

**Table 12.7 Carbon Dioxide Emissions From Biomass Energy Consumption**

(Million Metric Tons of Carbon Dioxide<sup>a</sup>)

|                                 | By Source         |                            |                           |            |            | By Sector   |                         |                         |                |                             |            |
|---------------------------------|-------------------|----------------------------|---------------------------|------------|------------|-------------|-------------------------|-------------------------|----------------|-----------------------------|------------|
|                                 | Wood <sup>b</sup> | Biomass Waste <sup>c</sup> | Fuel Ethanol <sup>d</sup> | Bio-diesel | Total      | Residential | Commercial <sup>e</sup> | Industrial <sup>f</sup> | Transportation | Electric Power <sup>g</sup> | Total      |
| <b>1973 Total</b> .....         | 143               | (s)                        | NA                        | NA         | 143        | 33          | 1                       | 109                     | NA             | (s)                         | 143        |
| <b>1975 Total</b> .....         | 140               | (s)                        | NA                        | NA         | 141        | 40          | 1                       | 100                     | NA             | (s)                         | 141        |
| <b>1980 Total</b> .....         | 232               | (s)                        | NA                        | NA         | 232        | 80          | 2                       | 150                     | NA             | (s)                         | 232        |
| <b>1985 Total</b> .....         | 252               | 14                         | 3                         | NA         | 270        | 95          | 2                       | 168                     | 3              | 1                           | 270        |
| <b>1990 Total</b> .....         | 208               | 24                         | 4                         | NA         | 237        | 54          | 8                       | 147                     | 4              | 23                          | 237        |
| <b>1995 Total</b> .....         | 222               | 30                         | 8                         | NA         | 260        | 49          | 9                       | 166                     | 8              | 28                          | 260        |
| <b>1996 Total</b> .....         | 229               | 32                         | 6                         | NA         | 266        | 51          | 10                      | 170                     | 6              | 30                          | 266        |
| <b>1997 Total</b> .....         | 222               | 30                         | 7                         | NA         | 259        | 40          | 10                      | 172                     | 7              | 30                          | 259        |
| <b>1998 Total</b> .....         | 205               | 30                         | 8                         | NA         | 242        | 36          | 9                       | 160                     | 8              | 30                          | 242        |
| <b>1999 Total</b> .....         | 208               | 29                         | 8                         | NA         | 245        | 37          | 9                       | 161                     | 8              | 30                          | 245        |
| <b>2000 Total</b> .....         | 212               | 27                         | 9                         | NA         | 248        | 39          | 9                       | 161                     | 9              | 29                          | 248        |
| <b>2001 Total</b> .....         | 188               | 33                         | 10                        | (s)        | 231        | 35          | 9                       | 147                     | 10             | 31                          | 231        |
| <b>2002 Total</b> .....         | 187               | 36                         | 12                        | (s)        | 235        | 36          | 9                       | 144                     | 12             | 35                          | 235        |
| <b>2003 Total</b> .....         | 188               | 36                         | 16                        | (s)        | 240        | 38          | 9                       | 141                     | 16             | 37                          | 240        |
| <b>2004 Total</b> .....         | 199               | 35                         | 20                        | (s)        | 255        | 38          | 10                      | 151                     | 20             | 36                          | 255        |
| <b>2005 Total</b> .....         | 200               | 37                         | 23                        | 1          | 261        | 40          | 10                      | 150                     | 23             | 37                          | 261        |
| <b>2006 Total</b> .....         | 197               | 36                         | 31                        | 2          | 266        | 36          | 9                       | 151                     | 33             | 38                          | 266        |
| <b>2007 Total</b> .....         | 196               | 37                         | 39                        | 3          | 276        | 39          | 9                       | 146                     | 41             | 39                          | 276        |
| <b>2008 Total</b> .....         | 193               | 39                         | 55                        | 3          | 290        | 44          | 10                      | 139                     | 57             | 40                          | 290        |
| <b>2009 Total</b> .....         | 181               | 41                         | 62                        | 3          | 287        | 47          | 10                      | 125                     | 64             | 41                          | 287        |
| <b>2010 Total</b> .....         | 199               | 42                         | 73                        | 2          | 316        | 41          | 10                      | 149                     | 74             | 42                          | 316        |
| <b>2011 Total</b> .....         | 201               | 42                         | 73                        | 8          | 324        | 42          | 11                      | 151                     | 80             | 40                          | 324        |
| <b>2012 Total</b> .....         | 200               | 42                         | 73                        | 8          | 324        | 39          | 10                      | 153                     | 80             | 42                          | 324        |
| <b>2013 Total</b> .....         | 220               | 45                         | 75                        | 13         | 353        | 54          | 11                      | 158                     | 87             | 43                          | 353        |
| <b>2014 Total</b> .....         | 226               | 47                         | 76                        | 13         | 362        | 55          | 12                      | 158                     | 88             | 49                          | 362        |
| <b>2015 Total</b> .....         | 210               | 47                         | 79                        | 14         | 350        | 41          | 13                      | 157                     | 90             | 48                          | 350        |
| <b>2016 January</b> .....       | 17                | 4                          | 6                         | 1          | 28         | 3           | 1                       | 13                      | 7              | 4                           | 28         |
| February .....                  | 16                | 4                          | 6                         | 1          | 27         | 3           | 1                       | 13                      | 7              | 4                           | 27         |
| March .....                     | 17                | 4                          | 7                         | 1          | 29         | 3           | 1                       | 13                      | 8              | 4                           | 29         |
| April .....                     | 16                | 4                          | 6                         | 1          | 27         | 3           | 1                       | 12                      | 7              | 4                           | 27         |
| May .....                       | 16                | 4                          | 7                         | 2          | 29         | 3           | 1                       | 13                      | 8              | 4                           | 29         |
| June .....                      | 16                | 4                          | 7                         | 2          | 29         | 3           | 1                       | 13                      | 8              | 4                           | 29         |
| July .....                      | 17                | 4                          | 7                         | 2          | 30         | 3           | 1                       | 13                      | 9              | 4                           | 30         |
| August .....                    | 17                | 4                          | 7                         | 2          | 30         | 3           | 1                       | 13                      | 9              | 4                           | 30         |
| September .....                 | 16                | 4                          | 7                         | 2          | 28         | 3           | 1                       | 12                      | 8              | 4                           | 28         |
| October .....                   | 16                | 4                          | 7                         | 2          | 28         | 3           | 1                       | 13                      | 8              | 3                           | 28         |
| November .....                  | 16                | 4                          | 7                         | 2          | 29         | 3           | 1                       | 13                      | 8              | 4                           | 29         |
| December .....                  | 19                | 4                          | 7                         | 2          | 32         | 3           | 1                       | 15                      | 9              | 4                           | 32         |
| <b>Total</b> .....              | <b>200</b>        | <b>46</b>                  | <b>81</b>                 | <b>20</b>  | <b>346</b> | <b>33</b>   | <b>14</b>               | <b>155</b>              | <b>98</b>      | <b>47</b>                   | <b>346</b> |
| <b>2017 January</b> .....       | 18                | 4                          | 6                         | 1          | 29         | 3           | 1                       | 14                      | 7              | 4                           | 29         |
| February .....                  | 16                | 4                          | 6                         | 1          | 26         | 2           | 1                       | 12                      | 7              | 4                           | 26         |
| March .....                     | 17                | 4                          | 7                         | 1          | 30         | 3           | 1                       | 14                      | 8              | 4                           | 30         |
| April .....                     | 16                | 4                          | 7                         | 2          | 28         | 3           | 1                       | 13                      | 8              | 4                           | 28         |
| May .....                       | 17                | 4                          | 7                         | 2          | 30         | 3           | 1                       | 13                      | 9              | 4                           | 30         |
| June .....                      | 17                | 4                          | 7                         | 2          | 30         | 3           | 1                       | 13                      | 9              | 4                           | 30         |
| July .....                      | 18                | 4                          | 7                         | 2          | 30         | 3           | 1                       | 14                      | 8              | 4                           | 30         |
| August .....                    | 18                | 4                          | 7                         | 2          | 31         | 3           | 1                       | 14                      | 9              | 4                           | 31         |
| September .....                 | 16                | 3                          | 7                         | 2          | 28         | 3           | 1                       | 13                      | 8              | 4                           | 28         |
| October .....                   | 17                | 4                          | 7                         | 2          | 29         | 3           | 1                       | 13                      | 8              | 4                           | 29         |
| November .....                  | 17                | 4                          | 7                         | 2          | 29         | 3           | 1                       | 14                      | 8              | 4                           | 29         |
| December .....                  | 18                | 4                          | 7                         | 2          | 30         | 3           | 1                       | 14                      | 8              | 4                           | 30         |
| <b>Total</b> .....              | <b>205</b>        | <b>45</b>                  | <b>82</b>                 | <b>19</b>  | <b>351</b> | <b>31</b>   | <b>14</b>               | <b>161</b>              | <b>98</b>      | <b>47</b>                   | <b>351</b> |
| <b>2018 January</b> .....       | 18                | 4                          | 7                         | 1          | 30         | 3           | 1                       | 14                      | 8              | 4                           | 30         |
| February .....                  | 17                | 4                          | 6                         | 1          | 27         | 3           | 1                       | 13                      | 7              | 4                           | 27         |
| March .....                     | 18                | 4                          | 7                         | 1          | 30         | 3           | 1                       | 13                      | 8              | 4                           | 30         |
| April .....                     | 17                | 4                          | 6                         | 1          | 28         | 3           | 1                       | 13                      | 7              | 4                           | 28         |
| May .....                       | 18                | 4                          | 7                         | 2          | 30         | 3           | 1                       | 13                      | 9              | 4                           | 30         |
| June .....                      | 17                | 4                          | 7                         | 2          | 30         | 3           | 1                       | 13                      | 8              | 4                           | 30         |
| July .....                      | 18                | 4                          | 7                         | 2          | 30         | 3           | 1                       | 14                      | 9              | 4                           | 30         |
| August .....                    | 18                | 4                          | 7                         | 2          | 31         | 3           | 1                       | 14                      | 9              | 4                           | 31         |
| September .....                 | 17                | 3                          | 6                         | 2          | 28         | 3           | 1                       | 13                      | 8              | 3                           | 28         |
| <b>9-Month Total</b> .....      | <b>157</b>        | <b>33</b>                  | <b>61</b>                 | <b>13</b>  | <b>264</b> | <b>27</b>   | <b>10</b>               | <b>120</b>              | <b>72</b>      | <b>35</b>                   | <b>264</b> |
| <b>2017 9-Month Total</b> ..... | <b>153</b>        | <b>34</b>                  | <b>61</b>                 | <b>14</b>  | <b>262</b> | <b>23</b>   | <b>10</b>               | <b>120</b>              | <b>73</b>      | <b>35</b>                   | <b>262</b> |
| <b>2016 9-Month Total</b> ..... | <b>149</b>        | <b>34</b>                  | <b>61</b>                 | <b>14</b>  | <b>257</b> | <b>25</b>   | <b>10</b>               | <b>115</b>              | <b>72</b>      | <b>35</b>                   | <b>257</b> |

<sup>a</sup> Metric tons of carbon dioxide can be converted to metric tons of carbon equivalent by multiplying by 12/44.

<sup>b</sup> Wood and wood-derived fuels.

<sup>c</sup> Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

<sup>d</sup> Fuel ethanol minus denaturant.

<sup>e</sup> Commercial sector, including commercial combined-heat-and-power (CHP) and commercial electricity-only plants.

<sup>f</sup> Industrial sector, including industrial combined-heat-and-power (CHP) and industrial electricity-only plants.

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

NA=Not available. (s)=Less than 0.5 million metric tons.

Notes: • Carbon dioxide emissions from biomass energy consumption are excluded from the energy-related carbon dioxide emissions reported in Tables 12.1–12.6. See Note 2, "Accounting for Carbon Dioxide Emissions From Biomass Energy Combustion," at end of section. • Data are estimates. See "Section 12 Methodology and Sources" at end of section. • See "Carbon Dioxide" in Glossary. • See Note 1, "Emissions of Carbon Dioxide and Other Greenhouse Gases," at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#environment> (Excel and CSV files) for all available annual and monthly data beginning in 1973.

Sources: See end of section.