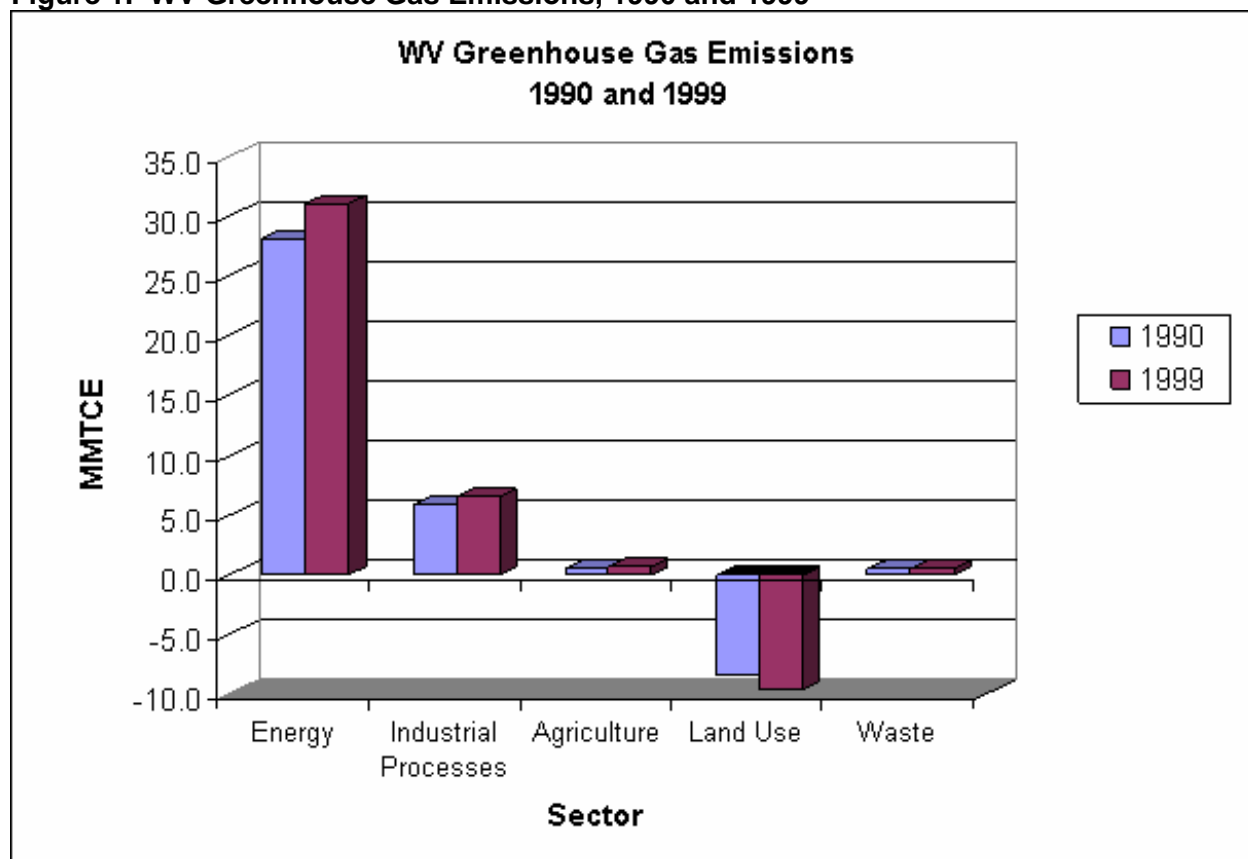


WEST VIRGINIA GREENHOUSE GAS EMISSIONS AND SINKS INVENTORY: SUMMARY

Figure 1. WV Greenhouse Gas Emissions, 1990 and 1999



The West Virginia Department of Environmental Protection, Division of Air Quality's (WVDAQ) report, *West Virginia Greenhouse Gas Emission Inventory*, provides a detailed inventory of sources and sinks of greenhouse gasses in West Virginia.¹ In 1990 West Virginia emitted greenhouse gasses in the amount of 26.3 million metric tons of carbon equivalent (MMTCE). In 1999, emissions were 29.2 MMTCE, an overall increase of approximately 11 percent. Emissions from energy use and industrial processes both increased by about 11 percent. Emissions from agriculture increased by approximately 0.2 MMTCE (52 percent), and emissions from waste decreased by approximately 0.1 MMTCE (22 percent). Land use (comprising forest management and land use change) accounted for a growing sink, which increased in magnitude from -8.5 MMTCE in 1990 to -9.6 MMTCE in 1999. This increase was mainly due to an increase in forest biomass.

¹ 1999 emissions were estimated by West Virginia using methods from EPA's 1999 EIIP Document Series, *Volume VIII: Estimating Greenhouse Gas Emissions*. 1990 emissions were estimated for comparison purposes by EPA using the 2004 version of the EPA State Inventory Tool (SIT), developed as part of the U.S. EPA's Emission Inventory Improvement Program (EIIP).

Table 1. WV 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	27.9	*	0.2	*	28.1
Industrial Processes	0.2	5.4	*	0.3	5.9
Agriculture	*	0.2	0.2	*	0.4
Land Use	-8.5	*	*	*	-8.5
Waste	*	0.5	*	*	0.5
Net Emissions	19.6	6.1	0.4	0.3	26.3

1999	CO ₂ (MMTCE)	CH ₄ (MMTCE)	N ₂ O (MMTCE)	HFCs, PFCs, and SF ₆ (MMTCE)	Total (MMTCE)
Energy	30.9	*	0.2	*	31.1
Industrial Processes	0.3	6.0	*	0.3	6.5
Agriculture	*	0.2	0.4	*	0.6
Land Use	-9.6	*	*	*	-9.6
Waste	*	0.4	*	*	0.4
Net Emissions	21.6	6.6	0.7	0.3	29.2

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).

Carbon dioxide (CO₂) accounted for the majority of West Virginia's emissions. These emissions were mostly due to the burning of fossil fuels, primarily for the production of electricity. Methane (CH₄) was the next largest contributor, mostly from coal mining.² Nitrous oxide (N₂O), the third largest contributor, came chiefly from agricultural soil management and fossil fuel combustion. Hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆), all of which resulted from industrial processes, each made up a small share of the total emissions as well.

Per capita emissions were 14.7 MTCE in 1990 and 16.1 MTCE in 1999. West Virginia's per capita emissions were well above the national average, which were 6.5 MTCE per capita in both years.

² WVDAQ's estimate of methane emissions from coal mining in 1999 is approximately 1.9 MMTCE higher than emissions estimated for 1999 using the 2004 version of the EPA SIT. As a result, the increase in methane emissions from coal mining between 1990 and 1999 may be exaggerated in the comparison above since 1990 emissions were estimated using the 2004 version of the EPA SIT.