

CITY OF ALBANY 2009 Greenhouse Gas Emissions Inventory

Albany has been taking action on reducing energy use and becoming a more sustainable community since 2005. In 2010, utilizing federal Energy Efficiency and Conservation Block Grant (EECBG) funds, Mayor Jennings created the Mayor's Office of Energy & Sustainability. One of the first tasks assigned to this new office, was the development of a city-wide greenhouse gas emissions inventory. The City of Albany selected a 2009 baseline year from which to measure the total energy consumption and associated greenhouse gas emissions from municipal buildings and operations and the community at large. This inventory will serve as a baseline from which to track future savings in energy usage, emissions, and operational costs through implementation of energy reduction strategies.

City of Albany GOVERNMENT

The City of Albany's municipal operations were responsible for the emission of a total of 129,111 metric tons of carbon dioxide equivalent (CO₂e) in 2009. This is equivalent to the annual emissions from providing energy to approximately 11,000 homes¹. The breakdown of emissions by sector is listed in Table 1 below. Not surprisingly 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, energy use in municipal operations resulted in a total cost of \$7,047,436 to the City³.

TABLE 1

SECTORS	TOTAL GHG EMISSIONS (METRIC TONS CO ₂ e)
Landfill	111,514
Vehicle Fleet	5,311
Buildings and other Facilities	5,183
Streetlights and Traffic Signals	3,727
Employee Commute	2,025
Water Delivery Facilities	1,159
Wastewater Facilities	192
TOTAL	129,111

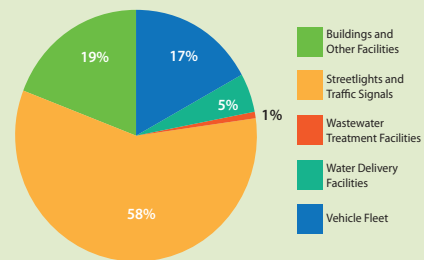
2009
municipal operations
emissions =

129,111
metric tons
CO₂e

Annual emissions
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11,000
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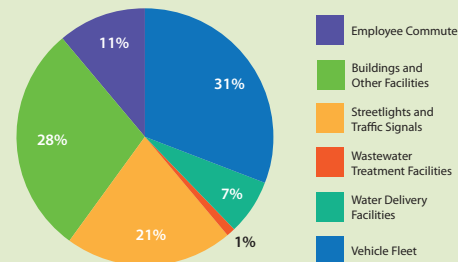
ENERGY COSTS (\$)

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; <http://www.epa.gov/cleanenergy/energy-resources/calculator.html>
- 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 not directly from the government operations.
- 3 In addition to the costs associated with all energy use in the government operations, this total includes operations and maintenance costs for the streetlights.

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, fuel from the transportation sector (based on vehicle miles traveled), emissions from the Rapp Road Landfill, and process emissions associated with treating wastewater. Emissions from the landfill are listed in both the government operations inventory and the community inventory because the landfill is located within the community boundary and is owned by the city. The total community wide emissions from Albany in 2009 were 1,304,635 metric tons of CO₂e. This is equivalent to the annual emissions from providing energy to more than 111,000 homes⁴. The breakdown of emissions by sector is provided in Table 2. Buildings were responsible for the largest share of emissions—903,227 metric tons of CO₂e.

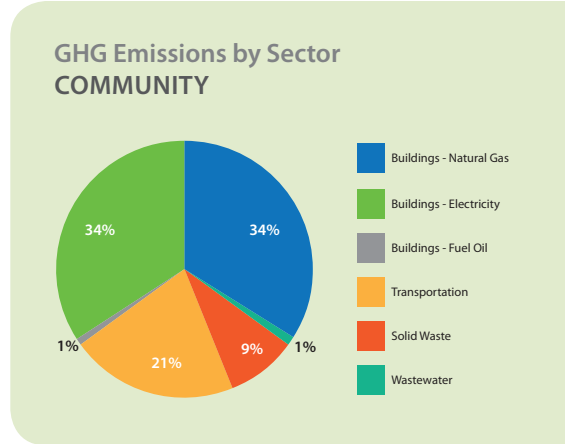
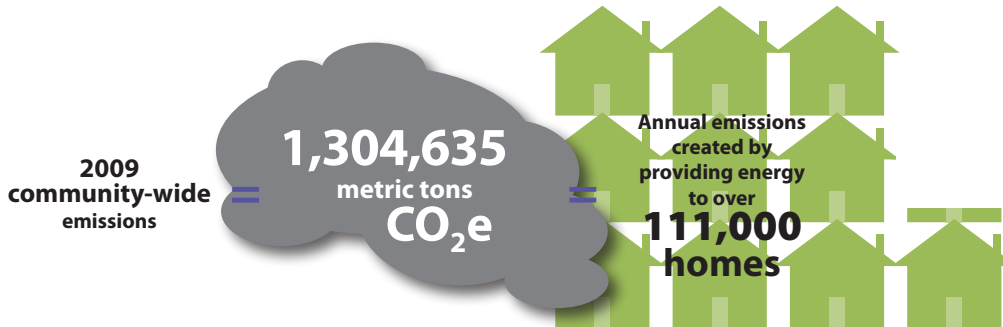


TABLE 2

SECTORS	TOTAL GHG EMISSIONS (METRIC TONS CO ₂ e)
Buildings – Natural Gas	445,963
Buildings – Electricity	441,764
Transportation*	276,097
Solid Waste (Landfill Emissions)*	111,514
Wastewater*	16,041
Buildings – Fuel Oil	15,500
TOTAL	1,304,635

*Emissions from the Transportation, Solid Waste, 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.



NEXT STEPS

Now that the City has established its GHG emissions baseline for both the government operations and the community at large, action can 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 in 2011 to do the same.

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

⁴ EPA's Greenhouse Gas Equivalencies Calculator; <http://www.epa.gov/cleanenergy/energy-resources/calculator.html>