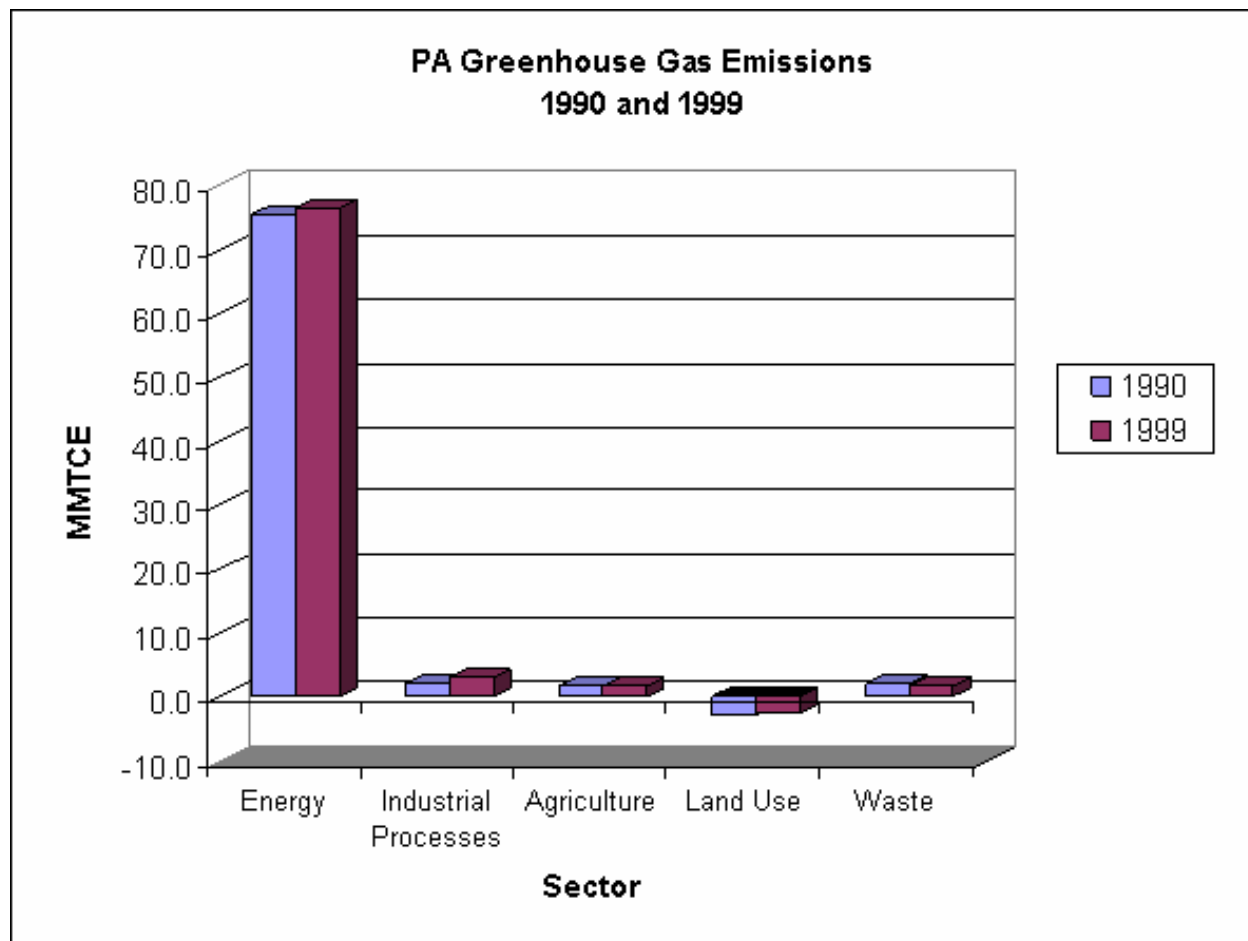


PENNSYLVANIA GREENHOUSE GAS EMISSIONS AND SINKS INVENTORY: SUMMARY

Figure 1. PA Greenhouse Gas Emissions, 1990 and 1999



The Pennsylvania Department of Environmental Protection's *Greenhouse Gas Emissions Inventory for Pennsylvania: Phase I Report* provides a detailed inventory of sources and sinks of greenhouse gases in Pennsylvania for 1990 and 1999.¹ In 1990 Pennsylvania emitted greenhouse gases in the amount of 78.2 million metric tons of carbon equivalent (MMTCE). In 1999, emissions were 80.6 MMTCE, an overall increase of 3.0 percent. Emissions from energy increased very slightly (about 1 percent), and emissions from agriculture and waste decreased (less than 1 percent and 11 percent, respectively). The largest percentage increase in emissions was from industrial processes, which grew by approximately 54 percent. Forestry and land use change accounted for a small sink, which decreased in size from -3.0 MMTCE in 1990 to -2.4 MMTCE in 1999.²

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

² Carbon sequestered in landfills (from yard trimmings and food waste) is included in this summary under the land use category as it is in the *Inventory of U.S. Greenhouse Gas Emissions and Sinks*; however, in Pennsylvania's inventory, it is included in the waste category.

Table 1. PA Greenhouse Gas Emissions by Gas and by Sector, 1990 and 1999

1990	CO ₂ (MMTCE)	CH ₄ (MMTCE)	N ₂ O (MMTCE)	HFCs, PFCs, and SF ₆ (MMTCE)	Total (MMTCE)
Energy	71.6	3.5	0.6	*	75.7
Industrial Processes	1.1	*	0.1	0.7	1.9
Agriculture ³	*	0.9	0.8	*	1.7
Land Use	-3.0	*	*	*	-3.0
Waste	0.3	1.6	0.1	*	2.0
Net Emissions	70.0	5.9	1.6	0.7	78.2

1999	CO ₂ (MMTCE)	CH ₄ (MMTCE)	N ₂ O (MMTCE)	HFCs, PFCs, and SF ₆ (MMTCE)	Total (MMTCE)
Energy	72.2	3.8	0.6	*	76.7
Industrial Processes	1.3	*	0.1	1.5	3.0
Agriculture ³	*	0.9	0.8	*	1.7
Land Use	-2.4	*	*	*	-2.4
Waste	0.2	1.4	0.1	*	1.7
Net Emissions	71.3	6.1	1.6	1.5	80.6

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).

³ Methane emissions from manure management and domestic animals were recalculated for inclusion in this summary to correct for minor calculation errors in the Pennsylvania inventory. Methane and nitrous oxide emissions from agricultural burning were recalculated to correct for the use of incorrect crop production values in the Pennsylvania inventory.

The majority of Pennsylvania's emissions came from carbon dioxide (CO₂), with the burning of fossil fuels constituting most of the CO₂ emissions in both years. The largest end-use categories for fossil fuel combustion were electricity production, transportation, and industrial uses. Methane (CH₄) was the next largest contributor, mostly from coal mining, oil, and natural gas systems, and the anaerobic decay of solid waste in landfills. Nitrous oxide (N₂O) came chiefly from manure management and the burning of fossil fuels. Hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆) were emitted from a number of industrial processes. The doubling of HFC/PFC/SF₆ emissions in 1999 was largely a result of the replacement of ozone-depleting substances (CFCs) with HFCs, which have high global warming potentials.

Per capita emissions in Pennsylvania increased from 6.6 MTCE in 1990 to 6.7 MTCE in 1999. For comparison, in both years national per capita emissions were 6.5 MTCE.