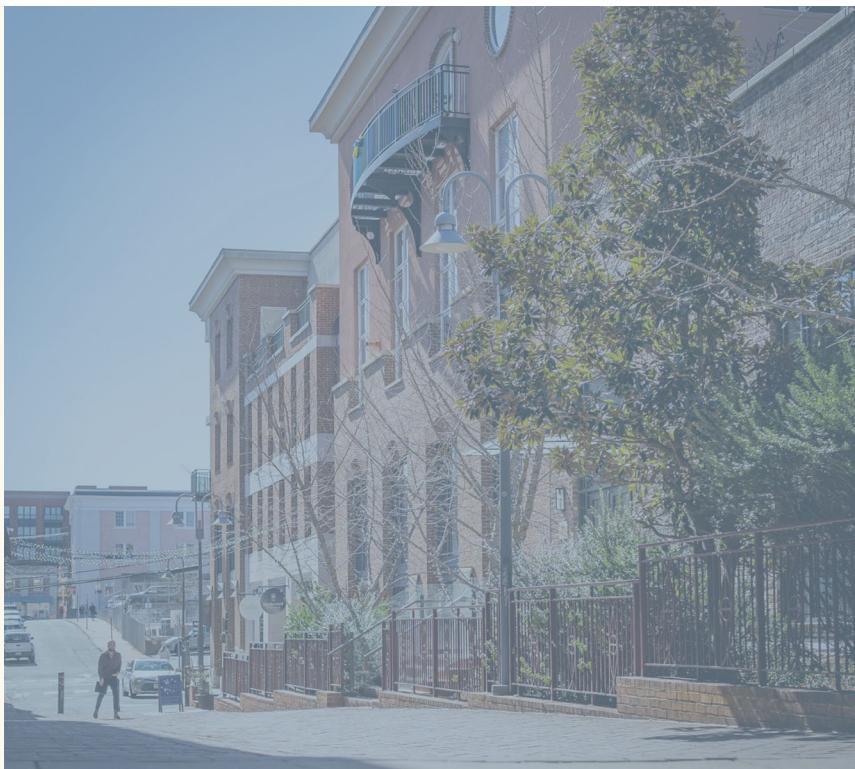


# Climate Action Update

July 15, 2024

## Agenda

- Introduction
- GHG Inventory Update
- Climate Action Update
- Sustainability Dashboard
- FY25: Looking Forward
- Questions



# Charlottesville's Climate Action Plan

Guiding Principles: *effectiveness, affordability, equity, and inclusivity*

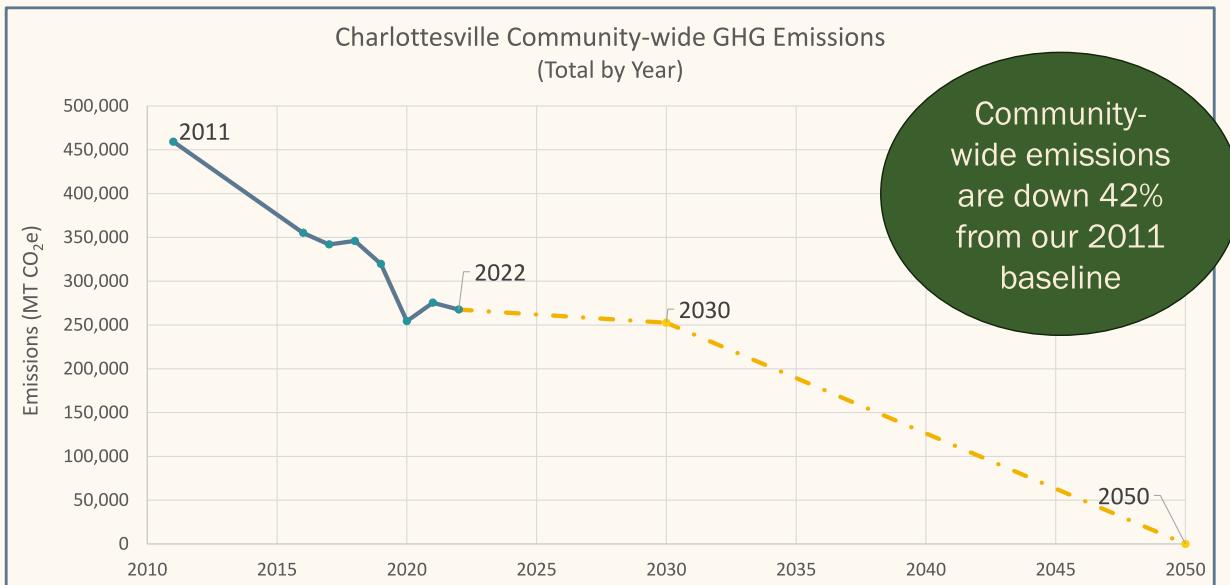


[charlottesville.gov/climateplan](http://charlottesville.gov/climateplan)



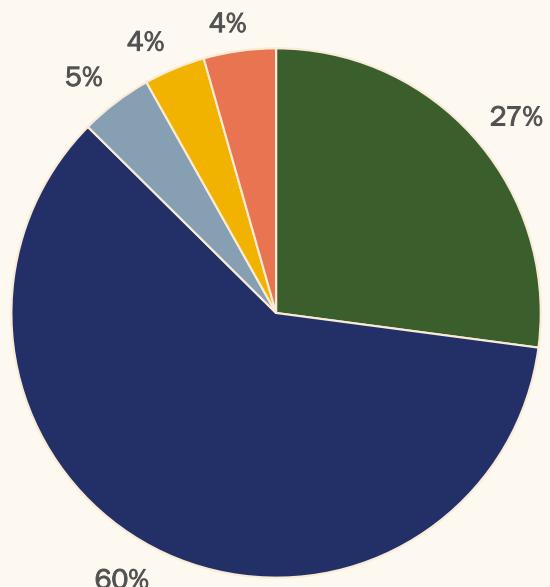
## GHG Inventory Update

# Updated GHG Inventory – 2022 Emissions Data



## 2022 GHG Emissions Sources

- Transportation
- Buildings
- Municipal
- Solid Waste & Wastewater
- Process & Fugitive Emissions



Community-wide Inventories								
Sector	CO <sub>2</sub> e (MT)							
	2011	2016	2017	2018	2019	2020	2021	2022
Transportation & Mobile Sources	128,835	92,648	92,218	90,938	91,205	73,995	74,183	75,874
Solid Waste	24,694	16,302	16,687	16,721	16,425	5,509	9,066	10,289
Water & Wastewater	-	271	271	271	271	196	286	196
Commercial Energy *	170,003	123,838	118,810	115,046	101,688	80,820	89,583	88,804
Industrial Energy	372	195	190	208	200	197	237	180
Residential Energy	135,405	108,393	100,986	107,699	96,389	82,891	89,475	79,962
Process & Fugitive Emissions	-	13,556	12,857	15,078	13,555	10,753	12,583	12,343
<b>Total</b>	<b>459,309</b>	<b>355,203</b>	<b>342,019</b>	<b>345,961</b>	<b>319,733</b>	<b>254,361</b>	<b>275,413</b>	<b>267,648</b>
% change from 2011		-23%	-26%	-25%	-30%	-45%	-40%	-42%

\* The Commercial Energy Sector includes Municipal and Non-Municipal Government energy consumption

Municipal Inventories								
Sector	CO <sub>2</sub> e (MT)							
	2011	2016	2017	2018	2019	2020	2021	2022
Buildings & Facilities **	11,430	8,702	8,746	8,436	7,711	5,631	6,422	6,833
Streetlights & Traffic Signals	2,001	1,301	1,211	1,108	987	892	929	921
Vehicle Fleet	6,015	6,030	6,031	5,769	5,374	4,952	4,803	4,681
<b>Total</b>	<b>19,446</b>	<b>16,033</b>	<b>15,988</b>	<b>15,313</b>	<b>14,072</b>	<b>11,475</b>	<b>12,154</b>	<b>12,435</b>
% change from 2011		-18%	-18%	-21%	-28%	-41%	-37%	-36%

\*\* Includes City Government and City School Buildings and Facilities

# Inventory Takeaways

**Near-term GHG reduction goal: 45% by 2030**

- Community emissions are down 42% from 2011 baseline
  - Greatest recent drop is in residential energy use, which is down 10.6% in 2022 from 2021
  - Transportation emissions are down 41% from baseline
- Municipal emissions are down 36% since 2011 baseline
  - Municipal emissions are up slightly (~1%) in 2022 from 2021
- “Grid-greening” has had a major influence
  - On a per-kWh basis, emissions from electricity have declined 38% since 2011



## Reporting

- Global Covenant of Mayor’s Commitment
- Annual reporting through CDP
- 2023 CDP score: A-
- 2022 CDP score: B
- 2021 CDP score: C



BADGES 2023



CHARLOTTESVILLE, VA



MITIGATION

Inventory > Target > Plan



ADAPTATION

Assessment > Goal > Plan



ENERGY

Assessment > Goal > Plan



COMPLIANCE

CITIES EARN THE COMPLIANCE BADGE WHEN THEY COMPLETE THE MITIGATION AND ADAPTATION PILLARS. THE ENERGY PILLAR IS CURRENTLY NOT REQUIRED TO EARN THE COMPLIANCE BADGE.

[www.globalcovenant-usa.org/](http://www.globalcovenant-usa.org/)

The Global Covenant of Mayors for Climate and Energy is the largest global alliance for climate leadership in cities, funded in the Americas by the European Union.



Funded by  
the European Union

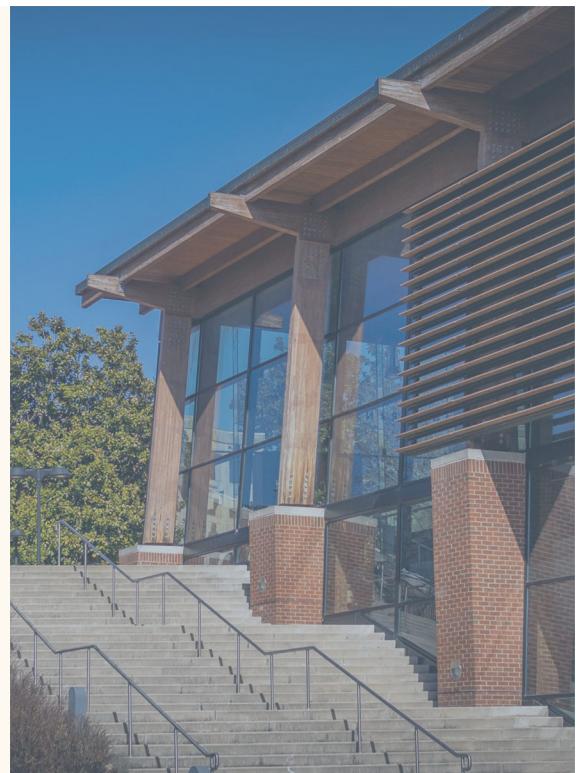




# Climate Action Update

## Buildings & Energy

- Residential Energy Efficiency & Renewable Energy Deployment (in partnership with LEAP)
- Energy & Water Management Program
- Master Energy Performance Agreement
- Gas Utility Decarbonization Study
- Utilities-led Energy Efficiency Programs
- Gas Service New Connection Fee
- Zoning Ordinance Update
- Community-led Solar & EV charging Installation
- C3 Climate Services
- PHA Kindlewood Redevelopment



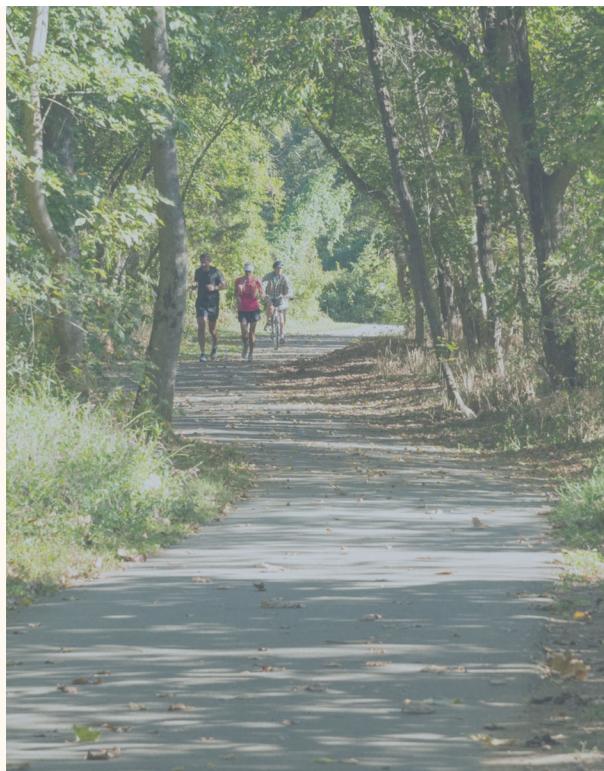
# Transportation

- Transit Alternative Fuels Study
- EV Infrastructure Grant Program Re-launch
- Bicycle & Pedestrian Infrastructure Improvements
- Micromobility Services
- Transportation Equity & Advocacy
- Piedmont Mobility Alliance



# Other Actions

- LED Streetlight Conversion Project
- GO Solar Program
- Composting Programs
- Recycle Coach Tool
- Urban Tree Planting
- Invasive Species Management
- Parkland Acquisition - 0 East High Street
- Flood Resilience Plan
- ReLeaf Neighborhood Tree Restoration
- PMG Healthy Landscapes



# Resilient Together

*Adaptation & Resilience planning is a requirement of the City's GCoM commitment*

- Collaborative Climate Adaptation and Resilience planning project – City, County, UVA
- Public Launch – September 2023
  - Presentations – public & private
  - Staff & Stakeholder Workshops
  - Public Events
  - Media
- EPA Grant (AlbCo-led) received for inclusive community engagement - \$460k



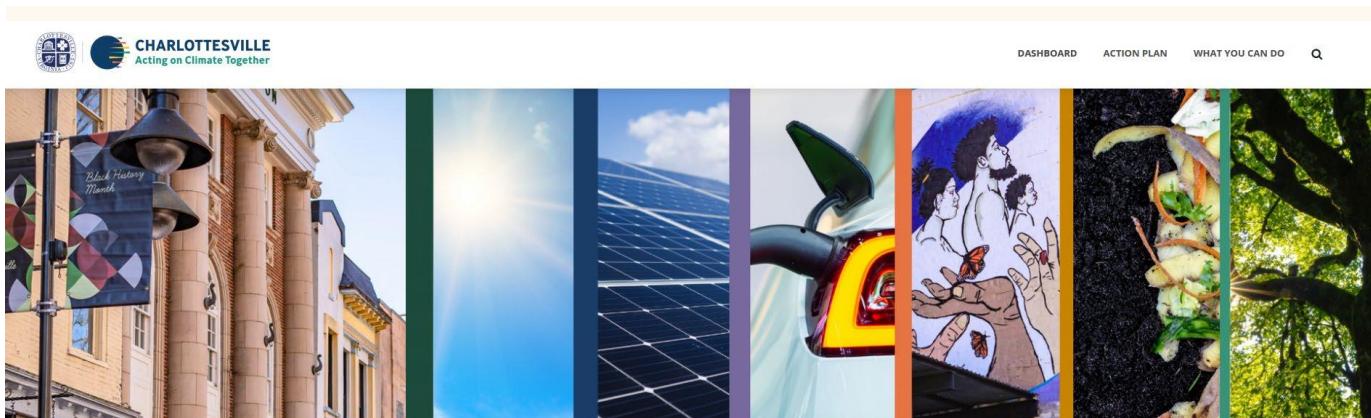
## Federal Grants

- EPA Environmental Justice Government to Government (EJG2G) - \$460k
- USDA Forest Service Urban and Community Forestry Grant - \$150k grant + \$150k supplement (Climate Fund)
- EPA Clean School Bus Rebate - \$420k
- DOE Energy Efficiency & Conservation Block Grant – \$76,840 (formula funds)
- DOE Communities Sparking Investment in Transformative Energy (C-SITE) - \$1.6m + \$97k match (from CF)
- PHMSA Natural Gas Distribution Infrastructure Safety & Modernization (NGDISM) - \$7.1m





# Climate & Sustainability Dashboard



CHARLOTTESVILLE  
Acting on Climate Together

DASHBOARD

ACTION PLAN

WHAT YOU CAN DO



## Charlottesville Climate and Sustainability Action Dashboard

Acting on Climate Together

Charlottesville is committed to reducing our climate pollution while building a safer, healthier, and more sustainable community.

[climateaction.charlottesville.gov](http://climateaction.charlottesville.gov)



## Charlottesville Climate and Sustainability Action Dashboard

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### Community Strategies and Actions <

Explore the strategies and actions laid out in the Charlottesville Climate Action Plan

BUILDINGS AND ENERGY



TRANSPORTATION



WASTE



NATURE BASED SOLUTIONS



FINANCING AND FUNDING



**Community Strategies and Actions <**

Explore the strategies and actions laid out in the Charlottesville Climate Action Plan

- BUILDINGS AND ENERGY
- TRANSPORTATION
- WASTE
- NATURE BASED SOLUTIONS
- FINANCING AND FUNDING



**Community Strategies and Actions <**

Explore the strategies and actions laid out in the Charlottesville Climate Action Plan

- BUILDINGS AND ENERGY
- TRANSPORTATION
- WASTE
- NATURE BASED SOLUTIONS
- FINANCING AND FUNDING

**BUILDINGS AND ENERGY**

Strategy 1 Move New Construction closer to Net-Zero through increased levels of energy efficiency, incorporation of onsite renewable energy and solar-ready building standards

Strategy 2 Increase energy efficiency and onsite renewable energy use in existing buildings

Strategy 3 Support transition to carbon-free sources and carbon-neutrality for building energy supply

Action	Description	Status
Action 1	Continued support of the Virginia Clean Economy Act, ensuring renewable sources for grid-supplied electricity in Charlottesville	<div style="width: 50%;"></div>
Action 2	Prioritize transition to electric for the Miscellaneous Heating Fuels that contribute to the Buildings and Energy sector emissions	<div style="width: 20%;"></div>
Action 3	Complete analysis of decarbonization options for Charlottesville Gas through the Decarbonization of Gas Utility Study	<div style="width: 50%;"></div>
Action 4	Ensure the zoning code is supportive of renewable energy systems	<div style="width: 100%; background-color: green;"></div>

Strategy 4 Support increased energy efficiency and renewable energy through innovative financing mechanisms that enable and leverage private action and investment





## Charlottesville Climate and Sustainability Action Dashboard

Acting on Climate Together

Charlottesville is committed to reducing our climate pollution while building a safer, healthier, and more sustainable community.

**climateaction.charlottesville.gov**

**Climate Change In Charlottesville** →

Charlottesville was the first locality in Virginia to adopt emission reduction goals of 45% by 2030 and carbon neutrality by 2050.

[Introduction to Climate Change](#) →  
[Greenhouse Gas Emissions in Charlottesville](#) →  
[What You Can Do](#) →

**Energy & Buildings** →

The majority (63%) of Charlottesville's GHG emissions come from energy used to light, heat, cool, and power our buildings.

[Reducing GHG Emissions](#) →  
[Electrification & Efficiency](#) →  
[Renewable Energy](#) →  
[What You Can Do](#) →

**Transportation** →

More than half of Charlottesville's commuters, 55%, travel to work by driving alone, as opposed to biking, walking, or using public transportation.

[Reducing GHG Emissions](#) →  
[Low-Carbon Mobility](#) →  
[Electric Vehicle Transition](#) →  
[What You Can Do](#) →

**Resilience** →

About half of the region's most damaging extreme weather events (events that caused more than \$10,000 in damage) have occurred in only the last 10 years.

[Climate Impacts](#) →  
[City Initiatives](#) →  
[What You Can Do](#) →

**Waste** →

Approximately 30% of Charlottesville's total waste is from organics like food and yard scraps and compostable fibers like paper goods.

[Reducing Waste](#) →  
[Recycling and Composting](#) →  
[What You Can Do](#) →

**Nature Based Solutions** →

The urban tree canopy in Charlottesville is decreasing: canopy coverage dipped from 45% in 2014 to 38% in 2023.

[Urban Forest](#) →  
[Green Infrastructure](#) →  
[Water Conservation](#) →  
[What You Can Do](#) →

Low-Carbon Mobility

## How We Get Around Matters <

While there are some trips we can avoid altogether, we all still need to get around. Currently, the majority (55%) of Charlottesville residents commute to work by driving alone.

Transportation options such as public transit and carpooling reduce the energy required per person by serving many people with one trip. Others - walking, biking, and working from home - use no transportation fuels at all. Adding these travel alternatives to your routine even one day a week results in big changes to GHG emissions over time.

Category	Percentage	Commuters
Drive Alone	55%	12900 Commuters
Walk or Bike	16%	3716 Commuters
Work from Home	18%	4284 Commuters
Transit or Carpool	11%	2533 Commuters

Commuting Characteristics by Sex, US Census ACS 5-Year Estimates Subject Tables (2022).



## What You Can Do

Use the resources below to take climate action in our community

Climate Change in Charlottesville

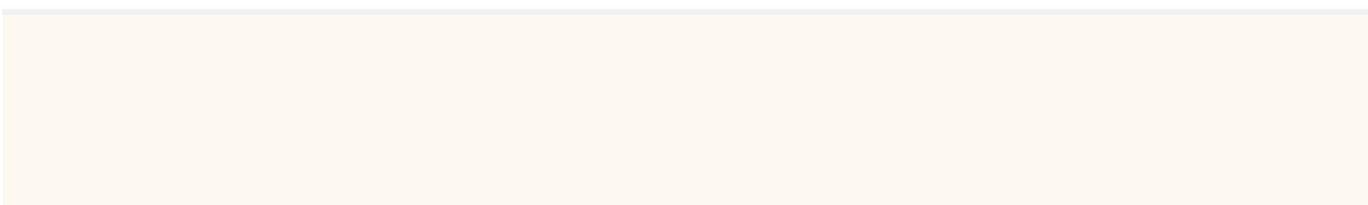
Energy & Buildings

Transportation

Resilience

Waste

Nature Based Solutions



## What You Can Do

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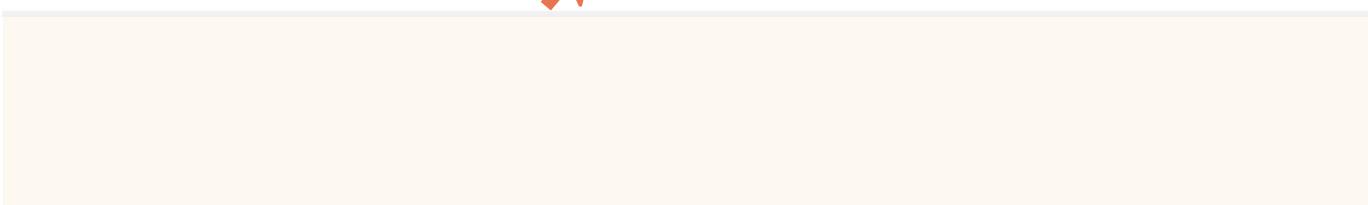
Energy & Buildings

Transportation

Resilience

Waste

Nature Based Solutions





## Energy & Buildings <

### What You Can Do

Use the resources below to take climate action in our community

Climate Change in  
Charlottesville

Resilience



Solarize Your Home or Business

[Solarize Virginia](#)

Schedule an Energy Audit with Our Trusted Partner

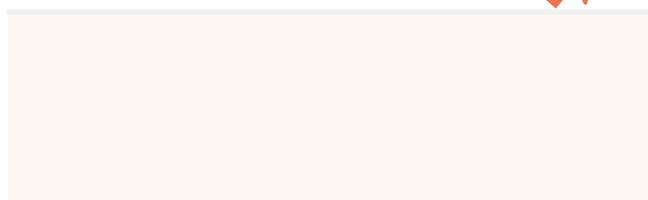
[LEAP Home Energy Assessment](#)

Save Money and Energy in Your Home

[Home Energy Savings Tips](#)

Improve the Energy Efficiency of Your Home

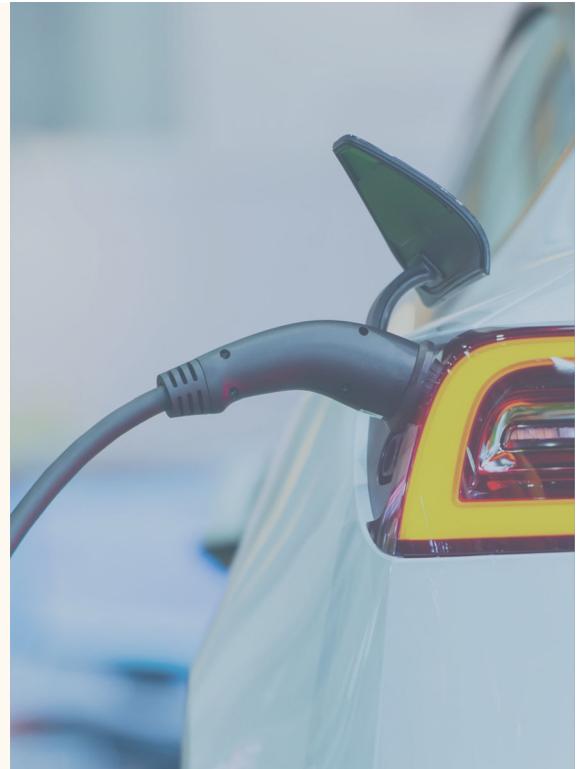
[Energy Smart Rebates](#)



# Looking Ahead: FY25 Workplan – New Items

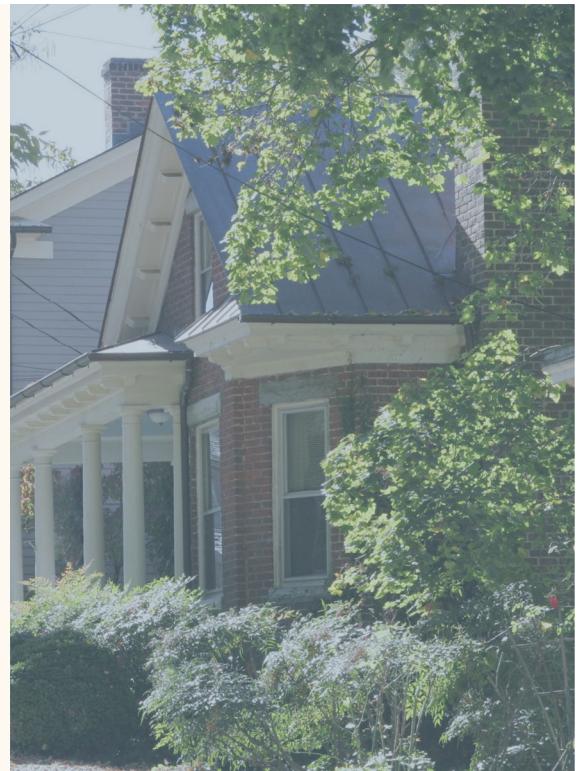
# Community-Wide EV Charging Study

- Contemplates future needs for community charging infrastructure
  - Public, Private, Workplace
- Examines opportunities for municipal fleet electrification (non-emergency, light-duty fleet)
- Collaboration with Albemarle County
- Cost: ~\$110k from CF



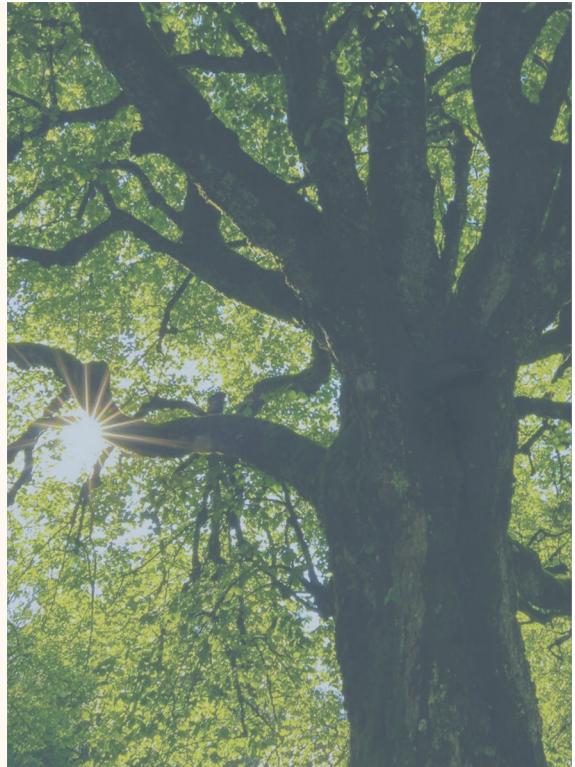
# Community Energy Resource Hub

- Hub will assist residents & businesses access Federal, State, and local clean energy programs
- Goal is to leverage incentives funding
- Virtual and in-person navigation services
- Partnership with LEAP, C3, and Albemarle County
- Cost: \$100k from CF
- Planning underway; aiming for January 2025 launch



# Urban Forest Management Plan

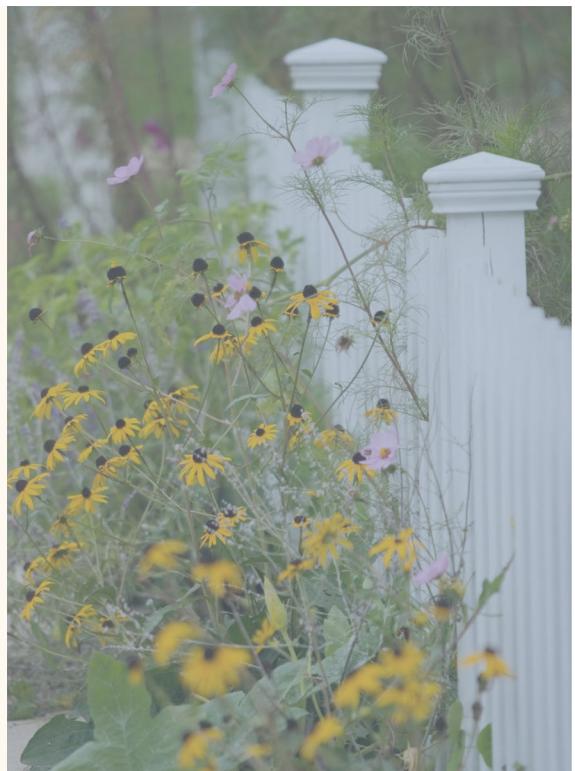
- Updated comprehensive and adaptive management plan aligned with the Comp Plan, CAP, and CRVA
- To address forest management, canopy retention and advancement, vegetation analysis, and volunteer/workforce program
- Cost: \$150k grant from USDA; ~\$150k from CF
- Currently in proposal review stage



# Climate Resilience Cohort

## *Component of the Resilient Together Project*

- Seeking up to ten community-based organizations who serve disadvantaged or underserved community members
- Selected organizations will receive \$15k to engage in planning process and \$25k to implement a community-led resilience project
- Designed to center vulnerable community members centered in the climate adaptation and resilience plan
- Funded through the EPA EJG2G grant



# Municipal Energy Performance Program

- 2022 – Energy Audits performed on all City facilities
- 2024 – Master Energy Performance Contract established between ESCO and City
- First municipal energy savings project currently in progress; working on next city building, lighting-focused project scope
- Initiating a municipal building electrification study



# Sustainability in the Workplace Program

- Internal program to promote employee actions in the workplace
- Will focus on broad sustainability as well as climate action and DEIA elements
- Developing additional employee education/engagement opportunities
- Establishment of an interdepartmental Climate Action Working Group for collaboration and accountability



## Other Upcoming Initiatives

- C-PACE
- Municipal Green Building Standards
- Power Purchase Agreements
- School Bus Electrification Planning
- E-bike Subsidy Program
- 24/7 Compost Program Expansion
- Landscape Equipment Electrification Pilot



# Thank You!

## Questions?

