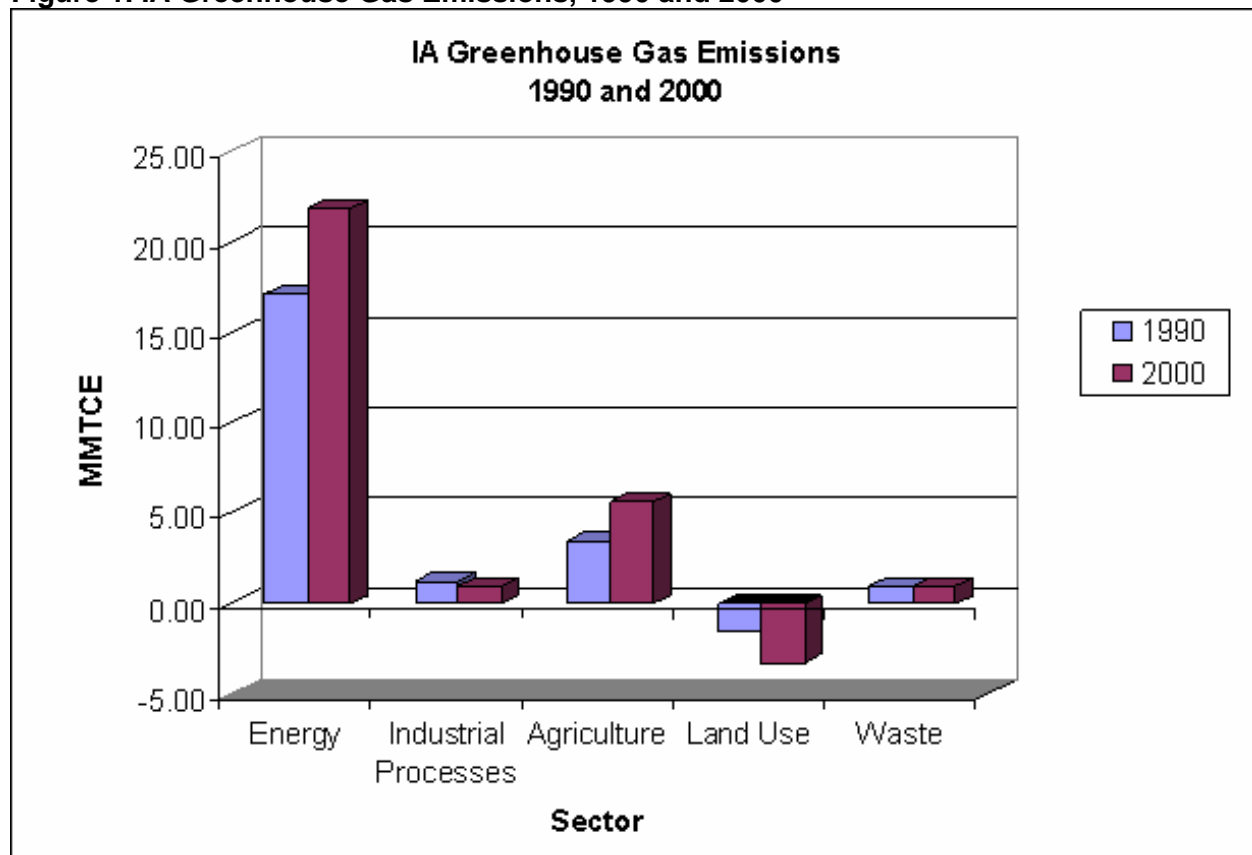


## IOWA GREENHOUSE GAS EMISSIONS AND SINKS INVENTORY: SUMMARY

**Figure 1. IA Greenhouse Gas Emissions, 1990 and 2000**



The Iowa Department of Natural Resources report, *Year 2000 Iowa Greenhouse Gas Emissions Inventory*, provides a detailed inventory of sources and sinks of greenhouse gases in Iowa.<sup>1</sup> In 1990 Iowa emitted greenhouse gases in the amount of 21.1 million metric tons of carbon equivalent (MMTCE). In 2000, emissions were 26.2 MMTCE, an overall increase of 24 percent over 1990 emissions. Emissions from energy use and agriculture both increased (28 percent and 64 percent, respectively). Emissions from industrial processes and waste both decreased (25 percent and 4 percent, respectively). Land use (including forest management and landfill carbon sequestration) accounted for a growing sink, which increased in magnitude by 105 percent, from -1.6 MMTCE in 1990 to -3.3 MMTCE in 2000. This increase was due to forest land expansion, the implementation of conservation tillage, and the inclusion of more land in the Conservation Reserve Program.

<sup>1</sup> Emissions were estimated using methods from EPA's 1999 EIIP Document Series, *Volume VIII: Estimating Greenhouse Gas Emissions*.

**Table 1. IA Greenhouse Gas Emissions by Gas and by Sector, 1990 and 2000**

<b>1990</b>	<b>CO<sub>2</sub> (MMTCE)</b>	<b>CH<sub>4</sub> (MMTCE)</b>	<b>N<sub>2</sub>O (MMTCE)</b>	<b>HFCs, PFCs, and SF<sub>6</sub> (MMTCE)</b>	<b>Total (MMTCE)</b>
Energy	17.0	0.1	*	*	17.1
Energy (Alt. method) <sup>2</sup>	24.1	*	*	*	*
Industrial Processes	1.1	*	*	0.1	1.2
Agriculture	*	2.1	1.3	*	3.4
Land Use	-1.6	*	*	*	-1.6
Waste	*	0.9	*	*	1.0
<b>Net Emissions</b>	<b>16.5</b>	<b>3.2</b>	<b>1.4</b>	<b>0.1</b>	<b>21.1</b>

<b>2000</b>	<b>CO<sub>2</sub> (MMTCE)</b>	<b>CH<sub>4</sub> (MMTCE)</b>	<b>N<sub>2</sub>O (MMTCE)</b>	<b>HFCs, PFCs, and SF<sub>6</sub> (MMTCE)</b>	<b>Total (MMTCE)</b>
Energy	21.3	0.6	*	*	21.8
Energy (Alt. method) <sup>2</sup>	29.2	*	*	*	*
Industrial Processes	0.5	*	0.2	0.2	0.9
Agriculture	-2.9	2.0	6.5	*	5.6
Land Use	-3.3	*	*	*	-3.3
Waste	*	0.9	*	*	0.9
<b>Net Emissions</b>	<b>15.6</b>	<b>3.4</b>	<b>6.8</b>	<b>0.2</b>	<b>26.2</b>

Note: Totals may differ from the sum of the sources due to independent rounding.

An asterisk (\*) indicates emissions of the gas from this sector were zero, insignificant, or not reported. All emissions are reported in million metric tons of carbon equivalent (MMTCE).

<sup>2</sup> Energy (Alt. method) represents alternate emission estimates for the Energy source category using the EPA State Inventory Tool (SIT); these estimates are provided for reference purposes only and are not reflected in the table totals. Emission estimates generated using the SIT are higher than those reported by the Iowa DNR because the SIT estimates emissions from all electricity generated in the state, regardless of whether the electricity is ultimately used in state or exported. In contrast, the DNR's estimates reflect emissions from electricity used in the state; because Iowa is a net exporter of electricity, these estimates are lower than those calculated by the SIT.

The majority of Iowa's emissions came from carbon dioxide (CO<sub>2</sub>), with the burning of fossil fuels, primarily for the production of electricity, constituting the majority of the CO<sub>2</sub> emissions in both years. There was a significant emissions increase in nitrous oxide (N<sub>2</sub>O) between 1990 and 2000, which was a result of a change in methodology for calculating soil emissions. Adequate soil data was not available to recalculate the 1990 estimate. It is unlikely that actual soil emissions varied significantly between the two years, though more sources of soil emissions were identified. Methane (CH<sub>4</sub>) was the second largest contributor to Iowa's emissions in 1990 and third largest contributor in 2000. These emissions were mostly from landfills, manure management, and domesticated animals. Hydrofluorocarbons (HFCs), perfluorocarbons

(PFCs), and sulfur hexafluoride ( $\text{SF}_6$ ) each comprised a small share of the total emissions as well.

Per capita emissions were 7.6 MTCE in 1990 and 8.9 MTCE in 2000. In both years, Iowa's per capita emissions were above the national average, which was 6.5 MTCE per capita in 1990 and 6.6 MTCE per capita in 2000.