



TOWN OF CARRBORO

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Manager's Office

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To: Richard J. White III, Town Manager

From: Laura Janway, Environmental Sustainability Coordinator
Patricia McGuire, Planning Director

Date: November 1, 2022

Subject: Implementation Update: Energy and Climate Protection Plan (2014)
& Community Climate Action Plan (2017)

Summary

The purpose of this memo is to provide the Council with a progress report on implementation of the Energy and Climate Protection Plan (ECPP), adopted May 28, 2014, and the Community Climate Action Plan (CCAP), adopted January 24, 2017. Both plans were updated in 2020 with goals to reduce 2010 levels of municipal and per capita community greenhouse gas emissions 80% by 2030. Town staff are examining and pursuing several initiatives to reach the emissions reductions goals.

Staff have continued to implement the ECPP through a grant from Orange County's Community Climate Action Grant Program to fund a green roof and a solar array on the west roof of the 203 Project as well as finalizing an alternative fuels analysis for the municipal fleet.

Recent CCAP implementation measures include finalizing the installation of two electric vehicle (EV) charging stations on Town property and working to expand renewable energy in Carrboro through the Solarize the Triangle campaign.

Additionally, staff have worked to provide outreach at multiple Town events and are working to implement the green neighborhoods grant program and a transportation demand management project. Utilizing the Town's finalized dietary greenhouse gas emissions inventory, staff and a Climate Action Team volunteer have created outreach regarding food choices and are working to create a climate-friendly cookbook using recipes submitted by Carrboro residents.

This report also contains a summary of clean energy, transportation, and energy efficiency programs available through the 2022 Inflation Reduction Act.

Energy and Climate Protection Plan

Town Fleet Electrification and Alternative Fuels Exploration

- *Policy Connections:* ECPP Section 2.C (Fleet Replacement and Efficiency)

Town staff have drafted the Request for Proposals (RFP) for this project. The draft RFP is currently undergoing a final review before release this fall.

Community Climate Action Plan

Community Integration

Solarize the Triangle

- *Policy Connections:* CCAP Community Integration Recommendation #6: Facilitate Low Cost Financing for Energy Efficiency and Renewable Energy Projects

The Town of Carrboro has partnered with Triangle J Council of Governments and local governments across the Triangle to create the Triangle Sustainability Partnership (TSP) to facilitate regional sustainability initiatives. The first project of this newly-formed coalition was to launch the Solarize the Triangle Campaign in partnership with Solar CrowdSource.

Solarize the Triangle is a community-based group-purchasing program for solar energy, battery storage, and other clean-energy technologies. This initiative is designed around community group purchasing. The more participants who enroll, the greater the savings on solar materials and installation services.

Solarize the Triangle includes a program to help reduce the energy financial burden for low-income and moderate-income (LMI) residents. Solarize the Triangle has implemented a community outreach campaign consisting of public workshops, open house events, media outreach, email, social media, and online marketing to encourage area residents and businesses to enroll in the program. Carrboro Town staff have worked to provide outreach at local events and hold information sessions for Town residents.

As part of the campaign, the selected contractor, Yes Solar Solutions, will take part in a community project in addition to the LMI Program. Yes Solar Solutions will collaborate with Solarize the Triangle to design, develop, and construct the project as well as partially finance the project from a percentage of total Solarize revenues.

This is the second Solarize campaign within the Town of Carrboro. The first Solarize Carrboro campaign, an initiative pioneered in 2014 by the Carrboro-based non-profit Next Climate, Inc., facilitated the installation of 45 new photovoltaic systems by Carrboro residents.

Climate Action Team

- *Policy Connections:* CCAP Community Integration Recommendation #5: Expand Capacity

In early 2022, the CAT reviewed the draft Environmental Sustainability Work Plan for FY22-23. CAT members have participated in several outreach events throughout 2022, including Open

Streets, Earth Day, and Pollinator Week. In June, two CAT members organized and led garden tours to celebrate Pollinator Week and educate residents about pollinators and native plants.

Green Neighborhoods Grant Program

- *Policy Connections:* CCAP Community Integration Recommendation #3: Create Participatory Green Neighborhood Budgeting Program to Reduce Carbon Emissions, Build Community, Save Money, and Reallocate Savings to New Green Project Initiatives

The Green Neighborhoods Grant Program seeks to provide Town funding to help bring neighbors together to pursue projects which will reduce greenhouse gas emissions, create natural areas that are more resilient to the impacts of climate change, and ultimately benefit the entire community.

Program Goals:

- Educate and empower neighborhoods to address climate change
- Build neighborhood capacity to engage in climate action
- Develop and enhance community and Town partnerships
- Leverage Town and neighborhood involvement and resources
- Distribute resources to low-income and BIPOC communities who are disproportionately affected by climate change.

Staff have incorporated comments from the Town Council into the program and are working to finalize program guidelines and application and complete a racial equity lens analysis for the program. Staff anticipate that the program will be open for applications in late 2022. As part of the program's outreach campaign, staff plan to hold several information sessions for potential applicants, including pop-up information sessions throughout the Town. Staff also plan to deliver targeted engagement to several Carrboro neighborhoods utilizing approaches centered on equity employed by the Town during Comprehensive Plan development.

Modules Project

- *Policy Connections:* CCAP Community Integration Recommendation #5: Expand Capacity

Four modules related to transportation, ecosystems, composting, and food choices have been reviewed by advisory boards and edited by volunteers and staff. Staff have continued to refine and update the current modules and have begun utilizing modules at outreach events.

Orange County Community Climate Action Grant Program

- *Policy Connections:* CCAP Buildings Recommendation #1: 80% Challenge; Ecosystem Recommendation #3: Accelerate/Expand Organic Waste Collection/Composting; ECPP

Recommendation 3.C: Renewable Portfolio

Staff submitted two proposals to this program in July 2021 to fund several projects, involving solar photovoltaic panels (west roof) and a green roof for the 203 Project, as well as staffing the Carrboro Farmers' Market organics collection/composting. Staff were notified in October 2021 that the following funding was awarded to the projects:

- Solar photovoltaic panels (west roof) and a green roof for the 203 Project: \$40,567.50
- Compost monitor staff member: \$3,765.00

Staff are working to finalize the compost monitor position description. Town staff applied for additional funding for the west roof solar photovoltaic panels as well as funding for an educational sustainability display in FY22-23 round of funding.

Building Energy Efficiency Measures

Energy Efficiency Revolving Loan Fund (EERLF)

- *Policy Connections:* Buildings Recommendation #1: Reduce Emissions Attributed to Carrboro Buildings by 80% by 2030, #2: Energy Audit/Performance Rating; Community Integration Recommendation #4: Integrate Climate Action with Local Living Economy, #6: Facilitate Low Cost Financing for Energy Efficiency & Renewable Energy Projects

Staff have held meetings and discussions regarding the planned updates to this program. Staff are now working to draft new program guidelines and will also examine opportunities to leverage this funding with larger-scale Federal programs.

Transportation

Volkswagen (VW) Settlement Phase 1 – Level 2 Charging Station

- *Policy Connections:* ECPP Goals; CCAP Transportation Recommendation #1: Reduce Greenhouse Gas Emissions from Motor Vehicle Use by 80% by 2030.

Staff worked to meet the final grant requirements and the stations are currently operational. Staff completed a racial equity lens analyzing the potential for expanding the Town's charging station network, which has been reviewed by the Town's GARE Core Team and the Racial Equity Commission. Staff are exploring programs through Phase 2 of the VW Settlement and have worked to identify several locations for new stations

EV Charging Stations Priority Analysis

- *Policy Connections:* ECPP Goals; CCAP Transportation Recommendation #1: Reduce Greenhouse Gas Emissions from Motor Vehicle Use by 50% by 2025.

Throughout the spring and summer, staff met regularly with employees from other local jurisdictions to design a county-wide Geographic Information Systems (GIS) analysis to prioritize locations of EV charging stations in order to ensure a well-planned network of stations around Orange County. A preliminary version of the map has been created. This analysis will allow staff to be prepared for future funding opportunities.

Electric Vehicle (EV) Rodeo

- *Policy Connections:* ECPP Goals; CCAP Transportation Recommendation #1: Reduce Greenhouse Gas Emissions from Motor Vehicle Use by 50% by 2025.

In October 2022, Climate Reality Orange County (CROCC) and the Triad Electric Vehicle Association (TEVA) of North Carolina organized an EV Rodeo in Town Commons.

At the event, attendees were invited to explore different types of electric vehicles and ask EV owners questions about their experiences with the vehicles. The event also featured additional electric vehicle options, including bicycles and motorcycles. Town staff and members of the CAT attended the event and provided educational materials regarding current climate action initiatives.

Transportation Demand Management (TDM) Grant – Fresh Starts Project

- *Policy Connections:* CCAP Transportation Recommendation #4: Further Promote Walking, Biking, Transit

The Fresh Starts Project involves a partnership between the Center for Advanced Hindsight (CAH), the Town of Carrboro, and Orange County to design and study the efficacy of transportation welcome packets for new residents.

Staff have worked with CAH to obtain data needed to begin the project. All boxes and postcards were sent out on July 12th. CAH staff are now working to compile and analyze the preliminary survey data obtained from the box and postcard recipients. They expect data collection to be complete by the end of the year.

Contribution to Piedmont Electric Membership Corporation (PEMC) for Electric Vehicle (EV) Charging Station at Carrboro Plaza

- *Policy Connections:* ECPP Goals; CCAP Transportation Recommendation #1: Reduce Greenhouse Gas Emissions from Motor Vehicle Use by 50% by 2025.

The Town finalized a payment contributing towards PEMC's match for the grant in June 2021. The station is now fully operational. PEMC applied for an additional station in this location and has requested an additional contribution from the Town towards this initiative. Staff are exploring this option using the FY22-23 climate action budget.

Ecosystem Protection and Enhancement

Riparian Restoration Project – Henry “Hank” Anderson III Community Park

- *Policy Connections:* Ecosystem Recommendation #4: Tree Preservation, Protection and Conservation; Ecosystem Recommendation #6: Pursue Watershed Restoration Actions to Protect Local Streams from Changes in Rainfall Due to Climate Change

Staff continue to monitor the health and condition of the trees planted through the NC Urban Forest Council Legacy Tree Fund Grant. Staff worked with a local Boy Scout to plan a tree-planting Eagle Scout Service Project at the park. Project work took place in June 2022. Staff and the Eagle Scout watered the trees weekly throughout the summer to ensure their survival.

Bee City USA, Mayors’ Monarch Pledge

The Town renewed its participation in the Mayors’ Monarch Pledge initiative in 2022. Staff planted butterfly milkweed plants in a riparian area of Anderson Park this summer.

In August, staff organized a screening of the film, *My Garden of a Thousand Bees*, which highlights the diversity of bees that can be found in one’s backyard.

Staff also held an outreach event at the Carrboro Farmers’ Market in conjunction with their Market Bunch Kids Club. At the event, staff provided educational material related to pollinators and held a native wildflower seed giveaway. Staff worked with children at the event to build bee hotels using aluminum cans, twine, and paper straws. Staff plan to collaborate with the Market Bunch initiative for future events.

Invasive Species Volunteer Events

- *Policy Connections:* Ecosystem Recommendation #5: Improve Regulations and Community Capacity to Discourage Invasive Plants and Encourage Native Plants

Staff are finalizing the documents, requirements, and protocols for a potential new volunteer program to allow independent volunteer work to remove invasive species. Staff are currently exploring how this program will fit in with the Town’s existing volunteer program.

In early March, Planning Department staff and Stormwater Utility staff worked with several volunteers to create and present a virtual invasive species workshop. Staff also continue to hold volunteer events to remove invasive species in Wilson Park.

Food Choice Measures

Climate-Friendly Cookbook

- *Policy Connections:* CCAP Food Choice Recommendation #1: Reduce Greenhouse Gas Emissions from Diets by 80% by 2030

Staff are currently soliciting recipes from Carrboro residents to create a climate-friendly cookbook and will allow residents to share recipes with their community.

Inflation Reduction Act

The Inflation Reduction Act, passed in August 2022, provides \$369 billion in clean energy and climate investments. The bill works to lower energy costs for Americans, increase American energy security, invest in decarbonizing the economy, focus investments into disadvantaged communities, and support resilient rural communities. The bill includes the following funding opportunities:

Funding for Local Governments

1. Greenhouse Gas Reduction Fund (Green Bank)

- Grants, loans, and financial/technical assistance to enable low-income and disadvantaged communities to deploy or benefit from zero-emission technologies
- February 2023 - September 30, 2024

2. Energy Efficient Commercial Buildings Deduction

- Increase of the 179D tax deduction offering \$2.50- \$5.00/ft² for businesses achieving 25-50% reductions in energy use over existing standards
- In government-owned buildings, the government may transfer the deduction to the party primarily responsible for designing the improvements

3. Climate Pollution Reduction Grants

- Funding to support the development of plans to reduce GHG pollution
- May 2023-September 30, 2031
- Funding for grants to reduce GHG pollution available until September 30, 2026
- Applications will need to state the degree to which GHG air pollution is projected to be reduced in total and with respect to low-income and disadvantaged communities

4. Assistance for Latest and Zero Building Energy Code Adoption

- Funding for developing or adopting building codes that meet or exceed the 2021 International Energy Conservation Code or its zero energy provisions (residential) or the ANSI/ASHRAE/IES Standard 90.1-2019 (commercial)
- Grants can fund training, enforcement, and compliance plans/measurement
- Available until September 30, 2029

5. Improving Energy Efficiency, Water Efficiency, or Resilience of Affordable Housing

- Funding for loans and grants for projects to improve energy or water efficiency, enhance indoor air quality or sustainability, implement the use of zero-emission

electricity generation, low-emission building materials or processes, energy storage, or building electrification strategies, or address climate resilience

- Funding for benchmarking and data analysis
- Funding available until September 30, 2028

6. Low Emissions Electricity Outreach Program

- Funding for education and partnerships to reduce GHGs from electricity generation/use
- Funding for GHG reductions in low-income and disadvantaged communities
- EPA will allocate funds
- Available until September 30, 2031

Transportation

1. Clean Heavy-Duty Vehicle Grants and Rebates

- Funding for up to 100% of the costs associated with replacing non-zero-emissions heavy duty vehicles with zero-emissions heavy duty vehicles
- Funding for fueling/charging infrastructure, workforce development, and technical activities
- A portion of this funding is for areas exceeding Clean Air Act air quality standards
- Funding available until September 30, 2031

2. Neighborhood Access and Equity Grant Program

- Funding for highway removal, remediation, or capping; mitigating local impacts of highways; building or improving complete streets, multi-use trails, regional greenways, or active transportation networks; and providing affordable access to essential destinations, public spaces, or transportation links and hubs
- A portion of funding set aside for economically disadvantaged and other communities
- Funding for technical assistance, including subgrants to local governments
- Cost-sharing caps the federal grant at 80 percent of the cost of a project, unless the project is located in a disadvantaged or underserved community, in which case the federal contribution may be as high as 100 percent.
- Available until September 30, 2026

Resilience, Adaptation, & Local Air Pollution

1. Investing in Coastal Communities and Climate Resilience

- Funding for conservation, restoration, and protection of coastal/marine habitats, resources, and fisheries to enable communities to prepare for changing climate conditions
- Available through September 30, 2026

2. Environmental and Climate Justice Block Grants

- Block grant program for community-based organizations to benefit disadvantaged communities
- Allowable activities:
 - Air and other pollution monitoring, prevention, and remediation, and investments in low-and zero-emission and resilient technologies
 - Mitigating climate and health risks from urban heat islands, extreme heat, wood heater emissions, and wildfire events
 - Climate resiliency and adaptation
 - Reducing indoor air pollution
 - Facilitating engagement in State and Federal advisory groups, workshops, rulemakings, and other public processes
 - Available until September 30, 2026

3. State and Private Forestry Conservation Programs

- Grants for tree planting and related activities
- Available through September 30, 2031

Programs for Residents

1. Clean Vehicle Tax Credit

- Up to \$7,500 for new electric vehicles; \$4,000 or 30% of the vehicle's value (whichever is lower) for used electric vehicles
- Buyers can apply the credit directly to the purchase of the vehicle starting in 2024
- Vehicles and a portion of the battery must be assembled in North America and some of the battery's mineral components must be mined domestically/countries with a free-trade agreement with the US
- Income limits: \$150,000/year (Individuals), \$300,000/year (Couples)
- Price limits: \$55,000 (sedans), \$80,000 (trucks/SUVs)

2. Energy Efficient Home Improvement Credit

- Households can deduct up to 30% of the costs for eligible home improvements
- \$1,200 annual limit (equipment and installation)
- Eligible improvements:
 - \$150 for home energy audits
 - \$500 for exterior doors
 - \$600 for exterior windows and skylights, efficient central air conditioners, electric panel upgrades, and natural gas, propane, or oil water heaters or boilers
 - \$2,000 for electric or natural gas heat pump water heaters, electric or natural gas heat pumps, and biomass stoves and boilers (\$1,200 annual limit may be exceeded here)

- Appliances must meet or exceed the highest efficiency tier of the Consortium for Energy Efficiency; generally, appliances must be more efficient than Energy Star-certified products

3. Residential Clean Energy Tax Credit

- Credit for 30% of the costs of solar, wind, geothermal or biomass technologies, and battery storage systems with a capacity greater than 3 kWh, until 2032 when it gradually decreases.

4. Home Energy Performance-Based Whole-House Rebate Program (HOMES)

- State rebate program
- Non-LMI homeowners: Up to \$4,000 or 50% of project cost for a 20-35% reduction
- LMI homeowners: Up to \$8000 or 80% of project cost for 20-35% reduction
- Multifamily buildings: Up to \$400,000 or 50% of project cost for a 35% reduction (buildings with 50 percent LMI residents can claim up to 80% of project cost)
- Funding available through September 30, 2031

5. High-Efficiency Electric Home Rebate Program (HEERA)

- 10-year state rebate program to help LMI families electrify their homes
- Point-of-sale rebates for home electrification and weatherization
- Funding available through September 30, 2031