CHARLOTTESVILLE
Acting on Climate Together

# *Climate Action Update*

July 15, 2024

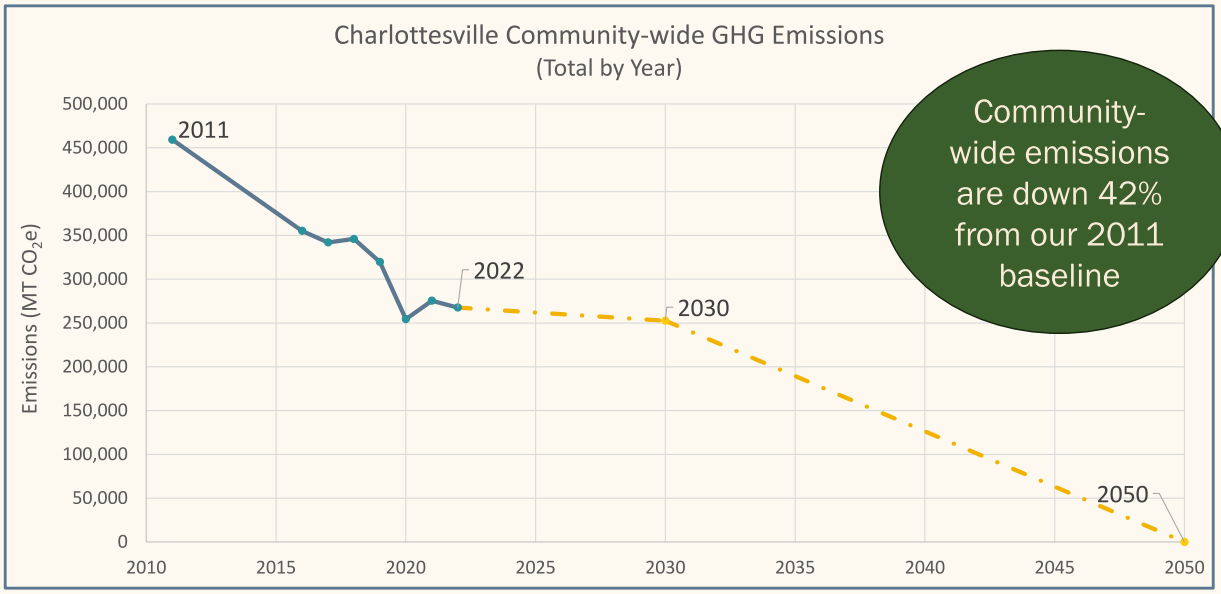
## Agenda

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

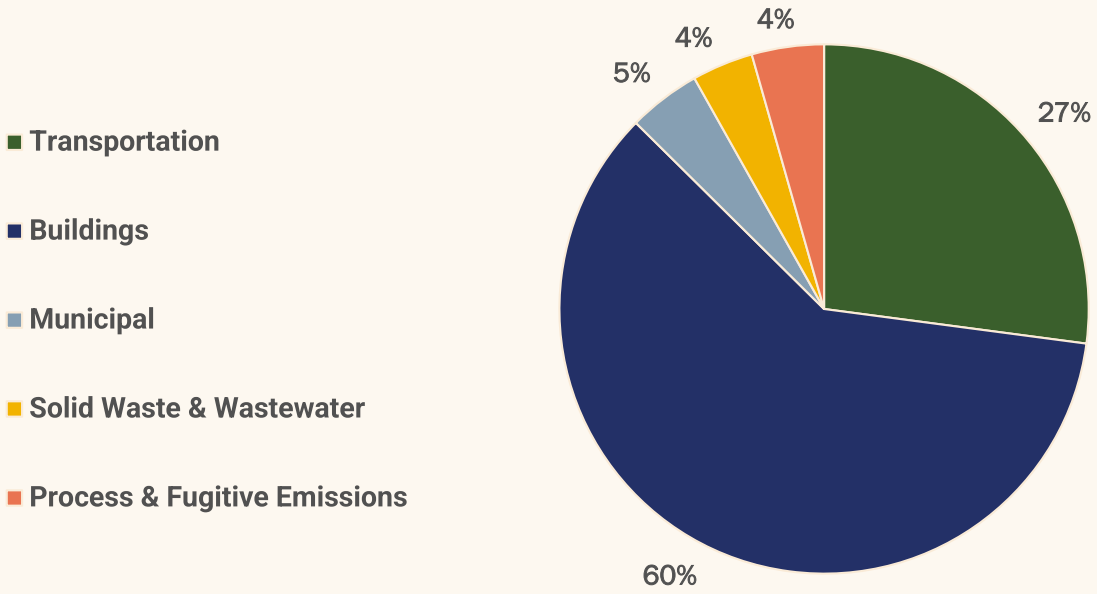
# Charlottesville's Climate Action Plan


**charlottesville.gov/climateplan**

# Updated GHG Inventory – 2022 Emissions Data




# 2022 GHG Emissions Sources



## Community-wide Inventories

| | $CO_2e$ (MT) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Sector** | **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 |
| **Total** | **459,309** | **355,203** | **342,019** | **345,961** | **319,733** | **254,361** | **275,413** | **267,648** |
| % change from 2011 | | -23% | -26% | -25% | -30% | -45% | -40% | -42% |

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

## Municipal Inventories

| | $CO_2e$ (MT) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Sector** | **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 |
| **Total** | **19,446** | **16,033** | **15,988** | **15,313** | **14,072** | **11,475** | **12,154** | **12,435** |
| % 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 sightly (~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

# Climate Action Update

## Buildings & Energy

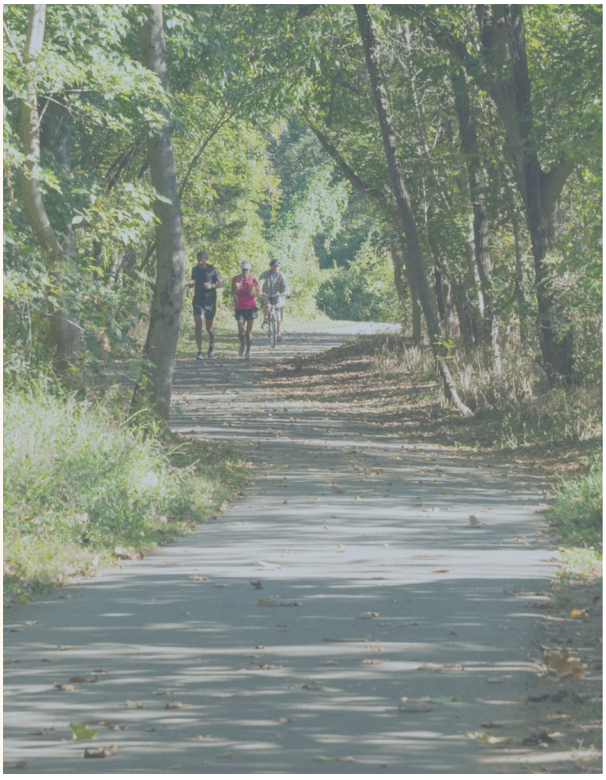
- Residential Energy Efficiency & Renewable Energy Deployment (in partnership with LEAP)
- Energy & Water Management Program
- Master Energy Performance Agreement
- Gas Utility Decarbonization Study
- Utilities-led Energy Efficiency Programs
- Gas Service New Connection Fee
- Zoning Ordinance Update
- 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

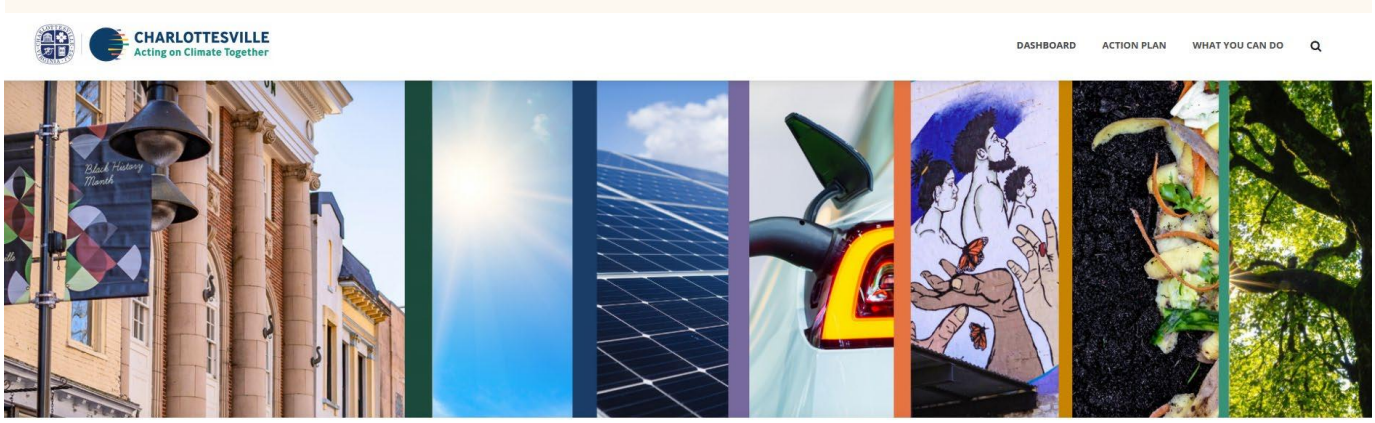
***Adaptation & Resilience planning is a requirement of the City's GCoM commitment***

- **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 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**


# Charlottesville Climate and Sustainability Action Dashboard

## Acting on Climate Together

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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
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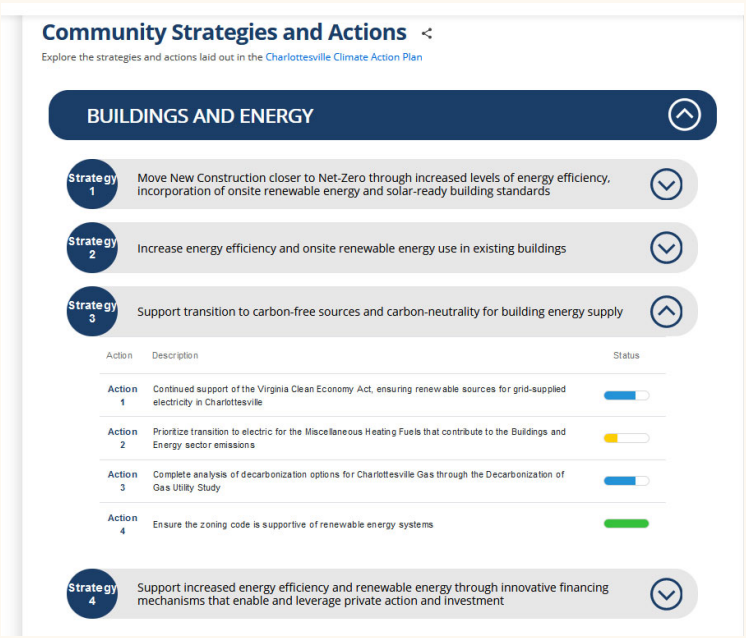
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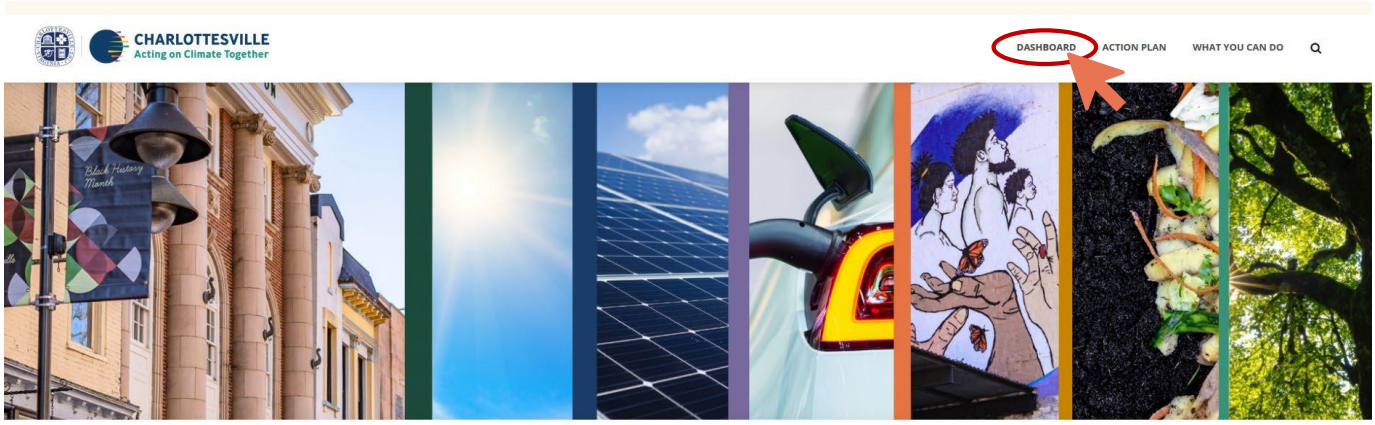
BUILDINGS AND ENERGY
Strategy 1
Move New Construction closer to Net-Zero through increased levels of energy efficiency, incorporation of onsite renewable energy and solar-ready building standards
Strategy 2
Increase energy efficiency and onsite renewable energy use in existing buildings
Strategy 3
Support 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
Action 2
Prioritize transition to electric for the Miscellaneous Heating Fuels that contribute to the Buildings and Energy sector emissions
Action 3
Complete analysis of decarbonization options for Charlottesville Gas through the Decarbonization of Gas Utility Study
Action 4
Ensure the zoning code is supportive of renewable energy systems
Strategy 4
Support increased energy efficiency and renewable energy through innovative financing mechanisms that enable and leverage private action and investment

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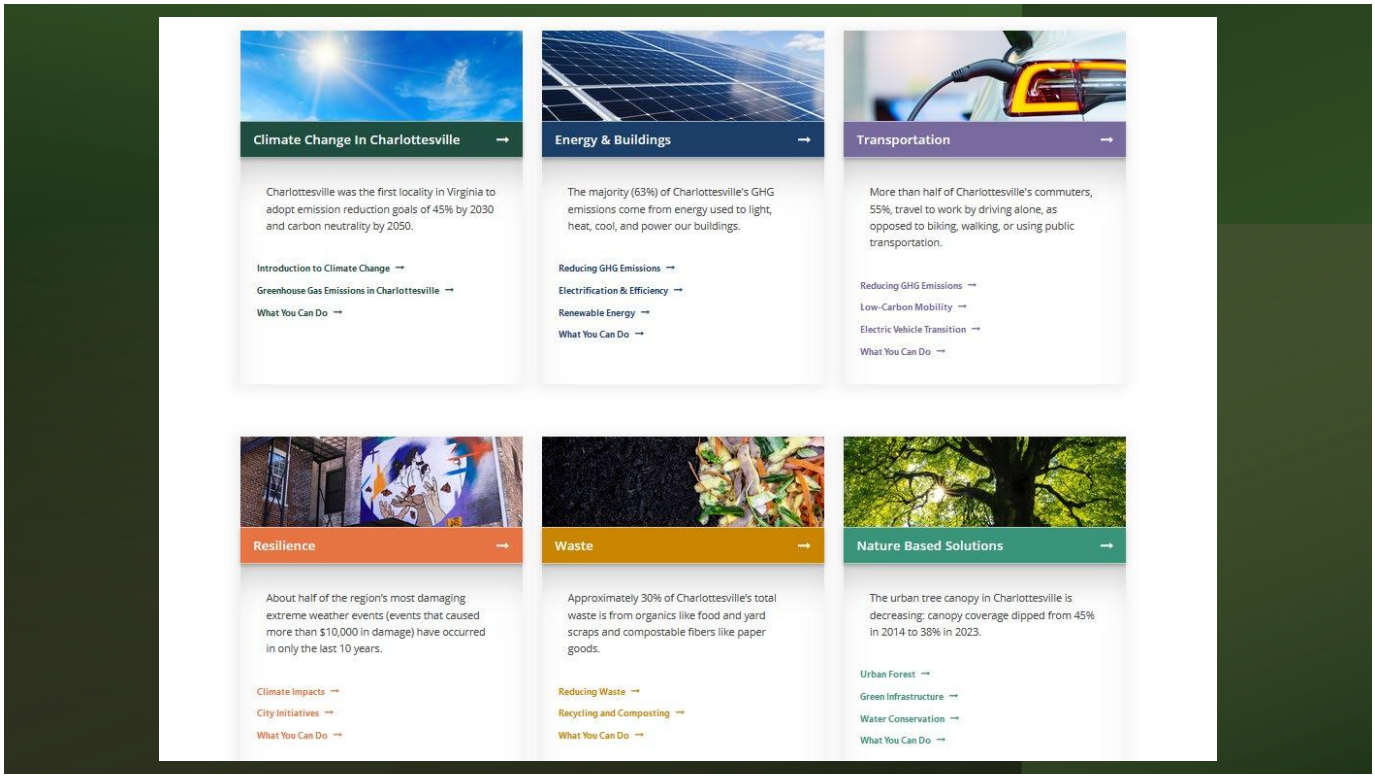

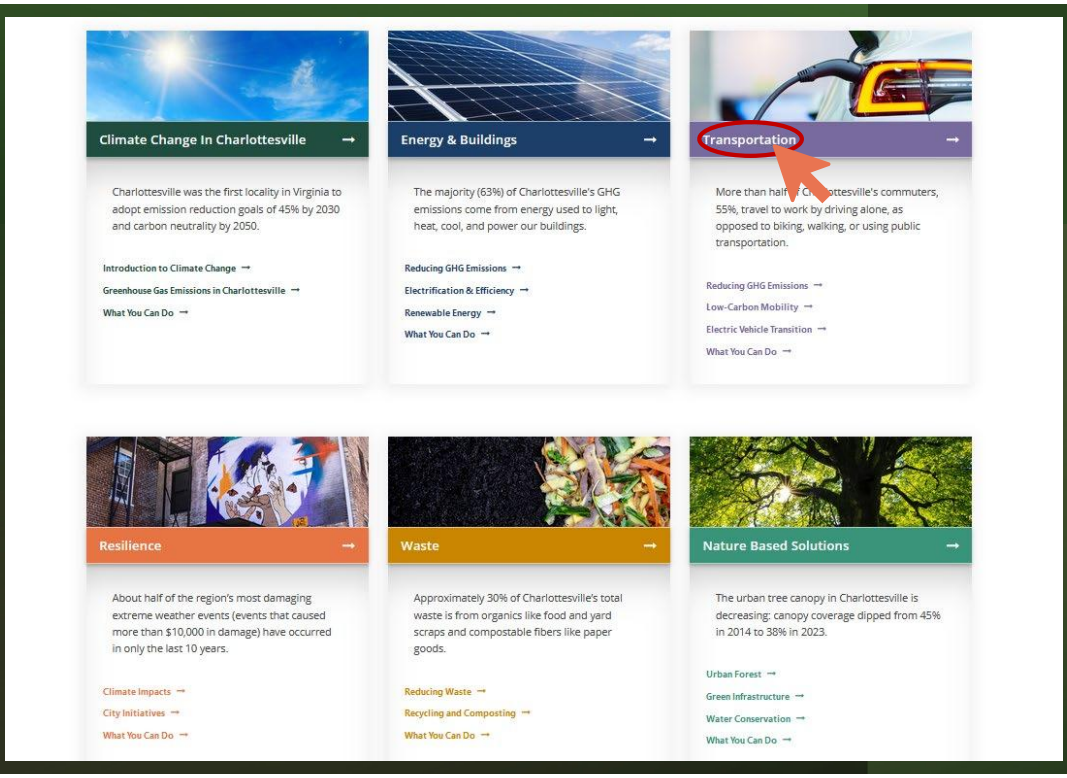


Low-Carbon Mobility

## 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.


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

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DASHBOARD ACTION PLAN WHAT YOU CAN DO

## 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

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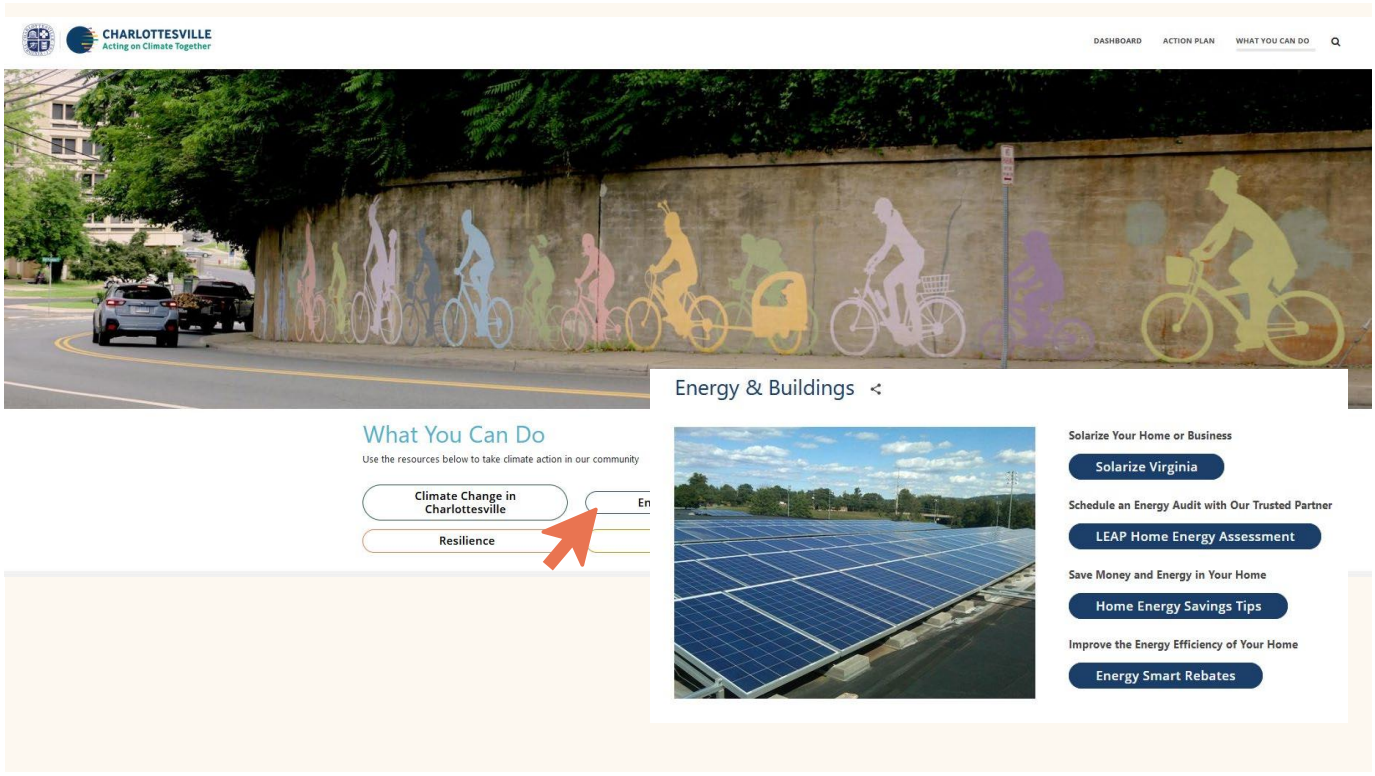



# *Looking Ahead:* FY25 Workplan – New Items

# Community-Wide EV Charging Study

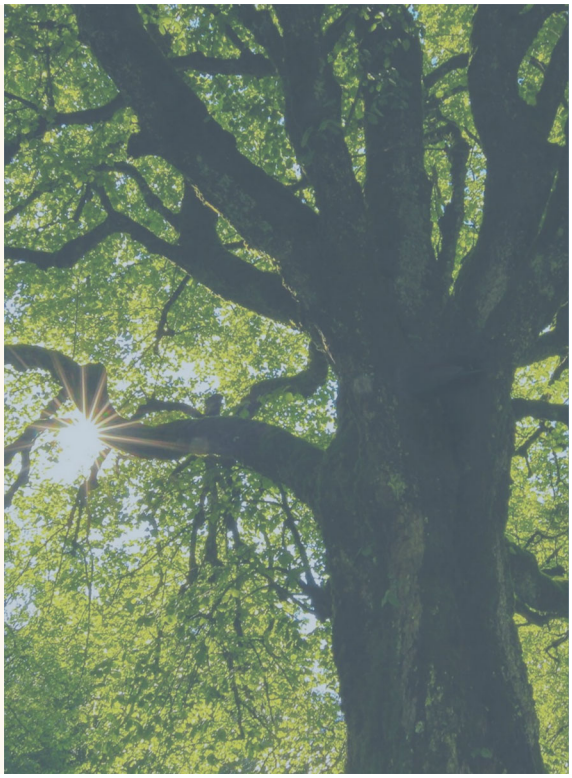
- Contemplates future needs for community charging infrastructure
  - Public, Private, Workplace
- Examines opportunities for municipal fleet electrification (non-emergency, light-duty fleet)
- Collaboration with Albemarle County
- Cost: ~$110k from CF

# 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?