

2024

# Climate Action Report



City of Charlottesville  
Office of Sustainability  
7/23/2024

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## A Note from the Office of Sustainability Director

I would like to start by thanking team members, colleagues, peers, partners, and friends for the collective work and support that has gone into the last couple of years as it relates to our Climate Program. As repeatedly stated by City Manager Sanders, “climate is everywhere” – it is core to the mission of our Office of Sustainability and success will be achieved when we all, government and non-government, make it part of our work and figure out how to tackle these challenges and opportunities together.

Nearly two decades ago, City Council recognized and acted on the opportunity for formal, local climate commitment and action. In 2017, Charlottesville joined the Global Covenant of Mayors, committing to tackle climate work both in the mitigation (reducing emissions) and adaptation/resilience spaces. Fast forward to 2019 when, with strong community support, Charlottesville adopted updated, science-based greenhouse gas emissions reduction goals. We were the first in Virginia to set this local bar and applaud peer communities who have set similar goals. In 2023, Charlottesville adopted the very first community Climate Action Plan as an amendment to the Comprehensive Plan, officially raising the commitment to this work. It is important to emphasize this is a community plan as it takes the community to achieve the goals.

Now - in 2024 - we have a dedicated, three-person team climate team and we have expanded and dedicated capital funding to support this work. We are committed to using this funding to lead by example as a government organization, to support climate actions in the community, and to leverage outside funding where possible.

It’s been a journey to get to this point. It’s exciting to be where we are and we are proud to share this first formal Climate Action Report on behalf of the City of Charlottesville. It’s important to take a moment to celebrate all this community is doing. That said, the ongoing climate crisis demands our continued action. We look forward to more collective action.

With much appreciation,  
Kristel Riddervold  
Director, Office of Sustainability



## Letter from the Climate Program Manager

As I think back over the past 18 months since the formal adoption of Charlottesville’s Climate Action Plan in January 2023, it feels both like a very long time ago and like just yesterday. Back then, the Environmental Sustainability Division was part of the Public Works Department and staff turnover left me suddenly holding major responsibility for the Climate Program after only several months with the City. Today the Climate Team is a part of the newly formed Office of Sustainability (OS), a branch of the City Manager’s Office, and we are just that – a fully staffed and dedicated team of three (not counting the support we get from our Director and two other OS colleagues!)

It is an exciting time to be working in the climate space. Federal investments in clean energy, building efficiency, low carbon transportation, and other climate and sustainability initiatives are booming. Jurisdictions across the state, region, and country are adding sustainability staff and we are networking and learning from one another. Non-profits and businesses alike are working alongside government to help hasten the clean energy transition happening around us. Here at home, we have the support of City leadership, our elected officials, and the community. We are learning from larger jurisdictions who are further down the road to sustainability and striving to be leaders ourselves.

It is also a scary time to be working in the climate space. There is a sense of urgency that never relents. As climate professionals, we know how quickly emissions need to come down, which can feel the opposite of the way government often works. Funding opportunities are timebound, sometimes one-time, and often competitive. We are often working under pressure. Climate also touches everything, so we are working across multiple sectors all the time. We cannot wait until we get building emissions under control to start thinking about transportation emissions. We cannot focus solely on reducing emissions, we must also build resilience to the climate impacts that are already here.

When I feel daunted by the work ahead of us, I look around and feel comforted because City Climate Staff are not working alone. We are working alongside our colleagues across the City organization and Albemarle County and with partners across the community. This report is an overview of the climate work that has happened in Charlottesville since the passage of the Climate Action Plan – *that we know of!* When I look at it all together, I am impressed by our little City. We have much work to do to reach our community climate goals, but I believe we can reach them if we work together, think creatively, and put aside our fears of trying new things. I hope you’ll join us.

In service,  
Emily S. Irvine  
Climate Program Manager



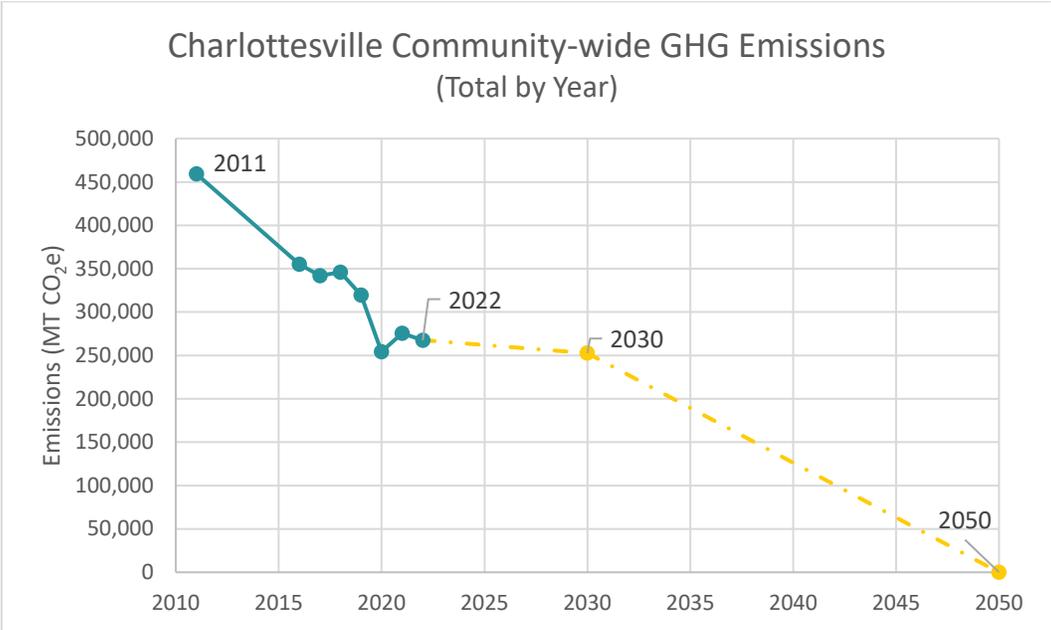
# Summary: A Year – or 18 months – in Climate Action

Charlottesville’s first Community Climate Action Plan (CAP) was adopted by City Council on January 9, 2023 as an addendum to the City’s Comprehensive Plan. The CAP commits to annual updates on progress made both by the City and within the wider community. This report is the first such update and contains brief updates on all of the initiatives and projects that were on part of the Climate Program’s FY24 Climate Action Workplan. The report also includes updates on items that weren’t part of the workplan but happened along the way and are relevant to the goals.

## Updated GHG Inventory

Charlottesville’s commitment to the [Global Covenant of Mayors for Climate and Energy](#) (GCoM) requires us to report our greenhouse gas (GHG) emissions annually. Because we are now also required to report on climate action progress annually, we made the decision to align that reporting. Going forward, the publication of the annual emissions inventory will be a part of the annual progress update.

The 2022 emissions inventory demonstrated continued progress toward meeting Charlottesville’s GHG reduction targets, with emissions down 42% relative to the 2011 baseline. The preceding two years were impacted by pandemic-related closures and showed substantial reductions relative to pre-pandemic inventories. Although municipal and community activities had largely returned to normal by 2022, there was a sustained drop in GHG emissions, with lower emissions in 2022 compared to 2021. These trends suggest Charlottesville is on track to meet its 2030 goal of 45% emissions reductions.



The continued GHG reductions were driven by actions at the local level, in addition to policies at the state and federal levels. At the local level, reductions in community emissions were due primarily to a drop in residential energy usage, which declined 10.6% relative to 2021. Emissions from the other main sectors, commercial energy and transportation, were essentially flat relative to 2021, but remained well below their pre-pandemic levels.

Municipal emissions showed a slight increase from 2021 as municipal operations and office occupancy returned to normal. However, relative to the baseline, municipal emissions were down significantly, having declined 36% since 2011. This drop in municipal emissions has been driven primarily by reductions from the Buildings & Facilities and Streetlights & Traffic Signals sectors, both of which were down >40% from their baselines. The Office of Sustainability is working to accelerate reductions in municipal emissions in FY 2025, as we begin to implement streetlight upgrades, look for opportunities to electrify our municipal fleet, and begin energy retrofit projects via our energy performance contract mechanism.

Beyond community-level actions, much of Charlottesville's progress on emissions reductions has been driven by regulatory and market changes in the electric and transportation sectors. In the electric sector, the rapid greening of the grid over the past decade has provided significant climate and health benefits. On a per kWh basis, emissions from electricity generation have declined 38% between 2011 and 2022. This trend was driven primarily by a significant decline in coal use, which now accounts for under 5% of electricity generation in Virginia.<sup>1</sup> Grid decarbonization will continue based on regulations in the Virginia Clean Economy Act (VCEA), which requires zero-emissions electricity statewide by 2050.

Regarding transportation, emissions from this sector are down 17% relative to pre-pandemic levels, and 41% relative to the 2011 baseline. This trend was driven primarily by increases in vehicle efficiency and electric vehicle adoption, along with a modest 8% drop in vehicle miles traveled from the 2011 baseline. Improvements to federal fuel economy standards, including increased electric vehicle market share, are likely to provide further reductions in transportation emissions in future years. Electric vehicle adoption has been particularly robust in Charlottesville, representing one out of every six new vehicles registered in 2022<sup>2</sup>.

Continuation of these policies underpins much of the City's climate efforts and are essential to meeting our ambitious emissions targets. The increasingly clean electric grid required under the VCEA provides a pathway for deeper decarbonization efforts in the Commonwealth. Sustained

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<sup>1</sup> *Virginia Electricity Profile 2022*, (November 2, 2023). US Energy Information Administration. [https://www.eia.gov/electricity/state/virginia/state\\_tables.php](https://www.eia.gov/electricity/state/virginia/state_tables.php)

<sup>2</sup> Yip, Arthur (Sept. 25, 2023) *There Were Four Counties in California with Electric Vehicle Market Penetration Exceeding 30% as of December 2022*. US Department of Energy. <https://www.energy.gov/eere/vehicles/articles/fotw-1309-september-25-2023-there-were-four-counties-california-electric>

progress toward our carbon neutrality goal will require shifting fossil fuel uses, such as vehicles and home heating, to the increasingly clean electric grid. There are currently a suite of federal incentives that can accelerate this move toward electric vehicles and appliances, but local uptake of these incentives will require robust community engagement and support. The City’s Climate Program looks forward to working with the community to deliver on the benefits of climate action.

<b>Community-wide Inventories</b>								
<b>Sector</b>	<b>CO<sub>2</sub>e (MT)</b>							
	<b>2011</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
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

<b>Municipal Inventories</b>								
<b>Sector</b>	<b>CO<sub>2</sub>e (MT)</b>							
	<b>2011</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
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

## Reporting and Scoring

As mentioned above, Charlottesville is required by its commitment to the Global Covenant of Mayors to report our community and municipal GHG emissions annually. We use a reporting platform called “CDP” (formally Carbon Disclosure Project) to publicly report our emissions. [CDP](#) is a global non-profit organization that helps thousands of businesses and governments across the world with environmental reporting. More than 200 Cities across the United States uses CDP as for their emissions disclosure commitments. In 2023, Charlottesville earned a CDP Score of “A-”.

Through GCoM, we have commitments to both mitigation and adaptation planning. The adoption of the Climate Action Plan was the culmination of our mitigation planning. The current, in-progress Resilient Together project fulfills our commitment to adaptation planning. In the 2023 evaluation cycle, Charlottesville earned the following badges from the GCoM for our commitments to ongoing climate action:



## City-Led Initiatives

The following are brief, high-level updates on City-led climate and sustainability initiatives. This list is based on the Climate Program’s [FY24 Climate Action Workplan](#) but includes several projects that were not contemplated there. These initiatives were led by various City Departments, including the Office of Sustainability.

<b>Symbol Key:</b>			
	Bonus Item, not in FY24 Workplan		Ongoing program
	Item Complete		In-progress Project

### Transit Alternative Fuels Feasibility Study

Charlottesville Area Transit (CAT) completed its multi-year Alternative Fuel Feasibility Study in February of 2024. The study kicked-off in 2022 and examined various pathways for aligning CAT’s operations with the City’s emissions reduction goals. Ultimately CAT recommended and Council approved a decision to pilot two zero-emission bus (ZEB) technologies – battery electric and hydrogen fuel cell – and transition completely off fossil fueled buses by 2040. No new diesel buses will be purchased after 2028 and the first battery electric buses (BEB) is anticipated to join CAT’s fleet in 2025. CAT released a short [video](#) presenting this strategy. The study’s recommendations support CAT’s plans to expand services through implementation of recently-completed Transit Strategic Plan.

### Charlottesville Area Transit Strategic Plan

CAT completed its Transit Strategic Plan (TSP) in June of 2024. The TSP is a state-required planning document that details CAT’s current plans for service improvements over the next ten years. The TSP planning process allowed CAT to align recent transit service planning and fuel transition planning, marrying CAT’s previous planning effort, the 2021 System Optimization Plan, the 2022 Regional Transit Vision Plan (completed by the Thomas Jefferson Planning District Commission), and the Alternative Fuels Feasibility Study recommendations into a single document. The TSP describes CAT’s current anticipated timelines for expansion and capital improvements, doubling the amount of transit service provided over the next ten years, extending service to later evening, restoring and expanding Sunday service, and making frequency improvements that will lead to 30 minute or better service on all routes.

### Gas Utility Decarbonization Study

To align with the City’s Community Climate Goals, Utilities has solicited the expertise of the consulting firm Black & Veatch (B&V) to conduct a [Decarbonization Study](#) of the Natural Gas Utility. Currently ongoing, the study is evaluating Charlottesville Gas’ operations and current programs for

emissions reduction and will propose recommendations for expanding the utility’s energy efficiency programs for customers. Additionally, B&V is exploring several alternative pathways, including renewable natural gas (RNG), hydrogen technology, geothermal energy, and electrification. These pathways will be evaluated by their impact on emissions, reliability, availability in our community, and customer cost.

Charlottesville Gas is also working with LAUNCH! Consulting on community outreach for the Decarbonization Study. In March 2024, a virtual focus group was conducted with local businesses to gather input on decarbonization and natural gas. Public listening sessions are planned for Summer 2024. A final report is expected by December 2024.

### Zoning Ordinance Update

In December of 2023, City Council approved an updated zoning ordinance, one of the deliverables of a multi-year project called *Cville Plans Together*. The new zoning ordinance allows for increased density and some mixed-use development throughout the City. These urban planning strategies are important tools for reducing greenhouse gas emissions from the built environment because they allow more people to live in close proximity to jobs, recreation opportunities, and other services, and reduce dependence on cars for getting around. Denser development has the additional co-benefits of reduced infrastructure costs, reduced transportation costs, increased access to services, and the potential for preservation of greenspaces from the smaller footprint of development. Additional density can also help improve housing affordability and access, both of which are needed in Charlottesville and in alignment with the City’s Strategic Plan.

### Resilient Together

*Resilient Together* is a City, County, and UVA collaborative planning and implementation process designed to ensure our community is strong, safe, and healthy in the face of the changing climate. We know that it’s not enough to focus only on reducing our emissions, but that we must also adapt to the impacts of climate change that are already here and will continue to intensify over time. Planning for the project began in early 2023 and kicked off publicly in September. Over the past months, the Resilient Together project team, which is made up of staff from the City’s Office of Sustainability, the County’s Climate Team, and UVA’s Office of Sustainability have been working to share information about our regional climate hazards and to learn from community members how they are being impacted. We have held several public events and many meetings with staff across the three organizations, regional entities, community partners, and other local stakeholders. As we move into the “Design Phase” of the project in Fall 2024, there will be additional opportunities to participate in the project.

Climate adaptation and resilience planning is a requirement of the City’s commitment to the Global Covenant of Mayors for Climate and Energy. You can learn more about the project at [www.resilient-together.info](http://www.resilient-together.info).

## Residential EE & RE Deployment

One of the least expensive ways to reduce emissions is to use less energy through energy efficiency measures. The City's Climate Program works with the local non-profit Local Energy Alliance Program (LEAP) through an annual program support agreement to help make homes in Charlottesville safer, healthier, and more affordable through energy efficiency and renewable energy installation. In 2023, LEAP connected residents across the income spectrum with funded energy efficiency service programs and renewable energy programs, including 12 market-rate installations through Solarize Charlottesville and 21 installations through Dominion Energy's Low-Income Solar program. They also insulated 53 homes, installed 56 heat pumps and replaced 37 thermostats in the City, all of which are important home energy savings measures.

## Gas Service New Connection Fee

Charlottesville Gas currently offers gas service installation up to 150 feet at no cost to residential customers if the City's investments in installation costs are offset by the revenue generated within a payback period of approximately 4 ½ years. Per an adopted amendment to City Code Section 31-31, beginning January 1, 2025, Charlottesville Gas will no longer offer service line installations for qualifying appliances at no cost to the customer. Under this amended ordinance, gas services with qualifying appliances, such as gas heat or gas water heating, will pay a \$340.00 connection fee for the new service, up to 150 feet of service line. Charlottesville Gas will use the funds from this connection fee to finance expanded energy efficiency programs to promote energy savings and reduce greenhouse gas emissions.

## Federal Grants

2021's Bipartisan Infrastructure Law (BIL), 2022's Inflation Reduction Act (IRA), and 2022's CHIPS and Science Act amount to billions of dollars of federal investment in climate and sustainability projects. Some of the programs funded by these laws are formula (population) based, but many are competitive grant opportunities. City staff from across the organization have been working to help bring as much of this funding to our community as possible. We continue to monitor funding opportunities and ideate potential projects. Below is an overview of the grant opportunities that have been pursued over the past year.

### *Environmental Protection Agency (EPA) Renew America's Schools Grant*

Office of Sustainability, in coordination with Charlottesville City Schools (CCS), applied for \$6.8 million in funding (\$476,745 in local cash and in-kind match) from the first round of EPA's Renew America's Schools Grant Program. The proposed project involved deep energy retrofits (lighting and HVAC) and solar PV installation at Charlottesville High School, as well as education and workforce development. It was not selected for funding.

### *USDA Forest Service Urban and Community Forestry Grant*

The City of Charlottesville was awarded \$150,000 from the United States Department of Agriculture Forest Service Urban and Community Forestry Inflation Reduction Grant Program to support Urban Forest Management Planning with a focus on serving disadvantaged communities and addressing city-wide needs regarding urban forest management planning, tree canopy retention and advancement, vegetation analysis, and citizen volunteer programming. The City of Charlottesville has delivered Urban Forest Management Programming for several decades but is currently relying on a 2009 program plan. The core objective of this project, which is supported with supplemental local funding, is to produce a comprehensive, adaptive management plan that aligns with related, relevant materials, including the current Comprehensive Plan, the Climate Action Plan, and the Climate Risk and Vulnerability Assessment.

### *Department of Energy (DOE) Energy Efficiency and Conservation Block Grant (EECBG)*

The City of Charlottesville is an eligible entity for of funding through DOE's EECBG Program Formula Grant. Grants are awarded on a formula basis to jurisdictions across the country according to population, and Charlottesville's allocation is \$76,840. The funding will be used to provide no-cost home energy audits to City residents whose income is up to 150% AMI. This program will be supported by the Community Energy Resource Hub that is currently under development in partnership with LEAP and the Community Climate Collaborative.

### *DOE Communities Sparking Investment in Transformative Energy (C-SITE) Grant*

In Coordination with CCS, Office of Sustainability staff, applied for \$1.3 million in funding from the DOE C-SITE (\$97,634 local cash match) in May 2024. The proposed project would fund a suite of energy efficiency upgrades at CATEC, including rooftop solar, HVAC replacements, and EV charging, in addition to establishing a partnership with FLIPP Inc, a local community-based nonprofit that provides solar installer training and certification for underserved community members. DOE will announce winners of this grant program in late 2024.

### *EPA Clean School Bus Rebate*

In February of 2024, Office of Sustainability staff, in coordination with Charlottesville Area Transit and CCS, applied for funding for two Electric School Buses (ESBs) through the second round of EPA's Clean School Bus Rebate Program. In late May 2024, the City was notified of selection for \$420,000 in CSB rebate funding that will support the purchase of two ESBs in FY25, one of which will be equipped with a wheelchair lift. Our school bus distributor has indicated a 9 – 12-month lead time between bus purchase and delivery, so we anticipate the buses being brought into service sometime in 2025.

### *EPA Environmental Justice Government to Government (EJG2G)*

In November 2023, the Resilient Together project team was notified of a successful application for funding through the EPA's EJG2G grant program in the amount of \$460,000. These funds will support the Climate Resilience Cohort, a community engagement initiative to partner with community-based organizations (CBOs) that serve disadvantaged or vulnerable community members in Albemarle County and the City of Charlottesville. Up to ten participating CBOs will receive a total of \$40,000 each to participate in the Cohort - \$15,000 for the planning phase and \$25,000 to implement a community-led resilience project. Albemarle County was the lead applicant on this grant with the City as a primary project partner.

### *EPA Climate Pollution Reduction Grant (CPRG)*

The CPRG program provides \$5 billion in grants to states, local governments, tribes, and territories to develop and implement ambitious plans for reducing greenhouse gas emissions and other harmful air pollution. The first phase of the program involved grants for planning. Virginia DEQ was the lead state agency that received this planning grant funding. Office of Sustainability staff, along with other local government peers, engaged with DEQ on the development and review of the Priority Climate Action Plan in order to ensure alignment with our local CAP. The City of Charlottesville also coordinated with Virginia Energy on letters of support and a list of potential projects for a multi-state competitive implementation grant application (Municipal Building Coalition), led by Hawaii, that is focuses on the advancement of solar and battery storage projects. Award announcements are anticipated later in 2024.

### *Pipeline and Hazardous Materials Safety Administration (PHMSA) Natural Gas Distribution Infrastructure Safety and Modernization (NGDISM) Grant*

In April 2023, Charlottesville Utilities was awarded a \$7.1 million grant from the PHMSA NGDISM program, which is part of the Bipartisan Infrastructure Law. This grant facilitates the completion of Utilities' system-wide upgrade project by expediting the replacement of the last remaining section of legacy pipes. The last mile of 10" cast iron main line will be replaced with 4" high-density polyethylene (HDPE) plastic pipe, first generation polyethylene and other legacy pipe will be replaced with 2" HDPE, and 20 gas meters will be removed from the interior of several buildings. The project will help to eliminate all components in Charlottesville's natural gas system that have a higher probability of leaks. Surveying for the project began in December 2023, engineering design is occurring throughout 2024, and construction is scheduled to start in Spring 2025.

### **Re-Launch of EV Charging Infrastructure Grant**

In Fall 2023, the Climate Program re-launched its [EV Charging Infrastructure Grant](#). This program was first launched in 2013 and provides funding assistance for installation of public-facing EV chargers located near retail or other commercial centers. EV adoption has been relatively high in Charlottesville, but future growth of the EV market depends on widespread charging infrastructure.

We hope that our grant program contributes to the build-out of a more robust community charging network and will continue to keep promoting it.

## LED Streetlight Conversion Project

In 2022, streetlights and traffic signals accounted for a little more than 7% of the City’s municipal emissions. Though this is a small drop in the bucket of our community-wide GHG inventory, converting our city’s streetlights to LED lighting technology will result in significant cost savings for the City, with a financial payback period of just a few years. LED bulbs (or light emitting diodes) use far less electricity than the high intensity discharge bulbs currently installed in most of the City’s streetlights. In FY2024, City Council allocated \$600,000 in the Capital Improvement Program to convert all Dominion-owned streetlights to LED bulbs. The result is a multi-year program that will work across the city, starting along large traffic corridors in Summer of 2024.

## Energy & Water Management Program

The City’s Energy and Water Management Program (EWMP) is made up of staff from the Office of Sustainability and Public Works (Facilities Development and Facilities Maintenance). They work to consistently track the utility usage and building performance of all municipal facilities, including schools, and implement programs and initiatives to save energy and water. In addition to the City’s high level emissions reduction goals, the EWMP team has set and is working towards performance targets for the City’s building portfolio:

- Greenhouse Gas Goal
  - 45% reduction in Greenhouse Gas by FY2030
- Energy Goals
  - 30% reduction in Energy Use Intensity by FY2030
  - 3.75% decline in annual energy usage
- Water Goals
  - 30% reduction in Water Use Intensity by FY2030
  - 2% decline in annual water usage

The team recently published their [annual report on energy and water performance for FY2023](#).

## Urban Tree Planting and Invasive Species Management

### *Urban Tree Planting: Tree Installations on Public Rights-of-Way, Schools, and City Parks*

Each year, the City plants new trees in City rights-of-way, schools and parks. Tree planting on City property is carried out by Park and Recreation Department staff and managed by the City’s Urban Forester, who is tasked with monitoring and caring for all trees on City-owned property. In Spring of 2023, 161 2” caliper (caliper = diameter of tree measured six inches above soil line) trees were

planted. In fall 2023, 186 trees were planted in public rights of way, schools, and parks. An additional 25 trees were planted by volunteer organizations in select parks in the fall of 2023. Spring of 2024 showed the installation of 15 trees in select locations in City Parks and Rights of Way. Projected plantings for Fall 2024 include 165-185 trees (2" caliper), with an additional 20-30 trees planted by volunteer organizations (Charlottesville Area Tree Stewards and Re Leaf Cville). Please note, these tree counts are separate from the trees planted as part of Forest Restoration projects described below.

### *Invasive Species Management Site Restoration*

In the Fall 2023, Parks and Recreation initiated an ambitious forest restoration initiative to manage invasive species in select locations throughout the city. The overarching goal for these projects has been to increase tree canopy by removing invasive vines from mature trees (liberating trees on management sites and preserving the trees we have) and removing invasive shrubs/small trees/vines from a growth space so replacement trees and native groundcovers can become established (planting trees that will contribute to increased tree canopy).

Management plans were created for each individual management area (park/easement), each with specific timelines and objectives. In general, management objectives for each management area included:

- Control/contain invasive vegetation on urban forestland along Rivanna Trail to eliminate seed sources and provide conducive environment for replacement vegetation.
- Restore native vegetation.
- Preservation of water quality and stream bank integrity.
- Enhance existing wildlife habitat.
- Preserve/enhance recreational integrity of property.
- Public Education (regarding invasive plant ecology, wildlife enhancement, outdoor recreation, and site restoration).

Property/Park	# Acres	Treatment	# Seedling/Saplings Projected for Planting
Azalea Park	3.2	Forestry Mulcher	150
Forest Hills Park	1.5	Forestry Mulcher	100
Jordan Park–Rivanna Trail Access	7.7	Forestry Mulcher	350
Washington Park	.5	Goats	50
Fry’s Spring	1.0	Goats	100
Oakwood Cemetery	.5	Forestry Mulcher	Plantings to occur Fall 2024
John Warner Parkway	2.5	Forestry Mulcher	Plantings to occur Fall 2024
Free Bridge	1.8	Forestry Mulcher	210
Quarry Park – Rivanna Trail	1.7	Forestry Mulcher	320
<b>Totals</b>	<b>20.4</b>		<b>1280</b>

1: Table showing number of acres restored using forestry mulcher or goat browse, park/easement treated, treatment method, and number of trees planted. Important to note that several hundred pounds of warm-season grasses were installed at these sites in addition to native plants and wildfires.

*Fry’s Spring Forest Restoration Project*

In the Fry’s Spring Forest Restoration Project, goats were used to clear the ground and to free mature trees of invasive vines. This made it possible to plant 100 new tree seedlings in the cleared area. Ongoing maintenance will be necessary for some years to ensure the continued suppression of invasive species. Treatments used (goats vs forestry mulcher) depend on terrain, presence of water, and presence of the public. For example, Fry’s Spring had an extreme slope with a perennial stream at the bottom of the slope. In this instance, goats were a preferable treatment choice.



*Goats working to clear invasive species during the Fry’s Spring Forest Restoration Project*

### *Jordan Park-Rivanna Trail Access Forest Restoration Project*

In the Jordan Park-Rivanna Trail Access Forest Restoration Project, the invasive plants and mature trees were cleared with a forest mulcher. Jordan Park (Rivanna Trail Access) has flat terrain and trail use is infrequent, with trail entrances easy to close for safety concerns; therefore, forestry mulcher machines were a reasonable approach. In the space cleared, 350 new tree seedlings were planted. Ongoing maintenance will be necessary for some years to ensure continued suppression of invasive species.



*Before and after view of the Jordan Park-Rivanna Trail Access Forest Restoration Project*

### Bicycle Infrastructure

Charlottesville is working to become a more bicycle-friendly city. In the last fiscal year, the City completed several projects to serve that goal:

- Inventoried all publicly accessible bicycle parking in the City and installed bike racks at six new locations Downtown
- Added new bike lanes on Preston Avenue and Monticello Avenue
- Secured funding from VDOT to study a road diet alternative for 5<sup>th</sup> Street SW that would include a protected cycletrack
- During bike month (May), provided bike valet parking at Fridays After Five
- The newly-completed Belmont bridge has the first concrete barrier protected bike lanes in the City

#### FUN FACT:

City of Charlottesville staff were the winners for most bike miles traveled per participating employee for the inaugural Bike Month Business Challenge held in May 2024 by the Thomas Jefferson Planning District Commission!

Additionally, the City partners with Veo to provide micro-mobility service to the community through dockless scooters and e-bikeshares. In 2023, Charlottesville residents took 312,812 scooter and e-

bike rides adding up to 449,880 miles. An October 2023 local user survey found that 19% of the rides taken on Veo bikes and scooters replaced car trips, meaning that almost 60,000 car trips were avoided through this service. Reducing car trips is a key strategy for reducing emissions from transportation.

## New/Improved Sidewalks

Each year, the City allocates funding for sidewalk improvements and works to repair, improve, and add new sidewalks throughout the city. In 2023, three new sidewalks were constructed (Harris St, E High St, and Rose Hill Dr). Recently, the City completed a sidewalk prioritization study to sort all upcoming sidewalk projects into three tiers by ease-of-completion. It indicates a large gap between annually allocated funds and need for sidewalk improvement project. Having this study completed will help City Staff in making Capital Improvement Program requests for sidewalk projects as well as applying for federal or state assistance for projects.

The City is also working to ensure that sidewalks are ADA-compliant and accessible to community members of all mobility levels. During 2023, inspections of all City-owned right-of-way, including sidewalks, were completed to assess ADA compliance and inform the City's strategy for addressing and improving conditions for all users within the existing sidewalk network. This strategy, along with the recommendations for how the City should improve access to its buildings and services, is being developed as part of current work on the ADA Transition Plan.

## GO Solar

The Office of Economic Development has partnered with FLIPP Inc. to offer the GO Solar program, an Installing and Designing Photovoltaic (PV) Systems training where graduates can earn their North American Board of Certified Energy Practitioners (NABCEP) PV Associate certificate, an industry recognized entry-level solar certification. FLIPP Inc. is a non-profit based in Buckingham County, VA that seeks to build an inclusive workforce that empowers low-income communities through renewable energy and entrepreneurship development training. The course encompasses 40 hours of comprehensive training that teaches participants how solar photovoltaic systems work, how they are designed, how to predict the output of a system, and how systems are installed. No prior experience in the solar industry is required, and graduates also get additional support with their job search following completion of the program. The partnership funds income-qualifying students from the City to participate in the training program.

## Community Engagement

Community Engagement is a critically important part of the work of the Office of Sustainability. Because ~95% of Charlottesville's GHG emissions are from community sources – our homes, businesses, waste, and vehicles – this truly is a collective action issue that will take everyone's

participation to reach our goals. It's part of our work to educate, encourage, and incentivize community participation in climate action and we do it through a variety of ways, including:

- Public events – hosting and participating
- Media appearances – Television, print media
- Education campaigns
- Social media
- Presentations – public and private
- Guest lecturing



*The Office of Sustainability partnered with Albemarle County's Office of Equity Inclusion, the City's Office of Human Rights, Charlottesville NOW, and other community organizations to sponsor a Community Read of "All We Can Save", a collection of essays by women leading the climate movement. Pictured: Moderator Emily Irvine and panelists Barbara Brown Wilson, Josie Fischman, Ashley Marshall, Tish Tablan, and Susan Kruse.*

Since the passage of the Climate Action Plan in January of 2023, Office of Sustainability staff have made over 50 media appearances and participated in more than 20 public events.

In order to increase community awareness of the Office of Sustainability's work, we are launching a Climate and Sustainability dashboard! Check it out at [climateaction.charlottesville.gov](https://climateaction.charlottesville.gov)

## Utilities-Led Energy Efficiency Programs

### *CGEEP – Charlottesville Gas Energy Efficiency Program*

Since July of 2019, Charlottesville Gas has partnered with LEAP to offer income-qualified gas customers a program designed to help increase the overall energy efficiency of their homes. The Charlottesville Gas Energy Efficiency Program (CGEEP) provides qualified households with free home weatherization improvements and funds the replacement of inefficient natural gas appliances. The program is open to residents of single-family homes with household earnings of 80% or below Area Median Income (AMI) and if the account holder is 60 or older of 120% or below State Median Income (SMI). On average, winter-time gas consumption is reduced by about 20% for program participants. To date, the Charlottesville Department of Utilities has invested \$221,000 in the CGEEP program, serving 179 households. In FY2024 (July 2023 to May 2024), 38 households were served at a cost of \$41,230.

### *Attic Insulation Rebate*

In 2020, Charlottesville Gas began offering customers a rebate of up to \$300 towards adding attic insulation in their homes when installed by a licensed contractor. Upgrading attic insulation is one of the most cost-effective ways to increase a home's comfort, lower heating and cooling bills, and improve a home's energy efficiency. To date, Utilities has invested \$13,000 in this program, serving 48 homes. In FY2024 (July 2023 to May 2024), 7 households were served at a cost of \$2,100.

### *Programmable Thermostat Rebate Program*

Since 2001, Charlottesville Gas has been offering a rebate of up to \$100 for purchasing and installing a programmable thermostat. To date, Utilities has invested \$206,00 in the program, serving 2,279 homes. In FY2024, 33 households were served at a cost of (\$3,173)

### *Energy Saving Trees Program*

The Utilities Department partners with the Arbor Day Foundation on the Energy-Saving Trees Program. This program gives away free trees to Charlottesville Utilities customers to strategically plant on their property, providing energy- and cost-saving benefits to their households and the broader community. Strategically planted trees provide cooling shade from the sun in warm months and act as a barrier to cold winds during the winter months. As of March 2024, 700 trees have been given away for planting. Beginning in the fall of 2024, Utilities will increase the frequency of the Energy-Saving Trees Program to occur twice a year, once in the spring and once in the fall.



### *Carbon Offset Natural Gas Program*

In July 2021, as a part of the City Council-approved Utility Rate Report and in response to customer interest, the Department of Utilities voluntarily enrolled in a Carbon Offset Program offered by their gas supplier, British Petroleum (BP). This program allows Utilities to invest in various carbon sequestration and offset projects worldwide. From creating new solar power generation projects in India to sustainable forest management projects in Tennessee, this program offsets 25% of Charlottesville Gas’ annual greenhouse gas emissions, helping to align the utilities’ operation with the City’s climate goals. Projects for investment (or “retirement” of offsets) are chosen annually and will be selected in partnership with the Office of Sustainability starting in FY25.

### **City Environmental Regulations Review**

During the process of drafting the Charlottesville Development Code, there were numerous requests for changes to the City’s environmental regulations. These included ideas such as significant changes to, or elimination of, the critical slopes rules, expansion of the stream buffer program, changes to the stormwater management rules, and implementation of rules related to reducing the risk of climate change and climate resiliency. Ultimately, the time, resources, and study necessary to pursue these objectives was beyond the scope of that project and requires its own focused project. The objective of this proposed project would be to align the City’s environmental regulations with the Comprehensive Plan.

### **Commercial Property Assessed Clean Energy (C-PACE) >>>**

C-PACE is a clean energy financing tool that allows commercial building owners to borrow money for energy efficiency, renewable energy, and resilience building projects and make repayments via an assessment on their property tax bill. Virginia has a state-wide program, offered through Virginia Energy and its program administrator, the Virginia PACE Authority, that localities can participate in that would allow local property owners and developers to access the program. City Council would

need to pass an ordinance that would authorize Charlottesville to participate in the statewide C-PACE program. Office of Sustainability staff has been working internally to educate staff across relevant City departments about the program and process. While we were not able to pass the ordinance in FY24, it will roll onto the FY25 Climate Program workplan.

## Green Bank Feasibility Study

As clean energy economies and markets expand, various state, local, and private entities have been working to establish green banks. Green banks are specialized financing institutions that use limited public resources to mobilize private investment in clean energy, clean transport, and climate resilience projects. They vary in legal structure and market approach to suit institutional and market landscapes.<sup>3</sup> In early 2023, a potential UVA student-led, faculty guided feasibility study for a local green bank was explored. While the initial approach did not move forward, one of the faculty members involved remained interested. Preliminary background information was shared and recently, along with research assistant support, a study has been re-initiated with results anticipated later in 2024. Relevant to this topic, as shared with the UVA study team, is the recent announcement of clean finance networks that have been selected for funding through the National Clean Investment Fund, part of the EPA’s Greenhouse Gas Reduction Fund. These coalitions will “create a national clean financing network for clean energy and climate solutions across sectors, ensuring communities have access to the capital they need to participate in and benefit from a cleaner, more sustainable economy”.<sup>4</sup>

## Flood Resilience Plan

In December 2021, the Virginia Department of Conservation and Recreation (DCR) awarded funds through the Community Flood Preparedness Fund (CFPF) for the development of a flood resilience plan for the City of Charlottesville. This citywide plan was developed by the City’s Water Resource Protection Program (WRPP) for approval by DCR to be eligible for future funding through, for example, the CFPF, for flood mitigation projects. The Flood Resilience Plan is an umbrella document that incorporates additional City and regional plans, CIP identification and prioritization efforts, and WRPP initiatives. The resources and strategies listed in the document aim to address the impacts of all flooding, whether local or riverine, while also providing comprehensive solutions that incorporate public safety, economic vitality, and environmental health improvements. DCR issued its approval of the plan in April 2024.

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<sup>3</sup> Commonwealth Clean Energy Financing Authority. (January, 2022). *Preliminary Market Assessment Report*. Virginia Department of Energy. <https://www.energy.virginia.gov/energy-efficiency/documents/CEFA%20Preliminary%20Market%20Assessment%20Report%20Jan2022.pdf>

<sup>4</sup> (EPA Press Office, 2024)

## Green Building Standards >>>

Public Works, with the support of the Office of Sustainability, are working to develop Green Building Standards (GBS) for all municipally owned buildings, including schools, and to update the City's Green Building Policy. The GBS will formalize the City's commitment to LEED certification for new buildings and major renovations by detailing the high-performance measures all City facilities must meet. It will be inclusive of guidelines for new construction, major renovations, and operations and maintenance of existing buildings. This project is anticipated to be completed in FY25.

## Power Purchase Agreements >>>

One of the key barriers to the deployment of large scale solar is the cost of upfront owner financing, especially for tax-exempt entities who are not eligible for the associated investment tax credit. An intriguing option to address this barrier is a power purchase agreement (PPA), a long-term contract arrangement by which a third party installs, owns, and operates an energy system such as a solar PV system and the customer commits to purchasing the system's electric output at a negotiated rate. This approach is being considered in order to secure the largest feasible systems on some of the largest eligible municipal roofs (predominately CCS facilities). Staff are currently evaluating several recent pro bono proposals, cooperative procurement contract options, and various implications (i.e., financial, legal, operational) of this model versus owner financed, owned, and operated.

## Composting Program

Public Works and the Office of Sustainability work together to offer several opportunities for compost collection to Charlottesville residents. Currently, there is a year-round 24/7 drop-off program at one downtown location. Charlottesville residents can sign up to get the bin access code and drop off their compostable food scraps at their convenience. Work is underway to expand the program by adding three additional 24/7 drop-off locations in the coming months. A seasonal compost drop-off station is also offered at the City Market. This program is offered during the market season from April through October. Both programs supported by Black Bear Composting. In 2023, Charlottesville residents dropped off 9.5 tons of compostables through these programs, up from 7.2 tons in 2021 and 6.9 tons in 2022.

Additionally, Public Works collects leaves through the Fall City leaf collection program and delivers them to Panorama Farms for composting.

## City & School Solar Program

Currently, there are two CCS facilities with on-site solar systems (CHS, which has potential for a larger system and Lugo-McGinness Academy). As part of comprehensive energy audits that were conducted in 2022 by an energy services company, solar capacity was projected for a series of buildings (CHS, CATEC, Burnley-Moran, Greenbrier, Jackson-Via, Johnson, Walker Upper

Elementary). As described above (see PPAs), various funding/financing options are being evaluated as the best strategy for various-sized systems, including City CIP funding, Power Purchase Agreements, and grants. The first option (local funding) now has an added opportunity for access to IRS elective (“direct”) pay through which can result in a federal payment to the City based on project value and characteristics. The installation of solar systems has been a core element of several recent federal grant applications. A requirement for solar installation is the execution of interconnection agreements with Dominion Energy. At this time, approved interconnection agreements have been obtained for systems at both CHS and CATEC, each of which are sized under a capacity threshold so as not to trigger engineering studies by Dominion that could result in added project costs (initial and potentially ongoing) related.

### 0 East High Street

In November 2023, the City purchased a 20+-acre parcel adjacent to the Rivanna River at 0 East High Street. Much of the land area is located within FEMA’s floodplain boundary, so is not suitable for large-scale development, but is excellent for passive recreation or Park Space. This land purchase is in alignment with the Climate Action Plan, which calls for acquisition of land for public park expansion.

### Recycling Coach App Launch

The Department of Public Works partnered with Recycle Coach to launch a free mobile and web app to help make recycling and solid waste information more accessible to City residents.

Residents can access the interactive Recycle Coach app from their desktop computers and mobile devices. After inputting an address into the app, users will receive recycling information customized to where they live, including collection and event schedules, a database explaining what is and isn’t recyclable, important communications from the City, educational content, recycling quizzes, and more. [Learn more and download the Recycle Coach App.](#)

### School Bus Electrification Planning

Charlottesville’s pupil transportation service is delivered through Charlottesville Area Transit (CAT). In 2022, Superintendent Gurley made a request that the City explore the possibility of converting the City’s school bus fleet to battery electric (ESBs), in alignment with widespread community support for conversion to ESBs. After the successful application for funding support for two ESBs through EPA’s Clean School Bus rebate program (discussed above in the federal grants section), Office of Sustainability staff convened an interdepartmental group from to begin planning the school bus fleet’s transition from diesel to electric buses. Staff from CAT, Public Works, Neighborhood Development, Budget, and Sustainability are working together to plan for site, infrastructure, training, and future funding needs.

## Policy and Regulatory Activity

As mentioned throughout this report, local government work often relies on non-local funding from State or Federal agencies and programs. Our ability to serve the community is also impacted by state and federal policies and regulations. Office of Sustainability staff participate in advocacy at the state level around decisions or policies that shape our work, including through membership in the Virginia Energy and Sustainability Peer Network (VESPN). VESPN's policy committee, chaired by Charlottesville's Director of the Office of Sustainability and supported by staff from the Southeast Sustainability Director's Network, helps local government sustainability staff across the Commonwealth work together to understand, engage, and advocate for climate-friendly state policies.

This year, the City of Charlottesville engaged on the following state energy and climate issues:

- The Regional Greenhouse Gas Initiative, urging the Virginia Air Pollution Control Board to reject attempts to remove Virginia from this market-based, cap-and-invest regional initiative established to cap and reduce power sector CO2 emissions.
- The State Corporation Commission's (SCC) policy towards Dominion Energy's interconnection requirements for distributed energy resources (i.e., solar power generation systems), urging, amongst other point, that the SCC suspend the requirements and initiate investigations on alternative, less expensive communication technologies.

Additionally, the City of Charlottesville signed on to an amicus brief filed by several Virginia localities in support of the petitioner's motion for intermediate relief regarding a lawsuit against the State Air Pollution Control Board for removing Virginia from the Regional Greenhouse Gas Initiative. The revenue generated through RGGI is used for low-income home weatherization work and community flood preparedness, both of which impact Charlottesville's sustainability work.

## Community-Led Initiatives Updates

Charlottesville's CAP is a community plan with GHG reduction goals that require action and involvement by the whole community. While the City as a local government can and should be leading many projects, programs, and initiatives, progress is dependent on many other community groups doing important climate work. When the first FY24 Climate Action Workplan was developed, local community partners were invited to contribute their plans for the year. The following are updates provided by those community partners. Updates provided by City Climate staff, and gleaned from other reports and informational sources, are marked with a “\*”.

### Community-led Solar and EV Charging Installation

In 2023, Charlottesville residents and businesses applied for 123 permits for installing rooftop solar panels and 16 permits for installing at-home electric vehicle charging. This is the second highest number of annual solar installations in Charlottesville, and the highest number of annual EV charger installs. Further boosting uptake of solar, the City offers a tax incentive to property owners who install solar. Twenty-one property owners made use of this tax credit in FY24, representing over \$700,000 worth of solar installations.

### Albemarle Housing Improvement Program\*

AHIP's Energy Retrofit Initiative, a partnership with the Local Energy Alliance Program (LEAP), improves the efficiency and health of clients' homes, helps homeowners lower operating costs associated with heating and cooling, and reduces the residential energy footprint of our local community. In collaboration, AHIP and LEAP have been able to offer energy audits, emergency repair, and property rehabilitation, all while prioritizing energy efficiency. In 2023, AHIP served 7 households through their City Rehab Program, tackling more comprehensive projects that address a number of repair needs at once. AHIP's Emergency Repair Program served a total of 25 households in Charlottesville, providing services such as HVAC, electrical, and plumbing repairs, roof and window replacements, and the installation of accessibility tools for those with mobile impairments. These repairs and the installation of energy efficiency appliances largely benefit BIPOC-households, children, the elderly, and those living with a disability.

### Community Climate Collaborative (C3)

#### *The Green Business Alliance*

C3's Green Business Alliance has expanded to 24 member organizations. Total emissions reductions by the first cohort (original 15 members) reached 6,450 metric tons by the end of 2022 and are approaching the target of 45% total reduction by 2025. This has been accomplished by a collective effort focused on energy efficiency, solar power, and fleet management and vehicle conversions. Members have also engaged in secondary actions such as creating Climate Action Plans, installing

EV charging, implementing on-site composting, and providing green benefits to employees to encourage non-car commuting and help accessing in-home climate solutions like solar and EVs.

### *Make Your Own Impact*

C3 hosted its second annual Party for the Planet in October of 2023. The Party for the Planet brought together more than 400 attendees to learn about ways they can take action for climate and recognize the outstanding businesses, advocates, and nonprofit organizations who are taking action to improve our community. Attendees were able to sign up for solar assessments, energy efficiency audits, composting, and EV test drives while learning about other non-profits in the community who are working to build a livable and sustainable future.

### *Climate Kits for Kids*

In partnership with the Office of Sustainability, C3 delivered Climate Activity Kits to Walker Upper Elementary for the fourth consecutive year on May 30, 2024. Fifth grade students helped unload the truck and some acted as kit ambassadors for the classrooms. These ambassadors learned about the kit contents and were equipped to facilitate meaningful engagement with their peers. Climate Kits this year also included a Design Your Own Electric Bus project fresh on the heels of the City's adoption of a 2040 Zero-Emission Transit goal and the announcement of two new EV School Buses for CCS.



*Office of Sustainability and C3 staff encourage Walker Upper Elementary students to explore the contents of the distributed climate kits, answering questions and pointing to resources for more climate-related learning.*

### *Energy Efficiency Grants*

\$20,000 total was awarded to twelve small, BIPOC-owned businesses in the Charlottesville metro area, which included a contribution from Charlottesville's Office of Economic Development. These upgrades included smart thermostats, LED lighting, new Energy Star appliances, and weatherization

for brick-and-mortar locations. These upgrades directly lead to a 15,000 kg CO<sub>2</sub>e reduction in GHG emissions and will save a total of \$5,000 in annual energy costs.

### *Climate Services*

C3 has served ten area non-profits with professional-quality services, free of charge, since launching our Climate Services program in 2023. We have also provided paid services to a variety of small- and mid-sized businesses. Both of these cohorts are often unable to access high-quality consulting on energy and climate action due to limited interest from most consultants.

### *C3's Blog*

Within the last year, C3 has written 30 blogs on various topics with nearly 1000 visits. The most visited blog, "Charlottesville Moves Forward with Zero Emission Fuel Choices," had over 200 readers. The next most popular was part of the "New Year, New Fuel" series, discussing recommendations for Charlottesville's gas decarbonization study.

### *Transportation Equity*

As part of their promotion of transportation equity, C3 had 50 downloads of their Zero Emissions Bus (ZEB) Report. They've hosted webinars on the subject that have had up to 35 attendees and 60 online views. Leveraging as many platforms for in-person and digital communication, they have shared their resources and findings via local television interviews and YouTube views. C3 spearheaded a Recommendations Letter that garnered 644 individual signatures and over 25 organizational endorsements. In August 2023, C3's Climate and Health webinar had over 40 engagements and the corresponding report had 23 downloads. In the realm of environmental justice, C3 released their Climate Justice One-Pager and in July 2023 hosted a film screening and panel in recognition of Latino Conservation Week.

### *Energy Equity*

C3 is highly committed to promoting energy equity and the accessibility of resources and information. In March 2023, their Climate Justice Solar Scorecard Work had 75 material downloads and 65 webinar attendees. In August 2020, their Uncovering Energy Inequity project had 50 downloads of published materials and 88 webinar YouTube views. As mentioned, C3's Climate and Health webinar had over 40 engagements and the corresponding report had 23 downloads.

### *Cultivate Charlottesville\**

Cultivate Charlottesville is committed to engaging youth and community in building an equitable, sustainable food system through garden-based experiential learning, growing and sharing healthy food, amplifying community leaders, and advocating for food justice. Cultivate Charlottesville's Food Justice Network (FJN) is comprised of 35 organizations working to build a healthy and just food

system in Charlottesville that centers community voices and racial equity. FJN coordinates implementation of the Food Equity Initiative Policy Platform goals towards climate justice and urban agriculture in Charlottesville. In addition to facilitating the FJN, Cultivate Charlottesville hosts gardens and leadership programming at 7 CCS schools. These sites offer environmental education on subjects related to composting, tree stewardship, and promotes practices aligned with making progress towards the City of Charlottesville's climate goals.

### Cville 100\*

Cville 100 is a coalition of more than a dozen area non-profits working in the climate and environmental space. They bring member organizations together to share information and amplify one another's work. Cville 100 invites presenters from member groups, the local governments, and other experts to their monthly meetings to raise awareness about local environmental work. In 2023, they worked to raise awareness on how climate change is affecting vulnerable groups and prioritized education and local political action. They continue to seek out opportunities to present climate action issues at City Council and County Board meetings and make statements in support of sustainability measures and initiatives.

### Generation 180\*

Generation 180 is a Charlottesville-based, nationally focused nonprofit working to advance clean energy adoption across the country. With expertise in both the clean energy transition as well as storytelling, Generation 180 uses a variety of communication tools and campaigns to reach a broad audience. Generation 180's EV Ambassador program is among these creative approaches to outreach and education, allowing the lived experience of EV-users to encourage others to explore potential EV adoption for themselves. Current campaigns focus on flipping the script on the energy transition through storytelling and comedy. They also focus on helping schools to electrify their systems, install solar, and transition to electric school buses. Generation 180 makes taking climate action easy through their Electrify your Life and Ride resources.

### Local Energy Alliance Program (LEAP)

LEAP is a non-profit organization founded in 2009 with a mission to advance energy efficiency and sustainability in our community. Through energy audits, home energy upgrades, community education and outreach, and workforce development LEAP works to help the community reduce emissions and improve quality of life. Their annual Solarize Virginia campaign is an ongoing initiative that seeks to reduce barriers and increase affordability of rooftop solar adoption.

In 2023, LEAP connected residents across the income spectrum with funded energy efficiency service programs and renewable energy programs, including 12 market-rate installations through Solarize Charlottesville and 21 installations through Dominion Energy's Low-Income Solar program.

They also insulated 53 homes, installed 56 heat pumps and replaced 37 thermostats in the City, all of which are important home energy savings measures. Their 2023 Annual Report is available [here](#).

## Piedmont Environmental Council\*

Piedmont Environmental Council's commitment to protect and restore the lands and waters of the Virginia Piedmont is demonstrated in their comprehensive approach to climate action and adaptation, working in the areas of solarization, transportation, food justice, and water protection. In 2023, PEC convened its annual Active Mobility Summit as part of the Piedmont Mobility Alliance, launching new collaborative efforts, initiatives, and celebrating wins across organizations and localities to promote access to the outdoors. In partnership with LEAP, PEC remains a key collaborator in *Solarize Piedmont*. Part of the broader Solarize Virginia program, *Solarize Piedmont* makes switching to solar more feasible for homeowners and business owners. With LEAP's support, those living in Albemarle, Clarke, Culpeper, Fauquier, Greene, Loudoun, Madison, Orange, and Rappahannock counties, and the City of Charlottesville can be connected with pre-vetted, high-quality installers offering discounted rates. PEC's *Buy Fresh, Buy Local* area guide offers a one-stop shop for connecting consumers with local farmers, artisans, and retailers. The guide was mailed to 83,780 households and featured over 200 area-specific vendors, promoting sustainable agriculture practices, fostering community, and promoting economic opportunity. Locally, PEC remains a leading voice in the area of surface and groundwater protection and continues to advance conservation programs, reductions in energy demand and the promotion of livable communities.

## Piedmont Housing Alliance

### *Kindlewood Redevelopment*

Piedmont Housing Alliance's Kindlewood Redevelopment Project is in Phase 1 of their resident-led redevelopment of the Kindlewood affordable housing community. PHA is committed to incorporating DOE Zero Energy Ready Homes and Enterprise Green Communities standards. PHA installed rooftop solar that is already directly serving residents via reduced utility bills and came close to meeting PHIUS Passive House standards.

### *Green Business Alliance Partner*

PHA is honored to be a member of C3's Green Business Alliance and in partnership will continue to reduce Scope I/II emissions and capture data to reflect their progress.

### *Inflation Reduction Act Bootcamp and Partnerships*

PHA is continuing to translate Inflation Reduction Bootcamp learnings into opportunities to pursue and track IRA resources. So far, ePHA has been awarded \$50,000 from the DOE's Community Power Accelerator for Kindlewood Phase 1, with an opportunity to receive an additional \$200,000 for Phase 2 and \$150,000 in Phase 3. PHA was also awarded \$6M for Kindlewood through HUD's Green and

Resilient Retrofit Program (GRRP). Finally, PHA is joining with Charlottesville partner organizations to explore the feasibility of a \$20M application to the EPA's Community Change Grants Program to support a just transition away from fossil fuel dependency.

### *Policy and Advocacy Initiatives*

In 2023, PHA successfully lobbied for solar to be included as an eligible expense in Virginia Housing's Low Income Housing Tax Credit (LIHTC) program. While advocacy efforts were ultimately unsuccessful, PHA also pushed for Virginia to remain in the Regional Greenhouse Gas Initiative (RGGI).

### *Piedmont Master Gardeners*

As a part of the Virginia Cooperative Extension, Piedmont Master Gardeners offer a wide range of programs in keeping with their mission to educate, engage, and inspire our Charlottesville-Albemarle communities to value and follow environmentally responsible, science-based horticultural practices.

### *Healthy Landscapes Program*

Piedmont Master Gardeners Healthy Landscape Program aids Albemarle County and Charlottesville City residents in planning healthy, sustainable landscapes. Based on the eight elements of conservation landscaping by the Chesapeake Conservation Landscaping Council, a total of 23 volunteers conducted 50 site visits, providing information on care and suggestions based on clients' focus areas. 14 of their 50 visits were within the City of Charlottesville. 90% of those who received a site visit found the program helpful and 80% plan to implement recommendations.

### *Healthy Virginia Lawns*

The Healthy Virginia Lawns (HVL) program is a joint venture between Virginia Cooperative Extension (VCE) and the Virginia Department of Conservation and Recreation (DCR). Through this program, Piedmont Master Gardeners provide homeowners in Albemarle County and the City of Charlottesville with science-based information on establishment and maintenance of lawns to reduce unnecessary chemical use that can harm our local waters and the Chesapeake Bay. In 2023, HVL conducted 18 site visits, evaluating over 144,063 square feet of lawn.

### *Home Landscaping Partnership with Habitat for Humanity*

With the goal of assisting Habitat Partner Families (PF) with landscaping their new homes, PMG was able to provide over \$6,000 worth of plants and soil for 24 new homes. The success of this collaboration was driven by 106 volunteers (45 from PMG and 61 from Habitat for Humanity) whose efforts can be seen in the landscaping of the Southwood Development Village 1. The Master

Gardeners work with Habitat and Landscape designers to promote the use of native plants. In 2023, between 50-70 % native plants were planted.

### *Campaigns and Community Education*

PMG is a partner in the statewide program *Plant Virginia Natives* where they work alongside local garden centers/retailers to encourage them to increase the supply and variety of native plants they make available to the public. PMG distributed over 6,065 brochures at various public events and will remain engaged in this effort.

PMG's ongoing *Share Your Harvest* campaign is an educational program that is meant to address the issues of food insecurity and food waste. Community members are directed to local food banks and pantries to donate excess food they've grown.

PMG's outreach and education efforts in 2023 included 10 horticultural education classes geared to the novice gardener with over 350 attendees. Eleven Speakers Bureau presentations were given to a variety of community organizations with a total of 524 attendees. These classes and workshops covered topics including native plant propagation, planting for pollinators, why native plants matter, lawn care, pruning, building soil, composting, and water conservation.

PMG's Mobile Help Desks are another outreach effort that saw over 1,824 contacts at various community events and markets in 2023, where they provided accessible information on many topics including soil erosion, composting, and native plants.

### *Preservation Piedmont*

Preservation Piedmont is driven by the protection and rehabilitation of historic buildings, sites, and neighborhoods, as well as the natural and created landscape, traditional routes, and open spaces. In 2023, they remained focused on advocacy and the sharing of information on the importance of preserving embodied carbon in existing buildings through re-use of existing buildings and structures, historic rehabilitations, and energy saving measures. Their ongoing efforts in the realm of preservation and education take the form of collaborations with allied conservation and environmental organizations, increasing awareness of wasteful renovations, and their ongoing support of rehabilitations for historic Black churches, schools, and other significant sites. Additionally, they prioritize hosting low waste meetings and events and support efforts to make our community more walkable, bikeable, and transit supported. More recent initiatives include initial removal of invasive vegetation from the historic Woolen Mills Chapel grounds and establishing an annual removal of invasives on the property, researching potential energy updates to the chapel, monitoring and intentionally decreasing energy usage to avoid wasteful consumption in historic buildings, and ongoing work with the City to help achieve climate action goals.

## ReLeaf Cville\*

Releaf Cville is a project initiated by the City's Tree Commission concerned with tree planting, tree-canopy preservation, and education. To support their ongoing Neighborhood Tree Restoration, ReLeaf was awarded a 3-year, \$189,900 grant from the Virginia Department of Forestry to preserve mature trees in neighborhoods with low tree cover, one of only two such programs in the state. ReLeaf will offer free tree care to selected property owners in Fifeville this Fall. In 2023, ReLeaf planted over 130 trees on public and private properties in Rose Hill. ReLeaf's Green Team is now going on its third summer of teaching and inspiring kids to care about the environment, trees and the impacts of climate change on people and their neighborhoods. Partnering with the Rivanna Conservation Alliance, ReLeaf's Green Team will canvas the Woolen Mills neighborhood during the Summer or 2024, offering free trees and teaching property owners how trees help keep our river clean.

## Rivanna Solid Waste Authority\*

In 2023, The Rivanna Solid Waste Authority collected over 113.35 tons of compostable material and handed out 32,500 compostable bags to the public at their Household Food Waste Compost Drop-off Station at McIntire Recycling Center. RSWA also worked with the Parks and Rec Department to collect and chip all waste wood collected from the City Parks. Woodchip mulch is seasonally available at no cost for pick-up by community members at Ivy Material Utilization Center.

## Sierra Club - Piedmont Chapter

The Sierra Club's Piedmont Chapter has awarded Earth Flags to Dark Skies Piedmont and to Rivanna Master Naturalists. Their Earth Flag Program is an ongoing effort committed to recognizing and amplifying the voices of climate activists within the community. Chapter members presented at Piedmont Virginia Community College's Low-Impact Lunch and Learn, were heavily involved in the planning of the City and County's joint Community Read and remain committed to advocating alongside community groups and local activists in the climate space.

## Thomas Jefferson Soil and Water Conservation District

The Thomas Jefferson Soil and Water Conservation District (TJSWCD) is the regional arm of the federal Natural Resources Conservation Service, a branch of the U.S. Department of Agriculture. Each year, the TJSWCD provides programs and services in the City of Charlottesville and four surrounding counties to leverage local, state, and federal resources for protecting our local watersheds and the Chesapeake Bay.

Throughout FY24, TJSWCD provided Watershed Education field trips for all Charlottesville City Schools 4<sup>th</sup> graders (324 students total). The students participated in a stream study, a nature hike, and an Enviroscope watershed model demonstration. Educators integrated concepts of watershed health, plant and animal ecology, geology, and climate into discussions and activities.

Through the [Virginia Conservation Assistance Program \(VCAP\)](#), TJSWCD completed 21 Best Management Practice (BMP) projects in the City of Charlottesville, totaling almost \$275,000. These projects reduced stormwater runoff from nearly 40,000 square feet of area. This program assists homeowners in reducing pollution runoff from their property through the installation of BMPs including rain gardens, permeable surfaces, conservation landscaping, bioretention ponds, and others.

Outside of the City itself, but within our local foodshed, TJSWCD is a part of the Alliance to Advance Climate-Smart Agriculture, a program working to incentivize and reward farmers and landowners for adopting climate-friendly farming practices like prescribed grazing, nutrient management plans, cover crops, tillage management, and others. In FY24, TJSWCD helped 322 farms in our region participate in the program.

# Looking Ahead

## What's on deck for FY2025?

Climate Action is one of City Council's nine strategic outcome areas. With the adoption of the FY25 budget, City leadership confirmed that climate action is both a policy and a resource priority by allocating \$1 million each year for each of the next five years to a Climate Action Initiatives Fund. Funding is a critically important piece of implementing the Climate Action Plan as many key actions require significant investment. Accessing Federal and State funding also often requires a local match. Having this funding available will allow City staff to do implementation projects and leverage local funds to bring in additional outside investment.

In coordination with departments across the City, the Office of Sustainability has published an updated FY25 Climate Action Workplan. Many of the initiatives from the FY24 Workplan are rolled over either because they are ongoing programs or in-progress projects. There are also new initiatives that will start up in the new fiscal year. In this continuously evolving space, it is imperative to continually be on the lookout for opportunities to engage with and support the work of both internal colleagues and external partners.

New City-led projects and initiatives include:

- Launch a Community Energy Resource Hub in collaboration with Albemarle County, LEAP, and the Community Climate Collaborative to help residents and businesses access and navigate federal, state, and local energy programs
- Initiate a community-wide EV Charging Study that will contemplate future charging needs for both the City of Charlottesville and Albemarle County and examines opportunities for municipal fleet electrification
- Integrate first battery-electric buses into CAT fleet
- Plan for school bus fleet electrification
- Launch an electric bike incentive pilot
- Produce an updated Urban Forest Management Plan that covers trees throughout the City on both public and private property
- In collaboration with Albemarle County and UVA, launch the Climate Resilience Cohort as part of the ongoing Resilient Together Project
- Complete initial energy-savings projects under the recently established Master Energy Performance Agreement
- Launch an internal *Sustainability in the Workplace* program
- Pilot electrification of landscaping equipment used by Parks and Rec
- Expand the 24/7 composting drop-off program to additional locations

In coordination with the 2024 Climate Action update and the release of this report, the Office of Sustainability has launched a [Climate and Sustainability Dashboard](#). This is an online tool meant to

be both transparent and interactive. It has information about the Climate Action Plan, City- and community-led programs and initiatives, and how community members can get involved in climate action.

## Call to Action

Reducing greenhouse gas emissions and adapting to the impacts of climate change will be both more difficult and more expensive than the business-as-usual scenario. However, doing the work of mitigating and adapting to climate change is investing in our community and our future. Doing this work well will make Charlottesville a better, safer, and healthier place to live for all our community members. The co-benefits of climate work are many: improved air quality, increased public health, more affordable and comfortable homes, healthier ecosystems, cleaner, quieter transportation, and resilience. A climate-ready city is more livable and connected and serves a greater number of people better than a city that has not begun to plan ahead for the changes that are coming. A climate-ready city is also one that will bounce back from shocks and stressors more quickly and fully than one that has not considered the future.

This climate-ready future Charlottesville is one that will take all of us to build; it is not work the local government can do without support from and participation by community members and organizations alike. Our community is fortunate to have so many individuals, businesses, and non-profits already working on climate solutions. There are many services that can be accessed and ways to volunteer or get involved. So, roll up your sleeves and get involved.

It is a magnificent thing to be alive in a moment that matters so much. Let's proceed with broken-open hearts, seeking truth, summoning courage, and focused on solutions.

- Ayana Elizabeth Johnson and Katharine K. Wilkinson, from *All We Can Save*

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- Piedmont Master Gardeners
- Preservation Piedmont
- ReLeaf C'ville
- Rivanna Solid Waste Authority
- Sierra Club – Piedmont Chapter
- Thomas Jefferson Soil and Water Conservation District
- Albemarle County Climate Team