Appendix A: Factsheets on Key Programs & Initiatives

This section provides factsheets for select high-priority programs and initiatives from the Community-wide Energy and Climate Action Plan (CECAP) Implementation Plan. **The purpose of these factsheets is to complement the tables in the CECAP Implementation Plan by providing additional, easy-to-understand information, links to resources, and reference materials for the public.** The factsheets are organized by CECAP sector. Those that apply to multiple sectors, such as the Green Bank or Carbon-Free Fairfax, are shown in a gold color and given the label "multiple sectors." The programs and initiatives highlighted in the factsheets were selected because of their expected significant impact on CECAP goals and targets in the OES, their broad impact on the community, and their co-benefits.

Each fact sheet includes the following information for the topic or program:

- ✓ **Overview:** An overview of the program or initiative, including links to resources where applicable.
- ✓ **Partnerships and Champions:** The role of partnerships and champions for that program or initiative.
- ✓ **Relevance:** How the program or initiative supports CECAP and OES implementation.

Appendix A includes the following factsheets:

Sector	Key Programs and Initiatives
 **Multiple Sectors**	• **Fairfax County Green Bank** • **Green Business Partners** • **Climate Champions** • **Carbon Neutral Innovation Challenge** • **Carbon-Free Fairfax** • **Legislative Process** • **Land Use Codes, Policies and Plans**
 **Buildings and Energy Efficiency**	• **HomeWise** • **Energy Use & Efficiency at County Facilities**
 **Energy Supply**	• **Solar in Fairfax County**
 **Transportation**	• **Charge Up Fairfax** • **County Transportation Fleet**
 **Natural Resources**	• **Fairfax County Tree Programs**

Note: Waste sector activities are covered by certain "multiple sector" factsheets.

FAIRFAX COUNTY GREEN BANK

OVERVIEW

Fairfax County is pursuing the establishment of a Green Bank. This entity will be a one-stop shop for clean energy financing, guidance, and facilitation. The Green Bank will increase access to and investment in energy efficiency, renewable energy, and electrification technologies.

As currently envisioned, the Fairfax County Green Bank will be established as a non-profit organization. While the Green Bank would be formed on behalf of the county, it may be structured to allow for participation of neighboring jurisdictions. In addition to its role as a local clean energy financing entity, this organization would play an important role in raising awareness and marketing programs related to energy efficiency, renewable energy, and electric vehicles. It would act as a clearinghouse of information, providing customers with sound guidance on appropriate measures for investment as well as information on the availability of different funding sources.

Additionally, the Green Bank would advance the One Fairfax policy by making a focused effort to improve access to clean energy options for members of the community that are often met with barriers to realize these opportunities.

A Green Bank feasibility and gap analysis has been completed by the Office of Environmental and Energy Coordination (OEEC) and consultant ICF. This analysis was endorsed by the Board of Supervisors' Environmental Committee in July 2022. As of fall 2022, county staff are drafting an enabling ordinance to be considered in early 2023.

ROLE OF PARTNERSHIPS AND CHAMPIONS

The Green Bank effort is led by OEEC with key input from several other agencies and external stakeholders. The success of the Green Bank program will depend on close coordination between the county and a range of external and community partners. These partners include service providers, non-profit organizations, financial institutions, and neighboring jurisdictions, among others.

HOW THIS INITIATIVE SUPPORTS CECAP IMPLEMENTATION

As identified in the *Fairfax County Green Bank Gap and Feasibility Analysis* conducted by OEEC and ICF, in its first five years of implementation, the Green Bank could stimulate up to $650 million worth of investments in residential energy efficiency, residential and commercial renewable energy, and private fleet electrification. Such investments have the potential to reduce emissions by nearly 30,000 MT of CO_2 equivalent. Over the long term, these investments could achieve 10 % of the Community-Wide Energy and Climate Action Plan (CECAP) emissions reduction goal by 2040, and 14 % by 2050.

The Fairfax County Green Bank applies to multiple CECAP sectors, including the "Buildings and Energy Efficiency," "Energy Supply," and "Transportation" sectors. The CECAP Working Group recommended the establishment of a green bank under multiple strategies in CECAP, including those shown in the table below.

Sector	CECAP Strategy Number and Name
Buildings and Energy Efficiency	1: Increase Energy Efficiency and Conservation in Existing Buildings 2: Electrify Existing Buildings
Energy Supply	4: Increase Renewable Energy in Electric Grid 5: Increase Production of Onsite Renewable Energy
Transportation	7: Increase Electric Vehicle Adoption

GREEN BUSINESS PARTNERS

OVERVIEW

Green Business Partners is a Fairfax County Office of Environmental and Energy Coordination program that is being revitalized to encourage and elevate sustainable businesses in Fairfax County. The Green Business Partners program supports, connects, elevates, and recognizes companies already engaging in green practices, and provides resources for those just starting their sustainability journeys. The anticipated 2023 launch of the newly designed program allows for all interested businesses to participate with an emphasis on those seeking to progressively pursue sustainability. Participants in the program will have the opportunity to share their successes in areas such as energy management, water conservation, responsible waste and procurement practices, transportation, and employee/community engagement.

ROLE OF PARTNERSHIPS AND CHAMPIONS

As the name implies, partnership is the foundation of the Green Business Partners program. Businesses are more likely to take action if they are led by their peers, in lieu of the county government calling for that action. Business partners will be provided with benefits in four general categories, including networking opportunities with peers and mentors, promotional consideration from the county in connection with the program, workforce development information and educational and technical resources including incentive and grant opportunities, to further their sustainability work. Participants will have the chance to engage with county staff and officials at select events such as the Green Business Forum planned for 2023 and will be kept apprised of county plans, policies, and programs that complement or supplement their sustainability efforts and goals.

HOW THIS INITIATIVE SUPPORTS CECAP IMPLEMENTATION

The Green Business Partners program relates to several strategies within the Community-Wide Energy and Climate Action Plan (CECAP), because it encourages businesses to make improvements to building and energy efficiency, transportation, waste, and more. Specific emissions reduction impacts of the program will vary based on the type and size of the business enrolled. Specific applicable CECAP strategies are shown in the table below.

Sector	CECAP Strategy Number and Name
Buildings and Energy Efficiency	1: Increase Energy Efficiency and Conservation in Existing Buildings
Energy Supply	4: Increase Renewable Energy in Electric Grid 5: Increase Production of Onsite Renewable Energy
Transportation	7: Increase Electric Vehicle Adoption 8: Support Sustainable Land Use, Active Transportation, Public Transportation, and Transportation Demand Management (TDM) to Reduce Vehicle-Miles Traveled
Waste	10: Reduce the Amount of Waste Generated and Divert Waste from Landfills and Waste-to-Energy Facilities

CLIMATE CHAMPIONS

OVERVIEW

There is a wealth of extraordinary climate expertise and action already present in the Fairfax County community. Climate champions are local individuals, businesses, and organizations leading their own meaningful climate action initiatives, which may be independent of official county government programs. The county has a role in identifying, elevating, and supporting the work of these champions, acting as a collaborator where appropriate. Networks of climate champions propel and empower collective action in all sectors, improving the energy efficiency of buildings, expanding renewable energy, supporting alternative and electrified transportation, reducing waste, and protecting and restoring natural resources that serve as "carbon sinks."

The Community-Wide Energy and Climate Action Plan (CECAP) recognizes that 95 % of greenhouse gas emissions (GHG) in Fairfax County come from the community, with government and school operations accounting for the remaining 5 %. As such, Fairfax County's successful reduction of GHG emissions cannot be achieved by county operations alone. Instead, we will achieve our goal through meaningful and sustained action by networks of champions throughout the community, with support and capacity building from the county government.

TYPES OF PARTNERSHIPS AND CHAMPIONS

Climate champions are critical to the success of Fairfax County's emission reduction goals. There are a few different types of climate champions in the county, including but not limited to individual champions, organizational champions, and business or industry champions.

Individuals: Individual climate champions are those who take meaningful actions such as taking alternative or active transportation, making their homes more energy-efficient, reducing their waste, planting native trees and plants, and when financially feasible, purchasing electric or low-emissions vehicles and installing solar energy systems, among other actions. Climate champions use their knowledge, resources, and expertise to take their own action and to motivate and inspire others in the community to make similar changes in their lives. In alignment with the One Fairfax policy, climate champions who take actions within their ability but do not have the financial means for actions due to high up-front costs will be included and celebrated. Individual climate champions may also include dedicated volunteers, such as those from county-led programs like HomeWise, who go through intensive training and devote significant amounts of their time to programs for the community that relate to emissions reduction.

Organizations: Organizational climate champions include non-profit, faith-based, civic, or other community organizations that work to engage, promote, and assist residents and businesses to take climate action. The Local Energy Alliance Program (LEAP) is a prime example of an organizational climate champion, helping residents and businesses reduce the costs and complexities of investing in solar energy through its popular Solarize program. While the county promotes and supports the Solarize program, LEAP is the champion of this work. Other examples of organizational climate champions may include faith-based organizations that enable renewable energy and energy efficiency in places of worship, homeowners' associations that enable emissions reduction in their neighborhoods, and non-profits who provide grant writing services or connect residents and businesses to resources for emissions reduction activities. Organizational climate champions should demonstrate meaningful action beyond advocacy alone.

Businesses/Industry: Business climate champions are private sector entities in Fairfax County that have policies, programs, and take actions that reduce emissions in business operations. These climate champions lead by example in their industries and prioritize sustainable business practices that are integral to the success of their brands. Examples of business climate champions may include those who facilitate energy efficiency and renewable energy upgrades in their businesses, alternative transportation to and from the business, electric vehicle charging, Zero Waste practices, and natural resource protections, among other actions. The hotel industry is an example as major hotel brands have plans and strategies to significantly reduce carbon emissions by 2030 and 2050 such as the Marriott's Serve360 strategy, the

Hilton's ESG (Environmental, Social, Governance) Framework, and the IHG Hotels & Resorts' Journey to Tomorrow, 10-year action plan.

Additionally, business climate champions may include local businesses whose primary purpose or goal is to advance emissions reductions. These businesses may include but are not limited to energy efficiency and renewable energy-related service companies, emissions data businesses, native tree nurseries or conservation-oriented entities, alternative and active transportation businesses, and more.

Related programs, including Green Business Partners, the Carbon Neutral Innovation Pitch and Pilot, and the Green Bank will aid in the identification and nurturing of business-related climate champions.

Climate Champion Initiatives in the Short Term (2023-2024)

The Office of Environmental and Energy Coordination (OEEC) envisions the creation of a more formalized program for climate champions. In the short term, this program is planned to include:

1. **An outreach campaign**, implemented through Carbon-Free Fairfax, to create a network of Climate Champions that are interested in connecting with community members to help others adopt climate-friendly behaviors. The campaign will connect residents, businesses, and non-profits with resources to measure their emissions, to hear from the community about existing Climate Champions, and to encourage those interested to make "resolutions" to become Climate Champions. With their consent, the campaign will showcase climate champions in social media campaigns or other program outreach materials such as video testimonials to share personal stories.

2. **Creation of a guide and "checklist" of specific actions that individuals, organizations, and businesses can take to reduce their emissions and become "Climate Champions**." This checklist will be user-friendly, organized, and will include links to resources and incentives to help with the achievement of the checklist actions listed. The checklist will include many actions that are free and low-cost, to ensure equitable participation and eliminate any income barriers for interested individuals. Those who achieve a certain percentage of actions on the checklist will be highlighted as climate champions, inspiring others to join the collective action.

3. **Climate Champion pilots for targeted sectors,** to develop detailed guidance, practices, and lessons learned for entities within specific sectors or entity types.

   3a. Hospitality Sector Pilot

   Goal: Creation of a best practices guide for emissions reduction in the hospitality industry.

   Lead: Visit Fairfax and other hospitality industry experts.

   Action Steps:

   - Research and summarize existing guidance and standards for hospitality sector emissions reductions, for comparison to both existing practices within Fairfax County and CECAP goals. These standards may include but are not limited to LEED's rating system for hospitality.
   - Hold one-on-one meetings with local leaders in the hospitality industry to develop an understanding of practices and standards in the industry and to share the county's goals for carbon neutrality.
   - Convene a roundtable of 6-10 local hospitality general managers and/or operations personnel from major hotel brands within Fairfax County to understand their current sustainability best

practices and policies, including the processes for adopting and implementing ESG policies and practices. Gather feedback on both challenges and solutions.

- Develop "peer-to-peer" based recommendations and/or industry guidance to identify opportunities to expand and expedite programs run by this sector, leveraging, for example, regional and national hospitality associations and organizations (See Initiative #2, above).
- Leverage the Green Business Partners program and other industry and business associations (such as the local Chambers of Commerce) to disseminate guidance and to promote the establishment of future industry-specific roundtables.

3b. Faith-Based and Non-Profit Community Pilot

Goal: Accelerate climate action in local faith-based communities through increased energy efficiency, electrification, renewable energy use, and natural resource enhancements on properties owned by places of worship.

Lead: Faith Alliance for Climate Solutions (FACS)

Action Steps:

- Work with FACS to identify priority projects and resources needed for implementation. The county may provide support and guidance such as information on available grant funding and incentives. Example projects may include energy efficiency improvements, electrification, tree planting, and retrofitting houses of worship/ancillary buildings with solar, among other measures.
- Work in partnership with FACS to develop a guide for places of worship and non-profits, identifying key steps in the process and roles and responsibilities of partners (See Initiative #2, above).
- Disseminate guidance throughout the community of faith-based organizations and non-profits, leveraging county outreach and education efforts.
- Convene a non-profit organization roundtable to understand the breadth and reach of existing county and community-based programs, to identify where service gaps for climate action exist, and to prioritize future pilots to address these gaps.

HOW THIS INITIATIVE SUPPORTS CECAP IMPLEMENTATION

Climate Champions are key to the success of all 12 strategies in the Community-wide Energy and Climate Action Plan (CECAP) . Climate Champions advance building and energy efficiency, renewable energy supply, electric vehicles and alternative transportation, waste reduction, and natural resource protections. An estimated 95 % of emissions in Fairfax County come from the community, as opposed to county government operations. Individual, non-profit, and business Climate Champions leading the way in meaningful emissions reduction will be supported, recognized, nurtured, and leveraged to catalyze a network of climate action.

CARBON NEUTRAL INNOVATION CHALLENGE

OVERVIEW

Each year, Fairfax County partners with the Smart City Works Innovation Hub on a "pitch-and-pilot" challenge to help identify and launch innovative private sector solutions in the county. In 2022, the theme was a Carbon Neutral Innovation Challenge. The goal of this Pitch and Pilot was to highlight innovative products or services that can help the county achieve its carbon neutrality goals, namely by improving energy efficiency, increasing use of renewable electricity, or accelerating the use of electric vehicles. These approaches help the community shift from a carbon-based economy to a carbon-neutral community.

ROLE OF PARTNERSHIPS AND CHAMPIONS

The Challenge was a collaborative effort by the county's Office of Environmental and Energy Coordination, and Department of Economic Initiatives, Smart City Works Innovation Hub, and George Mason University. The pitch event was held on October 19, 2022. The winner of the Pitch and Pilot for 2022 was Dynamhex. The county plans to test a pilot project to evaluate the effectiveness of the winning solution. More information about the Innovation Challenge may be found at the Fairfax County Innovation Challenge 2022 website.

HOW THIS INITIATIVE SUPPORTS CECAP IMPLEMENTATION

The Fairfax County Carbon Neutral Innovation Challenge supports both Community-wide Energy and Climate Action Plan (CECAP) and Operational Energy Strategy (OES) goals of carbon neutrality. **CECAP has an overarching goal to achieve carbon neutrality by 2050, while the county's OES targets carbon neutral government operations by 2040.** The Carbon Neutral Innovation Challenge "Pitch and Pilot" initiative is a multi-sector action because it is expected to advance CECAP goals and strategies across the "Buildings and Energy Efficiency," "Energy Supply," and "Transportation" sectors.

The CECAP strategies targeted by the Challenge are listed below. The Challenge highlights the need for innovation and interdisciplinary collaboration to achieve the county's goals for carbon neutrality. Emerging technologies are needed to reach the goals set by CECAP and can help shift the current carbon-intensive energy driven economy to a green growth, low-carbon, energy-efficient paradigm.

Sector	CECAP Strategy Number and Name
Buildings and Energy Efficiency	1: Increase Energy Efficiency and Conservation in Existing Buildings 2: Electrify Existing Buildings
Energy Supply	4: Increase Renewable Energy in Electric Grid 5: Increase Production of Onsite Renewable Energy
Transportation	7: Increase Electric Vehicle Adoption

CARBON-FREE FAIRFAX

OVERVIEW

Carbon-Free Fairfax is the public education and outreach component of CECAP implementation. It includes a variety of activities and opportunities for engagement to encourage the public to reduce their greenhouse gas emissions and adopt carbon neutral behaviors. In its first year, Carbon-Free Fairfax developed campaigns directly tied to those CECAP strategies most likely to result in significant emissions reductions: "Audits All Around," "Too Hot, Too Cold, Just Right," "Small Actions Big Impact," "EVs from Every Angle," "It's Electric, Explore Solar Systems," "Know Your Numbers," and "Anything But Driving". The Office of Environment and Energy Coordination (OEEC) developed a suite of educational materials, event-based engagement opportunities, and digital campaigns to raise public awareness of opportunities for climate action in everyday life.

ROLE OF PARTNERSHIPS AND CHAMPIONS

Achievement of carbon neutrality by the 1.14 million residents of Fairfax County will require exceptionally active participation of an environmentally educated public, partnerships between the county government and community organizations, and nurturing of community climate champions. Carbon-Free Fairfax is designed to spark this community action, enabling county residents, businesses, non-profits, and other key stakeholders to decrease their emissions through education, outreach, and engagement opportunities. The initial outreach goal for Carbon-Free Fairfax between February 2022 and June 2023 is to reach 100,000 county residents and other stakeholders with relevant educational materials and engagement opportunities.

HOW THIS INITIATIVE SUPPORTS CECAP IMPLEMENTATION

Carbon-Free Fairfax is one of the most important elements of CECAP implementation. Approximately 95 % of emissions in Fairfax County are from the community, as opposed to county operations. Therefore, public education and engagement to encourage emissions reduction are essential. Carbon-Free Fairfax is a multi-sector action because it relates to the "Buildings and Energy Efficiency," "Energy Supply," "Transportation," "Waste," and "Natural Resources" sectors. Public education and engagement activities in 2022 and 2023 are focused on high-emissions reduction topics such as electric vehicle adoption, building energy efficiency and electrification, use of on-site renewables, encouraging the use of public transit and active transportation options, and helping residents understand the financial costs and benefits of specific climate actions. A sample of Carbon-Free Fairfax activities that have occurred to date are listed below and affiliated with the relevant CECAP strategy. For more information, please see the Carbon-Free Fairfax website.

Sector	CECAP Strategy	Examples of Carbon-Free Fairfax Activities
Buildings and Energy Efficiency	1: Increase Energy Efficiency and Conservation in Existing Buildings	• Whole-Home Energy Efficiency: A Carbon-Free Fairfax Webinar • How We Experience Light: A Carbon-Free Fairfax Webinar • Small Lightbulb, Big Impact: A closer look at one of the simplest climate actions
Transportation	7: Increase Electric Vehicle Adoption	• Selecting and Purchasing an EV: A Carbon-Free Fairfax Webinar • Side-by-Side Comparison of EVs and Gas-Powered Vehicles • EV Buyer's Factsheet and Resource Guide
Energy Supply	5: Increase Production of Onsite Renewable Energy	• Please see the Carbon-Free Fairfax website for more resources and information on solar in Fairfax County. (Additionally, please see the "Solar in Fairfax County" factsheet).

LEGISLATIVE PROCESS

OVERVIEW

Fairfax County's annual legislative process is vital to achieving the carbon neutrality goals of CECAP. The "legislative process" refers to the development of legislative proposals for Fairfax County to present to the Virginia General Assembly for consideration. Virginia is a "Dillon Rule" state, which means that local governments like Fairfax County only have the legislative authority to enact regulations, codes, standards, and policies that align with those designed or enabled by the Virginia General Assembly. An act of the General Assembly is required for Fairfax County to act beyond its given powers. This differs from "Home Rule" states, such as Maryland and the District of Columbia, which have local authority to act without needing specific state approval. Certain recommendations in CECAP are beyond Fairfax County's existing authority, and therefore would require legislative action by the Virginia General Assembly.

ROLE OF PARTNERSHIPS AND CHAMPIONS

Many entities participate in and advocate for legislative updates by the Virginia General Assembly, including Fairfax County staff, community members, and various advocacy organizations. On the county government side, a legislative program is developed each year between May and December. This "program" is the county government's description of legislative changes they hope to see made by the Virginia General Assembly. (Many other jurisdictions across the Commonwealth do the same.) County departments, agencies, and Boards, Authorities, and Commissions (BACs) are invited to submit legislative proposals. These proposals are then reviewed and refined by the county's legislative staff. Once the proposals have been prepared, the Fairfax County Board of Supervisors' Legislative Committee works to select items to be included in the legislative program. The program articulates county priorities and positions across a number of focus areas and includes legislative initiatives for the Fairfax County delegation to the General Assembly to advance. The full legislative program for each year is available on the Fairfax County's Virginia Legislative Information webpage. Once the Board of Supervisors adopts the legislative program, Government Relations staff from Fairfax County advocate for these priorities in Richmond during the General Assembly session. Additionally, during the General Assembly session, staff from many agencies throughout the county monitor and review bills potentially affecting Fairfax County by providing analysis for the staff in Richmond. Beyond county government staff, the Fairfax County community includes many non-profit and advocacy organizations that actively participate in Virginia's legislative processes. Often, both the county government and community organizations advocate for important environmental and emissions reduction legislation. The success of this advocacy depends on a range of factors, including, most importantly the stances of the members of the General Assembly.

HOW THIS INITIATIVE SUPPORTS CECAP IMPLEMENTATION

The CECAP implementation plan includes action **in all five sectors** to "consider and, where appropriate, develop and advance legislative proposals to provide Fairfax County with greater authority" for emissions reduction activities. Examples of CECAP recommendations that may require legislative updates to be implemented include updates to energy building codes, performance standards and benchmarking in the "Buildings and Energy Efficiency" sector; on-site renewable energy generation and community solar in the "Energy Supply" sector; vehicle electrification incentives in the "Transportation" sector; recycling incentives or regulating single-use plastics in the "Waste" sector; and stronger protection of green space and trees in the "Natural Resources" sector. As CECAP implementation progresses and as technology and legislation evolve, additional legislative changes beyond those specified in the CECAP implementation plan may be necessary in the future.

LAND USE CODES, POLICIES, AND PLANS

OVERVIEW

Fairfax County's land use codes, policies, and plans are relevant to climate action because they guide the development of our neighborhoods, commercial and industrial areas, transportation systems, public facilities, and natural areas. When the county is laid out in a way that makes it easier to live sustainably, our community is more likely to succeed in reaching emissions reduction goals.

- The Comprehensive Plan guides decision-making about the built and natural environment. It includes policies on land use, transportation, housing, the environment, heritage resources, economic development, and public facilities.
- The Zoning Ordinance implements the Comprehensive Plan by regulating the use of land.
- The Building Code is established at the state level. It regulates the design and construction of buildings.
- The county's tree policies and standards regulate the conservation of trees during development.

ROLE OF PARTNERSHIPS AND CHAMPIONS

All updates to county land use codes, policies, and plans involve public engagement and public hearing processes. The enforcement of adopted land use rules also involves engagement of and partnership with the community.

HOW THIS INITIATIVE SUPPORTS CECAP IMPLEMENTATION

The review and update of the county's land use codes, policies, and plans is a multi-sector action because it relates to CECAP goals and strategies across the "Buildings and Energy Efficiency," "Energy Supply," "Transportation" and "Natural Resources" sectors. The table below summarizes the relationship between strategies in the CECAP Implementation Plan and these county codes, policies, and plans. All amendments to county codes, policies, and plans require Board of Supervisors authorization. Updates to the Building Code are conducted at the state level.

Sector	CECAP Strategy Name and Number	Building Code	Comp. Plan	Tree Policies	Zoning
Buildings and Energy Efficiency	3: Green Building Standards for New Buildings	X	X		
Energy Supply	4: Increase the Amount of Renewable Energy in the Electric Grid 5: Increase Production of Onsite Renewable Energy	X	X		X
Transportation	7: Increase Electric Vehicle Adoption	X	X		X
Transportation	8: Support Sustainable Land Use, Active Transportation, Public Transportation, and Transportation Demand Management to Reduce VMT*		X	X	X
Natural Resources	12: Support Preservation, Restoration, and Expansion of Natural Systems, Green Spaces, and Soil Quality		X	X	X

**VMT = Vehicle Miles Traveled.*

Note: For strategies relating to climate adaptation and resilience, please see Resilient Fairfax.

HOMEWISE

OVERVIEW

The Fairfax County HomeWise program educates, empowers, and enables residents to make changes that reduce energy use, water use, and associated costs in their homes. Volunteers assist low- and moderate-income residents with physical improvements to their homes and provide support for behavior changes that are proven to conserve resources and money. In 2021 and 2022, the program has primarily connected with the community through hands-on demonstrations of simple energy and water efficiency improvements and free kit giveaways to residents to enable such projects. Over 500 kits and instructions have been distributed as of fall 2022. Each kit contains LED lighbulbs, socket sealers, window weatherstripping, door sweeps, low-flow faucet aerators, and detailed instructions on how to install each item.

ROLE OF PARTNERSHIPS AND CHAMPIONS

The HomeWise program involves strong collaboration between county government, non-governmental organizations, and trained county residents who become champions in the community. HomeWise is led by the Fairfax County Office of Environmental and Energy Coordination (OEEC) with support from the Local Energy Alliance Program (LEAP) and a team of trained volunteers. Volunteers complete a thorough 10-week training program that covers climate basics, energy and water systems, home efficiency improvements, effective community engagement and communications, and hands-on skills. Once trained, these volunteers are deployed into the community to engage in hands-on demonstrations, kit giveaways, and conversations with residents on how to save energy, water, and money at home. The HomeWise program aims to reach low and moderate-income (LMI) residents primarily, so events are located in LMI neighborhoods. However, tabling and demonstration events are open to the general public and have benefitted a broad swath of county residents.

HOW THIS INITIATIVE SUPPORTS CECAP IMPLEMENTATION

The HomeWise program directly supports the Community-Wide Energy and Climate Action Plan (CECAP)'s "Building and Energy Efficiency" **sector goal of "retrofitting at least 100,000 housing units with energy efficiency measures by 2030"** and the strategy to "**Increase Energy Efficiency and Conservation in Existing Buildings.**" Additionally, HomeWise aligns with the public education, outreach, and engagement recommendations in CECAP. Examples of recent HomeWise activities are listed below.

Sector	CECAP Strategy Number and Name	Examples of Associated HomeWise Activities
Buildings and Energy Efficiency	1: Increase Energy Efficiency and Conservation in Existing Buildings	• Recent HomeWise Demonstration & Kit Giveaways: Sherwood Library (2021), Mason Library (2021), Food for Others Distribution (2021), Richard Byrd Library (2022), Sherwood Library (2022), Mason Library (2022), Walker Nature Center (2022), Herndon Fortnightly Library (2022) • HomeWise Webinar: Preventing Heat Loss and Sealing Air Leaks • HomeWise Webinar: Water Conservation in Bathrooms • HomeWise Webinar: Outdoor Water Conservation

ENERGY USE & EFFICIENCY AT COUNTY FACILITIES

OVERVIEW

Fairfax County is making great strides in energy use and efficiency in county government facilities. While Fairfax County government and public school operations contribute only 5 % of the community-wide greenhouse gas emissions, it is critical that the county lead by example. Currently, Fairfax County has a five-year agreement with an Energy Service Company (ESCO) to perform investment grade audits (IGAs), other audits, and retrofits of buildings and facilities with energy conservation measures (ECM) (e.g., mechanical/HVAC, electrical, lighting, solar). An IGA for a facility is followed by identification of ECMs, design and construction, and measurement and verification of improvements. The process from initiating each IGA to project completion may take 18- 24 months depending on the scale of the project. Multiple buildings are being improved at the same time. Each group of buildings is called a "phase." Phase 1 was completed in October 2022 with projects at the City of Fairfax Regional Library, Cub Run and South Run RECenters. As of the fall 2022, Phase 2 is ongoing and includes the following buildings: Pender Office Building, Oak Marr RECenter, Spring Hill RECenter, DPWES I-66 campus, DPWES I-95 campus, DPWES Newington site, Woodlawn Fire Station, and Reston Fire Station. Phase 3 is expected to begin in 2023.

The ESCO work underway at county facilities involves the same ECMs that are common in energy retrofits in the community. Typical ECM examples include lighting upgrades to LED fixtures, HVAC system and component upgrades, optimizing HVAC controls, and installing solar panels. Additionally, the IGAs consider electrification, or replacing natural gas-based space and water heating equipment with electric-source equipment such as heat pumps to reduce GHG emissions. Other ongoing efficiency efforts include upgrading streetlights to LEDs, replacing of older HVAC and lighting equipment in buildings with more efficient equipment, and installing Building Energy Management Systems (BEMS) to enhance control. These combined efforts led to a total decrease in energy consumption of 7.2 % in the decade before ESCO work commenced, despite a 36.5 % increase in total government building square footage over that period. Future efforts will also include retro-commissioning, a systematic check or "tune up" of building system operations.

ROLE OF PARTNERSHIPS AND CHAMPIONS

Upgrades to the energy use and efficiency of county facilities involves partnerships between the Office of Environmental and Energy Coordination, Facilities Management Department, Department of Public Works and Environmental Services Capital Facilities, Park Authority, Fairfax County Public Schools, and Fairfax County Fire and Rescue Department, among others.

HOW THIS INITIATIVE SUPPORTS OES and CECAP IMPLEMENTATION

Energy conservation for existing county government buildings and facilities supports both the internal Operational Energy Strategy (OES) and the external Community-wide Energy and Climate Action Plan (CECAP). For OES, these efforts support the county's **goal of reducing county government energy use by 25 % by 2030 and 50 % by 2040**, as compared to the FY 2018 baseline. For CECAP, county building energy improvements support the strategies listed below. The total potential greenhouse gas emissions reductions from strategies 1, 2 and 3 total 24.7 %. However, county government buildings are a small percentage of total buildings in the county.

Sector	CECAP Strategy Number and Name
Buildings and Energy Efficiency	1: Increase Energy Efficiency and Conservation in Existing Buildings 2: Electrify Existing Buildings 3: Implement Green Building Standards for New Buildings

SOLAR IN FAIRFAX COUNTY

OVERVIEW

Solar energy uses a renewable energy source: the sun! Using solar photovoltaic (PV) arrays reduces electricity bills, electricity grid demand, and our carbon footprint. Solar, especially when combined with battery energy storage, can also increase energy resilience by providing an alternative source of power during power outages. This page summarizes the solar opportunities that are available in Fairfax County.

ROLE OF PARTNERSHIPS AND CHAMPIONS

Partnerships and community champions are key to solar energy success. Fairfax County encourages, facilitates, and advances solar energy for both the community and county government operations. Additionally, Fairfax County promotes programs from non-profit partners such as the Local Energy Alliance Program (LEAP) and community solar champions such as residents and businesses.

Item	Description
For Individuals	
Solarize Fairfax County	Fairfax County promotes LEAP's annual Solarize campaign to help residents and businesses reduce the cost and complexity of investing in solar energy. Since 2014, over 540 solar systems have been installed through the Solarize program.
Solar Fees Waived	Solar permit fees are waived by the county's Land Development Services (LDS).
Solar Zoning Flexibility	Solar panels on rooftops may exceed the maximum building height by up to five feet. This flexibility by Zoning makes solar more feasible for residents.
Solar Tax Exemption (County)	Fairfax County's Department of Tax Administration (DTA) provides a solar energy equipment tax exemption.
Solar Tax Credits (Federal)	The federal residential solar energy credit is a tax credit that can be claimed on federal income taxes. The federal solar tax credit is sometimes called the "Investment Tax Credit (ITC)." The ITC was expanded in 2022 through the Inflation Reduction Act. The tax credit is calculated as a percentage of the cost of the solar PV system that was paid for by the resident. Residential solar photovoltaic (PV) systems installed in 2020 and 2021 are eligible for a 26 % tax credit. Residential solar PV systems installed between 2022-2032 are eligible for a 30 % tax credit. For example, if your solar PV system cost $17,000 and it was installed in 2022, you would receive a tax credit of $5,100. ($17,000 x 0.30 = $5,100). In addition to tax credits for residents, the federal government offers federal tax credits for solar manufacturers and for businesses.
Solar Information	The Office of Environmental and Energy Coordination (OEEC) provides the community with information and resources about solar energy.
For County Government Operations	
Solar on Fairfax County Government Buildings and Sites 	The installation of solar PV arrays at Fairfax County Government sites to generate electricity is a key action to shift the county from carbon-based energy sources to renewables. These efforts support the county's goals for both internal and county-wide emissions reduction. The county is installing solar on government buildings using three procurement methods: 1. **Power purchase agreements (PPAs),** where a private firm installs, maintains, and owns the solar system and sells the generated electricity to the county. 2. **Solar installations on existing county buildings** through Energy Service Company (ESCO) contracts 3. **Solar on new county buildings** during the original capital construction.

	In methods 2 and 3, the county owns the solar systems. In method 1, the solar system is owned by a private firm. Active projects being pursued in 2022 include the following: • 170 kW of solar PV capacity on the new Sully Community Center • 50 kW of solar PV on Woodlawn Fire Station through the ESCO approach • 50 kW of solar PV on the Reston Fire Station through the ESCO approach • 5 MW of solar PV on the I-95 landfill • Numerous additional sites at the exploration and design stages
Operational Energy Strategy (OES)	The OES describes actions the county government is taking to reach energy carbon neutrality in government operations by 2040. The OES includes solar-related actions within the "Greenhouse Gas Emissions Reductions", "Green Buildings", and "Renewables" focus areas.
Sustainable Development Policy for Capital Projects	The Sustainable Development Policy for Capital Projects is a policy to fulfill the Board of Supervisors' vision relating to the sustainability of county government facilities. It includes overarching requirements for LEED certification, greenhouse gas reductions, and energy performance. It specifies the incorporation of solar features for new county facility construction, additions, and major renovations. As of 2022, the Sustainable Development Policy for Capital Projects is in the process of being updated for consistency with the updated OES. In the meantime, where the OES and Sustainable Development Policy conflict, the higher OES standards apply.

HOW THESE INITIATIVES SUPPORT OES and CECAP IMPLEMENTATION:

The installation of solar PV supports the internal county government OES targets of **producing 25 % of county government electricity needs from renewable energy by 2030, and 50 % by 2040, as compared to the FY 2018 baseline**. Additionally, solar PV installations support the Community-wide Energy and Climate Action Plan (CECAP) strategies in the "Buildings and Energy Efficiency" and "Energy Supply" sectors, as summarized in the table below.

Sector	CECAP Strategy Number and Name
Buildings and Energy Efficiency	3: Implement Green Building Standards for New Buildings
Energy Supply	4: Increase the Amount of Renewable Energy in the Electric Grid 5: Increase Production of Onsite Renewable Energy

CHARGE UP FAIRFAX

OVERVIEW

Charge Up Fairfax is a new program the Office of Environmental and Energy Coordination (OEEC) is establishing to promote the adoption of electric vehicles (EVs) and facilitate shared EV charging in homeowners' and condominium associations (HOAs). The program will help HOAs overcome the unique technical and financial challenges involved with installing EV supply equipment (EVSE) in common areas.

ROLE OF PARTNERSHIPS AND CHAMPIONS

Charge Up Fairfax will bring together the county government, HOAs, an engineering firm or electrical contractor, and a third-party grant administrator. The program is anticipated to be funded by the county and administered by the OEEC, with the exception of an EV Installation Reimbursement Grant, which will be administered by a trusted third party. The OEEC will facilitate a three-phase approach to implement the installation of EVSE in HOAs as part of Charge Up Fairfax:

- ***HOA Exploration***: All HOAs will have access to resources and template documents to explore whether they would like to pursue installing EVSE in their community. Once HOAs have surveyed residents and have unanimous support of their board of directors, they may apply to participate in the Charge Up Fairfax program.
- ***Charge Up Fairfax Engagement***: Once an HOA has applied and been approved to participate in the program, an on-site assessment will be conducted by a county-vetted engineering firm or electrical contractor. A consultation between the HOA and Charge Up Fairfax will review site assessment results to help the HOA decide whether they would like to move forward with EVSE implementation.
- ***HOA Implementation***: The HOA will work with contractors to perform necessary electrical upgrades or other site preparations, choose the charging equipment and design, and arrange for permitting, equipment installation and final inspection.

A trusted third party will administer the EV Installation Reimbursement Grant to participating HOAs to help offset the equipment and installation costs of EVSE for up to one-third of its eligible costs, not to exceed $5,000 per grant. Charge Up Fairfax representatives will help HOAs identify other funding opportunities that may be available from the state or federal levels. HOA communities that are classified as having high or very high vulnerability in the Fairfax County Vulnerability Index, or that are classified as disadvantaged in the Federal Government's Justice40 Initiative, will be eligible to apply for an additional reimbursement grant, or up to a total of $10,000.

Charge Up Fairfax will initially be piloted with two to three interested HOAs to test and refine the process. OEEC will use the feedback to create a set of best practices to expand Charge Up Fairfax to other HOAs in the county.

HOW THIS INITIATIVE SUPPORTS CECAP IMPLEMENTATION

Charge Up Fairfax will directly support the Community-Wide Energy and Climate Action Plan (CECAP) **Transportation sector goal to "*increase plug-in electric hybrid vehicles and battery electric vehicles to at least 15 % of all light-duty vehicle registrations by 2030 and 42 % by 2050*."** At the strategy level, Charge Up Fairfax is aligned with CECAP Strategy 7: Increase Electric Vehicle Adoption. Strategy 7 has the potential to reduce 2,044,000 MT of CO_2 equivalent emissions by 2050, or close to 20 % of the emissions reductions needed to meet the CECAP carbon neutrality goal by 2050. The Charge Up Fairfax program is crucial to the implementation of the CECAP "Transportation" sector goal and related strategy and action to advance the widespread adoption of EVs in the community.

Sector	CECAP Strategy Number and Name
Transportation	7: Increase Electric Vehicle Adoption

COUNTY TRANSPORTATION FLEET

OVERVIEW

The Fairfax County Department of Vehicle Services (DVS) provides fleet management and maintenance services for the county and Fairfax County Public Schools (FCPS) vehicle fleet. DVS services a fleet of over 6,300 vehicles including 1,450 school buses for FCPS. In addition to this fleet, the Fairfax County Department of Transportation (FCDOT) oversees the Fairfax Connector bus service, the largest local bus system in Northern Virginia.

Fairfax County is reducing the carbon footprint of the county's transportation fleet by transitioning to electric, hybrid-electric, and non-carbon emitting vehicles and by installing electric vehicle (EV) charging stations at county facilities. Many of these EV charging stations will also be available to the public.

ROLE OF PARTNERSHIPS AND CHAMPIONS: The county's efforts to make its transportation more environmentally friendly involve partnerships between DVS, FCDOT, Office of Environmental and Energy Coordination (OEEC), FCPS, the Department of Planning and Development (DPD), Land Development Services (LDS), Office of the County Attorney (OCA), and other departments, in addition to the general public.

HOW THIS INITIATIVE SUPPORTS OES and CECAP IMPLEMENTATION: These actions are being taken in alignment with the county's internal Operational Energy Strategy (OES), which directs the county to:

- **Transition county buses and fleet vehicles to electric or non-carbon emitting alternatives by 2035.**
- **Transition 99 % of Fairfax Connector bus fleet miles traveled to non-carbon emitting vehicles by 2035.**
- **Ensure no diesel buses are purchased after FY 2024 without further Board discussion.**

In addition to the OES, county fleet activities support the emission reduction goals of the Community-wide Energy and Climate Action Plan (CECAP) in the "Transportation" sector, as described in the table below.

Transportation Sector CECAP Strategy Number and Name	Examples of Associated County Fleet Activities
7: Increase Electric Vehicle (EV) Adoption	• The county fleet currently includes over 174 hybrid and 24 all-electric vehicles. • As of September 2022, 67 EV charging ports were operational at county facilities, with more scheduled for installation in CY2022. An additional $2 million has been requested in the FY2022 carryover budget. Board adoption of retail fees to allow the public to charge EVs at county-owned stations became effective August 3, 2022. • In September 2022, the Board approved waiving EV charging station permitting fees. • FCDOT received grant funding to purchase eight Fairfax Connector electric buses and associated charging infrastructure. Procurement of additional electric Fairfax Connector buses in future years is expected to meet OES fleet electrification goals.
8: Support Sustainable Land Use, Active Transportation, Public Transportation, and TDM to Reduce VMT	• FCDOT, the Department of Planning and Development (DPD) and other agencies actively work to support the use and improvement of public transportation, bicycle and pedestrian infrastructure, sustainable land use, and Transportation Demand Management (TDM) strategies.
9: Increase Fuel Economy and Use of Low-Carbon Fuels for Transportation	• The Fairfax Connector fleet includes 184 buses with variable frequency cooling fans, which have reduced fuel consumption by over 12 %.

** VMT= Vehicle Miles Traveled*

FAIRFAX COUNTY TREE PROGRAMS

OVERVIEW: Trees absorb carbon dioxide (CO_2) and other emissions, removing about 4.5 tons of pollution each year in Fairfax County. Trees also provide many "co-benefits," such as improved quality of life, public health, biodiversity and habitat, air and water quality, recreational and economic benefits, energy savings through shading, stormwater absorption, and reduced Urban Heat Island effects.

ROLE OF PARTNERSHIPS AND CHAMPIONS: There are numerous existing tree programs and policies in Fairfax County. Successful tree initiatives require action by government agencies, community partners, and business partners. Together, we can provide healthy and abundant trees for Fairfax County's population.

Leaders	Existing Tree Initiatives
Government & Agency Partners	Fairfax County departments and partner agencies, including the Department of Public Works and Environmental Services (DPWES) Urban Forest Management Division (UFMD), Fairfax County Park Authority (FCPA), Northern Virginia Soil and Water Conservation District (NVSWCD), and Virginia Department of Forestry (VDOF), provide a range of tree programs, including the Alien Invaders Program, Buy Virginia Trees, NVSWCD Programs, Park Volunteer Programs, Tree Planting and Preservation Fund (TPPF), Tree Planting at Your School, Trees Please, and Watch the Green Grow. Additionally, these entities enforce tree rules and protections, conduct tree planting, maintenance, and science, and provide a range of tree-related education and resources.
Community Partners	There are many tree programs provided by community partners in Fairfax County, including (but not limited to) those by: the Arbor Day Foundation, Audubon Naturalist Society of Northern Virginia, Earth Sangha, Fairfax ReLeaf, Falls Church Neighborhood Tree Program, McLean Trees Foundation, Plant NOVA Natives, Plant NOVA Trees, Fairfax County Master Gardeners Association, and Virginia Native Plant Society, among others.
Business Partners	Business participation is critical to the success of our tree canopy. Private sector entities can be leaders in tree health by taking responsibility during the development process, during long-term tree maintenance, by inspiring others (Green Business Partners), and through their own community programs, such as Dominion Energy's Project Plant It.

Fairfax County has an opportunity to work with our partners to expand and leverage existing tree programs and policies to meet our tree canopy and emissions reduction goals in Fairfax County.

- **New program**: ***Fairfax County Tree Canopy Program***: The Fairfax County Tree Canopy Program will complement, streamline, and fill gaps in existing programs to advance the county's tree canopy goals. The program is envisioned to fund and facilitate tree plantings in the community, including commonly owned land of homeowners' and condominium associations, at schools, and on other publicly and privately owned lands. This program will be a joint effort between the Office of Environmental and Energy Coordination and the DPWES - UFMD, with possible administration by a non-profit organization. Communities most in need will be prioritized as part of the One Fairfax.
- **Boosting existing programs:** Fairfax County will promote and boost existing tree programs by our partners.
- **Pursuing updates to tree-related county codes and polices:** Fairfax County is pursuing potential updates to tree-related codes and policies to improve the health and protection of trees in the county.

HOW THESE INITIATIVES SUPPORT CECAP IMPLEMENTATION: These programs will support the expansion of the county's tree canopy and Strategy 12 for the needed 2.4% emissions reductions from this sector. The Community-Wide Energy and Climate Action Plan (CECAP) goal is **to 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% in every census block by 2050, prioritizing areas of highest socioeconomic need first**. The implementation actions under Strategy 12 are expected to reduce 251,000 MT of CO_2 equivalent emissions by 2050.

Sector	CECAP Strategy Number and Name
Natural Resources	12: Preservation, Restoration, and Expansion of Natural Systems, Green Spaces, and Soil Quality