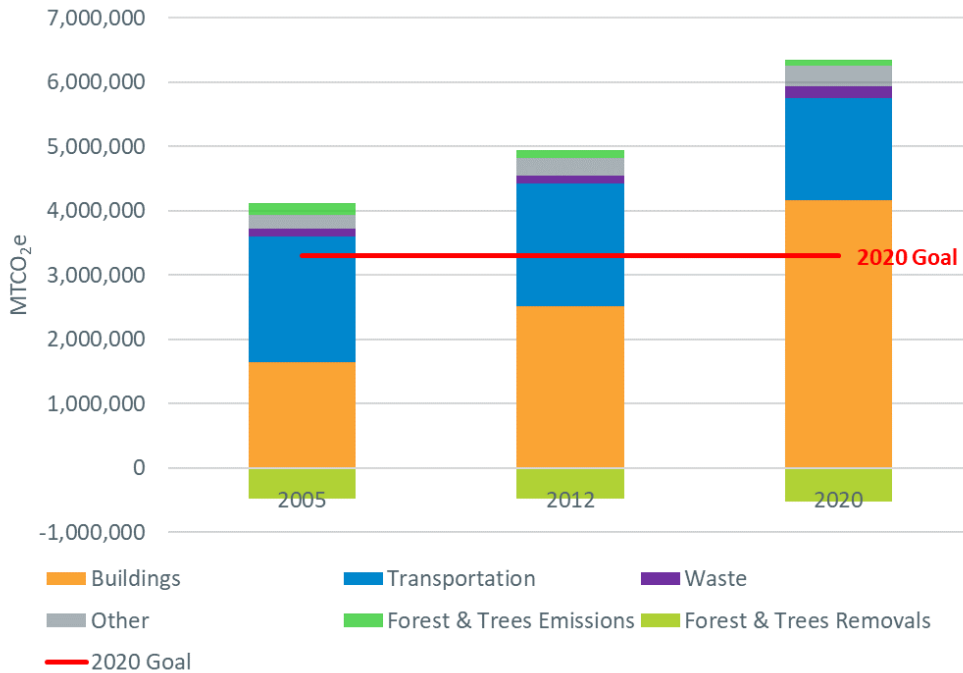# COMMUNITY-WIDE GREENHOUSE GAS INVENTORY SUMMARY
Loudoun County, Virginia

EMISSIONS SUMMARY

Loudoun County community-wide greenhouse gas (GHG) emissions increased by 54% between 2005 and 2020, along with a 71% growth in population. In 2020, forests and trees sequestered more than 430,000 metric tons of CO_2 equivalent ($MTCO_2e$) or 7% of total emissions.

Legend:
- Buildings
- Transportation
- Waste
- Other
- Forest & Trees Emissions
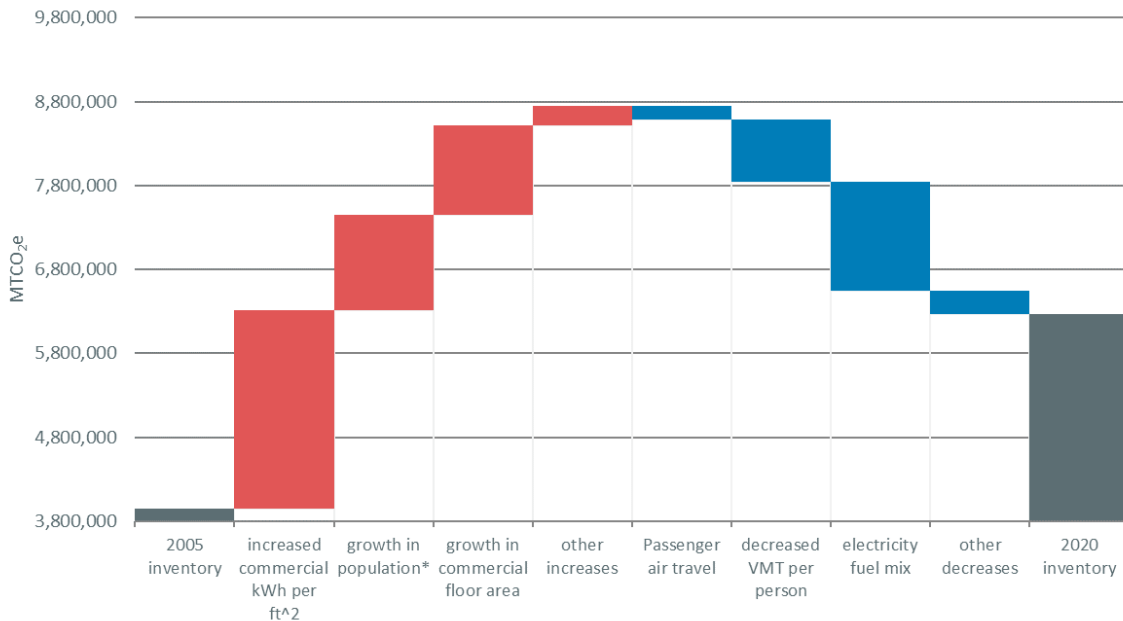- Forest & Trees Removals
- 2020 Goal

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.

2.32 million $MTCO_2e$ emissions increase from 2005-2020	**67** % total GHG emissions from buildings in 2020	**25** % total GHG emissions from transportation in 2020	**7** % reduction of per capita emissions from 2005-2020
This is the equivalent to adding >451,000 homes to the grid for one year.	*52% from commercial energy consumption and 15% from residential energy consumption*	*20% from on-road, 4% from off-road, 2% from air passenger travel, <1% from commuter rail*	*Per capita emissions reduced from 16 $MTCO_2e$ in 2005 to 14.8 in 2020.*

GHG CONTRIBUTION ANALYSIS

The Loudoun County GHG Contribution Analysis results show what has driven increases and decreases in emissions between inventory years 2005 and 2020. 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, reduced vehicle miles traveled (VMT) per person, and reduced passenger air travel.

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% below 2005 levels by 2050. Metropolitan Washington met both the 2012 and 2020 goals. 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