## Table 11.7 Carbon Dioxide Emissions From Biomass Energy Consumption
(Million Metric Tons of Carbon Dioxide$^a$)

<table>
<thead>
<tr>
<th>By Source</th>
<th>By Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wood$^b$</td>
<td>Biomass Waste$^c$</td>
</tr>
<tr>
<td>-----------</td>
<td>-----------</td>
</tr>
<tr>
<td>1973 Total</td>
<td>143</td>
</tr>
<tr>
<td>1975 Total</td>
<td>140</td>
</tr>
<tr>
<td>1980 Total</td>
<td>232</td>
</tr>
<tr>
<td>1985 Total</td>
<td>252</td>
</tr>
<tr>
<td>1990 Total</td>
<td>208</td>
</tr>
<tr>
<td>1995 Total</td>
<td>222</td>
</tr>
<tr>
<td>2000 Total</td>
<td>212</td>
</tr>
<tr>
<td>2005 Total</td>
<td>200</td>
</tr>
<tr>
<td>2010 Total</td>
<td>197</td>
</tr>
<tr>
<td>2011 Total</td>
<td>196</td>
</tr>
<tr>
<td>2012 Total</td>
<td>193</td>
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<tr>
<td>2013 Total</td>
<td>180</td>
</tr>
<tr>
<td>2014 Total</td>
<td>208</td>
</tr>
<tr>
<td>2015 Total</td>
<td>208</td>
</tr>
<tr>
<td>2016 Total</td>
<td>202</td>
</tr>
<tr>
<td>2017 Total</td>
<td>219</td>
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<tr>
<td>2018 Total</td>
<td>225</td>
</tr>
<tr>
<td>2019 Total</td>
<td>217</td>
</tr>
<tr>
<td>2020 Total</td>
<td>217</td>
</tr>
<tr>
<td>2021 Total</td>
<td>204</td>
</tr>
<tr>
<td>2022 Total</td>
<td>205</td>
</tr>
<tr>
<td>2023 Total</td>
<td>212</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Wood</th>
<th>Biomass Waste</th>
<th>Fuel Ethanol</th>
<th>Bio-diesel</th>
<th>Total</th>
<th>Residential</th>
<th>Commercial</th>
<th>Industrial</th>
<th>Transport</th>
<th>Electric Power</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021</td>
<td>167</td>
<td>39</td>
<td>79</td>
<td>16</td>
<td>314</td>
<td>32</td>
<td>13</td>
<td>144</td>
<td>92</td>
<td>39</td>
<td>321</td>
</tr>
<tr>
<td>2022</td>
<td>168</td>
<td>37</td>
<td>79</td>
<td>15</td>
<td>318</td>
<td>40</td>
<td>13</td>
<td>136</td>
<td>91</td>
<td>38</td>
<td>318</td>
</tr>
<tr>
<td>2023</td>
<td>168</td>
<td>37</td>
<td>79</td>
<td>15</td>
<td>318</td>
<td>40</td>
<td>13</td>
<td>136</td>
<td>91</td>
<td>38</td>
<td>318</td>
</tr>
</tbody>
</table>

$^a$ Metric tons of carbon dioxide can be converted to metric tons of carbon equivalent by multiplying by 12/44.

$^b$ Wood and wood-derived fuels.

$^c$ Biomass waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

$^d$ Fuel ethanol minus denaturant.

$^e$ Commercial sector, including commercial combined-heat-and-power (CHP) and commercial electricity-only plants.

$^f$ Industrial sector, including industrial combined-heat-and-power (CHP) and industrial electricity-only plants.

$^g$ 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.

R=Revised. 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 11.1-11.6. See Note 2, "Accounting for Carbon Dioxide Emissions From Biomass Energy Combustion," at end of section. • Data are estimates. See "Section 11 Methodology and SOURCS" 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.


Sources: See end of section.