

CITY OF ALBANY 2009 Greenhouse Gas Emissions Inventory

Albany has been taking action on reducing energy use and becoming a more sustainable community since 2007. In 2010, utilizing Energy Efficiency and Conservation Block Grant funds, Mayor Jennings created the Mayor's Office of Energy & Sustainability. One of the first tasks assigned to this office was the development of a city wide greenhouse gas emissions inventory. A 2009 baseline year was selected for the City of Albany's greenhouse gas (GHG) emissions inventory. The GHG inventory assessed total energy consumption and GHG emission sources from municipal buildings and operations as well as the community at large. This inventory will serve as a baseline to measure future savings in energy, emissions, and operational costs through implementation of energy and GHG reduction strategies.

City of Albany GOVERNMENT

The City of Albany's municipal operations were responsible for the emission of a total of 130,559 metric tons of carbon dioxide equivalent (CO₂e) in 2009. This is equivalent to the annual emissions from providing energy to approximately 11,300 homes¹. The breakdown of emissions by sector is listed in **Table 1** below. The bulk of these emissions were a result of the City's landfill². Landfills emit methane as solid organic waste is decomposed. Methane (CH₄) is a very powerful greenhouse gas—21 times the global warming potential of carbon dioxide—therefore higher emissions are expected from this sector. In addition to these emissions, the City spent a total of \$7,305,074 in energy costs to operate its facilities³.

TABLE 1

SECTORS	TOTAL GHG EMISSIONS (METRIC TONS CO ₂ E)
Landfill	111,514
Vehicle Fleet	6,640
Buildings and Other Facilities ⁴	5,302
Streetlights and Traffic Signals	3,727
Employee Commute	2,025
Water Delivery Facilities	1,159
Wastewater Facilities ⁵	192
TOTAL	130,559

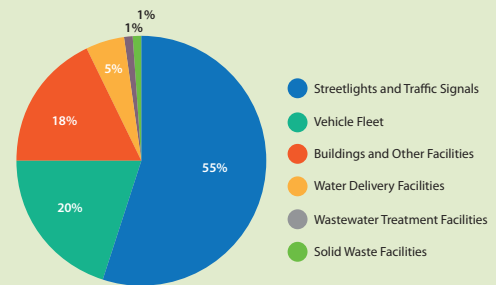
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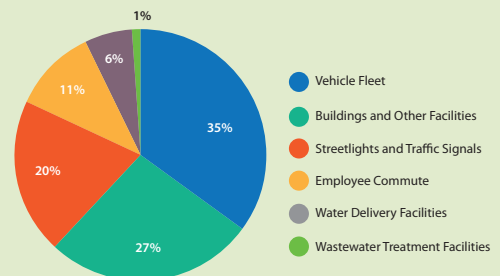
ENERGY COSTS (\$)

In addition to the costs associated with all energy use in the government operations, this total includes operations and maintenance costs for the streetlights.



GHG Emissions by Sector GOVERNMENT OPERATIONS

Excludes Landfill Emissions*



* The GHG emissions from the decomposition of waste in the landfill have been excluded from this chart because they are so significant it skews the chart.

- 1 EPA's Greenhouse Gas Equivalencies Calculator
- 2 Because the City owns the landfill, GHG Accounting Protocols for Local Governments require that the City claim responsibility for all emissions associated with it, even those from the community or from outside of the community.
- 3 This cost total includes operations and maintenance costs for the streetlights in addition to the cost of the energy provided to them.
- 4 "Other Facilities" refers to energy use for various outdoor lighting, playgrounds, and pools.
- 5 Wastewater Facilities refers to pumping stations owned by the City. Because the City does not own the Wastewater Treatment Facility, process emissions are not included in the Government emissions totals, but are included in the Community inventory.

City of Albany
COMMUNITY

The community inventory includes emissions generated by all residences and businesses within the City, including government operations. These emissions are from electricity, natural gas, and fuel oil used in buildings, gasoline and diesel from vehicles on city roads, emissions from the Rapp Rd. Landfill, and from process emissions associated with treating wastewater. The City's waste, which has been accounted for in the local government greenhouse gas inventory, is also shown here because it is a Scope 1 source of emissions within the community¹. The total community wide emissions from Albany in 2009 were 1,304,685 metric tons of CO₂e. This is equivalent to the annual emissions from providing energy to more than 113,000 homes². All of the buildings within in the City were responsible for the largest share of emissions—903,227 metric tons.

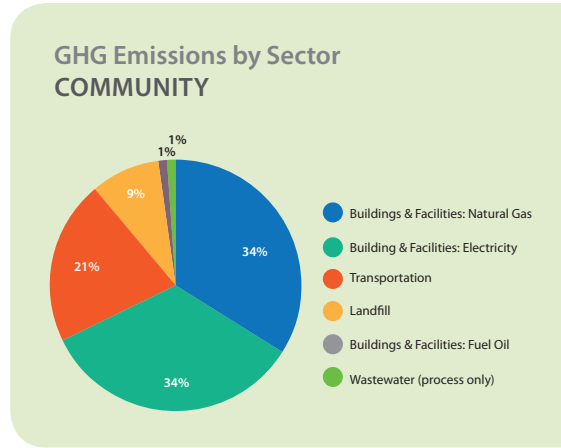
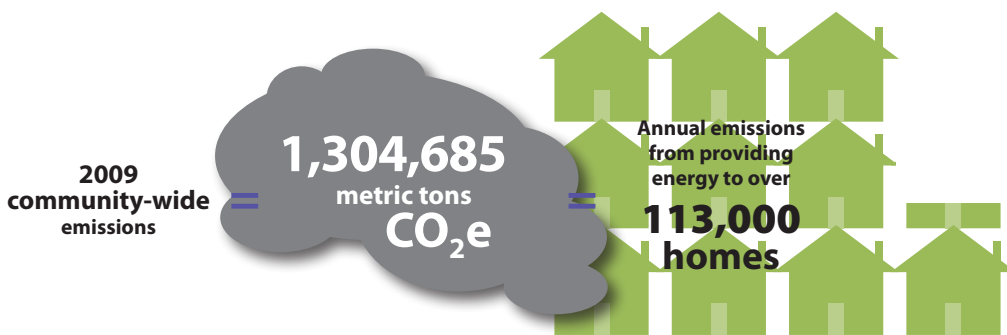


TABLE 2

SECTORS	TOTAL GHG EMISSIONS (METRIC TONS CO ₂ e)
Buildings – Natural Gas	445,963
Buildings – Electricity	441,764
Transportation*	276,097
Landfill Emissions*	111,514
Buildings – Fuel Oil	15,500
Wastewater – Process Emissions*	13,797
TOTAL	1,304,685

* Emissions from the Transportation, Landfill, and Wastewater sectors were calculated utilizing a Scope 1 methodology, which incorporates all emissions generated within the boundaries of the City, regardless of who is responsible for them and excludes emissions from sources outside the City's boundaries even if the City is responsible for them.



For more information contact the Mayor's Office of Energy & Sustainability at: Sustainability@ci.albany.ny.us

NEXT STEPS

Now that the City has established its GHG emissions baseline for the government operations and the community at large, action can now be taken on both scales to reduce it. The City is currently working to achieve significant reductions in energy use, costs, and associated GHG emissions from its operations and will be working with the community throughout 2011 and beyond to do the same.

1 The Rapp Rd landfill emissions are also listed in the in the government operations inventory because the landfill is both inside the community boundary and owned by the City.
2 EPA's Greenhouse Gas Equivalencies Calculator