Environmental and Energy Program

Program Description

This section Includes environmental and energy strategy projects and describes the on-going Sustainability Policy for buildings.

Link to the Comprehensive Plan

The Environment Section of the Policy Plan within the Fairfax County Comprehensive Plan includes the following established objectives:

- Improve the identification and mitigation of environmental impacts, and the monitoring and enforcement of environmental policies as applied to land disturbing activities.
- Design and construct buildings and associated landscapes to use energy and water resources efficiently and to minimize short- and long-term negative impacts on the environment and building occupants.

Source: 2017 Edition of the Fairfax County Comprehensive Plan, Policy Plan - Environment, Amended through 6-28-2022

Program Initiatives

The Fairfax County Board of Supervisors has set the framework for the County's environmental initiatives through its vision, goals, policies, and ordinances and has dedicated considerable resources to support implementing these initiatives. Two key principles direct the vision: the conservation of limited natural resources and a commitment to providing the resources needed to protect the environment. The vision is connected to how the County provides services, and it focuses on seven core service areas: Land Use, Transportation, Water, Waste Management, Parks and Ecological Resources, Climate and Energy, and Environmental Stewardship

Each year, environmental and energy projects are selected based on a process supported by the Environmental Quality Advisory Council (EQAC), which includes the application of specific project criteria, review of proposals from County agencies, and identification of projects for funding. Some of the programs approved for funding have previously included the Park Authority's Invasive Management Area (IMA) program, the Green Purchasing program, the Watershed Protection and Energy Conservation Matching Grant program, outreach and education programs, the installation of web-based smart technologies to limit water consumption, and natural landscaping projects.

Environmental Initiatives

County agencies regularly collaborate and coordinate on environmental initiatives. In FY 2020, after many years of informal committee-based collaboration, the County's Office of Environmental and Energy Coordination (OEEC) was established to lead the County's cross-organizational development and implementation of environmental and energy policies, goals, programs, and projects. To carry out its mission, the OEEC frequently engages with County agencies and oversees cross-departmental teams for major planning initiatives. The OEEC and other agencies also coordinate closely with the county's Environmental Quality Advisory Council (EQAC), which is an independent, board-appointed advisory committee. EQAC is tasked with reporting the state of the environment in Fairfax County and in recommending policy and programmatic actions that the Board can take in support of the environment.

Operational Energy Strategy

In July 2021, the Board of Supervisors adopted the goal to be energy carbon neutral by 2040 through a Carbon Neutral Counties Declaration. To support this goal, the Board also adopted an update to its Operational Energy Strategy. The 2021 update includes accelerated goals and targets across the following 11 focus areas to meet the carbon neutral goal: Greenhouse Gas Emissions Reductions, Energy Use and Efficiency, Water Use and Efficiency, Green Buildings, Renewables, Fleet Electrification, Goods and Services, Waste Management and Recycling, Awareness and Engagement, Utility Cost Management, and Reporting and Collaboration. The Energy Strategy promotes cost-effective solutions and an energy-conscious culture for government agencies and employees. The resulting reductions in energy use will help reduce greenhouse gas emissions, mitigate escalating energy costs, and promote a more sustainable future for Fairfax County.

The Operational Energy Strategy is designed to reduce emissions across all major emitting sectors. Through new goals and targets included in the 2021 Energy Strategy, the County is working to decrease energy use in County buildings by as much as 50 percent by 2040 compared to a FY 2018 baseline and to produce 50 percent of electricity from renewable energy sources by 2040, using the FY 2018 baseline. With respect to transportation, the Energy Strategy includes fleet electrification targets for vehicles and buses, with both fleets to be powered by electricity or a non-carbon emitting alternative by 2035. Another highlight from the 2021 Energy Strategy includes a target in the Waste Management and Recycling focus area to be Zero Waste by 2030.

Sustainable Development Policy

In February 2008, the Board of Supervisors adopted the County's Sustainable Development Policy for capital facilities projects. This policy established Leadership in Energy and Environmental Design (LEED®) as the standard for projects and established the LEED Silver certification level as the goal for projects over 10,000 square feet in size. Since then, 41 County buildings have been completed under the sustainable development policy, with 17 of these buildings certified as LEED Gold buildings. The remaining 24 buildings have all met or exceeded the 2008's policy goal of LEED Silver.

In September 2020, the Board adopted an updated policy which increased the minimum LEED certification target from Silver to Gold, provided for incremental energy performance improvements and reductions in greenhouse gas (GHG) emissions, and a target of achieving Net Zero Energy (NZE) eligibility by no later than FY 2031.

In July 2021, following its adoption of the Carbon Neutral Counties Declaration, the Board further strengthened its green building policy as part of its adoption of the 2021 Operational Energy Strategy. The 2021 policy retains the requirement of LEED Gold, but replaces the minimum energy performance improvement criteria and multi-year transition to NZE with a NZE standard for new construction and major renovations and provisions regarding building electrification.

The 2021 green building policy reiterates the commitment to an ongoing program for monitoring and analysis of actual building energy performance data; identifying existing buildings as priority candidates for systems recommissioning; recommissioning of priority buildings with initial focus on buildings previously certified by LEED; and for more proactive management of building systems and controls. This commitment helps ensure that new and renovated buildings or facilities perform as intended, designed, and constructed.

Sustainability Rating Systems

LEED provides a holistic approach to sustainability. Some of the key benefits of LEED include:

- **Financial:** Lower operating costs, lower life cycle costs, and increased building value.
- **Environmental:** Greenhouse gas emission reductions, energy and water savings, waste diversion from landfill, conservation of natural resources, air and water quality improvement, biodiversity, and ecosystem protection.
- **Social/Cognitive:** Increased cognitive function, focused and applied activity level, crisis response, increased user productivity and satisfaction, public relations, and community benefits.

In addition, the County tracks infrastructure projects under the Envision Rating System for sustainable practices. The Huntington Levee project received Bronze Certification and the Disinfection System Replacement project received Gold Certification under Envision. County garages follow the Parksmart Sustainability Rating System.

Sustainable Strategies for Capital Projects

Early in the design phase, the County addresses energy and explores cost-effective opportunities to reduce energy consumption and greenhouse gas emissions in four holistic interconnected elements: Energy Demand, Energy Efficiency, Renewable Energy, and Ongoing Energy Performance.

- **Energy Demand:** County strategies that are utilized to reduce the building's energy demand include the following:
    - **Design and Energy Goals:** Set targets to establish building performance indicators.
    - **Size the Building Appropriately:** The building serves its function and reduces unproductive energy demand.
    - **Utilize Passive Design Opportunities:** Orient the building to reduce the building envelope losses and gains, utilize natural ventilation, solar, and daylighting.
    - **Building Envelope:** Design buildings with a well-designed envelope assembly that reduces heating or cooling losses through the thermal envelope, thereby reducing energy demand. Furthermore, the building envelope performance for some projects may include Envelope Commissioning which verifies that the performance meets the design requirements.

    - **Monitor Building Energy Consumption:** Buildings are provided with advanced energy metering via the building automation and energy management system(s) to capture real-time performance data.
- **Energy Efficiency:** The efforts to reduce building energy demand provide the foundation for energy efficiency within the supporting systems and end users. County strategies to achieve energy efficiency improvements include the following:

- **Install High Performance Building Systems:** During the design, decisions are made to invest in energy efficient technologies. To date, such systems have been implemented in County buildings as follows: Variable Air Volume (VAV) HVAC Systems with Control Strategies, Variable Refrigerant Flow (VRF) HVAC Systems, Energy Recovery Systems, Indoor and Outdoor LED Lighting systems, and Lighting controls (systems that actively track building occupancy lighting needs and harvest nature daylighting to reduce lighting fixture demand and energy consumption via sensors and can communicate to central lighting controls).

- **Specify High Efficiency Appliances:** All appliances are specified as Energy Star Certified.

- **Utilize Energy Simulation:** Energy Modeling software is used during the design to determine and prioritize energy efficiency measures and system types.

- **Monitor and Verify Building Performance:** Commissioning and/or Enhanced Commissioning is a project requirement which provides an independent authority to verify the operation of all systems meets the design, installation requirements, and future operation.

- **Renewable Energy:** Efforts to reduce demand and increase efficiency to meet the building's energy needs.

  - **Solar:** All projects are analyzed early in the design process to determine the feasibility of solar photovoltaic systems and infrastructure can be supported in the design.

  - **Power Purchase Agreement (PPA)**: The County has awarded contracts to vendors for solar PPA services and is working with the vendors on the implementation and O&M phases.

  - **Electric Vehicle Infrastructure:** Infrastructure for Electric Vehicle (EV) Charging Stations is being phased into the building design which will provide stations for building occupants and visitors.

  - **Ongoing Energy Performance/Post Occupancy:** To maintain all efforts made during design and construction, it is critical to be mindful of the post occupancy activities that maintain energy performance targets.

  - **Continuous and Retro Commissioning:** Continues to confirm the building is performing as designed or to support future occupancy changes by the end user.

  - **Provide Staff Training:** Personnel are trained properly on new building system technologies.

  - **Create Incentives for Occupants**: Promote energy efficient strategies with occupants.

Water Conservation

The conservation and creative reuse of water are important in addressing overall water use reduction in buildings and on sites. The following strategies are evaluated early in the design process:

- **Plumbing Fixtures:** Fixtures, such as showerheads, toilets, and faucets, are specified as low flow since they utilize low gallons per minute of water. The low flow requirement has been incorporated in the design guidelines for all current and future projects.

- **Rainwater Harvesting:** Storage tanks or cisterns can hold rainwater that can be utilized for non-potable uses, such as irrigation. The feasibility of incorporating a rainwater harvesting system is evaluated during the design of new construction projects.

- **Water Re-Use:** Strategies to reuse wastewater for non-potable uses will be evaluated for new construction projects that are in early design.

- **Natural Landscaping:** New construction projects are designed to follow the County's natural landscaping policy, with a goal to minimize resource consumption, reduce stormwater runoff, increase the habitat value of the site, and increase soil and plant health.

- **Irrigation:** The use of natural landscaping and native species reduces the need for irrigation, thereby reducing outdoor water usage. Exterior hose bibs are provided at strategic places around the building in lieu of an automatic irrigation system, in all new construction projects.

- **Green Roofs:** An early feasibility study of the use of green roofs is included in each project scope. Green roofs minimize heating and air conditioning costs, in addition to reducing stormwater runoff.

Sustainable Sites

Focusing on sustainable strategies is key to maintaining the environment surrounding the building, vital relationships among buildings and ecosystems, restoring project site elements, integrating the site with local and regional ecosystems, and preserving the biodiversity that natural systems rely on.

- **Parking Reduction and Public Transportation:** Reducing the parking footprint can minimize the environmental harms associated with impervious areas, including automobile dependence, land consumption and rainwater runoff. Location and available alternate transportation options are evaluated for each project site during design. Potential reductions in parking requirements is developed based on user needs.

- **Low Impact Development (LID):** Green Infrastructure and LID reduce rainwater runoff volume and improve water quality by replicating the natural hydrology and water balance of the site. Approaches and techniques for LID involve minimizing disturbed areas on the site, limiting the amount of impervious cover on the site and infiltrating, filtering, storing, evaporating, or detaining rainwater runoff at or close to its source. Strategies for stormwater management including bioswales, dry ponds and infiltration trenches, and going above and beyond minimum code requirements, are analyzed early in the design process.

Indoor Environmental Quality

Green buildings with good indoor environmental quality promote the health and comfort of building occupants. High quality indoor environments also enhance productivity, decrease absenteeism, and increase the building value.

- **Low VOC:** Design guidelines for all projects require use of products that have low volatile organic compounds.

- **Green Cleaning:** Green cleaning products and procedures are practiced, minimizing negative impact, and protecting the health of employees.

- **Daylighting:** All new projects strive to optimize natural daylighting strategies to enhance the indoor lighting quality.

Materials, Resources and Waste Management

Sustainably produced materials, waste reduction, and reuse and recycling strategies help in minimizing embodied energy impacts associated with the extraction, processing, transport, maintenance, and disposal of building materials. Project requirements emphasize the use of locally produced materials and staff must develop and implement a construction and demolition waste management plan with a goal to reduce waste disposed in landfills and incineration facilities by recovering, reusing, and recycling materials.

Innovation in Design

Other sustainable strategies employed on projects include options, such as bird friendly design, involving articulation of facades, and a combination of opaque and transparent materials to reduce bird collisions.

The County's green building policy is intended to reduce the consumption of non-renewable resources, reduce greenhouse gas emissions, minimize waste, and foster healthy, productive environments. Some examples of recently completed CIP projects include:

- **Lorton Community Center/Library:** With the addition of solar panels, the project is on track to achieve LEED Gold certification. The new multi-generational facility collocated with the Lorton Community Park includes a Senior Center, Community Center, Non-Profit Food Pantry, and Library. The building includes energy efficient systems, water reducing plumbing fixtures, an optimized building envelope, electric vehicle charging stations; and is designed for the installation of rooftop solar panels. The clerestory windows along the main corridor provide abundant natural light into the interior spaces, that along with the systems and materials used in the facility, not only reduce energy consumption but also provide healthy indoor air quality and occupant comfort. Important tree protection measures and preservation of the existing trees surrounding the site was an important sustainability goal. Critically important was the preservation of the approximately 200-year-old White Oak tree that is one of the most significant trees in the County.

- **Police Heliport*:*** The Police Heliport project is on track to achieve a LEED Silver Certification. The facility serves a 24/7 mission of specialized staff and includes a helicopter landing/takeoff pad, operation and maintenance hangers, flight control room, medical training areas and support functions. The building includes an optimized envelope, energy efficient mechanical and electrical systems, LED lighting, water reducing plumbing fixtures, and recycled materials. The site design incorporates water efficient landscaping, fuel-efficient vehicle parking and maximizes open space. The construction phase of the project included a waste management plan that diverted 95 percent of the waste from landfills. Innovation credits are being pursued to include a green building education program and an integrative analysis of building materials, which considers life-cycle cost for specific materials.

- **Woodlawn Fire Station**: This project is on track to achieve LEED Platinum certification. This new state-of-the-art emergency readiness and response facility includes a photovoltaic system which delivers on-site power generation. Other sustainable design strategies include LED lighting with occupancy sensors and daylight harvesting sensors to take advantage of natural light, use of recycled materials and regionally sourced materials, low VOC interior finishes and furnishings to improve interior air quality, low flow plumbing fixtures and native landscaping to ensure water efficiency, and the use of energy efficient appliances and equipment throughout the building. The construction phase of the project included a waste management plan that recycled 177.6 tons of construction waste.

Current Project Descriptions

1. **Annandale Urban Park (Mason District):** $421,250 was approved for a new urban green space in an underutilized portion of County property in central Annandale, located in the Annandale Commercial Revitalization District. The development of this green space is the result of significant community and inter-departmental collaboration, and will promote numerous objectives, including addressing the disproportionate impacts of heat island effect through enhancements of a local green space into a more environmentally sustainable and usable community asset. Enhancements include a civic plaza, a multi-functional and flexible lawn area, a children's educational garden, native landscaping, a reduction in impervious surface and stormwater improvements, and a network of accessible paths that will connect residential neighborhoods and the commercial core of central Annandale. The goals and objectives of this urban green space strongly align with numerous County priorities, including the Environmental Vision, the policies of One Fairfax, and the long-range development vision for Annandale. Further, this initiative positively addresses County priorities related to stormwater management, tree canopy coverage, and climate resilience.

2. **CECAP (Countywide):** $2,413,362 has been approved to date, to support the development of the Community-Wide Energy and Climate Action Plan (CECAP). This funding has provided for consulting services for technical analysis and plan development as well as outreach materials. The consulting services supported community outreach and engagement, including the facilitation of meetings and development of an interactive, online web presence. The community-wide greenhouse gas inventory was updated, climate mitigation actions tied to inventory and community priorities were developed, and a long-form technical report, summary documents and online resources were produced.

3. **Climate Action Implementation (Countywide):** $1,725,000 had previously been approved to support the implementation of the County's Climate Action Plan. This is a comprehensive initiative that focuses on the following programs: Charge Up Fairfax, Climate Champions, Carbon-Free Fairfax, Green Business Partners, HomeWise Residential Energy Audits and Retrofits, Resilient Fairfax, and the Tree Canopy Program. Charge Up Fairfax will facilitate at-home electric vehicle charging by residents of multifamily residential communities, particularly homeowners associations and condominium associations. Climate Champions is designed to bolster climate action initiatives among local organizations, businesses and individuals and to develop, market, and implement community-led best practices and programs to support Community-wide Energy and Climate Action Plan (CECAP) goals and targets. Carbon-Free Fairfax is an overarching public education and outreach component of CECAP and includes developing web content, social media posts, and other resources for residents to help them take climate action. The Green Business Partners Program aims to partner with the business community to achieve CECAP goals. The HomeWise program educates and enables County residents to make physical improvements in their homes to reduce their energy use, water,use, and associated costs. Resilient Fairfax is a plan and program to help Fairfax County adapt and become more resilient to changing climate-related conditions, such as extreme heat, severe storms, and flooding. The Tree Canopy Program will facilitate partnerships with homeowners, condominium associations, and nonprofit organizations to promote tree plantings and maintenance of native plants. Additional FY 2025 funding of $500,000 has been included to continue these initiatives.

4. **Composting Program (Countywide):** $104,600 was approved to support two composting projects. One project supports a Composting Pilot Program at Fairfax County government offices, managed by an employee volunteer group. A second project supports a pilot composting program developed by DPWES's Solid Waste Management Program (SWMP). SWMP has implemented a pilot drop-off program for residential food scraps, with initial drop-off locations near the existing residential recycling drop-off centers at the I-66 Transfer Station and the I-95 Landfill Complex and at five farmer's markets in the County. SWMP efforts to educate residents about the program include the creation and distribution of fact sheets, the development of an instructional video, and community presentations.

5. **DVS Water Fountains (Countywide):** $36,400 supports the purchase and installation of four water-bottle filling stations at convenient locations within the Newington and West Ox vehicle maintenance facilities. A water bottle filling station is a hands-free way of filling a refillable bottle with tap water, ensuring that both employees and customers awaiting repairs have a healthy hydration option. The bottle filling stations will replace older drinking fountains that are not being used due to health concerns or because they have fallen into disrepair. It is anticipated that the stations will reduce waste by reducing or eliminating the need for staff and customers to bring

their own water and soda bottles, most of which are disposable, and increase trash. The water bottle filling stations are expected to include a ticker that will allow staff to track the number of disposable bottles saved by using the filling station.

6. **Energy Contracts (ESCO) (Countywide):** $19,863,823 has been approved to support ESCO contracts at select County facilities. ESCOs offer comprehensive energy saving solutions by performing building assessments, identifying energy saving upgrades, estimating potential savings, implementing the upgrades, and verifying the savings.

7. **Energy Contracts (ESCO) – Parks (Countywide):** $1,000,000 has been approved to support continued building energy improvements at Park Authority facilities. The Park Authority has identified several potential energy retrofit projects including Building Automation System (BAS) integration of air handling units; HVAC controls and lighting upgrades; specialty recreation lighting upgrades; and pumphouse and bathroom control upgrades for improved energy efficiency.

8. **EV Stations (Countywide):** $5,224,192 has been approved to date to support the transition from gasoline-powered passenger vehicles to hybrid-electric and electric vehicles (EVs), which require both the purchase of EVs and the deployment of EV charging infrastructure. Consistent with the Board's policy and strategic direction, the County awarded a contract for the purchase of Level II commercial electric vehicle charging stations (EVCS) and software that allows the Department of Vehicle Services to manage usage, set rates, receive payment, bill fleet drivers for electricity usage, and run sustainability reports.

9. **FMD Retrofits (Countywide):** $10,489,492 has been approved to date to support cost-effective, energy-efficient, innovative technologies at County facilities. A reduction in energy use will help mitigate escalating energy costs and promote a "greener" future. Some of the projects identified to date include replacing incandescent or fluorescent lighting with LED lighting, reducing water use at County facilities, installing solar panels at County facilities, and optimizing resource conservation by increasing recycling rates. All of these projects are designed to reduce greenhouse gas emissions, lower utility bills for County buildings, and promote an energy-conscious culture within the County's workplace.

10. **Green Bank Initiatives (Countywide):** $900,000 has been approved to support the analysis and research options to implement a Green Bank in Fairfax County. Green Banks offer invaluable funding to environmentally focused businesses that have historically struggled to find funding through traditional means. This financing tool will ensure that economic recovery is targeted to communities with the most need in both an equitable and sustainable manner.

11. **HomeWise Outreach Program (Countywide):** $280,000 has been approved to date for the HomeWise energy education and outreach program. HomeWise was created to educate, empower, and enable low- and moderate-income residents to lower their utility bills by reducing their energy and water use. The program emphasizes relationship-building between qualified volunteers and specific communities in the County where energy-efficiency improvements and changes to daily behaviors are likely to have the greatest impact.

12. **Latino Conservation Week Support (Countywide):** $11,500 will support the Latino Conservation Week (LCW) with planning and implementation taking place in the third and fourth quarters of FY 2024. LCW began in 2014 as a campaign to support the Latino community in exploring the environment and participating in natural resource protection. Funding will support community engagement and improvement opportunities as well as conservation-based work experience in the Latino community.

13. **LED Streetlights (Countywide):** $9,020,000 has been approved to support the five-year LED streetlight conversion plan. The goal of the plan is to convert more than 56,000 existing mercury vapor, high pressure sodium, and metal halide fixtures to Light Emitting Diodes (LED) streetlights. The cost of the conversion plan is expected to be partially offset by projected savings in utility costs. It is anticipated that after conversion is completed on all streetlights, approximately $1.4 million in savings will be realized annually. In addition, conversion of these streetlights will remove 32.4 million pounds of carbon dioxide equivalent emissions annually. Finally, conversion will result in reduced maintenance costs given the longer life of LED lighting, result in higher quality lighting, and allow for dimming and automated outage reporting once smart technologies are implemented. Annual funding for this program is typically included at year end.

14. **Natural Landscaping (Countywide):** $198,000 will provide for a multi-phase, multi-year natural landscaping demonstration project that reimagines the Government Center grounds while creating inviting, comfortable, and aesthetically pleasing outdoor spaces with ample shade and a unifying plant palette.

15. **Parks Battery Leaf Blowers (Countywide):** $164,700 had previously been approved for the replacement of gas-powered Park equipment with more environmentally friendly electric equipment. The Park Authority will purchase 55 battery-operated backpack leaf blowers for use by staff at its six geographical maintenance area workgroups. These workgroups are responsible for the upkeep of the Park Authority's 25,000 acres of property, including approximately 8,000 acres of developed and actively maintained recreation areas and facilities. Other electric equipment will also be purchased for use by staff at these maintenance area shops and at other Park facilities. Additional funding of $158,412 has been included in FY 2025 to continue the replacement of equipment.

16. **Parks Bike to Parks (Countywide):** $134,940 provides for the "Bike to Parks" program. This program provides for the installation of bike racks in recreational areas, promoting biking as a safe and reliable transportation choice for recreational destinations. The Park Authority will add 60 bike racks in approximately 15 parks and Rec Centers that are near Countywide trails in two high density revitalization areas, Annandale, and Richmond Highway. In addition to the bike rack installations, this project will include public outreach and target improvements, such as adding bike lanes and connections at appropriate locations and adding signage and wayfinding systems from regional trails to the bicycle parking locations at park entrances.

17. **Parks Bottle Filling Stations (Countywide):** $97,290 has been approved to upgrade 38 water fountains at over 25 Park Authority locations. The upgrades will address several issues including false sensor activation and the need for bottle filling for the public. Upgrading the water fountains will conserve both water and the electricity used to operate the stations. The installation of bottle filling stations encourages the use of reusable water bottles, thereby reducing the amount of waste associated with single-use plastic water bottles at park sites. Additionally, with their downward-facing nozzles, the bottle filling stations reduce the potential for contaminants in the water stream.

18. **Parks Dark Skies Education (Countywide):** $6,200 has been approved to launch a "Dark Skies" education campaign with the main goal of increasing awareness of light pollution and encouraging value-centered lighting practices by residents.

19. **Parks Historic House Energy Improvements (Countywide):** $127,500 will provide for efficiency improvements at selected vacant historic houses maintained by Parks. These historic houses are among the 30 properties being considered for the Resident Curator Program. Under this program, a resident curator assumes responsibility for building rehabilitation in exchange for the right to occupy the property. HVAC inefficiencies and building envelope issues in these houses lead to excessive utility bills and increased maintenance needs while the houses remain unoccupied; they also discourage potential curators from program participation. Making energy improvements in these houses prior to inclusion in the Resident Curator Program addresses both issues. Energy improvements include adding insulation to crawlspaces and attics, adding weather-stripping and interior storm windows, and upgrading HVAC systems and controls.

20. **Parks Invasive Management Area Program (Countywide):** This is a continuing program managed by the Park Authority to provide for the removal of invasive plants from park properties. The program is volunteer supported and helps to restore hundreds of acres of important natural areas and protect tree canopies. Approximately 22,000 trained volunteers have contributed between 67,000 and 80,000 hours of service annually since the program's inception in 2005, improving over 1,000 acres of parkland. These activities ensure ecological integrity of natural areas and prevent further degradation of their native communities. Funding of $466,355 has been included in FY 2025 for this program.

21. **Parks Magnolia Bog Restoration (Mason District):** $86,000 has been approved to support 1.25 acres of wetland restoration at Green Springs Garden, specifically the restoration of a magnolia bog. This type of bog is a rare geologic feature known to occur only in Virginia, Maryland, and the District of Columbia. The magnolia bog at Green Springs Garden is one of only 11 known occurrences in Virginia, making its restoration and preservation of particular significance. The bog is located adjacent to a pedestrian trail at Green Springs Garden, offering unique, interpretative, and educational opportunities for visitors. Restoration activities will include the design and installation of a rock structure to stabilize soil and protect the bog's hydrologic integrity, as well as the removal of non-native invasive plants and installation of native plants. Project partners will include Friends of Green Springs, Earth Sangha, and the Virginia Native Plant Society.

22. **Parks Meadow Restorations (Countywide):** $517,827 supports the restoration of meadows throughout the County. The restorations establish native plant diversity and provide support to pollinators and native birds by removing non-native invasive plants and improving habitat.

23. **Parks Retrofits (Countywide):** $2,526,675 has been approved to date to support the Board of Supervisor's Operational Energy Strategy by implementing cost-effective, energy-efficient, innovative technologies at park facilities.

24. **Parks Sully Woodlands Center (Sully District):** $250,000 has been approved to support energy efficiency and renewable energy systems at the Sully Woodlands Stewardship Education Center. The Stewardship Education Center will be an indoor/outdoor, state-of-the-art interpretive center, providing educational and visitor services in environmental stewardship, natural, and cultural resource management activities, and land management of the Sully Woodlands region. A major goal of the program is to achieve net positive energy usage, meaning the facility must produce more energy than it uses. The building will be used as a demonstration tool educating the public about sustainable features used on the facility that could also be used at their homes.

25. **Parks Watch the Green Grow (Countywide)**: $121,000 had been previously approved to support the Watch the Green Grow Program. This is an outreach and education program with the overarching goal of creating buffers surrounding natural areas by encouraging green behaviors on private property. The outcome will include a web map "snapshot" of stewardship activities of an informed citizenry that actively and voluntarily engages in behaviors that protect and enhance Fairfax County's natural areas and wildlife corridors. This project is designed as a public education project to increase residents' awareness of the value of public green spaces (especially wildlife corridors) and lead them to adopt small, but important, stewardship behaviors that will help buffer these areas from urbanization stressors like invasive plants. Additional funding of $43,500 has been included in FY 2025 for this program.

26. **Parks Water Chestnut Control (Countywide):** $336,427 has been approved to date for the water chestnut control program. This is a three-year program to fund a water chestnut early detection rapid response control program. This program is intended to suppress the spread and reduce the fruiting of an invasive species commonly known as water chestnut. This plant grows in dense, unsightly mats and impacts the functionality and aesthetics of ponds, including stormwater facilities. In addition, its large seeds can cause painful injuries to people and animals walking in the water near the shore. Funding will support engagement efforts with private pond owners and operators and the suppression of water chestnut plants at up to 30 infested ponds on property owned by the Park Authority, Homeowners Associations, or places of worship. Funding of $130,500 had been included in FY 2025 to support the second year of this program.

27. **Plastic Bag Tax Projects (Countywide):** $4,326,947 in plastic bag tax revenues has been received and appropriated for use through the *FY 2024 Third Quarter Review*. On September 14, 2021, the Board of Supervisors adopted an ordinance to enact a $0.05 tax, effective January 1, 2022, on disposable plastic bags provided by grocery stores, convenience stores, and drugstores. VA Code Sec. 58.1-1745.B dictates that revenues from the plastic bag tax program are to be appropriated for environmental clean-up, education programs designed to reduce environmental waste, mitigation of pollution and litter, and the provision of reusable bags to recipients of certain federal food support programs.

28. **Renewable Energy Initiatives (Countywide):** $3,400,000 has been approved to support the County's renewable energy strategies as outlined in the Operational Energy Strategy (OES). This funding will allow for solar and/or renewable energy installations at several sites.

29. **Reserve for Carbon Neutral Operations (Countywide):** $1,850,000 has been approved to begin to implement the Carbon Neutral Counties Declaration and associated initiatives. Adopted in July 2021, the Declaration commits Fairfax County to energy carbon neutrality by 2040. The Carbon Neutral Counties Declaration, 2021 Operational Energy Strategy and Zero Waste Plan reflect recommendations developed by the Joint Environmental Task Force (JET), which was a joint initiative between Fairfax County Government and Fairfax County Public Schools to identify areas of collaboration to advance County and school efforts in energy efficiency and environmental sustainability.

Project Cost Summaries

Environmental and Energy Programs

($000's)

	Project Title Project Number	Source of Funds	Budgeted or Expended Through FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	Total FY 2025 - FY 2029	Total FY 2030 - FY 2034	Total
1	Annandale Urban Park	G	***$421***						$0		$421
	PR-000149										
2	CECAP	G	***$2,413***						$0		$2,413
	2G02-033-000										
3	Climate Action Implementation	G	***$1,725***	***$500***	$833	$833	$833	$833	$3,832		$5,557
	2G02-042-000										
4	Composting Program	G	***$105***						$0		$105
	2G02-027-000										
5	DVS Water Fountains	G	***$36***						$0		$36
	GF-000067										
6	Energy Contracts (ESCO)	G	***$19,864***						$0		$19,864
	2G02-035-000										
7	Energy Contracts (ESCO) - Parks	G	***$1,000***						$0		$1,000
	2G51-057-000										
8	EV Stations	G	***$5,224***						$0		$5,224
	GF-000063										
9	FMD Retrofits	G	***$10,489***						$0		$10,489
	GF-000064										
10	Green Bank Initiatives	G	***$900***						$0		$900
	2G02-039-000										
11	HomeWise Outreach Program	G	***$280***						$0		$280
	GF-000057										
12	Latino Conservation Week Support	G	***$12***						$0		$12
	2G51-050-000										

Project Cost Summaries

Environmental and Energy Programs

($000's)

	Project Title Project Number	Source of Funds	Budgeted or Expended Through FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	Total FY 2025 - FY 2029	Total FY 2030 - FY 2034	Total
13	LED Streetlights	G	***$9,020***						$0		$9,020
	GF-000065										
14	Natural Landscaping	G	***$198***						$0		$198
	GF-000058										
15	Parks Battery Leaf Blowers	G	***$165***	***$158***					$158		$323
	PR-000158										
16	Parks Bike to Parks	G	***$135***						$0		$135
	PR-000140										
17	Parks Bottle Filling Stations	G	***$97***						$0		$97
	PR-000150										
18	Parks Dark Skies Education	G	***$6***						$0		$6
	2G51-049-000										
19	Parks Historic House Energy Improvements	G	***$128***						$0		$128
	PR-000128										
20	Parks Invasive Management Area Program	G	***C***	***$466***	$466	$466	$466	$466	$2,330	$2,330	$4,660
	2G51-046-000										
21	Parks Magnolia Bog Restoration	G	***$86***						$0		$86
	PR-000130										
22	Parks Meadow Restorations	G	***$518***						$0		$518
	PR-000131										
23	Parks Retrofits	G	***$2,527***						$0		$2,527
	PR-000136										
24	Parks Sully Woodlands Center	G	***$250***						$0		$250
	PR-000139										
25	Parks Watch the Green Grow	G	***$121***	***$44***					$44		$165
	2G51-045-000										

Project Cost Summaries

Environmental and Energy Programs

($000's)

	Project Title Project Number	Source of Funds	Budgeted or Expended Through FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	Total FY 2025 - FY 2029	Total FY 2030 - FY 2034	Total
26	Parks Water Chestnut Control	G	***$205***	***$131***					$131		$336
	2G51-048-000										
27	Plastic Bag Tax Projects	X	***$4,327***						$0		$4,327
	2G02-041-000										
28	Renewable Energy Initiatives	G	***$3,400***						$0		$3,400
	GF-000073										
29	Reserve for Carbon Neutral Operations	G	***$1,850***						$0		$1,850
	2G02-038-000										
	Total		***$65,502***	**$1,299**	**$1,299**	**$1,299**	**$1,299**	**$1,299**	**$6,495**	**$2,330**	**$74,327**

Notes: Numbers in bold italics represent funded amounts. A "C" in the 'Budgeted or Expended' column denotes a continuing project.

Key: Source of Funds

B	Bonds
F	Federal
G	General Fund
S	State
U	Undetermined
X	Other