



Fairfax County Community-wide Energy and Climate Action Plan

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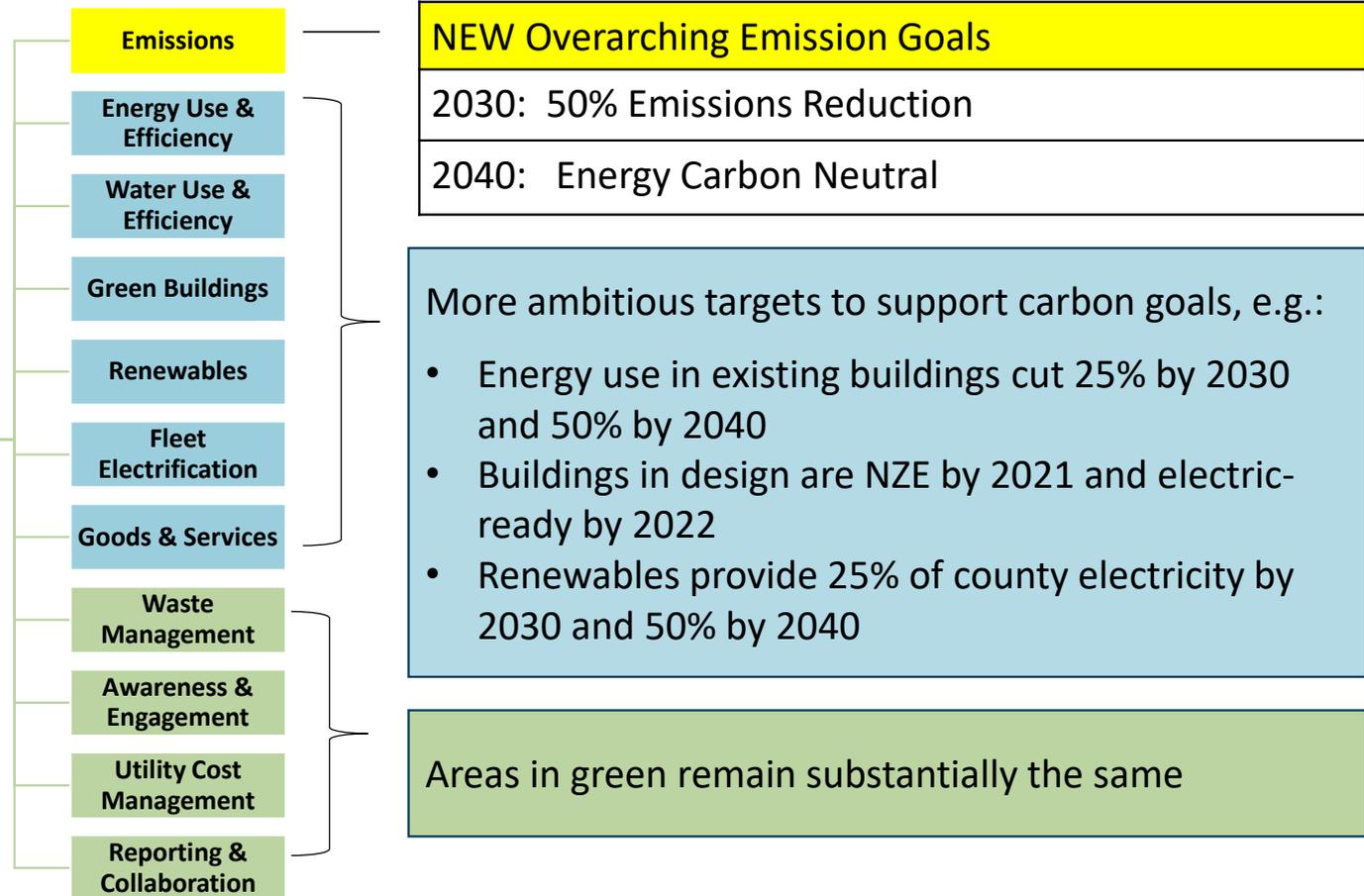
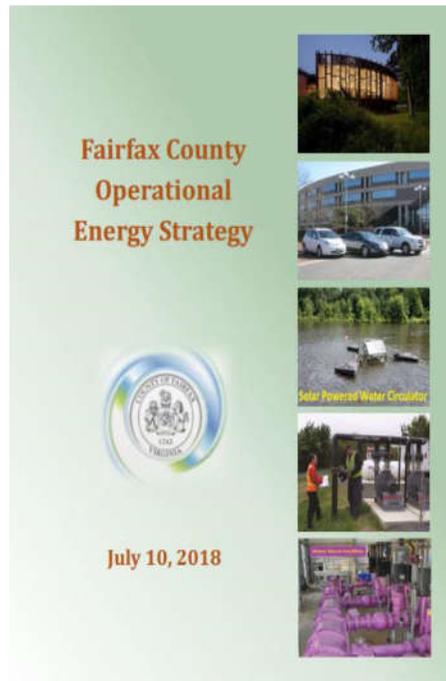
September 20, 2021

Introduction to OEEC / Areas of Focus

 Energy Analysis & Management	 Community Engagement	 Climate & Resilience Planning	 Cross-County Policies
<ul style="list-style-type: none"> • Operational Energy Strategy • County's energy dashboard • Solar Power Purchase Agreements 	<ul style="list-style-type: none"> • Energy Action Fairfax • HomeWise • Green Business Partners • C-PACE • FEEE • Solarize Fairfax County • General public engagement 	<ul style="list-style-type: none"> • Both Mitigation & Adaptation • Community-wide Energy and Climate Action Plan (CECAP) • Resilient Fairfax 	<ul style="list-style-type: none"> • Environmental Improvement Program • Fairfax Green Initiatives

Energy Analysis & Management

Operational Energy Strategy Update July 2021



Climate Action and Resilience Planning



[CECAP: Community-Wide Climate & Energy Action Plan](#)

Reducing emissions that contribute to climate change

- Ex: Transition to renewable energy, energy efficiency, waste reduction, alternative transportation
- Community-oriented plan, because 95% of emissions are from the community
- January 2020 – July 2021 plan; Accepted by BOS on September 14



[Resilient Fairfax](#)

Adaptation & resilience to climate effects

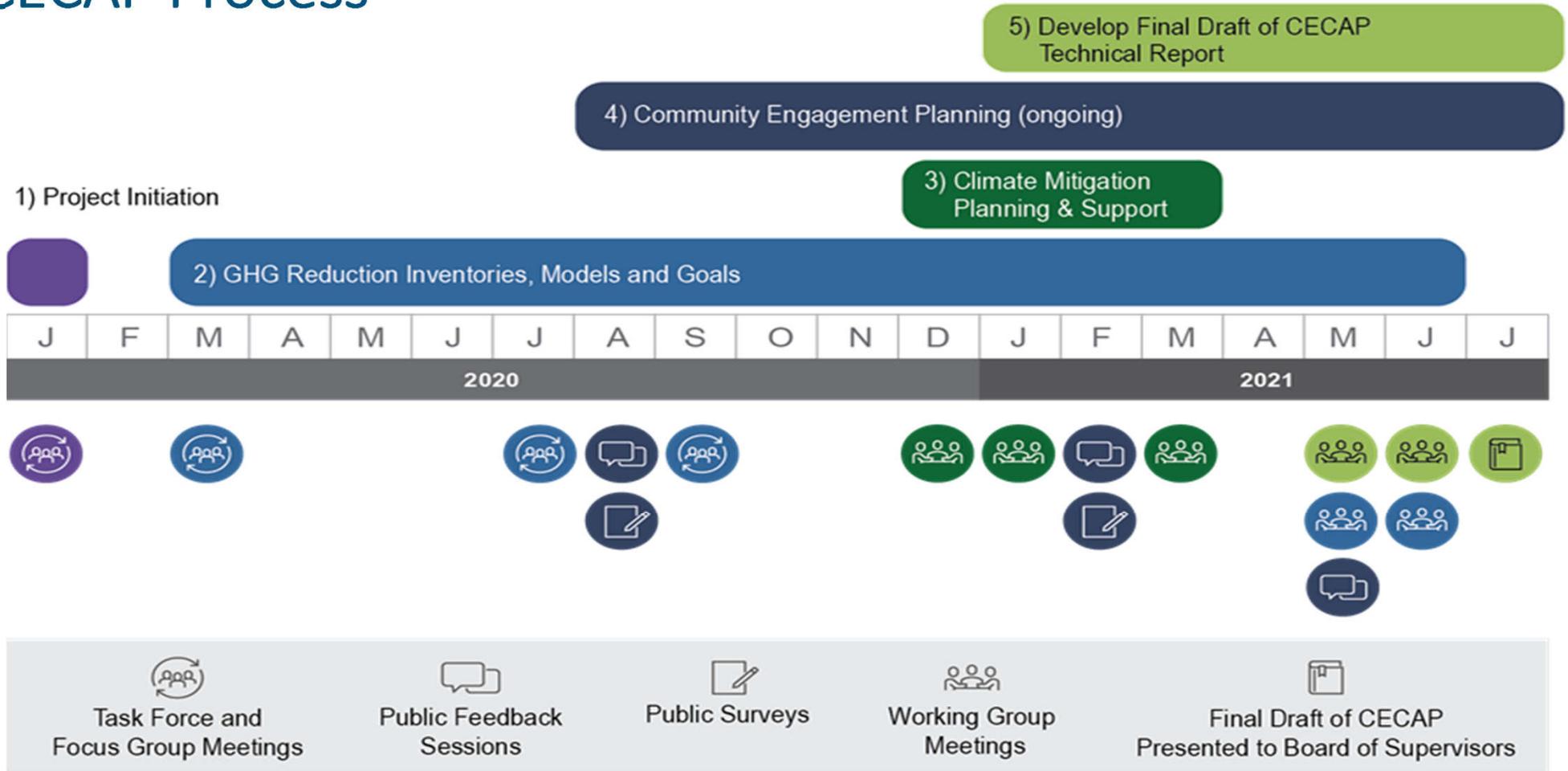
- Ex: Resilience to flooding, extreme temperatures, extreme weather, health hazards, precipitation pattern changes
- Lead by government, infrastructure partners
- Feb 2021 – June 2022 plan; Fall 2022 BOS

CECAP Overview

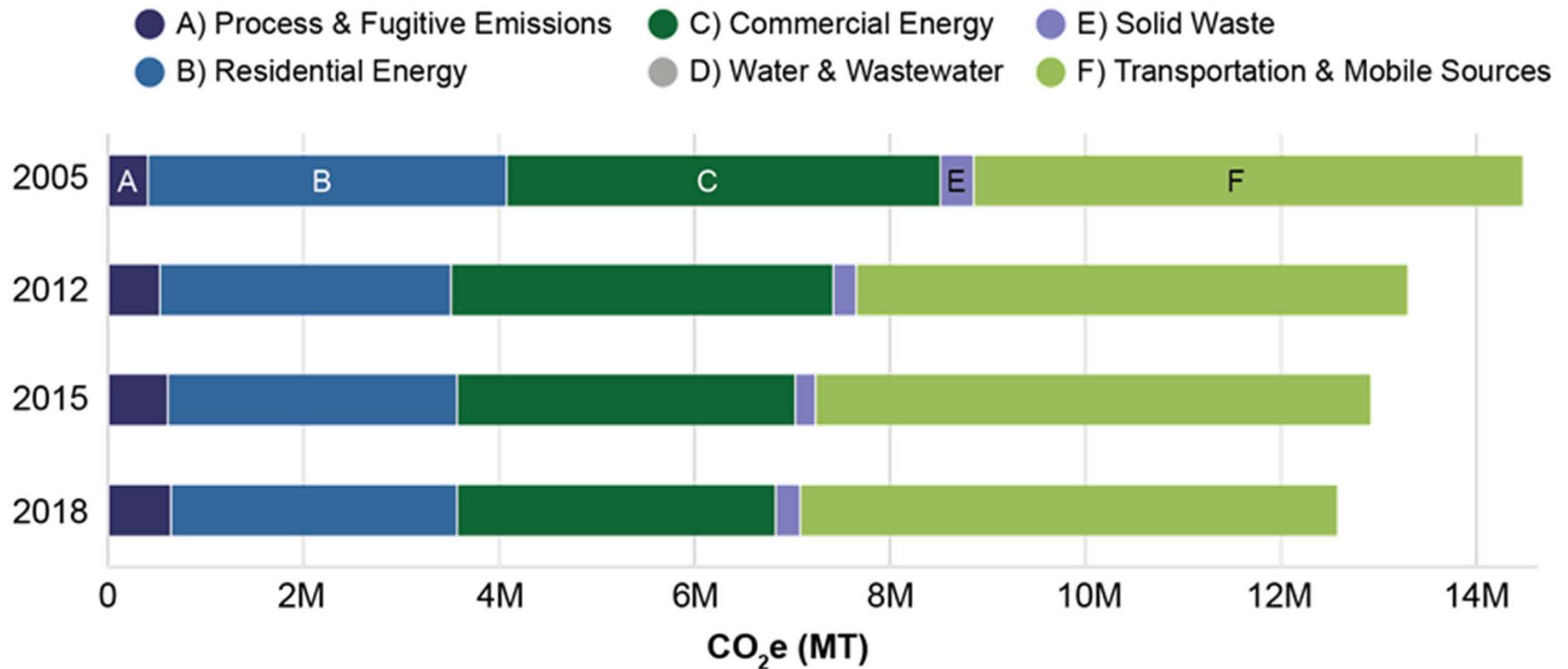
- **CECAP is a community-driven planning process focused on greenhouse gas (GHG) emission reduction**
- **Community-based Working Group determined:**
 - Goals, overall, interim, sector
 - 12 Strategies
 - 37 Actions
 - 274 Activities for implementation



CECAP Process

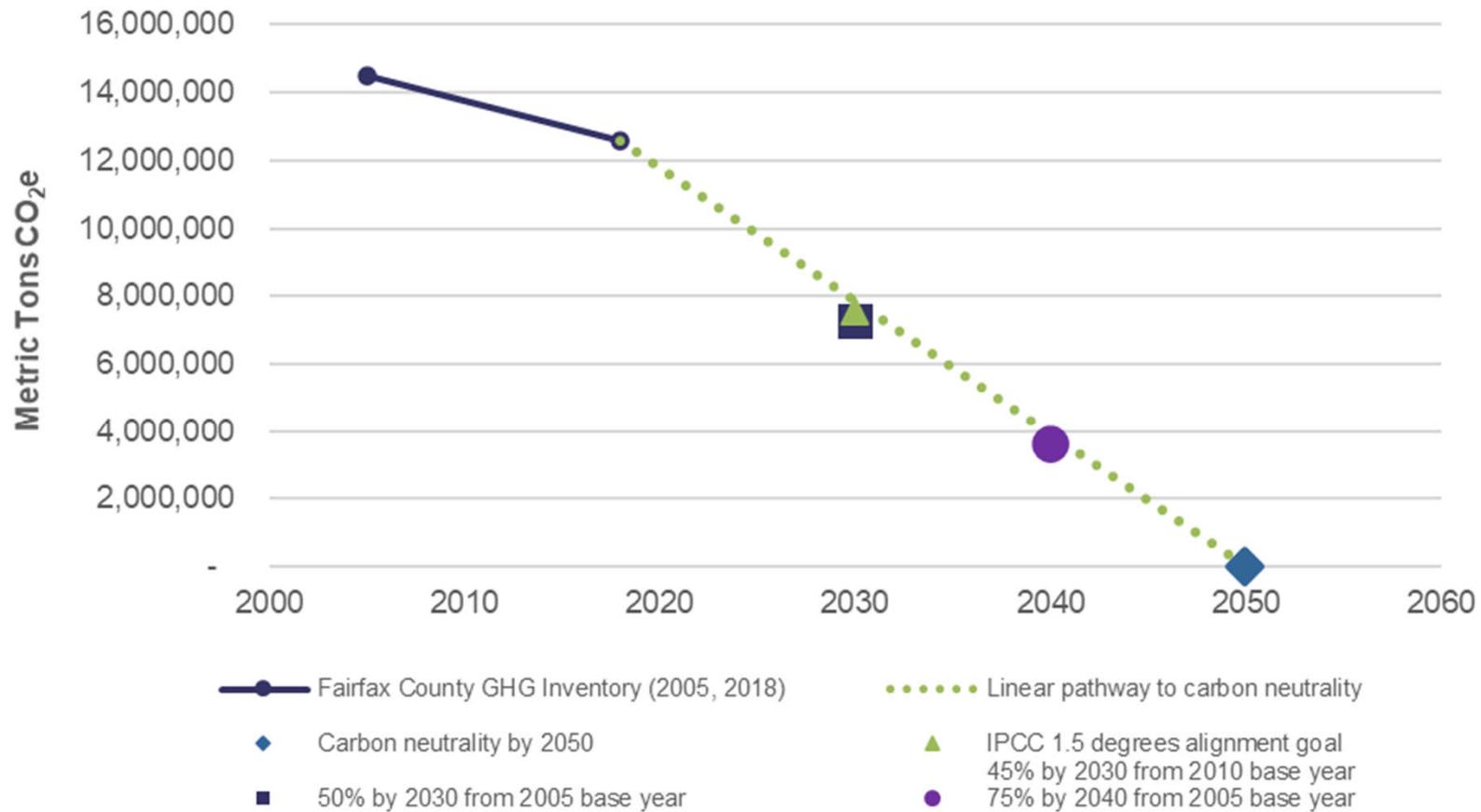


Fairfax County GHG Emissions by Activity



Data from MWCOG analyses

Fairfax County Long-Term and Interim Targets



CECAP Goals

Long-term target goal: Carbon neutrality by 2050 from a 2005 base year, with at least 87% coming from GHG emissions reduction.

Interim year goal 2030: Reduce GHG emissions by 50% by 2030, from a 2005 base year.

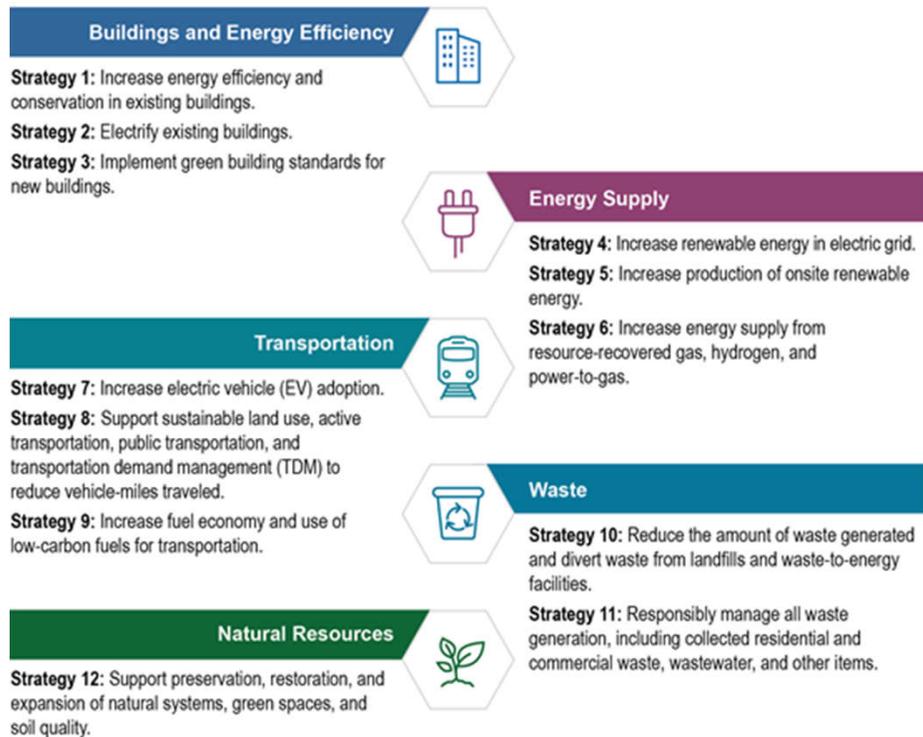
Interim year goal 2040: Reduce GHG emissions by 75% by 2040, from a 2005 base year.

Sector-specific goals:

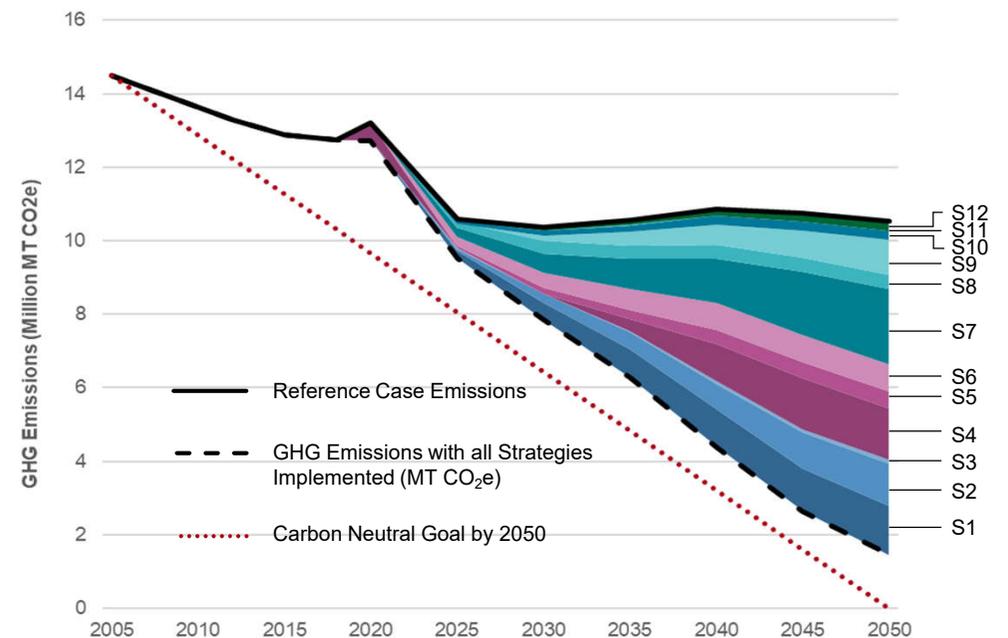
- All new, eligible buildings will have a commitment to **green building**.
- Retrofit at least 100,000 housing units with **energy efficiency** measures by 2030.
- Increase **transit and non-motorized commuting** to 30% (including teleworking) by 2030.
- Increase plug-in hybrid electric vehicles (PHEVs) and battery electric vehicles (BEVs) to at least 15% of all light-duty vehicle registrations by 2030.
- 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 Zero Waste International Alliance, “zero waste” is defined as the conservation of all resources by means of responsible production, consumption, reuse, and recovery of products, packaging, and materials without burning and with no discharges to land, water, or air that threaten the environment or human health.

CECAP Strategies

Strategies Organized by Sector



Modeled GHG Emissions Reduction by Strategy



CECAP Strategies and Actions

S1: Increase energy efficiency and conservation in existing buildings

- 1a: Increase energy efficiency in residential buildings
- 1b: Increase energy efficiency in commercial buildings
- 1c: Increase energy efficiency in local government existing buildings and streetlights
- 1d: Develop and expand district energy and CHP systems
- 1e: Expand gas and electricity demand programs

S2: Electrify existing buildings

- 2a: Electrify existing residential buildings
- 2b: Electrify existing commercial buildings
- 2c: Reduce the use of high-GWP refrigerants

S3: Implement green building standards for new buildings

- 3a: Increase building code stringency for residential and commercial buildings
- 3b: Support all-electric new residential and commercial construction
- 3c: Support green building principles and practices
- 3d: Support the reuse of existing buildings

S4: Increase the amount of renewable energy in the electric grid

- 4a: Develop large offsite grid renewable energy
- 4b: Develop grid storage
- 4c: Maintain nuclear generation at the current levels

S5: Increase production of onsite renewable energy

- 5a: Expand solar PV on existing buildings
- 5b: Support solar PV in all new construction
- 5c: Support Community Solar
- 5d: Develop battery storage projects

S6: Increase energy supply from resource-recovered gas, hydrogen, and power-to-gas

- 6a: Expand the supply and use of resource-recovered gas, hydrogen, and power-to-gas

S7: Increase electric vehicle (EV) adoption

- 7a: Leverage county assets to expand EV use across on-road vehicles and off-road equipment
- 7b: Increase EV adoption by residents, businesses, and private fleets
- 7c: Install EV chargers in new buildings

S8: Support sustainable land use, active transportation, public transportation, and transportation demand management (TDM) to reduce vehicle-miles traveled

- 8a: Support the use and improvement of bicycle and pedestrian infrastructure
- 8b: Support the use and improvement of public transportation and commuter services
- 8c: Support smart-growth and transportation demand management (TDM) strategies

S9: Increase fuel economy and use of low-carbon fuels for transportation

- 9a: Support low-carbon fuels for transportation
- 9b: Support improvements to fuel efficiency
- 9c: Support low-carbon fuels for aviation

S10: Reduce the amount of waste generated and divert waste from landfills and waste-to-energy facilities

- 10a: Reduce overall waste generation
- 10b: Increase waste diversion from landfills and waste-to-energy facilities through recycling and composting

S11: Responsibly manage all waste generated, including collected residential and commercial waste, wastewater, and other items

- 11a: Capture and use energy generated at waste-to-energy facilities and landfills
- 11b: Explore alternative options for long-term waste management (landfill, waste to energy, and other options)
- 11c: Capture and use energy generated by wastewater treatment processes

S12: Support preservation, restoration, and expansion of natural systems, green spaces, and soil quality

- 12a: Conserve existing tree canopy, green spaces, and soil quality
- 12b: Expand tree canopy and green spaces, and improve soil management
- 12c: Create a cross-disciplinary county staff team to strengthen climate change and natural resources policies and programs

Activities for Implementation

274 activities, focusing on:

- Business and Job Growth
- County Programs, Rules, and Regulations
- Education
- Financing
- Incentive Programs
- Partnerships with Businesses, NGOs, and Government
- Innovation and Pilots
- State and Federal Legislation and Programs



Recommended Activities for Implementation for All Actors: Actions that are applicable to all actors, including individuals and organizations, the county, state government, and federal government.



Recommended Activities for Implementation for Individuals and Organizations: Actions that individuals, businesses, and organizations can take now.



Recommended Activities for Implementation for the County: County measures and programs that the Fairfax County government can do right now. The recommended measures and programs in this category were specifically noted by the Working Group for action by the Fairfax County Board of Supervisors.



Recommended Activities for Implementation for the County Requiring State-Enabled Legislation: County programs and policies that the county might someday be able to do with state enabling legislation. The county and its stakeholders can advocate for items in this section at the state level.



Recommended Activities for Implementation for State and Federal Governments: State and federal measures and programs that the county will likely not have the authority to do on its own. The county and its stakeholders can advocate for these items at the state, regional, or federal level.

Fairfax County Community-wide
Energy and Climate Action Plan



Next steps for CECAP

- The Fairfax County Board accepted the Final CECAP Report on 9/14/21
- Transitioning from planning to implementation



A Fairfax County, Va., publication
September 2021

CECAP Implementation Planning

Short-term implementation – early 2022

- Public education and outreach, including public survey
- Build on existing County policies, programs, and efforts
- Analyze legislative recommendations

Long-term implementation – later 2022

- Develop work plans based on priorities
- Develop supporting programs and policies
- Identify and create community implementation partnerships

INCREASE ENERGY EFFICIENCY AND CONSERVATION IN EXISTING BUILDINGS

Energy efficiency and conservation reduce overall energy consumption, lowering greenhouse gas emissions from residential, commercial, and local government buildings.

1.3 MILLION METRIC TONS OF CO₂ EQUIVALENT

This is the amount of greenhouse gases we can expect to reduce by increasing energy efficiency and conservation in existing buildings.

HOW WE'RE GETTING IT DONE

- Residential buildings
- Commercial buildings
- Government buildings and streetlights
- District energy
- Gas and electricity demand programs

13% OF OUR GOAL

Increasing energy efficiency and conservation in existing buildings could help us achieve 13% of the emissions reductions needed to meet our 2050 carbon neutrality goal.

Increase energy efficiency and conservation in single-family and multifamily residential buildings.

Up the ante on energy efficiency and conservation in our existing commercial buildings.

Take our energy efficiency and conservation measures up a notch in local government buildings.

Complete our transition to LED streetlights throughout the county.

Explore the possibility of using microgrids to generate and distribute electricity.

Use demand management to reduce gas or electricity demand during peak periods.

A publication of Fairfax County, VA

CECAP

OECC



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