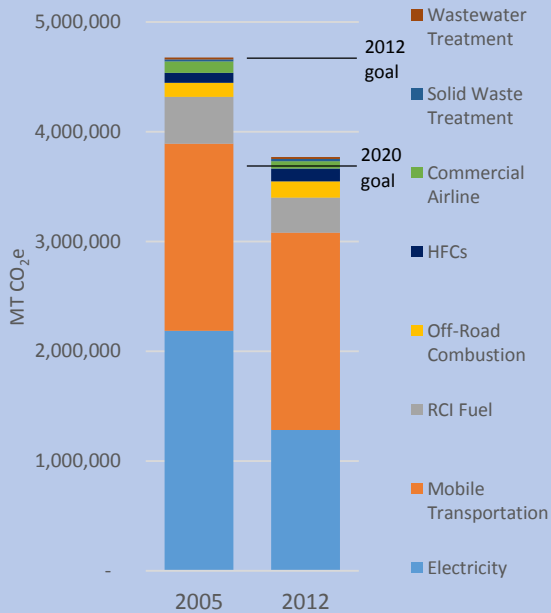


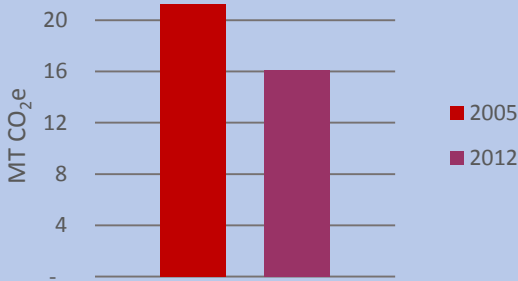
Frederick County, Maryland

Community-Wide GHG Inventory Summary Factsheet

Total Emissions by Activity



Total Emissions per Capita



Emissions Summary

- Greenhouse gas (GHG) emissions across all sectors in Frederick County decreased by 19% between 2005 and 2012; from 4,676,245 MT CO₂e to 3,771,288 MT CO₂e.
- Per capita emissions decreased 24% between 2005 and 2012; from 21.3 MT CO₂e to 16.1 MT CO₂e. The regional average was 14.6 MT CO₂e per capita in 2005 and 13.1 MT CO₂e in 2012.
- In 2012, mobile transportation contributed 48% of total emissions.
- In 2012, electricity was the second largest contributor, accounting for 34% of total emissions, with residential use accounting for about 43%.
- Despite population growth, overall and per capita GHG emissions in Frederick County decreased between inventory years in large part due to efficiency improvements and fuel switching across all sectors.
- Changes in regional GHG emissions were also due to fuel switching from coal to natural gas in electricity generation.

Inventory Background

In 2008, the Metropolitan Washington Council of Governments (COG) and local governments across the metropolitan Washington D.C. area collaboratively established the regional GHG emission reduction goals of: 10% below business as usual projections by 2012 (back down to 2005 levels); 20% below 2005 levels by 2020; and 80% below 2005 levels by 2050. COG and its member jurisdictions are working toward these goals, and the region as a whole was able to meet the 2012 target, demonstrating that GHG reductions are possible even as the region's population and economy grows. This summary of Frederick County's inventory measures GHG emissions from community-wide activities, including the residential, commercial, industrial, and government sectors.

Emissions Activities

These inventories measured GHG-emitting activities undertaken by residents, businesses, industry, and government located in Frederick County, as well as emissions from visitors. Emissions sources accounted for include:

- Electricity consumption from all sectors within the county;
- Combustion of natural gas and other fuels (referred to as residential, commercial, and industrial, or RCI fuels);
- Mobile transportation, including on-road vehicular travel, air travel undertaken by residents, business, and visitors in the county, and non-road activities such as use of construction and landscaping equipment;
- Collection and treatment of solid waste produced by residents and activities within county boundaries;
- Pumping and treatment of water and wastewater used or produced by residents and activities; and
- Hydrofluorocarbons (HFCs) released into the atmosphere, often from use as refrigerants in older HVAC models.
- All emissions are reported in metric tons of carbon dioxide equivalent (MT CO₂e).

Methodology

- The methodology for the Frederick County GHG inventory is consistent with the Metropolitan Washington Regional Greenhouse Gas Inventory. Both the regional and jurisdictional inventories use the ICLEI US Community Protocol and ClearPath tool to measure emissions.
- Utility data was collected from regional electric and natural gas utilities. Emissions factors for electricity were based on EPA's Emissions & Generation Resource Integrated Database (eGRID).
- Mobile transportation emissions were calculated using the EPA's Motor Vehicle Emission Simulator (MOVES) and based on vehicle miles traveled (VMT) data provided by COG's Transportation Planning Board. Non-road transportation emissions were calculated using the EPA's National Mobile Inventory Model (NMIM) tool. Air travel emissions were calculated using national emissions from the EPA GHG Inventory scaled to the region using population and travel data, then allocated to localities using the Washington-Baltimore Regional Air Passenger Survey.
- Emissions from landfills were calculated based on regional waste data. Wastewater treatment emissions were determined from data collected from local water utilities. HFCs emissions were calculated using national emissions scaled to the region by population.

Links

- Greenhouse Gas Emissions Inventory for the Metropolitan Washington Region (2005-2012): http://www.mwcog.org/store/item.asp?PUBLICATION_ID=521
- Metropolitan Washington Climate Energy and Environment Policy Committee Webpage: http://www.mwcog.org/committee/committee/default.asp?COMMITTEE_ID=250
- Frederick County Sustainability and Environmental Resources Office: <https://www.frederickcountymd.gov/4595/Sustainability-and-Environmental-Resourc>
- Frederick County Comprehensive Energy Plan: <https://www.frederickcountymd.gov/4353/Comprehensive-Energy-Plan>