REGION FORWARD SUSTAINABILITY PERFORMANCE

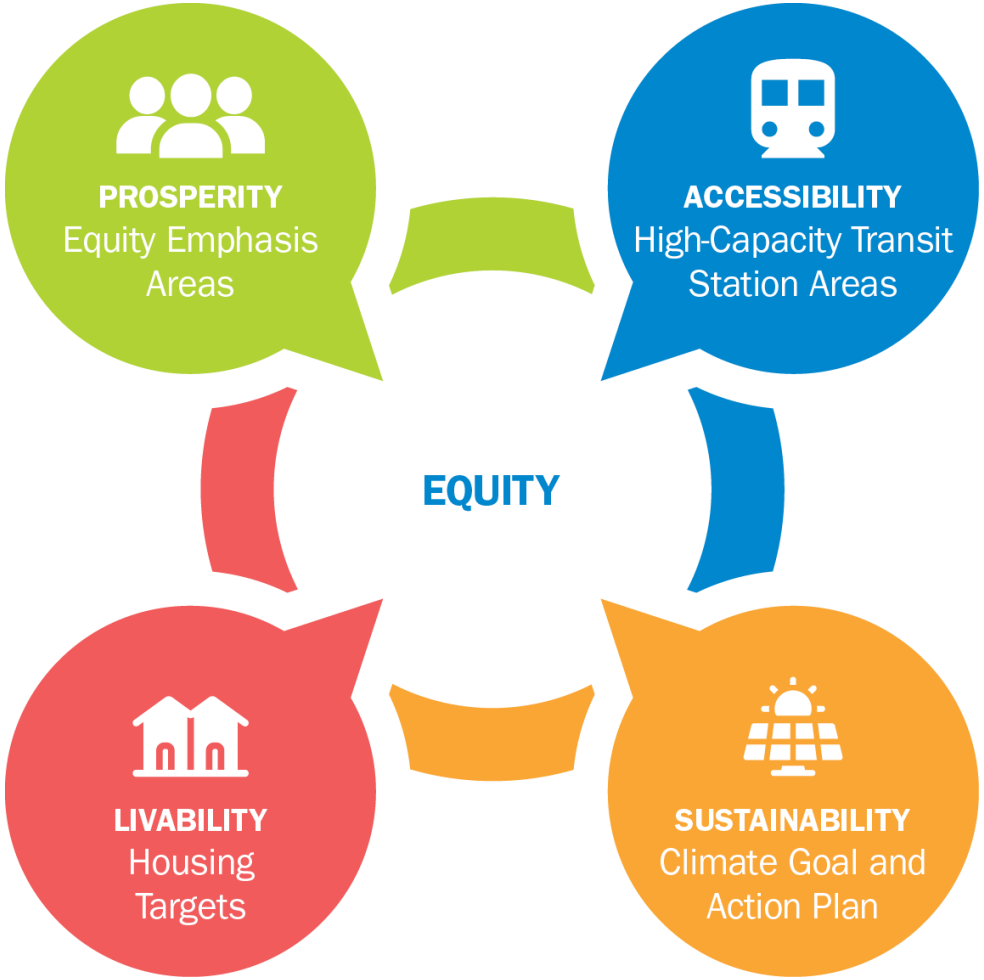
Indicators Update

Chuck Bean, COG Executive Director
Maia Davis, COG Senior Environmental Planner

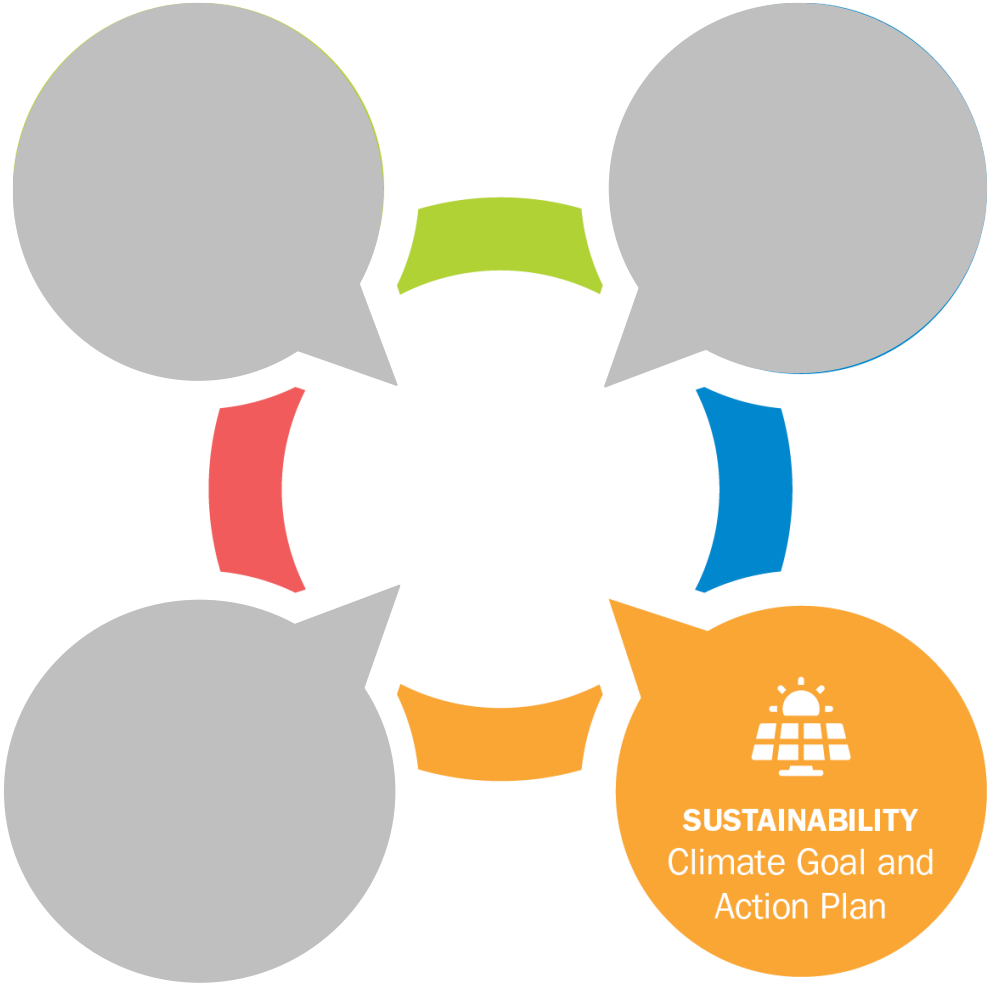
Region Forward Coalition Meeting
October 28, 2022

Metropolitan Washington
Council of Governments

Region United Planning Framework



Region United Planning Framework



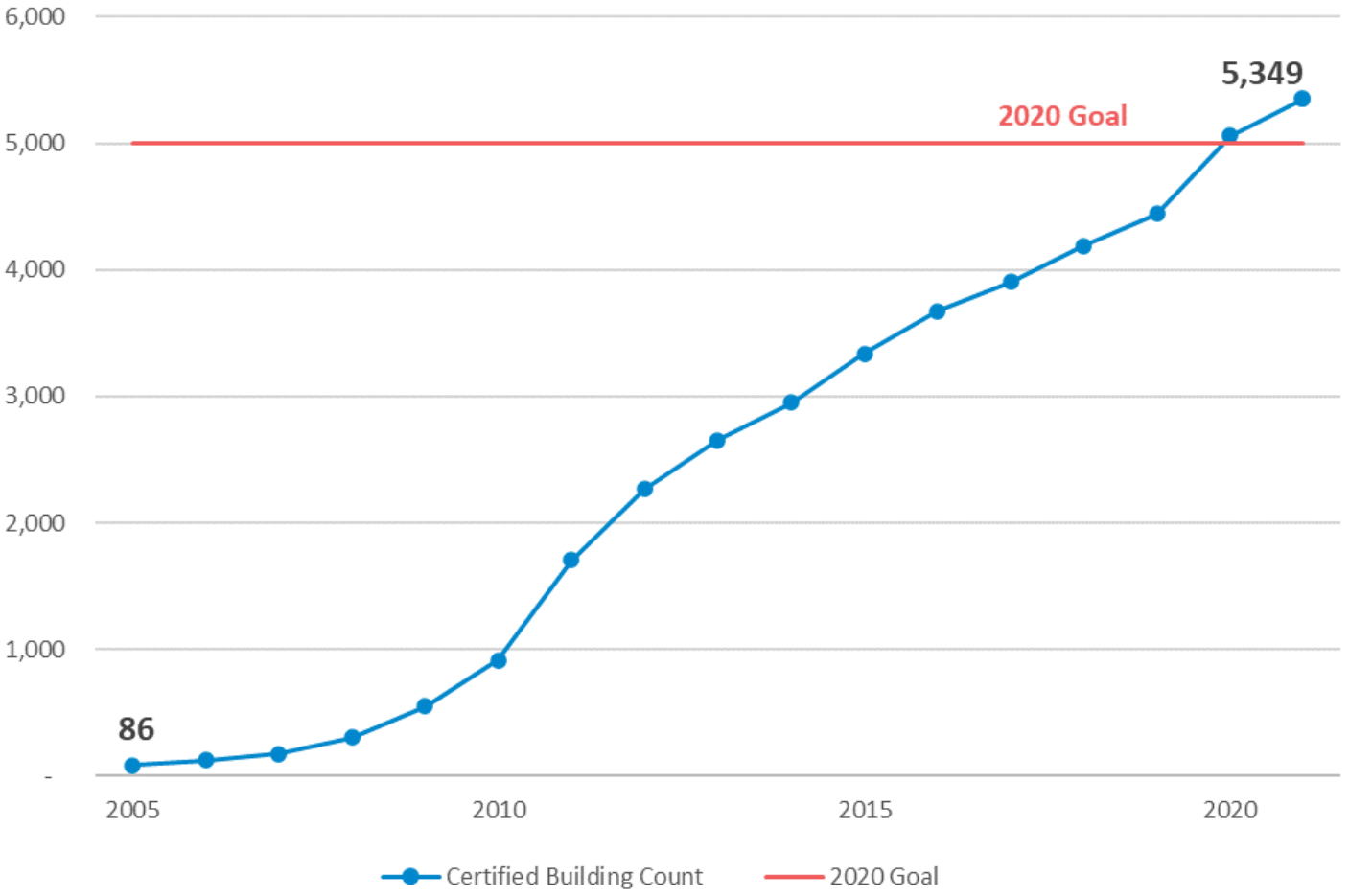
Regional GHG Reduction Goals

2012 Goal Back to 2005 levels	✓
2020 Goal 20% reduction of 2005 levels	✓
2030 Goal 50% reduction of 2005 levels	**Next!**
2050 Goal 80% reduction of 2005 levels	

Region Forward Sustainability Indicators

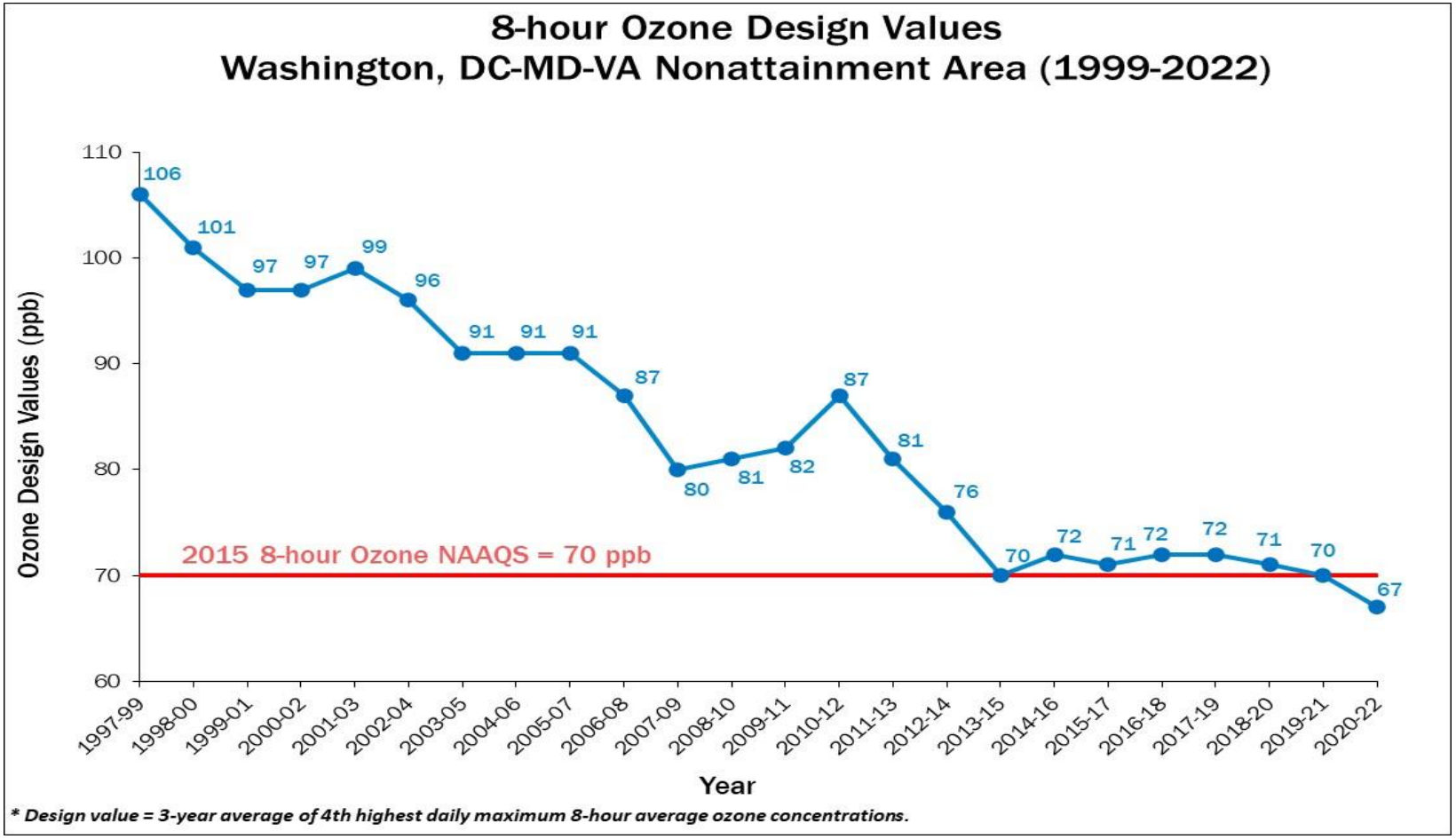
TARGET	By 2020, reduce regional greenhouse gas emissions by 20% below 2005 levels	By 2020, construct 5,000 certified green buildings	Beginning in 2014, the region's air quality will be improving, and ambient concentrations will be reduced below federal standards (70 ppb)	Beginning in 2012, the region will maintain more than 497,500 acres of its area for agricultural uses
LATEST ESTIMATE	24%	5,349	67	480,281
TREND	↓	↑	↓	↓
MEET / DO NOT MEET TARGET	✓	✓	✓	✗
SOURCE DATA	COG Greenhouse Gas Inventories, 2020	COG's High Performance Building Database, 2021	EPA Design Value Report prepared for MWAQC Sept 2022; 2022 data is preliminary	USDA Census of Agricultural, 2017

Green Buildings Trends



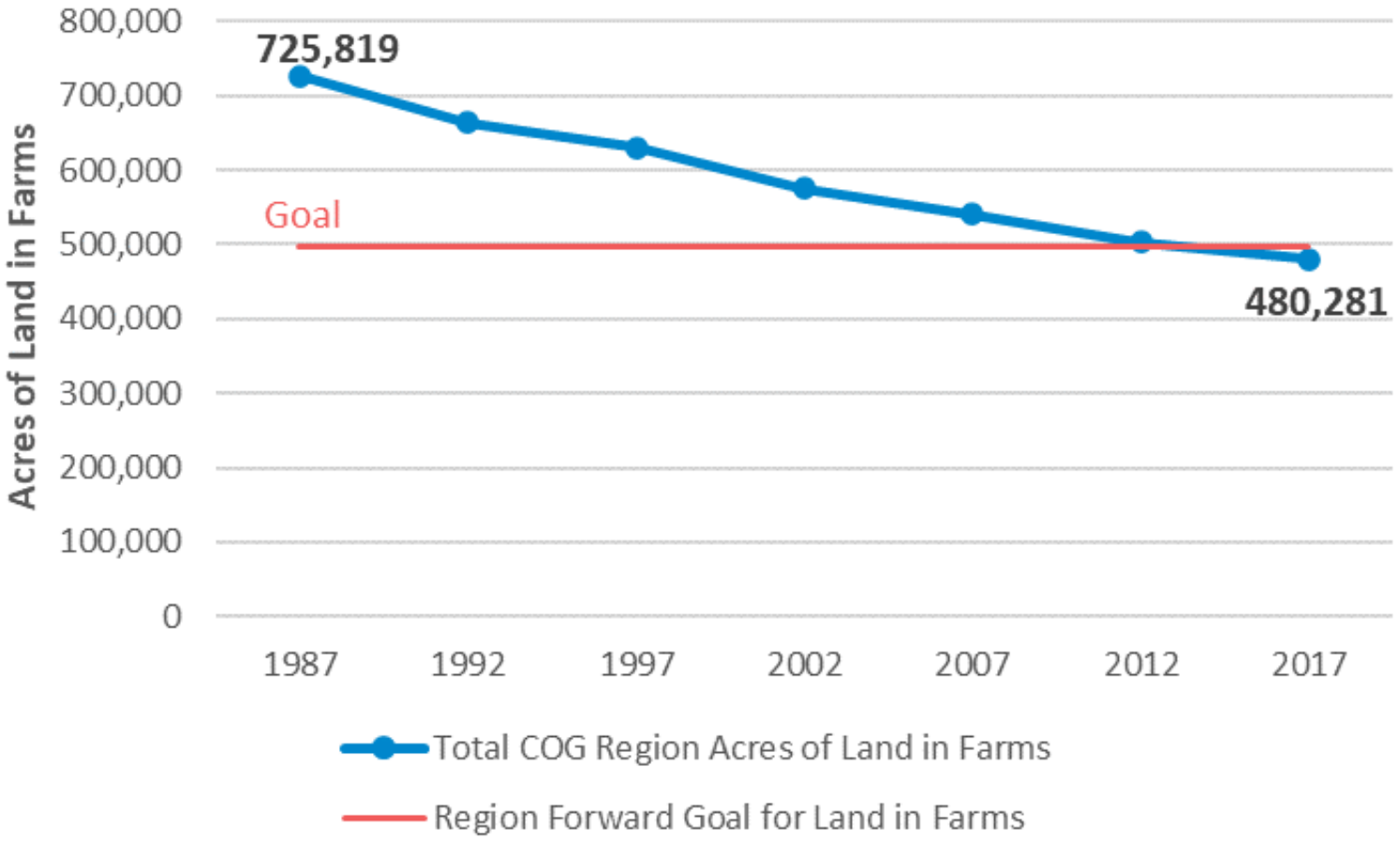
[MWCOG Climate and Energy Progress Dashboard]

Air Quality Progress



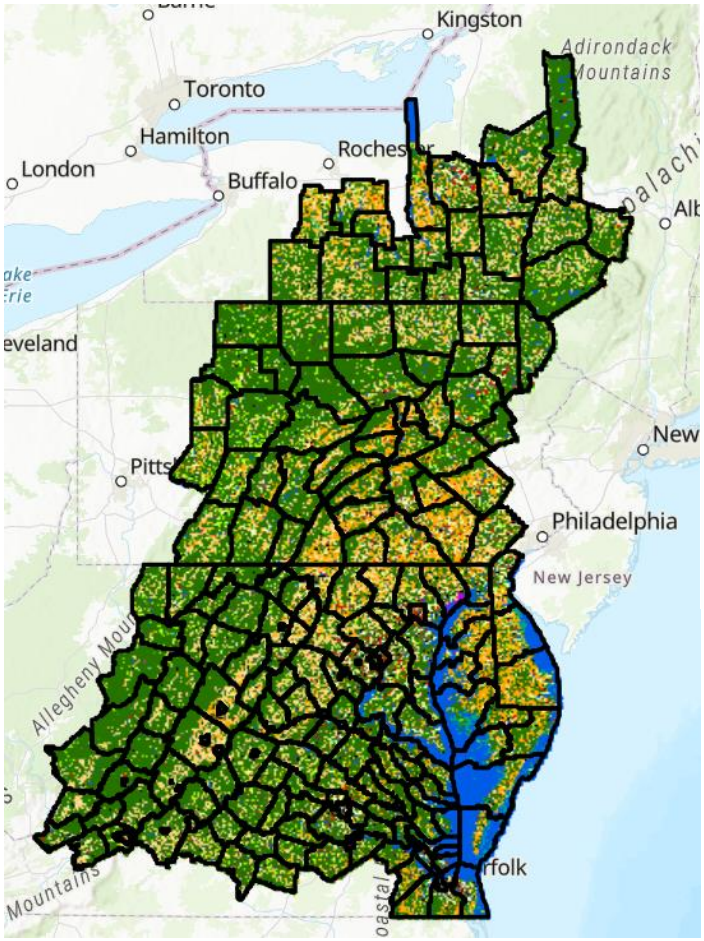
[MWCOG Air Quality Progress Dashboard]

COG Region Acres of Land in Farms



https://www.nass.usda.gov/AgCensus/

Open and Green Spaces



LandCover

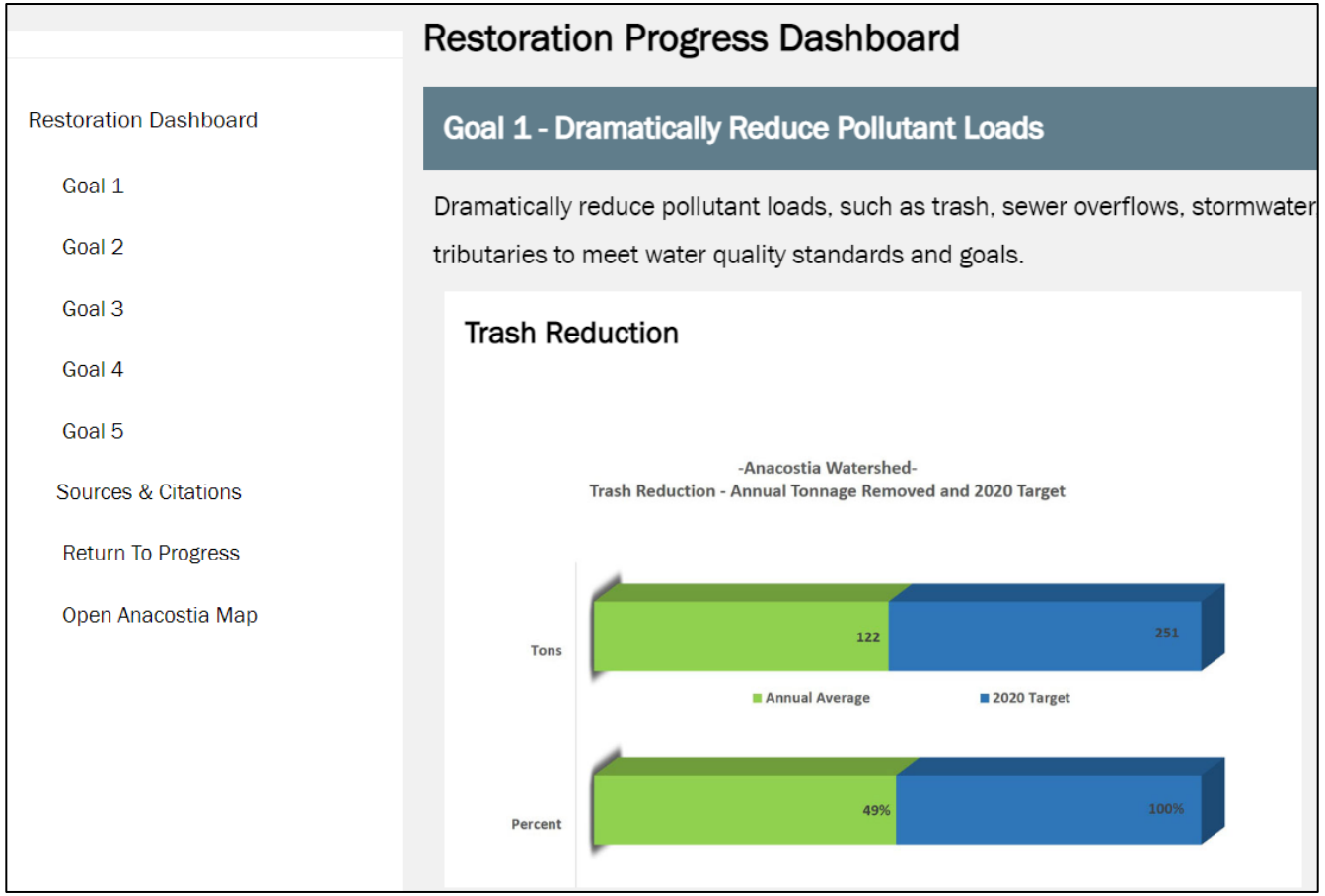
- Water
- Emergent Wetlands
- Tree Canopy
- Scrub\Shrub
- Low Vegetation
- Barren
- Impervious Structures
- Other Impervious
- Impervious Roads
- Tree Canopy over Impervious Structures
- Tree Canopy over Other Impervious
- Tree Canopy over Impervious Roads
- Aberdeen Proving Ground

GenLandUse

- Water
- Impervious Roads
- Impervious Structures
- Impervious, Other
- Tree Canopy over Impervious
- Turf Grass
- Pervious Developed, Other
- Tree Canopy over Turf Grass
- Forest
- Tree Canopy, Other
- Harvested Forest
- Natural Succession
- Cropland
- Pasture/Hay
- Extractive
- Wetlands, Tidal Non-forested
- Wetlands, Riverine Non-forested
- Wetlands, Terrene Non-forested

[Chesapeake Bay Program Land Use/Land Cover Data Project - Chesapeake Conservancy]

Water Quality



[Anacostia Restoration Progress]

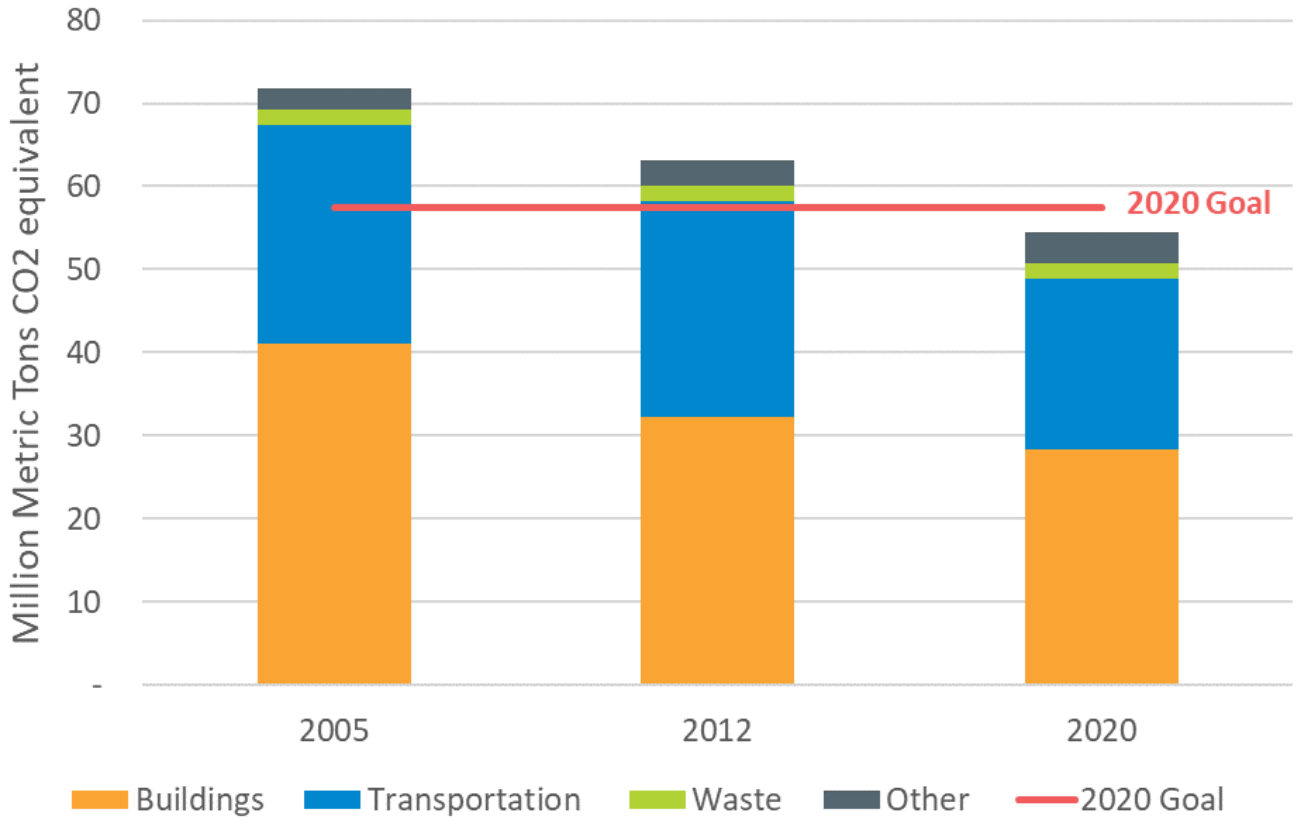
[Monitoring and Modeling Data (chesapeakebay.net)]

REGIONAL GREENHOUSE GAS EMISSION TRENDS

Metropolitan Washington
Council of Governments

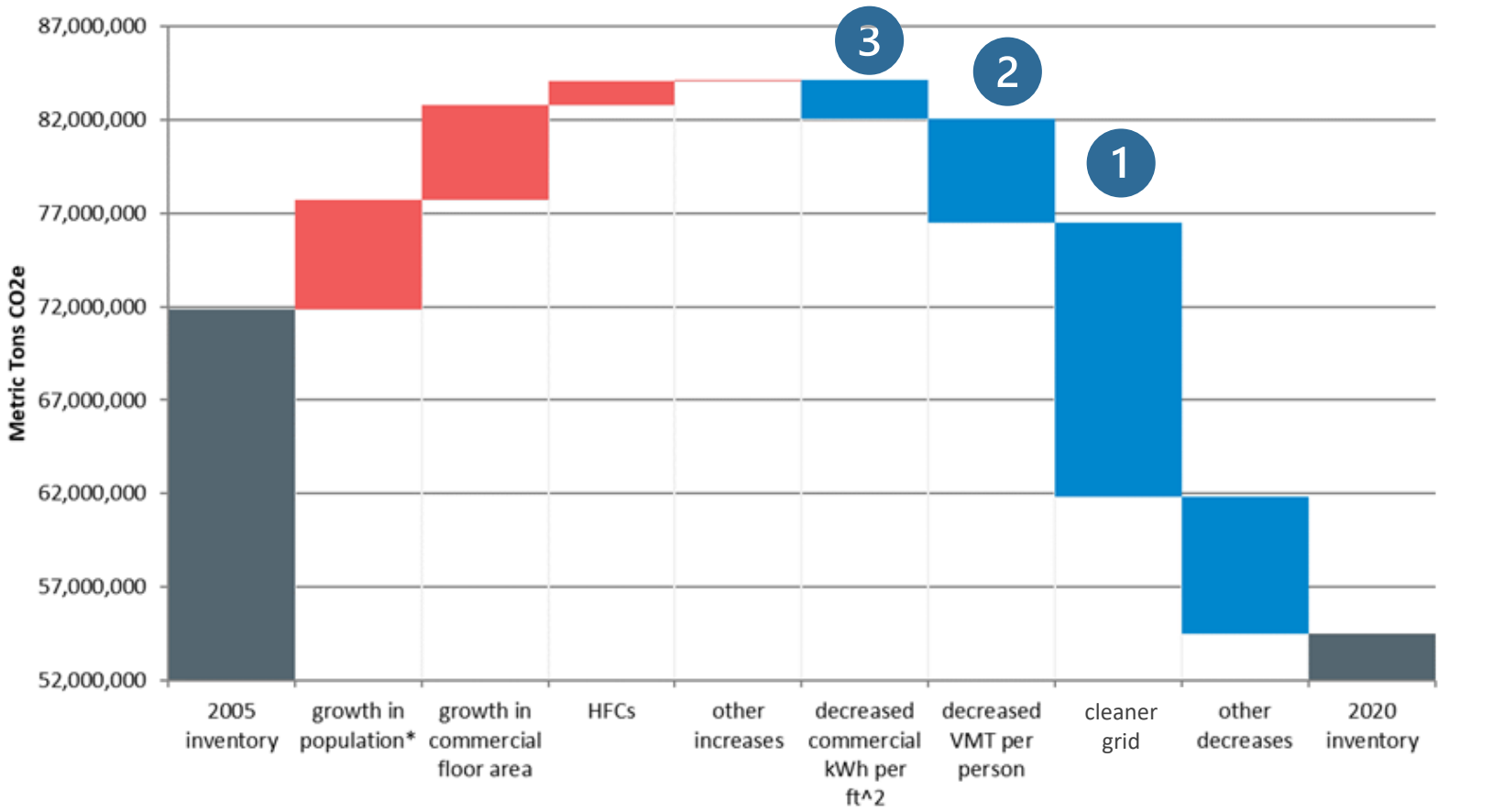
Regional GHG Emission Trends

GHG emissions decreased by at least **24 percent** from 2005 to 2020 in metropolitan Washington.



MWCOG Climate and Energy Progress Dashboard

GHG Drivers of Change, 2005-2020



Key Performance Indicators – Buildings

- **Cleaner Grid**: Grid CO_2 emissions decreased from > 1,100 pounds/megawatt hour to 650 and less by 2020.
- **Electricity Consumption**: Electricity consumption increased 10% from 2005-2020 but is offset by a cleaner grid.
- **Natural Gas Consumption:** Natural gas consumption reduced 2% from 2005-2020.
- **Rooftop Solar**: Grid connected renewables grew from < 500 in 2009 to > 51K in 2020, surpassing the 2020 goal of 30K.
- **Green Buildings**: Third-party certified green buildings grew from < 90 in 2005 to > 5.3K in 2020, surpassing the 2020 goal of 5K.

Key Performance Indicators – Transportation

- **Cleaner Cars**: Hybrid and electric vehicle (EV) ownership grew > 72K in 2012 to > 179K in 2020
  - All electric and plug-in hybrid EVs grew from < 500 to > 33K
  - EV charging grew from 124 station locations to > 1.2K in 2021.
- Even as Population and Jobs grew by 13%, 2010 – 2020
  - **Vehicle Miles Traveled:** Decreased by 15%
  - **Job and Population Growth:** >50% near High-Capacity Transit Stations
  - **Drive alone commute** share: Decreased by 15%
  - **Teleworking:** Grew by 40%

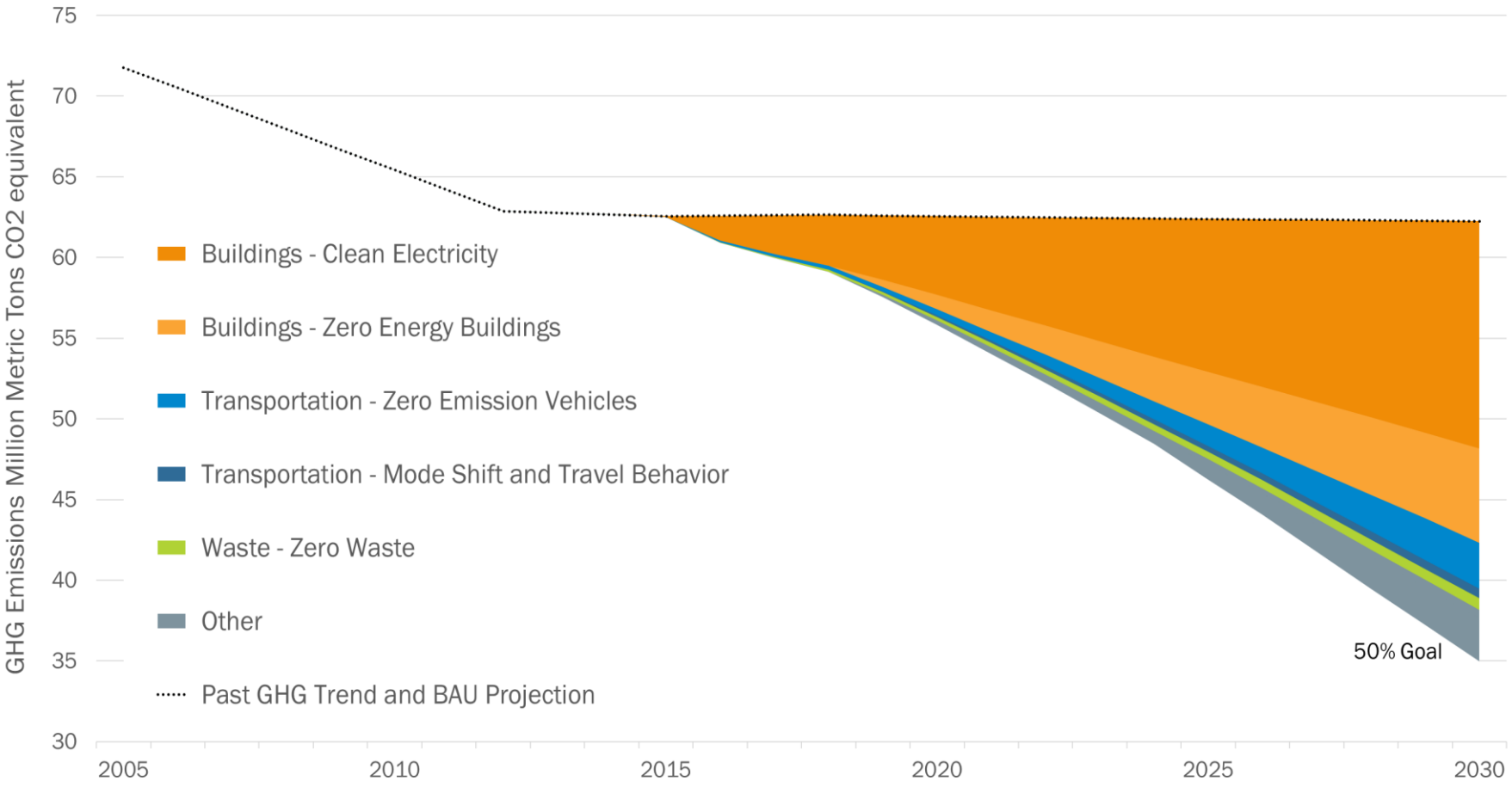
2020, COVID-19 and GHGs

- **Buildings**: Emissions were lower than projected for 2020, in part due to the pandemic; however, the grid getting cleaner and weather impacts also played a role.
- **Transportation**: Emissions were lower than previously projected for 2020 because less people were on the roads and flying during the height of the pandemic.
- **Waste**: Solid waste emissions were overall lower than projected for 2020. Waste that would have been generated and collected from businesses were generated within individual residences during the height of the pandemic.

2030 Plan – Main Elements

Main Element	Description
1. Greenhouse Gases	Summary of regional GHG inventory trends from 2005 – 2018, business-as-usual (BAU) GHG emission projections through 2030, and technical scenario showing what it will take for the region to reach GHG reductions of 50% below 2005 levels by 2030.
2. Climate Mitigation Strategy	Priority collaborative mitigation actions to move the region toward achieving the GHG emission reduction goal of 50% by 2030, below 2005 levels. Climate action areas include Planning, Equity, Clean Electricity, Zero Energy Buildings, Zero Emission Vehicles, Mode Shift and Travel Behavior, Zero Waste, and Sequestration.
3. Climate Risks and Vulnerabilities	Summary of the Regional Climate, Risk and Vulnerability Assessment (CRVA). Evaluates climate hazards: extreme heat, drought, lightning and thunderstorms, flash and riverine flooding, coastal flooding and extreme winter conditions.
4. Climate Resilience Strategy	Priority collaborative climate resilience actions to move the region toward achieving the goal of becoming a Climate-Ready Region and making significant progress to be a Climate Resilient Region by 2030. The action areas include Planning, Equity, and Resilient Infrastructure.

50% GHG Reduction Strategies by 2030



Climate Planning/Project Support

A. Planning, Policy & Implementation

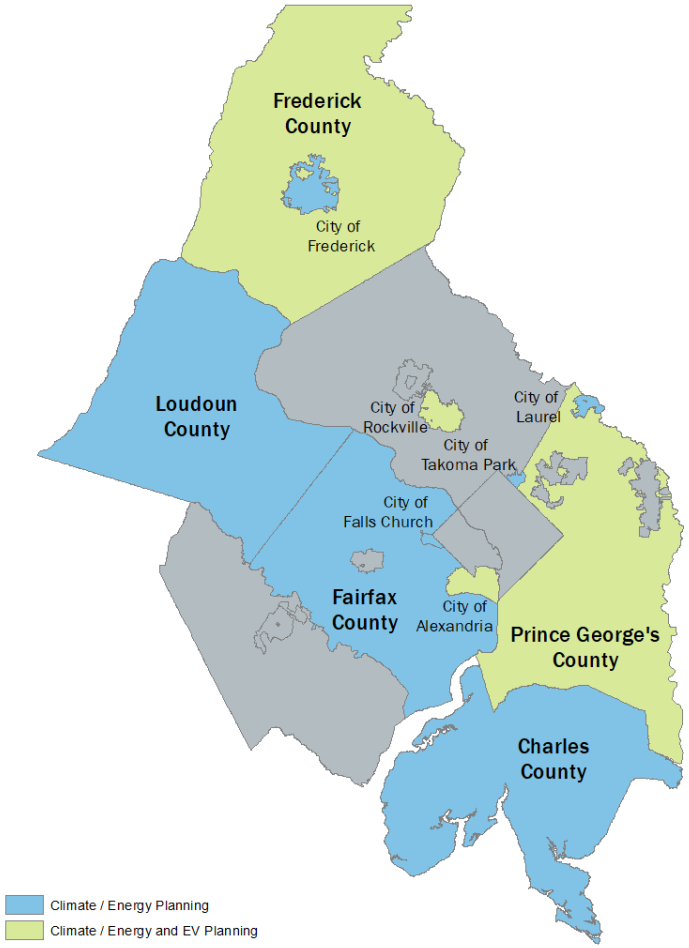
- Local and sub-regional climate and energy, EV planning
- New regional EV Deployment Working Group and Clearinghouse
- Coordinated policy guidance
- Diesel Emission Reduction Act repowers
- Bulk and cooperative procurement

B. Data and Tools

- Clean energy feasibility assessments
- Climate risk and vulnerability assessment tool

C. Outreach and Training

- DMV Climate Partners climatepartners.org
- Technical trainings, capacity building



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