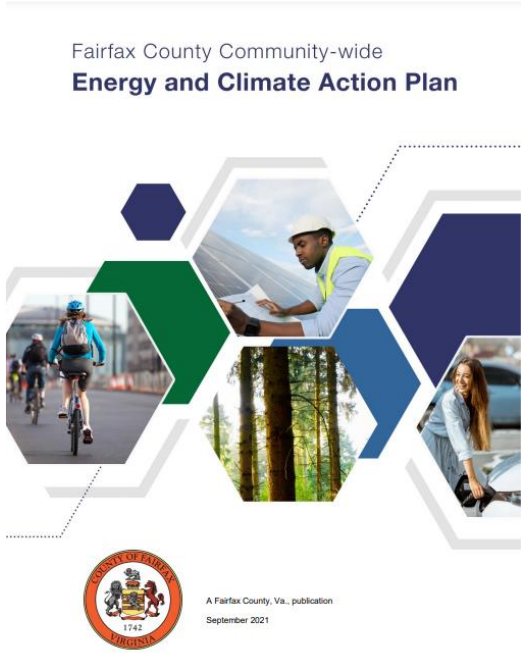

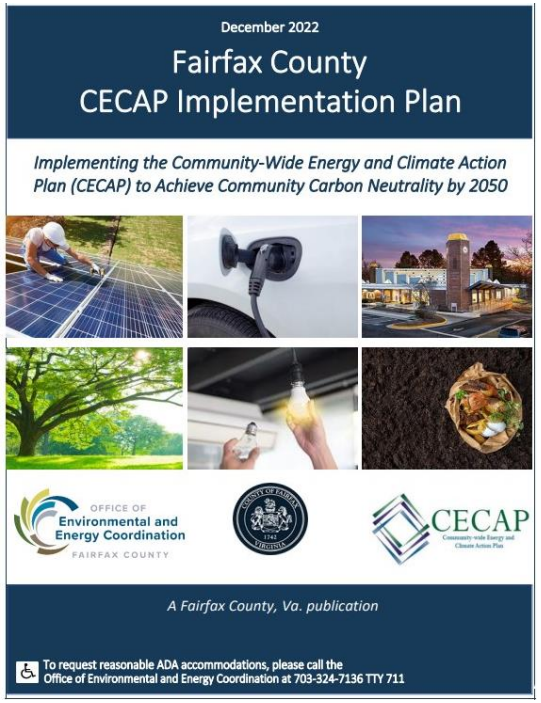

Community-wide Energy and Climate Action Plan (CECAP)

Overview

Fairfax County
Office of Environmental and Energy Coordination
Fairfax County, Virginia

Office of Environmental and Energy Coordination

CECAP

CECAP Overview

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Definitions: All About Greenhouse Gas Emissions

Climate change: a human-caused crisis affecting human health, livelihoods, and the environment, with increasing temperatures creating altered precipitation patterns, more frequent and intense storms, longer and harsher droughts, and other climatic shifts.

Greenhouse gas emissions: gases such as carbon dioxide and methane that trap heat in our atmosphere. Measured in CO_2e (carbon dioxide equivalency)

Carbon Neutral: achieving net zero GHG emissions by balancing GHGs released with an equivalent amount sequestered or offset through carbon credits

Net Zero: a building or community that generates enough energy to meet (or exceed) their own needs through onsite renewable energy generation

Definitions : Difference Between “Mitigation” and “Adaptation”

Climate mitigation:

Addressing the causes of climate change

Doing our part to reduce greenhouse gas emissions that contribute to climate change

- Examples: Transitioning to renewable energy, energy efficiency, waste reduction, alternative transportation to do our part to reduce emissions
- Emissions reduction is **global**

Climate adaptation and resilience:

Addressing the effects of climate change

Boosting resilience and adapting to climate hazards and conditions

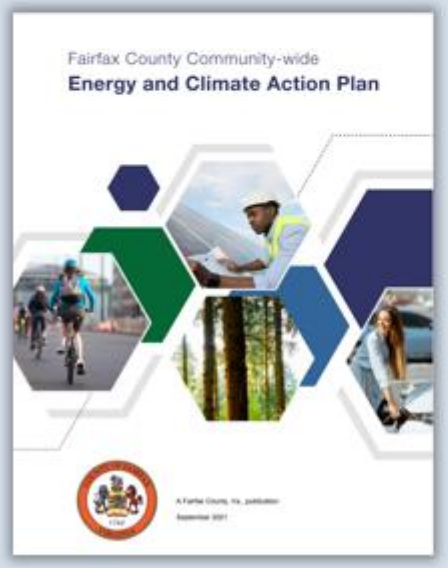
- Examples: becoming better at handling flooding, extreme temperatures, severe storms, health hazards, precipitation pattern changes that occur locally
- Resilience is **local**

Climate Plans in Fairfax County

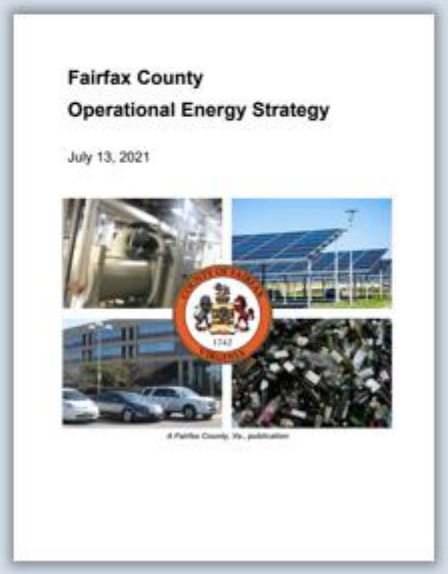
We are addressing both the **cause** and the **effects** of climate change.

Addressing the Cause:
by doing our part
in the global effort to reduce emissions

CECAP
(Community-wide)



Operational Energy Strategy
(Government operations only)



Addressing the Effects:
adapting/building resilience to the impacts we experience locally

Resilient Fairfax
(Government and community)

Climate Plans in Fairfax County, cont.

Addressing the Cause:
by reducing harmful emissions

CECAP
(Community-Wide)

Goal: Carbon Neutral by 2050

- Transportation
- Buildings and Energy Efficiency
- Solar and Renewables
- Waste Reduction
- Natural resources

Operational Energy Strategy
(Government operations only)

Goal: Carbon Neutral by 2040

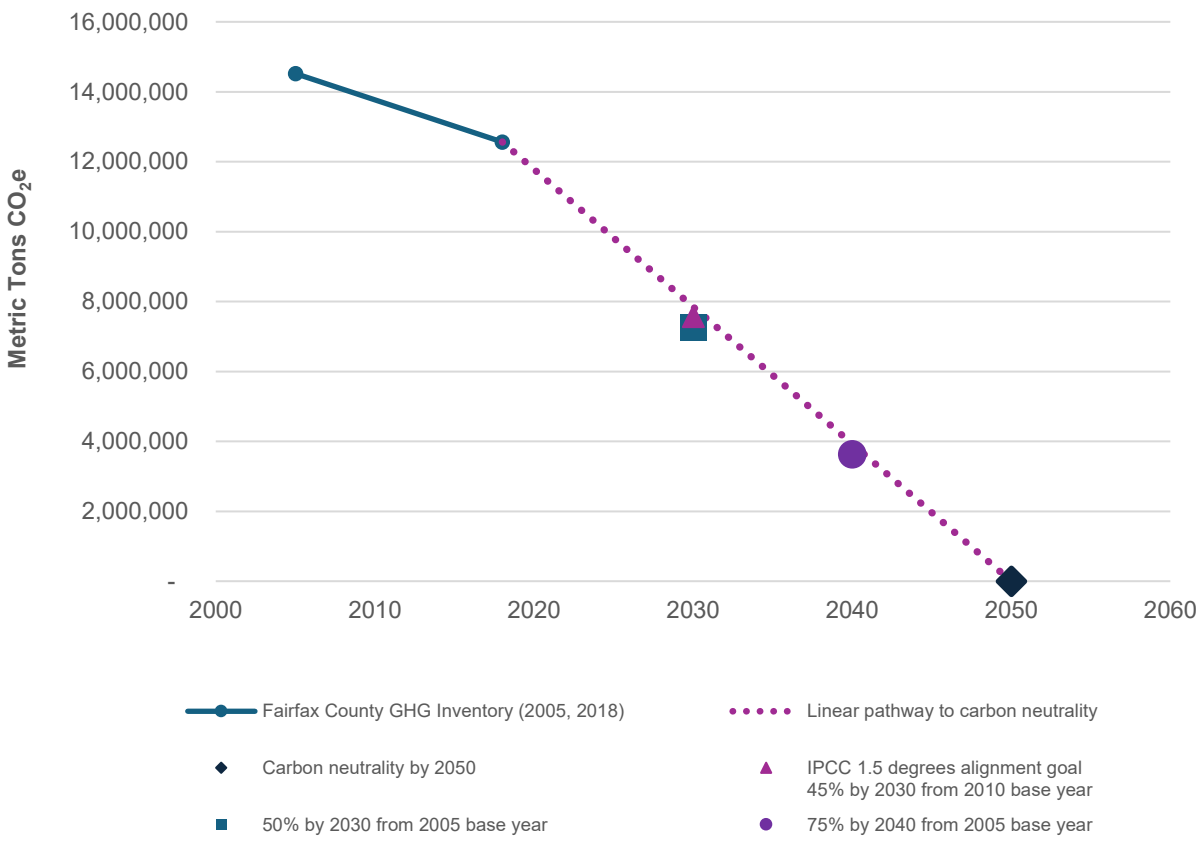
- Fleet Electrification
- Energy & Water Efficiency
  Green Buildings
- Renewables
- Waste Management & Recycling
- Goods and Services
  Utility Cost Management

Addressing the Effects:
by building resilience

Resilient Fairfax
(Boosting resilience to climate hazards, for both community and government)

- Integrated Action Planning
- Resilient Infrastructure & Buildings
- Climate-Ready Communities
- Adaptive Environments

CECAP Emission Reduction Goals



CECAP has an overall goal, with interim steps:

- **Long-term target goal**: Fairfax County will aim to achieve carbon neutrality by 2050 from a 2005 base year, with at least 87% coming from GHG emissions reduction.
- **Interim year goal 2030**: Fairfax County will reduce GHG emissions by 50% by 2030, from a 2005 base year.

CECAP Sector-Based Emission Reduction Goals (Building Energy Efficiency and Transportation)

The sector-specific goals include **two goals specific to the Building and Energy Efficiency** sector, and **two goals specific to the Transportation** sector:

- All new, eligible buildings will have a commitment to green building.
- Retrofit at least 100,000 housing units with energy efficiency measures by 2030.

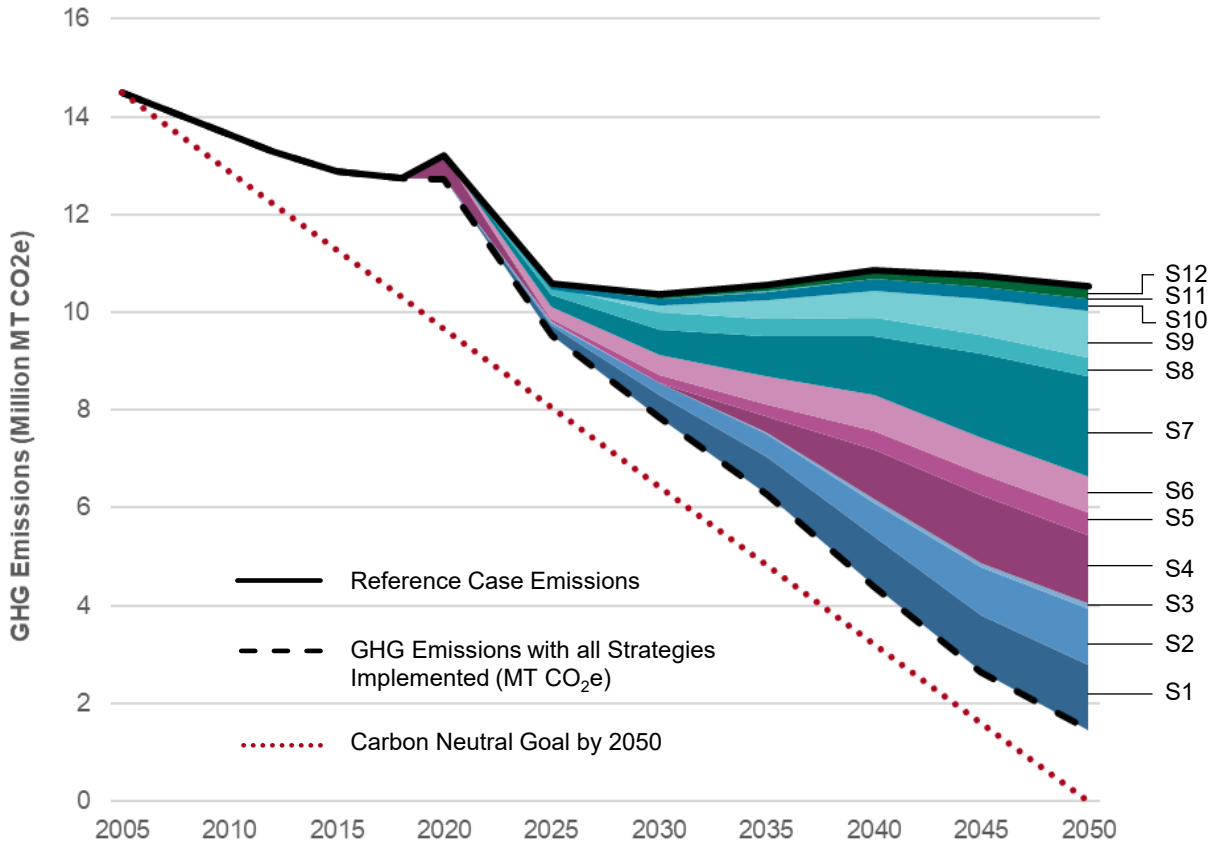
- Increase transit and non-motorized commuting to 30% (including teleworking) by 2030.
- Increase plug-in hybrid electric vehicles (PHEVs) and battery electric vehicles (BEVs) to at least 15% of all light-duty vehicle registrations by 2030.

CECAP Sector-Based Emission Reduction Goals (Natural Resources and Waste)

The sector-specific goals include **one goal specific to the Natural Resources** sector, and **one goal specific to the Waste** sector

- Expand the tree canopy to 60% with a minimum of 40% tree canopy coverage in every census block by 2030 and a minimum of 50% tree canopy coverage in every census block by 2050, prioritizing areas of highest socioeconomic need first.
- Achieve zero waste by 2040, defined as at least 90% waste diverted from landfill/ incineration, in alignment with the definition by the Zero Waste International Alliance.

CECAP Strategies



In order to achieve those goals, CECAP encompasses strategies and actions needed to reduce GHG emissions in Fairfax County.

Because more than 95% of all GHG emissions in the county come from sources other than government and school operations, CECAP describes what residents, businesses, and nonprofit organizations can do to be part of the solution.

CECAP also describes what government at the county, state, and federal levels can do to reduce GHG emissions in the county. CECAP includes 12 strategies from the different emissions sectors in Fairfax County.

CECAP Strategies, by emission sector

Buildings and Energy Efficiency

Strategy 1: Increase energy efficiency and conservation in existing buildings.

Strategy 2: Electrify existing buildings.

Strategy 3: Implement green building standards for new buildings.

Energy Supply

Strategy 4: Increase renewable energy in electric grid.

Strategy 5: Increase production of onsite renewable energy.

Strategy 6: Increase energy supply from resource-recovered gas, hydrogen, and power-to-gas.

Transportation

Strategy 7: Increase electric vehicle (EV) adoption.

Strategy 8: Support sustainable land use, active transportation, public transportation, and transportation demand management (TDM) to reduce vehicle-miles traveled.

Strategy 9: Increase fuel economy and use of low-carbon fuels for transportation.

Waste

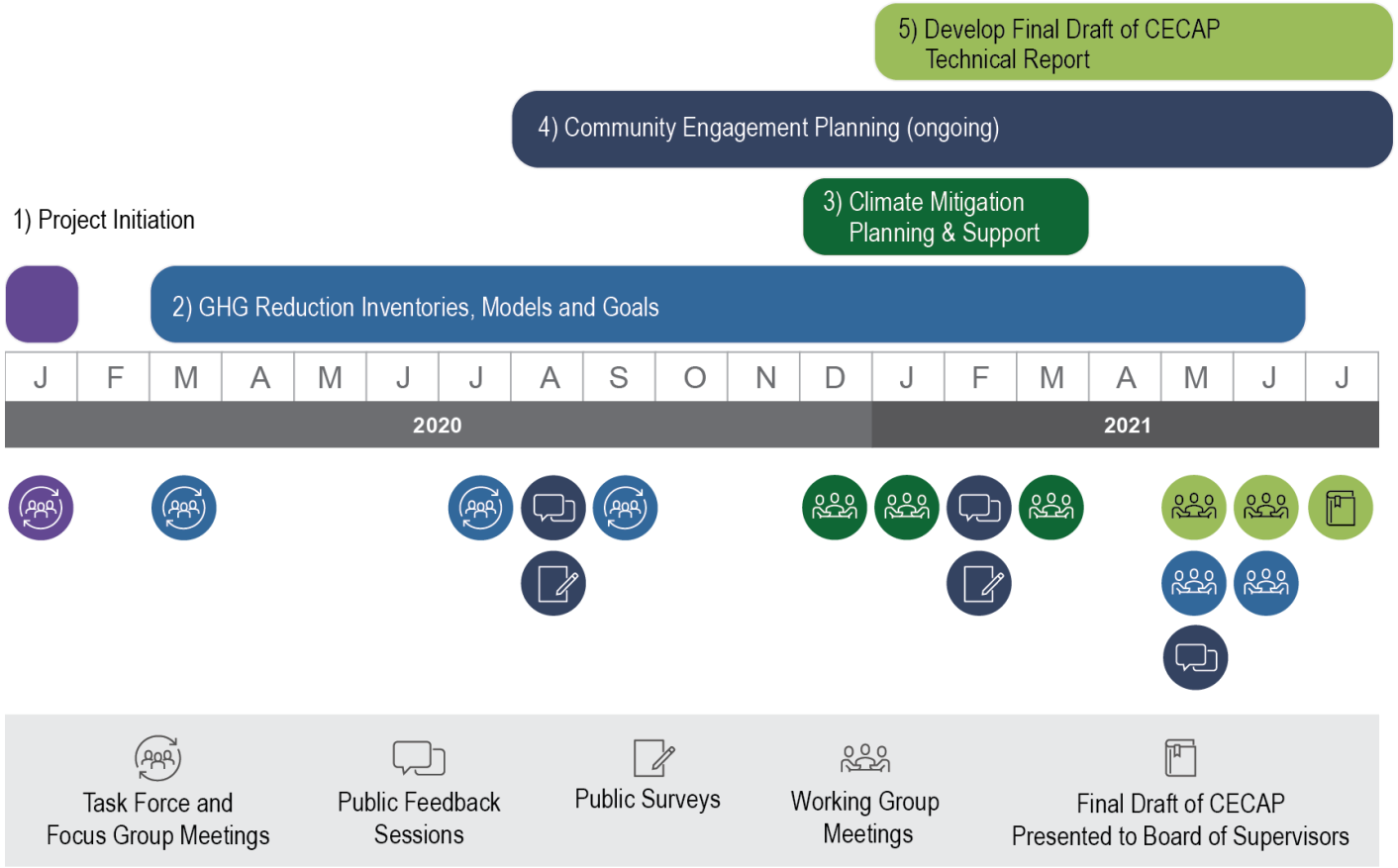
Strategy 10: Reduce the amount of waste generated and divert waste from landfills and waste-to-energy facilities.

Strategy 11: Responsibly manage all waste generation, including collected residential and commercial waste, wastewater, and other items.

Natural Resources

Strategy 12: Support preservation, restoration, and expansion of natural systems, green spaces, and soil quality.

CECAP Planning Process



1. Project initiation—Community members were selected by the Board of Supervisors to serve on nine Focus Groups, a Task Force (subsequently called the Working Group after October 2020) was created, and the project began in January 2020.

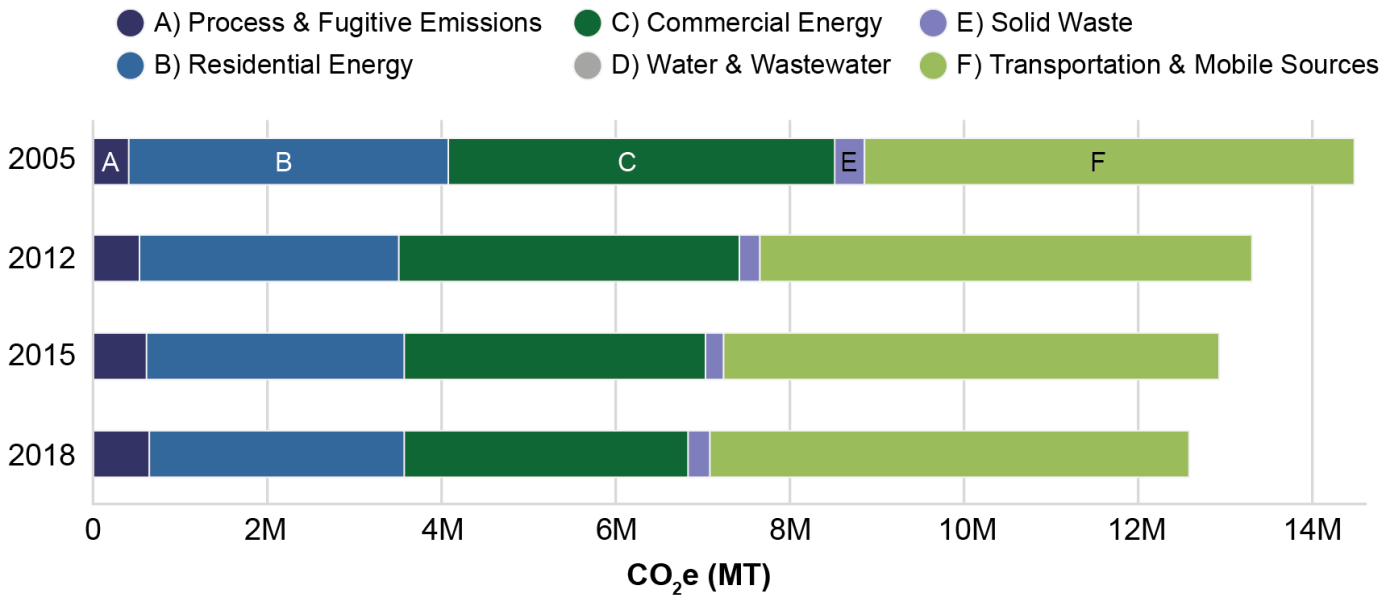
2. GHG reduction inventories, models, and goals—Metropolitan Washington Council of Governments (COG) developed the 2018 GHG inventory for Fairfax County, COG created emissions reduction scenarios at the direction of Fairfax County to estimate future emissions, and members of the Working Group provided input on CECAP goals.

3. Emissions reduction planning and support—Consulting firm ICF developed the initial list of emissions reduction strategies and actions, which was revised and edited by the Working Group. ICF then developed the accompanying analyses, and the Working Group evaluated the options and selected the final set of actions.

4. Community engagement planning—The county developed outreach and communications materials and hosted public meetings to collect and assess public opinions of CECAP.

5. Develop final CECAP technical report—The CECAP technical report is a product of the Working Group discussions and perspectives, with technical materials produced by ICF and COG, with input from the public. The report reflects the majority opinion of the Working Group. Occasionally, in matters of significant difference, minority perspectives are represented.

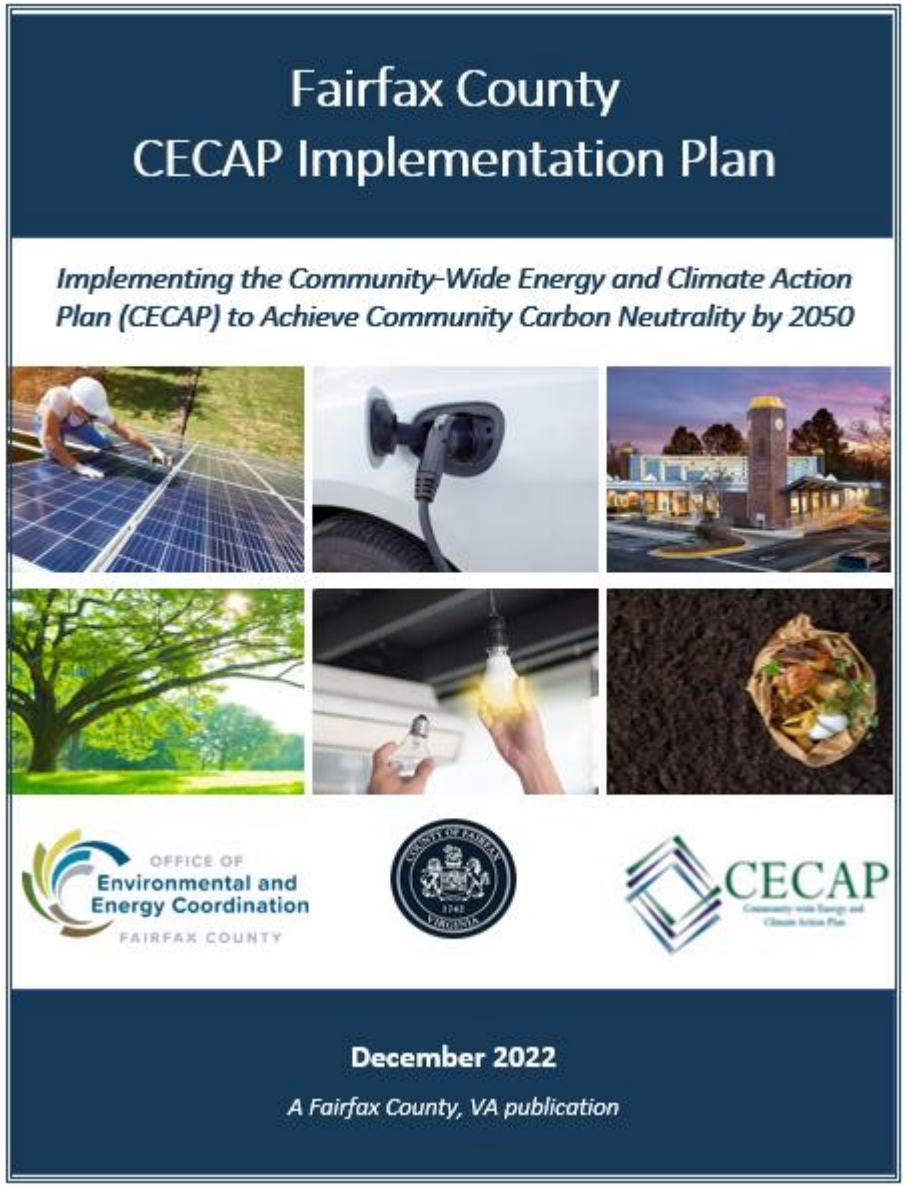
Emissions in Fairfax County



According to the 2018 inventory, more than 90% of GHG emissions were the result of residential and commercial building energy consumption and transportation. As shown above, **building energy consumption (residential and commercial) accounted for 49% of emissions, while transportation accounted for 44%.** The remainder of emissions comes from other activities and sources, including solid waste, wastewater treatment, and process and fugitive emissions, including those associated with the release of hydrofluorocarbons.

The first inventory of Fairfax County's community-wide GHG emissions was conducted in 2005. **Between 2005 and 2018, the county experienced a 15% growth in population, increasing from about 1.03 million to nearly 1.2 million. The 2018 inventory results show that despite this growth, over this period, total GHG emissions decreased 13%, from 14.52 MMT CO_2e in 2005 to 12.56 MMT CO_2e in 2018.** Per capita emissions decreased 24%, dropping from 14.5 metric tons of carbon dioxide equivalent (MT CO_2e) per capita in 2005 to 11.0 MT CO_2e per capita in 2018.

CECAP Implementation



The Implementation Plan translates CECAP's 260+ recommended activities into specific, detailed, staff-reviewed **implementation actions** to be taken by individuals, businesses, organizations, state and federal government, and Fairfax County government.

Implementation began before the formal acceptance of the Implementation Plan in December 2022, and is a countywide effort, involving county agencies, community groups, residents, visitors, and the county government.

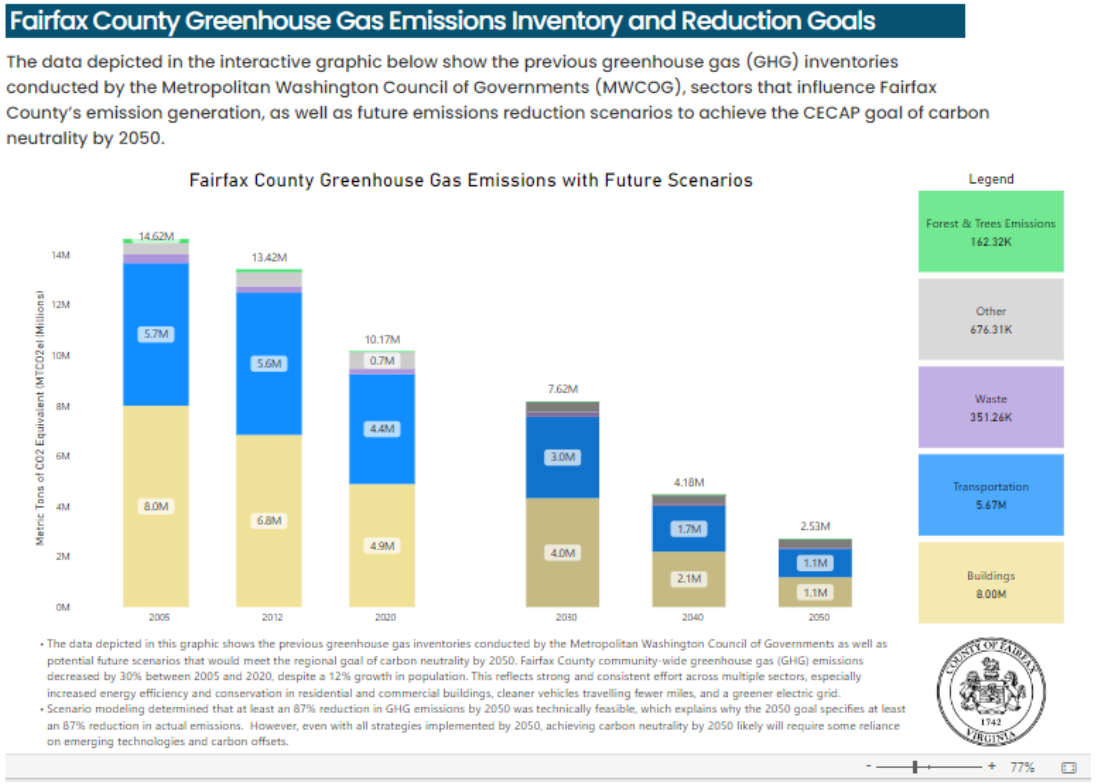
CECAP Implementation Programs

While many county agencies are taking action to include the community climate goals in their own work, the Office of Environment and Energy Coordination (OEEC) coordinates many programs and tracks the progress of the implementation.

Below are a few of the programs to implement CECAP:

- Energy Conservation Assistance Program
- HomeWise
- Charge Up Fairfax
- Green Business Partners

Monitoring and Tracking Progress of Implementation

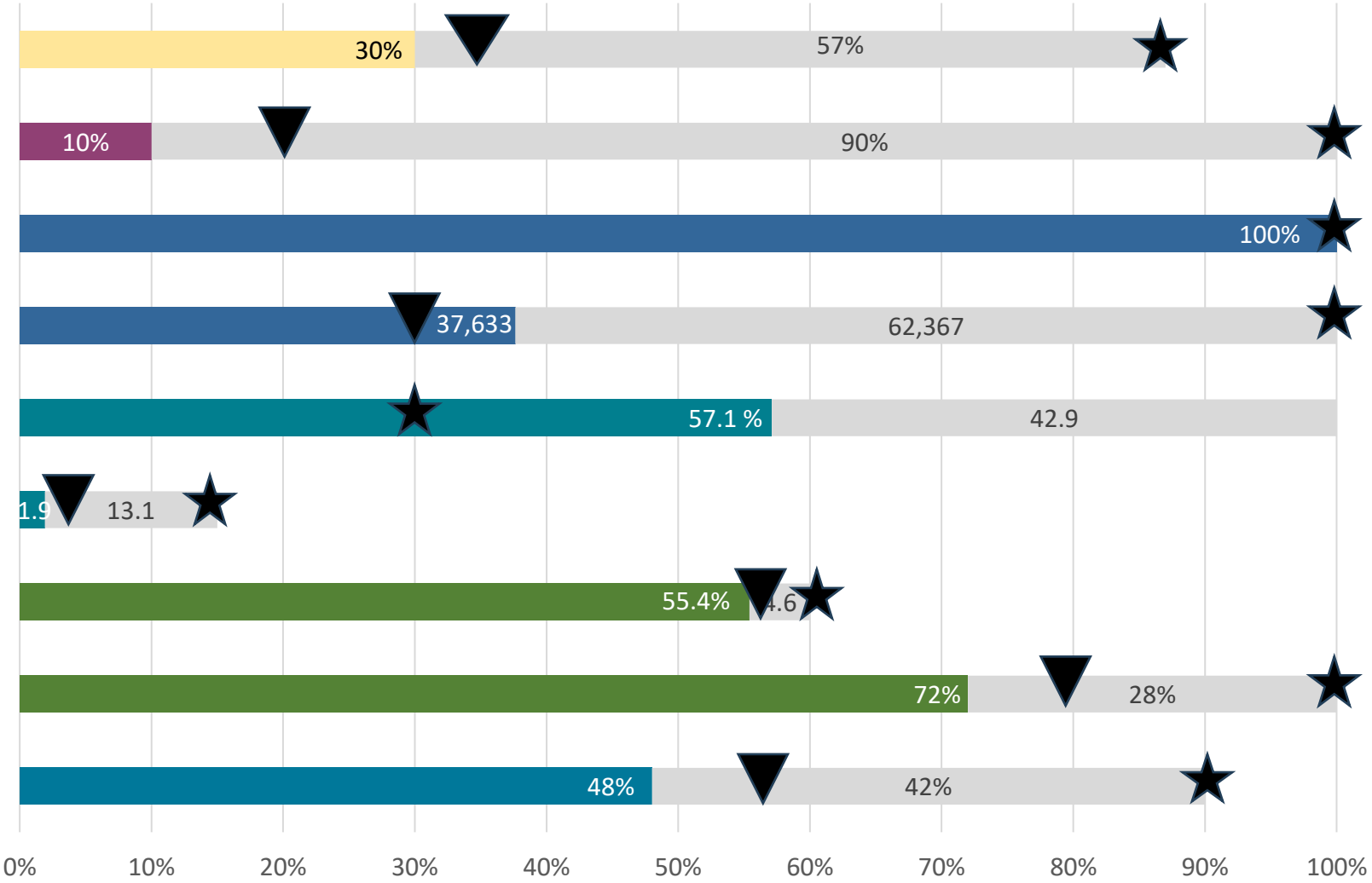


OEEC has developed many tools and progress markers to track the progress of implementation:

- Climate Action Viewer – an interactive map tool to view actions taken by both the community and county to help address the cause of climate change by reducing emissions and conserving energy across all sectors
- Climate Action Dashboard – information about information about the overall and sector-based emission metrics available on the OEEC website
- Tracking Report – the most recent progress update, tracking progress on all climate implementation initiatives

Outcomes: CECAP *(Emissions Reduction for the Population)*

Carbon Neutrality	Carbon neutrality for the population by 2050 (87% reduction)
Energy Supply	Virginia Clean Economy Act (100% clean by 2045)
Energy Efficiency	All new, eligible buildings have a commitment to green building
Energy Efficiency	Retrofit at least 100,000 housing units with energy efficiency by 2030
Transport	Increase transit, non-motorized, and telework* commuting to 30% by 2030
Transport	Electric vehicle registrations (PHEVs and BEVs) to 15% by 2030
Natural Resources	60% tree canopy overall in the County
Natural Resources	100% of Census Tracts have >=40% canopy by 2030
Waste	Zero waste by 2040 (90% waste diverted from the landfill/incineration)



*Due to teleworking during the pandemic, this goal was surpassed, but will likely regress as workers return to the office

Bars = Where we are ▼ = Where we should be ★ = Final Goal

What You Can Do

CECAP is a community-wide emission reduction plan. So how can members of the community work toward our emission reductions goals?

- Check out the Resources for Residents page for factsheets, videos, resources, and information on how to make an emission reduction impact in your community
- Download the Climate Action Checklist to learn about how to adopt sustainable habits and make environmentally conscious choices that can also save you money
- Stay in touch! Follow our social media and sign up for our newsletter to learn more about climate action in Fairfax County.

CECAP

Resources

- CECAP webpage
- CECAP Plan
- CECAP Implementation Plan
- Climate Action Checklist
- Climate Action Dashboard
- Climate Action Viewer
- Questions? Contact us at Carbonfreefairfax@fairfaxcounty.gov