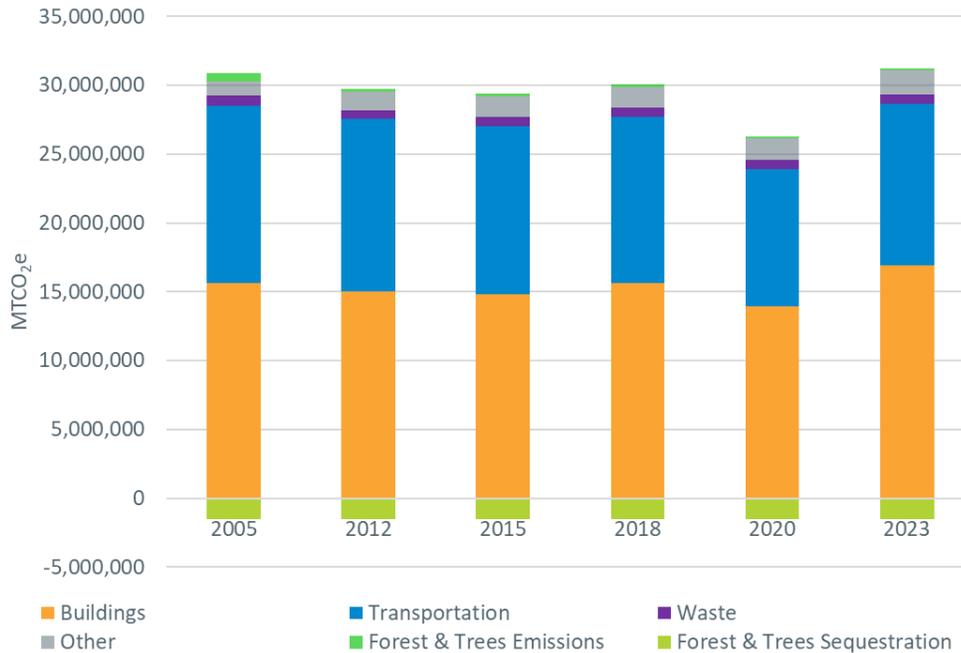


COMMUNITY-WIDE GREENHOUSE GAS INVENTORY SUMMARY

Northern Virginia

EMISSIONS SUMMARY

Northern Virginia community-wide net greenhouse gas (GHG) emissions increased by 1% between 2005 and 2023, along with a 29% growth in population. Forests and trees result in the net sequestration of more than 1.3 million metric tons of CO₂ equivalent (MTCO_{2e}) annually, or 4% of total emissions.

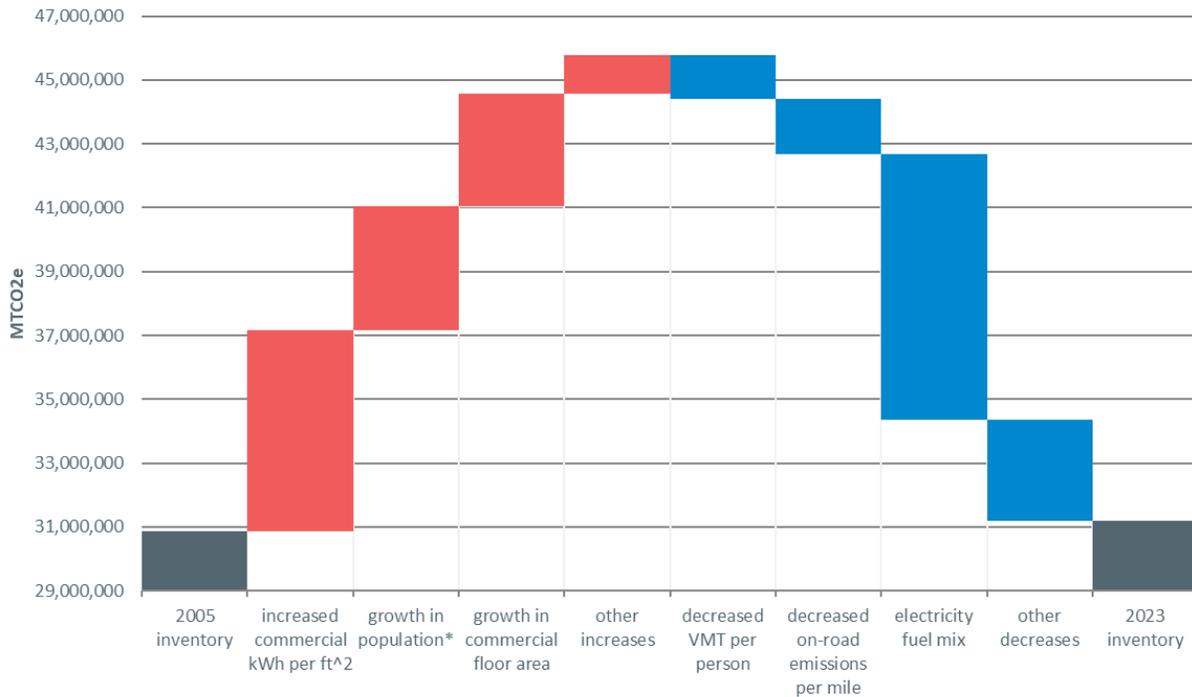


Note: Other refers to emissions associated with the release of Hydrofluorocarbons, emissions resulting from local natural gas system losses within the community, as well as emissions from Agriculture. Net emissions factors in sequestration.

 <p>351 thousand MTCO_{2e} emissions increased from 2005-2023</p> <p><i>This is the equivalent to adding >81,000 gas-powered passenger vehicles to the road for one year.</i></p>	 <p>54 % total GHG emissions from buildings in 2023</p> <p><i>39% from commercial energy consumption and 15% from residential energy consumption</i></p>	 <p>38 % total GHG emissions from transportation in 2023</p> <p><i>30% from on-road, 3% from off-road, 5% from air passenger travel, <1% from commuter rail</i></p>	 <p>22 % reduction of per capita emissions from 2005-2023</p> <p><i>Per capita emissions reduced from 15 MTCO_{2e} in 2005 to 11.8 in 2023.</i></p>
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GHG CONTRIBUTION ANALYSIS

The Northern Virginia GHG Contribution Analysis results show what has driven increases and decreases in emissions between inventory years 2005 and 2023. The graph shows the main drivers increasing emissions (red bars) are increased commercial electricity energy intensity, growth in population, and commercial space. Driving down emissions (blue bars) are mainly a cleaner grid, cleaner cars, and reduced vehicle miles traveled (VMT) per person.



Note: * Includes effects of population on residential energy, VMT, and waste generation.

INVENTORY BACKGROUND AND METHODOLOGY

The Metropolitan Washington Council of Governments (COG) and local governments across metropolitan Washington 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; 50% by 2030; and 80% by 2050. Emissions from buildings and transportation saw a greater reduction than anticipated due to the 2020 pandemic.

COG completes GHG community-scale inventories for all 24 local government members, northern Virginia, and metropolitan Washington. COG GHG inventories are compliant with both the U.S. Communities Protocol for Accounting and Reporting Greenhouse Gas Emissions (USCP) and Global Protocol for Community-Scale Greenhouse Gas Inventories (GPC). The inventories measure GHG-emitting activities undertaken by residents, businesses, industry, and government located in metropolitan Washington, as well as emissions from visitors.

RESOURCES

- [COG Greenhouse Gas Emissions Inventories Methodology Guide](#)
- [COG Greenhouse Gas Inventories](#)
- [DMV Climate Partners GHGs in the DMV](#)