CCAC Suggestions for a Chatham County Climate Action Plan 2021

10 Recommendations from the Climate Change Advisory Committee to Preserve and Protect the County's Natural Resources and Quality of Life

Big Idea: "Become a Carbon Negative County"

The County is currently roughly carbon neutral, but emissions may increase over time with population growth, carbon sinks may be reduced due to development

- The 2020 County Greenhouse Gas (GHG) Inventory showed
 - GHG emissions exceeded 900,000 CO2E*
 - > The largest emission category was transportation, followed by industrial, residential, and commercial energy use
- The Inventory estimates over 1.1 million CO2E (with significant uncertainty) was removed or "sequestered" by "carbon sinks", e.g., soils, forests, grasses, etc.
 - Inventory: 65% forest, 17% canopy outside forest (~80% total)

*/ Carbon equivalent metric tons, the common unit of greenhouse gas emissions

Sequestration and Regeneration

- <u>Trees</u>... "help clean our air, provide us with oxygen, clean our drinking water .. and help reduce climate change" (Arbor Day Foundation)
- <u>Regenerative agriculture</u> .. "can repair (soil) and sequester carbon" (Arizona State University)

#1 - Conserve, Protect Sensitive Lands

The County established the Big Idea to "permanently protect 20,000 acres of additional land by 2040" (Plan Chatham, 2017)

- Project #1: Develop Strategy to protect County lands for carbon sequestration, water quality, and habitat protection June 2022
 - Identify sensitive areas to be protected (+20,000 acres, ~5%)
 - Establish mechanisms to obtain land or otherwise ensure the land is legally protected from disturbance
 - > Set interim goals for acres protected, e.g., 2025, 2030, and 2035
 - > Could Voluntary Agricultural District (VAD) be a model?
 - > Make Strategy public

Project 1 continued - Conserve Lands

Plan: "...actively work to create a connected system of public and privately owned lands that maintain key ecosystem services and are sensitively integrated into well-designed development."

- Where to start? Areas that ..
 - > Help maintain water quality in Jordan Lake, streams, rivers
 - Serve as key habitat areas,
 - Serve as carbon sinks due to nature of the vegetation
- Public process to identify possible areas?

#2 - Conserve, Protect the County's Trees

Plan Strategy 2.2. Encourage development design to preserve forest cover and additional uplands.

- Project #2: Tree Protection Ordinance and/or other means to protect trees during development, including heritage trees - 2023
 - Draft provisions based on NC Forest Service guidelines*, possibly as part of UDO
 - Include provisions to set "minimum canopy standards"
 - > Fees for program administration, tree planting projects, etc.
 - Set a goal to maintain tree coverage at 80% county-wide

*/ Developing Tree Protection Ordinances in North Carolina 2017. Committee has produced an initial draft using the guide.

3 - Summit on Sustainable, Regenerative Agriculture

Plan Chatham AGR Strategy 3.2 is to "..promote and encourage sustainable agriculture practices^{*} to help support the long term economic viability of agricultural operations in the County"

- Project #3: County to sponsor a summit with a focus on climate, regenerative agriculture, and land preservation - 2022
 - Build on current work of the County Extension services
 - County staff and interested advisory committees to collaborate on agenda
 - > Focus on agriculture as part of the climate solution

4 - Learning Areas in Parks and Greenways

Plan Chatham Parks and Recreation Strategy 1.6 is to incorporate environmental and cultural education in to existing parks and greenways.

- Project #4: In cooperation with the CCCC and other interested organizations, establish 10 carbon management demonstration gardens in parks and greenways - 2030
 - Feature regenerative techniques such as use of grasses and other land covers for farms and homeowners
 - > Demonstrate use of equipment such as roller crimpers
 - County may need to purchase some equipment
 - Educational programs and eco-tours
 - > "How to get started" demo's for gardens, small farms

5 - Climate Friendly Green Space in Developments

Plan's Land Use Strategy 10.1 - Define the various types and purposes of open space in the County, now and in the future

Project # 5 - Provide "green space" guidance for new developments to consider carbon management - 2022

- > Gardens demonstrating regenerative agriculture
- Forest areas (especially near streams) which may count towards the 20,000 acre goal
- Consider updating ordinance to include greater protections for 3-zone riparian forest buffer (see next)
- Restorative, biodiverse landscaping,

Project #5 Continued - 3 Zone Buffer



USDA Natural Resource Conservation Service Riparian Buffer Conservation Plan CP22: <u>Riparian Buffer CP22</u> **Zone 1** - Closest to water body. Trees and shrubs, native species, no harvesting. Stabilize streambanks, shorelines.

Zone 2 - Area adjacent to and up gradient of zone Can be managed to provide timber, wood fiber, and horticultural products

Zone 3 - Established if periodic and excessive water flows, erosion, and sediment from upslope fields or tracts are anticipated. Herbaceous plants or grass and a diversion or terrace, if needed

Reducing Greenhouse Gas Pollution

- Transportation, combined with Commercial, Industrial and Residential Buildings, account for over 90% of County greenhouse gas emissions (2019-2020 GHG Inventory, p. 2).
- Making it easier for all County citizens to make good carbon-reducing decisions.

6 - Reduce Emissions with Cleaner County Fleets

Strategy 5.4 of Plan's Resiliency Goal is to encourage electric vehicles (EV's) by incorporating EV's in County government owned vehicle fleets

Project # 6 - Set targets to increase use of County owned EVs or hybrids to the extent feasible - Feb 2022

- ➢ For each type of fleet, the County should establish numeric goals and timetables to increase EV (and hybrid) percentages
- Cost and range concerns for electric school buses and Chatham Transit fleet may delay move to EVs
 - Moving forward would be a major accomplishment for the County.

#6 Continued - Initial Findings on Fleets



Saf-T-Liner C2 Jouley electric school bus by High Point-based Thomas Built Buses

The Committee conducted an initial assessment:

- Electric school buses high initial costs vs. traditional buses, becoming more available
 Made in NC
- Chatham Transit range anxiety, limited number of re-charging locations

7 - Accessible EV Chargers

Strategy 5.4 of Plan Chatham's Resiliency Goal is to encourage EV's by studying ways to leverage public assets and private development to create a countywide network of EV charging stations

Project # 7 - Increase the number, charging power, and accessibility of stations. Goal of 50 DCFCs in County by 2025.*

- Develop an initial inventory (how many chargers are available in the County, what type, what locations)
- > Develop a plan with planned locations for fast chargers
 - Consider bi-directional charging as appropriate
- Consider a development ordinance to require chargers

*2017 US Department of Energy study recommended 56 DCFCs per 1000 square miles. Chatham has about 700 sqm.

7 Continued: EV Development Ordinances

Example from Howard County, MD

- Multi-family units must have at least 1 charger per 25 units
- Residential units with a garage, carport, or driveway must have suitable EV electric supply equipment

https://pluginsites.org/howard-county-maryland-evready-ordinance-is-a-model-for-the-nation/



8 - Reduce Emissions with Green Buildings

Strategy 3.3 of Plan's Resiliency Policy is to "develop a LEED or LID or equivalent recognition program .. that encourages <u>new commercial and industrial buildings</u> to meet LEED standards and encourages new neighborhoods to achieve "LEED-ND" certification" (emphasis added).

Project #8 - Launch a program to increase the number of buildings that are LEED certified or equivalent - 2023

- Start an inventory of buildings (or space?)
- Identify stakeholders
- > Develop recognition program

9 - Green Jobs Summit

Strategy 3.1 of Plan's Economic Development element is to "...Target recruitment efforts for larger industrial projects towards sustainable, clean industries, paying above average wages".

- Project #9 County to sponsor a Green Jobs Summit to identify strategies to increase green jobs in the County target 2022
 - Collaboration with Economic Development Corporation, Community College, others
 - Current estimate for County is about 1.5 % of jobs are in clean energy vs. State estimate of 2.5%*

* /Report from E2 NCSEA Clean Jobs North Carolina 2020. Clean energy jobs included solar, wind, EE, clean vehicles, battery storage, advanced biofuels, low-impact hydro and other areas

10 - Climate Perspective in County Decisions and Progress Measurement

The Resiliency Element of Plan Chatham notes the inter-relationship between that element and the Land Use, Economic Development, Infrastructure and Transportation elements of this plan (p. 111).

- Project #10 Build on current County processes for Director of DEQ to coordinate and provide climate input on major decisions - 2021
 - Identify upcoming policies and decisions that may have climate impacts
 - Arrange for the Climate Change Advisory Committee to have input to decisions when this would be appropriate
 - Measure progress towards goals with a "climate scorecard"
 - Consider a County management retreat around such a scorecard
 - Consider establishing an annual survey of progress in meeting the goals in "Plan Chatham", the county's Comprehensive Plan

Example of a Climate Scorecard

Sector or Project Area	Baseline Circa 2021	Interim Milestone 1	Interim Milestone 2	Goal
Land Conservation	~ 41,000 acres protected, mostly around Jordan Lake	TBD - 2025?	TBD - 2035?	Permanently protect an additional 20,000 acres by 2040
Preserve Tree Canopy	~ 82 % of County tree covered (65% forest, 17% other)	Issue Ordinance 2023?	TBD - Check at each issuance of GHG inventory	Maintain tree cover at 80%

Summary List of Recommendations

- 1. Conserve Lands Develop Strategy for 20,000 acres with interim goals
- 2. Tree Preservation Develop tree protection ordinance
- 3. Promote Sustainable Agriculture Hold a mini-summit
- 4. Learning Areas Establish 10 carbon management demonstration parks
- 5. Green Space in New Developments Set policies to ensure optimal carbon management.
- 6. Cleaner County Fleets Increase use of EVs and hybrid vehicles
- 7. Accessibility of EV Charging Stations -
- 8. Reduce Emissions with Green Buildings
- 9. Green Jobs Summit
- 10. Climate Perspective in County Decisions and Progress Measurement