

Emissions of Greenhouse Gases in the United States 2009

Table 35. Emissions of carbon dioxide from biofuel/bioenergy use by sector and fuel, 1990-2009 (million metric tons carbon dioxide)

Sector	1990	1995	2000	2005	2006	2007	2008	2009	Average annual growth, 1990-2009
Residential									
Wood	54.4	48.8	39.4	40.3	36.6	40.3	42.2	40.3	-1.6%
<i>Subtotal</i>	<i>54.4</i>	<i>48.8</i>	<i>39.4</i>	<i>40.3</i>	<i>36.6</i>	<i>40.3</i>	<i>42.2</i>	<i>40.3</i>	<i>-1.6%</i>
Commercial									
Wood	6.2	6.8	6.7	6.5	6.1	6.5	6.8	6.7	0.5%
Waste (biogenic)	1.7	2.3	2.4	3.1	3.3	2.8	3.1	3.3	3.7%
Fuel ethanol	*	*	*	0.1	0.1	0.1	0.1	0.2	8.7%
<i>Subtotal</i>	<i>7.9</i>	<i>9.1</i>	<i>9.1</i>	<i>9.7</i>	<i>9.5</i>	<i>9.5</i>	<i>10.1</i>	<i>10.2</i>	<i>1.4%</i>
Industrial									
Wood	135.3	155.0	153.4	136.2	138.1	132.5	126.1	114.8	-0.9%
Waste (biogenic)	11.5	11.0	7.4	13.4	11.8	13.1	13.0	14.6	1.3%
Fuel ethanol	0.1	0.1	0.1	0.5	0.7	0.7	0.8	0.9	15.7%
<i>Subtotal</i>	<i>146.8</i>	<i>166.0</i>	<i>160.9</i>	<i>150.1</i>	<i>150.5</i>	<i>146.3</i>	<i>139.9</i>	<i>130.4</i>	<i>-0.6%</i>
Transportation									
Fuel ethanol	4.1	7.7	9.2	22.4	30.2	38.1	53.8	61.2	15.2%
Biodiesel	—	—	—	0.9	2.5	3.4	3.0	3.0	—
<i>Subtotal</i>	<i>4.1</i>	<i>7.7</i>	<i>9.2</i>	<i>23.3</i>	<i>32.7</i>	<i>41.5</i>	<i>56.8</i>	<i>64.2</i>	<i>15.5%</i>
Electric power									
Wood	12.1	11.8	12.6	17.4	17.1	17.4	16.6	16.9	1.8%
Waste (biogenic)	11.3	16.7	16.2	20.0	20.9	21.5	23.4	23.7	4.0%
<i>Subtotal</i>	<i>23.3</i>	<i>28.4</i>	<i>28.8</i>	<i>37.4</i>	<i>38.0</i>	<i>39.0</i>	<i>40.0</i>	<i>40.6</i>	<i>3.0%</i>
Total by sector	236.5	260.0	247.4	260.8	267.2	276.6	289.0	285.6	1.0%
Fuel									
Wood	207.9	222.3	212.1	200.4	197.8	196.8	191.7	178.8	-0.8%
Waste	24.4	29.9	25.9	36.6	36.0	37.4	39.5	41.6	2.8%
Fuel ethanol	4.2	7.8	9.3	22.9	31.0	38.9	54.8	62.3	15.2%
Biodiesel	—	—	—	0.9	2.5	3.4	3.0	3.0	—
Total by fuel	236.5	260.0	247.4	260.8	267.2	276.6	289.0	285.6	1.0%

*Less than 0.05 million metric tons carbon dioxide equivalent.

Note: Data are from EIA's *Monthly Energy Review*, including 2009 values. EPA data for other tables in this chapter are available only through 2008.