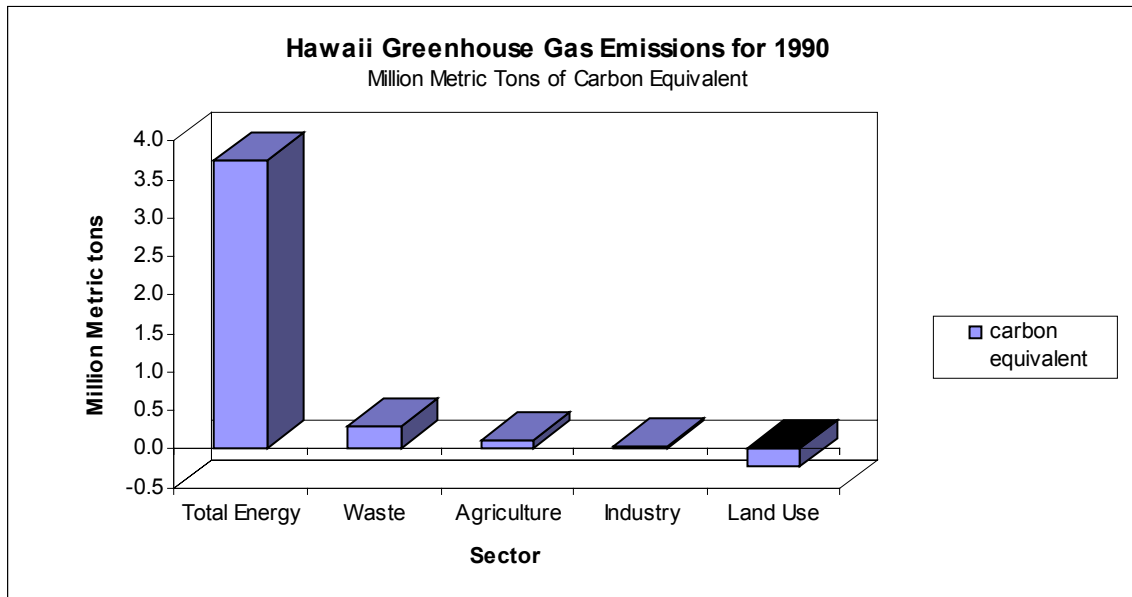


HAWAII GREENHOUSE GAS EMISSIONS AND SINKS INVENTORY: SUMMARY



The report *“Inventory of Hawaii Greenhouse Gas Emissions: Estimates for 1990”* provides a detailed inventory of greenhouse gas emissions and sinks for Hawaii in 1990. Emissions were estimated using methods from EPA’s 1995 guidance document ***State Workbook: Methodologies for Estimating Greenhouse Gas Emissions***. In 1990, Hawaii emitted 4.0 million metric tons of carbon equivalent (MMTCE). Hawaii estimated emissions of more than 0.3 MMTCE from biomass fuels and from other sources. Emissions from these sources are not included in the reported total or the table below.^{1,2}

The principal greenhouse gases were carbon dioxide, comprising 12.4 million metric tons (3.4 MMTCE), and methane with 0.1 million metric tons (0.5 MMTCE). Other emissions included more than 1,000 metric tons of nitrous oxide (0.1 MMTCE).

¹ Note that the state of the art emission inventory method has advanced since Hawaii completed its inventory; therefore, we have made the following adjustments to Hawaii’s emission estimates. First, we excluded emission estimates for sources not covered by the most recent inventory guidance (<http://www.epa.gov/ttnchie1/eiip/techrep.htm#green>). These emissions include carbon dioxide from landfills. Second, we used updated carbon coefficients for some fuel types. Third, we used updated values for global warming potentials.

² In addition, the Hawaii inventory estimates emissions of non-methane volatile organic compounds, carbon monoxide, and nitrogen oxides, which are greenhouse gases for which global warming potentials have not yet been developed.

Hawaii Greenhouse Gas Emissions for 1990

BY SECTOR	CO2 (MMTCE)	Methane (MMTCE)	Nitrous Oxide (MMTCE)	HFCs, PFCs, and SF6 (MMTCE)	Total GHG Emissions (MMTCE)
Energy - Residential	0.0	*	*	*	0.0
Energy - Commercial	0.1	*	*	*	0.1
Energy - Industrial	0.2	*	*	*	0.2
Energy - Transport	1.4	*	*	*	1.4
Energy - Utility	1.8	*	*	*	1.8
Energy - Exported Electricity	*	*	*	*	*
Energy - Other	*	0.1	0.1	*	0.2
Total Energy	3.6	0.1	0.1	*	3.8
Waste	0.0	0.3	0.0	*	0.3
Agriculture	*	0.1	0.0	*	0.1
Industry	0.0	*	*	*	0.0
Land Use	-0.2	*	*	*	-0.2
Total	3.4	0.5	0.1	*	4.0

All emissions are reported in million metric tons of carbon equivalent (MMTCE).

An asterisk (*) indicates that emissions of the gas from this sector were zero, insignificant, or not reported.

Emissions from biofuel combustion are excluded.

The major source of carbon dioxide emissions was fossil fuel combustion (99%) with minor emissions (<1%) from cement production and waste combustion. Carbon dioxide sinks (i.e., an increase in forest carbon storage) offset about 6% of the total carbon dioxide emissions. Contributors to methane emissions included landfills (57%), fossil fuel combustion (20%), domesticated animals (14%), manure management (6%), wastewater treatment (1%), and agricultural burning (<1%). The sources of nitrous oxide emissions were fossil fuel combustion (83%), agricultural soils management (16%), the burning of agricultural waste (<1%), and waste combustion (<1%).

Hawaii emissions in 1990 were 3.1 MTCE per capita, compared to 1990 U.S. emissions of 6.4 MTCE per capita.