District of Columbia
Greenhouse Gas Emissions Inventory
2006 Calendar Year Baseline

What is a Greenhouse Gas (GHG) Emissions Inventory?

This Greenhouse Gas (GHG) Emissions Inventory, also known as a "**carbon footprint**," estimates the total amount of carbon dioxide and other GHG emissions released into the atmosphere as a result of energy consumption, vehicle use and other activities in the District of Columbia. Conducting our GHG inventory is best understood as placing a "bubble" over the city and counting GHG emissions attributed to activities that occur within the District's boundaries.

This Inventory estimates emissions attributed to both government operations and broader community activities within the District during calendar year 2006 (selected as our "baseline" year because of superior data quality and accuracy). The **community inventory** includes estimated GHG emissions from all building energy use, vehicles fuel use and transportation, and emissions from waste streams. The **government operations inventory**, which is a subset of the community inventory, provides a much more in-depth analysis of emissions from the District's local government operations, including government-operated facilities and streetlights, vehicle fleet and off-road equipment, and waste generated by government operations.

What is the District's "Carbon Footprint"?

In calendar year 2006, our city-wide GHG emissions from electricity consumption and other direct sources totaled 10.5 million metric tons of carbon dioxide equivalents (CO_2e), or about 18 tons per resident. This amount is below the U.S. Environmental Protection Agency's national average of 19.7 tons per person, but higher than other major cities due to energy use by the District's large day-time population of federal and other workers. Figure 1 provides a breakdown of emissions by sector, including: buildings (residential, non-residential, and federal); vehicles (indicated as VMT or vehicle miles traveled); mass transit (Metro); and waste. With 75 percent of our GHG emissions linked to buildings, one of our most effective emissions reduction actions will be comprehensive energy use reduction in buildings. Figure 2 provides a breakdown of the specific energy sources of our greenhouse gas emissions, including electricity, natural gas, fuel oil, vehicle fuel (gasoline and diesel), kerosene, and emissions from solid waste. Electricity consumption is our largest driver of GHG emissions.

Figure 1 - Community Emissions by Sector

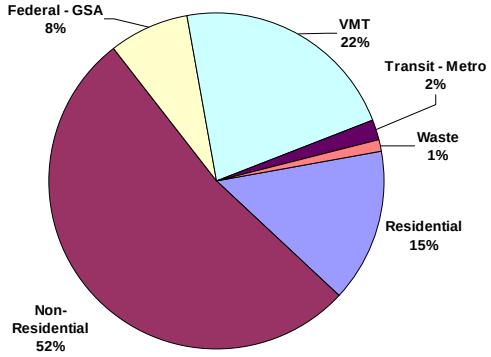
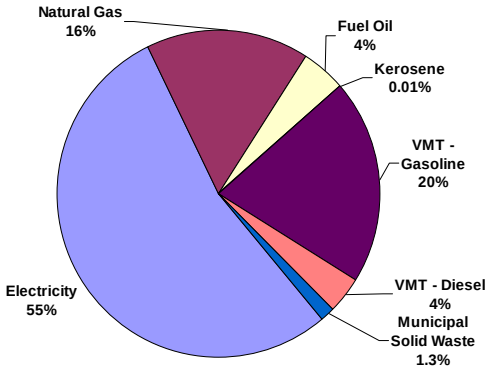


Figure 2 - Community Emissions by Source



Buildings:

- **52 percent** of the District's emissions (5.4 million metric tons CO2e) are from the non-residential sector (commercial buildings, hospitals, schools, etc.).
- **15 percent** of the District's emissions (1.5 million metric tons CO_2e) are from the residential sector, representing energy use in single and multi-family homes.

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- **8 percent** of the District's emissions (960,000 metric tons CO_2e) are from Federal facilities managed by the General Services Administration.
- District-wide, total electricity consumption in buildings was approximately 11.4 billion kilowatt hours (kWh), while natural gas consumption was 320 million therms.

Vehicle Miles Traveled (VMT):

- **22 percent** of the District's emissions (2.3 million metric tons CO_2e) are from Vehicle Miles Traveled.
- Vehicles on District roadways traveled almost 3.4 billion miles during 2006.

Solid Waste:

- **1 percent** of the District's emissions (190,000 metric tons CO_2e) are from Solid Waste (primarily due to decomposition and release of methane gas).
- Approximately 130,000 tons of residential waste and 670,000 tons of commercial waste were disposed of in 2006.

Why is a GHG Inventory Important?

The District of Columbia—along with community and government leaders around the nation and the world—recognizes that human-caused climate change is a reality and presents the potential for harm to District's residents, institutions, and businesses. Sea level rise and flooding, increased urban heat effect, changes in weather patterns, and reliability of energy supply are some of the challenges that the District may face in a changing climate.

With this recognition comes the awareness that cities play a critical role in reducing greenhouse gas emissions and mitigating the potential impacts of climate change through actions taken to reduce emissions from government operations and from the community as a whole. The District's GHG Inventory represents a critical first step towards the development of a **Climate Action Plan**. This inventory quantifies the "baseline" emissions, which will be used to track progress made towards emissions reduction goals over time, and also shows the District's emissions profile from its government operations and community sources.

For more information on the District's Climate Initiative or to view the full inventory report, please visit the Green DC website at http://green.dc.gov/climate or call (202) 535-2600.

Reducing Emissions

The District Government and many institutions and individuals across the city have begun to take action to address climate change. Through the Renewable Portfolio Standard, Clean and Affordable Energy Act, and the Green Building Act, the District is committed to conserving energy, developing the market for clean energy, and promoting green jobs and businesses.

Using the GHG emissions established by this Inventory as the baseline, the next step will be to identify ways to reduce GHG emissions over time using existing and new programs to conserve energy and reduce use of fossil fuels. By developing a Climate Action Plan, additional measures will be identified to not only cut GHG emissions, but to also save money, clean the air, and improve quality of life in the District.

NOTES: The District's Government Operations inventory is one of the first inventories to use a new national standard developed and adopted by the California Air Resources Board (ARB) in conjunction with ICLEI, the California Climate Action Registry, and The Climate Registry. This standard, called the Local Government Operations Protocol (LGOP), provides standardized accounting principles, boundaries, quantification methods, and procedures for reporting greenhouse gas emissions from local government operations. To that end, LGOP represents a strong step forward in standardizing how inventories are conducted and reported and providing a common national framework for all local governments to establish their emissions baseline. With one exception, all emissions estimates in the government operations portion of this report refer to emissions generated from sources over which the District has direct operational control, exclusive of physical location.

The community emissions sectors reported in this Inventory (such as buildings, vehicles, and solid waste) are based on longstanding sectors defined for use by ICLEI for local governments. The Inventory represents an estimate of emissions using the best available data and calculation methodologies. Emissions estimates are subject to change as better data and calculation methodologies become available in the future. Regardless, the findings of this inventory analysis provide a solid base against which the District can begin planning and taking action to reduce its GHG emissions.