         | 445,565                                   | -          | 7,748,650                     | -        | 54,598     | 8,273,774   |
| Texas                | 218,813  | 43,516                        | 900,888                                   | -          | 661,971                       | -        | 6,670,515  | 8,495,704   |
| Utah                 | 14,889   | -                             | -   | 190,608    | 746,783                       | -        | -          | 952,280     |
| Vermont              | -  | -                             | 439,222                                   | -          | 1,518,665                     | -        | 10,688     | 1,968,575   |
| Virginia             | 660,847  | 17,681                        | 1,802,970                                 | -          | 1,351,194                     | -        | -          | 3,832,692   |
| Washington           | 165,496  | 24,301                        | 1,275,062                                 | -          | 82,007,629                    | -        | 1,037,651  | 84,510,138  |
| West Virginia        | -  | -                             | -   | -          | 1,572,433                     | -        | 173,757    | 1,746,190   |
| Wisconsin            | 374,878  | 34,984                        | 837,471                                   | -          | 1,678,598                     | -        | 101,376    | 3,027,307   |
| Wyoming              | -  | -                             | -   | -          | 843,316                       | -        | 759,061    | 1,602,377   |
| Total                | 14,153,731                                     | 1,955,921                     | 38,648,859                                | 14,568,029 | 289,246,416                   | 507,706  | 26,589,137 | 385,669,799 |

<sup>a</sup> Includes landfill gas and MSW biogenic (Paper and paper board, wood, food, leather, textiles and yard trimmings.).

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

<sup>c</sup> Black liquor, and wood/woodwaste solids and liquids.

\*=Less than 500 kilowatthours

PV=Photovoltaic.

MSW=Municipal Solid Waste.

Note: Dash indicates the state has no data to report for that energy source. Totals may not equal sum of components due to independent rounding.

Source: Energy Information Administration, Form EIA-906, "Power Plant Report," and Form EIA-920, " Combined Heat and Power Plant Report."

**Table 6. Total Renewable Net Generation by Energy Source and State, 2007  
(Thousand Kilowatthours)**

| State                | Biomass  |                               |   | Geothermal | Hydroelectric<br>Conventional | Solar/PV | Wind       | Total       |
|----------------------|--|-------------------------------|---|------------|-------------------------------|----------|------------|-------------|
|                      | Waste  |                               | Wood and<br>Derived<br>Fuels <sup>c</sup> |            |                               |          |            |             |
|                      | Landfill Gas /<br>MSW<br>Biogenic <sup>a</sup> | Other<br>Biomass <sup>b</sup> |   |            |                               |          |            |             |
| Alabama              | 3,511  | 16,899                        | 3,834,786                                 | -          | 4,584,600                     | -        | -          | 8,439,796   |
| Alaska               | -  | 6,312                         | *   | -          | 1,208,365                     | -        | 7,784      | 1,222,483   |
| Arizona              | 23,889   | 4,465                         | 1,798                                     | -          | 6,582,545                     | 9,036    | -          | 6,621,734   |
| Arkansas             | 6,576  | 26,689                        | 1,565,434                                 | -          | 3,107,064                     | -        | -          | 4,705,763   |
| California           | 1,810,118                                      | 629,267                       | 3,330,403                                 | 12,957,824 | 29,059,757                    | 555,834  | 5,644,272  | 53,987,474  |
| Colorado             | -  | 31,861                        | -   | -          | 1,731,370                     | -        | 708,291    | 2,471,522   |
| Connecticut          | 768,589  | -                             | 29,535                                    | -          | 438,275                       | -        | -          | 1,236,400   |
| Delaware             | 503  | -                             | -   | -          | -                             | -        | -          | 503         |
| District of Columbia | -  | -                             | -   | -          | -                             | -        | -          | -           |
| Florida              | 1,846,148                                      | 579,058                       | 1,924,074                                 | -          | 175,042                       | -        | -          | 4,524,323   |
| Georgia              | 25,807   | 42,116                        | 3,413,571                                 | -          | 2,504,532                     | -        | -          | 5,986,026   |
| Hawaii               | 169,287  | 141,861                       | -   | 229,886    | 105,345                       | -        | 154,947    | 801,326     |
| Idaho                | -  | -                             | 498,668                                   | -          | 8,910,945                     | -        | 177,969    | 9,587,582   |
| Illinois             | 655,573  | 10,567                        | -   | -          | 147,157                       | -        | 571,270    | 1,384,568   |
| Indiana              | 225,382  | -                             | -   | -          | 439,070                       | -        | -          | 664,451     |
| Iowa                 | 110,808  | 31,869                        | *   | -          | 965,551                       | -        | 2,719,059  | 3,827,303   |
| Kansas               | -  | -                             | -   | -          | 10,501                        | -        | 1,152,538  | 1,163,039   |
| Kentucky             | 93,253   | 1,955                         | 373,763                                   | -          | 1,686,342                     | -        | -          | 2,155,313   |
| Louisiana            | -  | 88,461                        | 2,996,010                                 | -          | 826,642                       | -        | -          | 3,911,113   |
| Maine                | 240,727  | 52,257                        | 3,818,824                                 | -          | 3,519,405                     | -        | 99,071     | 7,730,284   |
| Maryland             | 400,736  | -                             | 214,068                                   | -          | 1,660,030                     | -        | -          | 2,274,835   |
| Massachusetts        | 1,138,266                                      | 28,654                        | 142,153                                   | -          | 1,157,750                     | -        | -          | 2,466,824   |
| Michigan             | 796,564  | 1,944                         | 1,711,143                                 | -          | 1,274,386                     | -        | 2,723      | 3,786,760   |
| Minnesota            | 452,194  | 6,926                         | 569,548                                   | -          | 509,988                       | -        | 2,466,136  | 4,004,792   |
| Mississippi          | -  | 5,017                         | 1,491,546                                 | -          | -                             | -        | -          | 1,496,563   |
| Missouri             | 15,188   | 8,149                         | *   | -          | 1,141,067                     | -        | -          | 1,164,534   |
| Montana              | -  | -                             | 88,086                                    | -          | 9,170,270                     | -        | 485,849    | 9,744,204   |
| Nebraska             | 46,184   | 15,167                        | -   | -          | 848,636                       | -        | 217,664    | 1,127,651   |
| Nevada               | -  | -                             | -   | 1,487,001  | 1,988,829                     | 41,212   | -          | 3,517,042   |
| New Hampshire        | 179,317  | -                             | 882,996                                   | -          | 1,311,054                     | -        | -          | 2,373,367   |
| New Jersey           | 830,155  | 109,945                       | -   | -          | 33,541                        | -        | 20,910     | 994,551     |
| New Mexico           | -  | 22,760                        | -   | -          | 186,703                       | -        | 1,393,239  | 1,602,702   |
| New York             | 1,476,048                                      | 7,645                         | 511,590                                   | -          | 25,530,506                    | -        | 839,390    | 28,365,179  |
| North Carolina       | 100,921  | 1,134                         | 1,699,079                                 | -          | 3,040,887                     | -        | -          | 4,842,021   |
| North Dakota         | -  | 3,651                         | -   | -          | 1,305,393                     | -        | 562,518    | 1,871,562   |
| Ohio                 | 25,629   | 16,660                        | 345,167                                   | -          | 455,232                       | -        | 20,136     | 862,825     |
| Oklahoma             | -  | -                             | 295,151                                   | -          | 2,461,150                     | -        | 1,849,144  | 4,605,445   |
| Oregon               | 74,737   | 53,355                        | 935,258                                   | -          | 33,375,111                    | -        | 1,142,964  | 35,581,425  |
| Pennsylvania         | 1,464,343                                      | 17,889                        | 609,426                                   | -          | 2,322,467                     | -        | 380,784    | 4,794,908   |
| Rhode Island         | 150,306  | -                             | -   | -          | 5,029                         | -        | -          | 155,336     |
| South Carolina       | 108,960  | -                             | 1,754,399                                 | -          | 1,735,280                     | -        | -          | 3,598,639   |
| South Dakota         | -  | -                             | -   | -          | 2,442,847                     | -        | 150,018    | 2,592,865   |
| Tennessee            | 26,229   | 1,602                         | 444,051                                   | -          | 4,928,793                     | -        | 49,937     | 5,450,612   |
| Texas                | 241,878  | 58,543                        | 916,981                                   | -          | 1,186,635                     | -        | 8,121,835  | 10,525,871  |
| Utah                 | 14,033   | -                             | -   | 163,925    | 638,102                       | -        | -          | 816,060     |
| Vermont              | -  | -                             | 469,268                                   | -          | 1,187,274                     | -        | 10,511     | 1,667,053   |
| Virginia             | 668,318  | 25,110                        | 1,828,992                                 | -          | 1,328,708                     | -        | -          | 3,851,128   |
| Washington           | 179,595  | 32,180                        | 978,110                                   | -          | 77,634,164                    | -        | 2,170,291  | 80,994,340  |
| West Virginia        | -  | -                             | -   | -          | 1,238,032                     | -        | 167,588    | 1,405,620   |
| Wisconsin            | 397,943  | 37,289                        | 841,217                                   | -          | 1,484,426                     | -        | 110,676    | 2,871,552   |
| Wyoming              | -  | -                             | -   | -          | 727,595                       | -        | 745,729    | 1,473,325   |
| Total                | 14,767,716                                     | 2,117,257                     | 38,515,262                                | 14,838,636 | 248,312,395                   | 606,082  | 32,143,244 | 351,300,591 |

<sup>a</sup> Includes landfill gas and MSW biogenic (Paper and paper board, wood, food, leather, textiles and yard trimmings.).

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

<sup>c</sup> Black liquor, and wood/woodwaste solids and liquids.

\*=Less than 500 kilowatthours

PV=Photovoltaic.

MSW=Municipal Solid Waste.

Note: Dash indicates the state has no data to report for that energy source. Totals may not equal sum of components due to independent rounding. Data for 2007 is preliminary.

Source: Energy Information Administration, Form EIA-906, "Power Plant Report," and Form EIA-920, " Combined Heat and Power Plant Report."

**Table 7. Total Renewable Net Summer Capacity by Energy Source and State, 2006 (Megawatts)**

| State                | Biomass                                  |                            |                                     | Geothermal   | Hydroelectric Conventional | Solar/PV   | Wind          | Total          |
|----------------------|--|----------------------------|-------------------------------------|--------------|----------------------------|------------|---------------|----------------|
|                      | Waste                                    |                            | Wood and Derived Fuels <sup>c</sup> |              |                            |            |               |                |
|                      | Landfill Gas / MSW Biogenic <sup>a</sup> | Other Biomass <sup>b</sup> |                                     |              |                            |            |               |                |
| Alabama              | -  | -                          | 581                                 | -            | 3,271                      | -          | -             | 3,852          |
| Alaska               | -  | -                          | -                                   | -            | 397                        | -          | 3             | 400            |
| Arizona              | 4  | -                          | 3                                   | -            | 2,720                      | 9          | -             | 2,736          |
| Arkansas             | 5  | 6                          | 292                                 | -            | 1,389                      | -          | -             | 1,691          |
| California           | 275                                      | 145                        | 584                                 | 2,032        | 10,083                     | 402        | 2,255         | 15,776         |
| Colorado             | -  | 10                         | -                                   | -            | 652                        | -          | 289           | 950            |
| Connecticut          | 170                                      | -                          | -                                   | -            | 147                        | -          | -             | 316            |
| Delaware             | 7  | -                          | -                                   | -            | -                          | -          | -             | 7              |
| District of Columbia | -  | -                          | -                                   | -            | -                          | -          | -             | -              |
| Florida              | 447                                      | 163                        | 343                                 | -            | 55                         | -          | -             | 1,008          |
| Georgia              | 5  | 44                         | 450                                 | -            | 2,027                      | -          | -             | 2,526          |
| Hawaii               | 60                                       | 49                         | -                                   | 31           | 24                         | -          | 43            | 206            |
| Idaho                | -  | -                          | 75                                  | -            | 2,378                      | -          | 75            | 2,528          |
| Illinois             | 111                                      | 15                         | -                                   | -            | 33                         | -          | 105           | 264            |
| Indiana              | 31                                       | -                          | -                                   | -            | 60                         | -          | -             | 91             |
| Iowa                 | 11                                       | 3                          | -                                   | -            | 131                        | -          | 921           | 1,067          |
| Kansas               | -  | -                          | -                                   | -            | 3                          | -          | 363           | 366            |
| Kentucky             | 12                                       | -                          | 43                                  | -            | 815                        | -          | -             | 871            |
| Louisiana            | -  | 15                         | 318                                 | -            | 192                        | -          | -             | 525            |
| Maine                | 53                                       | 36                         | 609                                 | -            | 719                        | -          | -             | 1,418          |
| Maryland             | 126                                      | -                          | 2                                   | -            | 566                        | -          | -             | 693            |
| Massachusetts        | 261                                      | 9                          | 26                                  | -            | 259                        | -          | -             | 554            |
| Michigan             | 149                                      | -                          | 210                                 | -            | 257                        | -          | 2             | 618            |
| Minnesota            | 127                                      | -                          | 129                                 | -            | 175                        | -          | 827           | 1,259          |
| Mississippi          | -  | -                          | 229                                 | -            | -                          | -          | -             | 229            |
| Missouri             | 3  | -                          | -                                   | -            | 552                        | -          | -             | 555            |
| Montana              | -  | -                          | 17                                  | -            | 2,604                      | -          | 145           | 2,766          |
| Nebraska             | 6  | 4                          | -                                   | -            | 272                        | -          | 73            | 355            |
| Nevada               | -  | -                          | -                                   | 188          | 1,047                      | -          | -             | 1,236          |
| New Hampshire        | 31                                       | -                          | 141                                 | -            | 512                        | -          | -             | 685            |
| New Jersey           | 181                                      | 20                         | -                                   | -            | 5                          | -          | 8             | 212            |
| New Mexico           | -  | 6                          | -                                   | -            | 82                         | -          | 494           | 582            |
| New York             | 313                                      | -                          | 37                                  | -            | 4,307                      | -          | 370           | 5,027          |
| North Carolina       | 14                                       | -                          | 324                                 | -            | 1,954                      | -          | -             | 2,292          |
| North Dakota         | -  | 10                         | -                                   | -            | 443                        | -          | 164           | 617            |
| Ohio                 | 4  | -                          | 64                                  | -            | 101                        | -          | 7             | 175            |
| Oklahoma             | 16                                       | -                          | 63                                  | -            | 851                        | -          | 594           | 1,524          |
| Oregon               | 14                                       | 3                          | 195                                 | -            | 8,374                      | -          | 399           | 8,984          |
| Pennsylvania         | 359                                      | -                          | 108                                 | -            | 748                        | -          | 150           | 1,365          |
| Rhode Island         | 24                                       | -                          | -                                   | -            | 4                          | -          | -             | 28             |
| South Carolina       | 29                                       | -                          | 220                                 | -            | 1,345                      | -          | -             | 1,594          |
| South Dakota         | -  | -                          | -                                   | -            | 1,516                      | -          | 43            | 1,559          |
| Tennessee            | 5  | 2                          | 147                                 | -            | 2,638                      | -          | 29            | 2,821          |
| Texas                | 42                                       | 16                         | 130                                 | -            | 681                        | -          | 2,738         | 3,607          |
| Utah                 | 4  | -                          | -                                   | 23           | 255                        | -          | -             | 282            |
| Vermont              | -  | -                          | 76                                  | -            | 309                        | -          | 5             | 390            |
| Virginia             | 170                                      | -                          | 410                                 | -            | 671                        | -          | -             | 1,251          |
| Washington           | 35                                       | 4                          | 326                                 | -            | 21,156                     | -          | 821           | 22,343         |
| West Virginia        | -  | -                          | -                                   | -            | 264                        | -          | 66            | 330            |
| Wisconsin            | 62                                       | 1                          | 220                                 | -            | 476                        | -          | 53            | 813            |
| Wyoming              | -  | -                          | -                                   | -            | 303                        | -          | 287           | 590            |
| <b>Total</b>         | <b>3,166</b>                             | <b>561</b>                 | <b>6,372</b>                        | <b>2,274</b> | <b>77,821</b>              | <b>411</b> | <b>11,329</b> | <b>101,934</b> |

<sup>a</sup> Total capacity whose primary energy source is landfill gas or MSW.

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

<sup>c</sup> Black liquor, and wood/woodwaste solids and liquids.

PV=Photovoltaic.

MSW=Municipal Solid Waste.

\* =Less than 500 kilowatts.

Note: Dash indicates the state has no data to report for that energy source. Totals may not equal sum of components due to independent rounding.

Source: Energy Information Administration, Form EIA-860,"Annual Electric Generator Report."

**Table 8. Total Renewable Net Summer Capacity by Energy Source and State, 2007 (Megawatts)**

| State                | Biomass                                  |                            |                                     | Geothermal | Hydroelectric Conventional | Solar/PV | Wind   | Total   |
|----------------------|--|----------------------------|-------------------------------------|------------|----------------------------|----------|--------|---------|
|                      | Waste                                    |                            | Wood and Derived Fuels <sup>c</sup> |            |                            |          |        |         |
|                      | Landfill Gas / MSW Biogenic <sup>a</sup> | Other Biomass <sup>b</sup> |                                     |            |                            |          |        |         |
| Alabama              | -  | -                          | 581                                 | -          | 3,271                      | -        | -      | 3,852   |
| Alaska               | -  | -                          | -                                   | -          | 397                        | -        | 3      | 400     |
| Arizona              | 4  | -                          | 3                                   | -          | 2,720                      | 9        | -      | 2,736   |
| Arkansas             | 5  | 6                          | 292                                 | -          | 1,389                      | -        | -      | 1,691   |
| California           | 278                                      | 145                        | 584                                 | 2,032      | 10,088                     | 403      | 2,318  | 15,847  |
| Colorado             | -  | 10                         | -                                   | -          | 660                        | 8        | 1,064  | 1,742   |
| Connecticut          | 170                                      | -                          | -                                   | -          | 121                        | -        | -      | 291     |
| Delaware             | 7  | -                          | -                                   | -          | -                          | -        | -      | 7       |
| District of Columbia | -  | -                          | -                                   | -          | -                          | -        | -      | -       |
| Florida              | 463                                      | 193                        | 343                                 | -          | 55                         | -        | -      | 1,054   |
| Georgia              | 5  | 44                         | 450                                 | -          | 2,027                      | -        | -      | 2,526   |
| Hawaii               | 60                                       | 49                         | -                                   | 31         | 24                         | -        | 64     | 227     |
| Idaho                | -  | -                          | 75                                  | -          | 2,393                      | -        | 75     | 2,543   |
| Illinois             | 118                                      | 15                         | -                                   | -          | 33                         | -        | 541    | 708     |
| Indiana              | 40                                       | -                          | -                                   | -          | 60                         | -        | -      | 100     |
| Iowa                 | 11                                       | 3                          | -                                   | -          | 131                        | -        | 1,134  | 1,280   |
| Kansas               | -  | -                          | -                                   | -          | 3                          | -        | 363    | 366     |
| Kentucky             | 15                                       | -                          | 43                                  | -          | 815                        | -        | -      | 874     |
| Louisiana            | -  | 15                         | 318                                 | -          | 192                        | -        | -      | 525     |
| Maine                | 53                                       | 36                         | 620                                 | -          | 719                        | -        | 42     | 1,471   |
| Maryland             | 126                                      | -                          | 2                                   | -          | 566                        | -        | -      | 693     |
| Massachusetts        | 264                                      | 9                          | 26                                  | -          | 259                        | -        | -      | 557     |
| Michigan             | 152                                      | -                          | 210                                 | -          | 257                        | -        | 2      | 620     |
| Minnesota            | 129                                      | 55                         | 162                                 | -          | 175                        | -        | 1,136  | 1,656   |
| Mississippi          | -  | -                          | 229                                 | -          | -                          | -        | -      | 229     |
| Missouri             | 3  | -                          | -                                   | -          | 552                        | -        | -      | 555     |
| Montana              | -  | -                          | 17                                  | -          | 2,614                      | -        | 145    | 2,776   |
| Nebraska             | 6  | 4                          | -                                   | -          | 273                        | -        | 73     | 356     |
| Nevada               | -  | -                          | -                                   | 198        | 1,047                      | 78       | -      | 1,324   |
| New Hampshire        | 31                                       | -                          | 141                                 | -          | 494                        | -        | -      | 667     |
| New Jersey           | 181                                      | 20                         | -                                   | -          | 5                          | -        | 8      | 212     |
| New Mexico           | -  | 6                          | -                                   | -          | 82                         | -        | 494    | 582     |
| New York             | 325                                      | -                          | 37                                  | -          | 4,307                      | -        | 425    | 5,093   |
| North Carolina       | 14                                       | -                          | 324                                 | -          | 1,954                      | -        | -      | 2,292   |
| North Dakota         | -  | 10                         | -                                   | -          | 443                        | -        | 335    | 788     |
| Ohio                 | 4  | -                          | 64                                  | -          | 101                        | -        | 7      | 175     |
| Oklahoma             | 16                                       | -                          | 63                                  | -          | 851                        | -        | 594    | 1,524   |
| Oregon               | 17                                       | 3                          | 195                                 | -          | 8,374                      | -        | 846    | 9,434   |
| Pennsylvania         | 359                                      | -                          | 108                                 | -          | 748                        | -        | 293    | 1,508   |
| Rhode Island         | 24                                       | -                          | -                                   | -          | 4                          | -        | -      | 28      |
| South Carolina       | 29                                       | -                          | 220                                 | -          | 1,345                      | -        | -      | 1,594   |
| South Dakota         | -  | -                          | -                                   | -          | 1,516                      | -        | 43     | 1,559   |
| Tennessee            | 5  | 2                          | 145                                 | -          | 2,642                      | -        | 29     | 2,822   |
| Texas                | 55                                       | 16                         | 130                                 | -          | 680                        | -        | 4,006  | 4,886   |
| Utah                 | 4  | -                          | -                                   | 33         | 255                        | -        | -      | 292     |
| Vermont              | -  | -                          | 76                                  | -          | 309                        | -        | 5      | 390     |
| Virginia             | 170                                      | -                          | 409                                 | -          | 671                        | -        | -      | 1,250   |
| Washington           | 35                                       | -                          | 345                                 | -          | 21,171                     | 1        | 1,165  | 22,718  |
| West Virginia        | -  | -                          | -                                   | -          | 264                        | -        | 66     | 330     |
| Wisconsin            | 62                                       | 1                          | 220                                 | -          | 476                        | -        | 53     | 813     |
| Wyoming              | -  | -                          | -                                   | -          | 303                        | -        | 287    | 590     |
| Total                | 3,238                                    | 643                        | 6,432                               | 2,294      | 77,833                     | 498      | 15,616 | 106,553 |

<sup>a</sup> Total capacity whose primary energy source is landfill gas or MSW.

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

<sup>c</sup> Black liquor, and wood/woodwaste solids and liquids.

PV=Photovoltaic.

MSW=Municipal Solid Waste.

\* =Less than 500 kilowatts.

Note: Dash indicates the state has no data to report for that energy source. Totals may not equal sum of components due to independent rounding. Data for 2007 is preliminary.

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