Duke Energy’s Draft Carbon Plan: the Good, the Bad, and the Ugly

Pathways to net-zero and ways to ensure we stay on course

June 9, 2022
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Ethan Blumenthal, Executive Director, Good Solar
Jennifer Roberts, Former Mayor of Charlotte
Agenda

- CleanAIRE NC’s Climate Education Programs
- The Road to the NC Carbon Plan
- Regional Greenhouse Gas Initiative (RGGI)
- Climate Report Review Group
- Draft Energy Portfolio Options
- The Good, the Bad, & the Ugly
- How to Engage Moving Forward
Climate Education & Advocacy

Charlotte Mecklenburg Climate Leaders

PULLING BACK THE CURTAIN
WHO’S CHARTING OUR ENERGY FUTURE?

“Even a few citizens acting in the common interest can bring about startling change.”
– 350.org founder Bill McKibben

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Pulling back the Curtain: Who’s Charting Our Energy Future?
NC Climate Ambassadors

- Partnership with ecoAmerica's Path to Positive Communities, Good Solar, and Harvesting Humanity
- Training on climate impacts in NC, strategies being used to mitigate climate change, and how to speak about solutions
- Quarterly support meetings
How did we get here and what’s the plan forward?

Pathways to net-zero, or rushing toward a climate cliff?
The Road to the NC Carbon Plan: Executive Orders

- **October, 2018; Executive Order 80** - North Carolina's Commitment to Address Climate Change and Transition to a Clean Energy Economy sets electric sector climate targets & working groups to identify best pathways to decarbonize

- **June, 2021; Executive Order 218** - Advancing North Carolina’s Economic and Clean Energy Future with Offshore Wind sets offshore wind procurement targets

- **January, 2022; Executive Order 246** - North Carolina’s Transformation to a Clean, Equitable Economy sets economy-wide GHG reduction goals; establishes clean transportation goals; identifies environmental justice issues as problematic & creates dialogue process
The Road to the NC Carbon Plan: House Bill 951

- Bi-partisan bill passed with the cooperation of Governor Cooper on October 13, 2021
  
  Energy Solutions for North Carolina

- Established a mass-based cap on carbon dioxide emissions from the energy sector in NC

- Created a “NC Carbon Plan” stakeholder process at the NC Utilities Commission to detail how the state will (in a “least-cost” way) cut 70% carbon emissions by 2030 and become net-zero by 2050

- Changed the frequency that Duke Energy must file its rate plans

- Requires Duke Energy to retire sub-critical units of the coal fleet through securitization (50%)

CleanAIRE NC Primer on HB951: https://cleanairenc.org/blog/2022/02/08/a-primer-on-the-nc-carbon-plan/
Regional Greenhouse Gas Initiative and the NC Carbon Plan

- Cooperative effort among states to cap and reduce power sector CO₂ emissions
- EO 80 working group had Duke University and UNC to conduct a study on strategies to reduce carbon emissions
- Study found that joining RGGI was among the least cost ways to reduce CO₂ emissions
- CleanAIRE NC and NC Coastal Federation filed a petition with the NC Environmental Management Commission
- Petition approved & Dept. of Environmental Quality is drafting the rulemaking process
Climate Leaders Review Group

- CleanAIRE NC and Charlotte Mecklenburg Climate Leaders
- Report developed with eight recommendations based on 47 findings
- Does the draft Carbon Plan incorporate those recommendations?
Review Group Recommendations

- Work to improve the **least-cost requirement** for generation planning.
- Develop a critical path for deployment of **offshore wind** energy.
- Define and advocate for effective **carbon policy**.
- Use scenario analytics to study **maximizing** expansion of **renewables**.
- Increase efforts to develop **Advanced Generation Technology (ZELFRs)**.
- Investigate Duke Energy role in a **hydrogen** infrastructure in the SE U.S.
- Develop and communicate a vision of **smart grid** and **edge-of-grid** technology for carbon emissions reduction.
- Increase status and performance **metrics** for tracking progress and achieving climate strategy outcomes.

*Duke acted on all eight recommendations. Carbon Plan improved over IRP.*
2035 Draft Energy Portfolio Options
The Good...

- Solar
  - Total capacity projected to double by 2030
  - Adding between 5,980 to 7,930 MW

- Committed to wind energy development
  - Onshore wind included in each portfolio
  - Offshore wind included in the majority of portfolios

- Energy Efficiency (EE) and Demand Side Management (DSM) Programs
  - Carbon Plan target is over double Duke’s 2020 Integrated Resource Plan target
  - EE/DSM Collaborative proposals included

The Bad…

- Expansion of Fossil Gas Infrastructure
  - Assumes Mountain Valley Pipeline completion for using fracked gas
  - A new fleet of long-lived gas plants – combined cycle (CC) and combustion turbines (CT)

- Societal Costs
  - Tangible (Monetary - statutory definition of least cost vs. what was proposed)
  - Intangible (health, environmental, etc.)

- Risks of advanced technology vs the certain bad of carbon-emitting fossil plants
  - Next we will talk about the “risk/reward“ of advanced technology
All NC Carbon Plan pathways include four advanced technologies:

- Hydrogen
- Advanced nuclear
- Long-term energy storage
- “Smart grid”

Critics of these advanced technologies have argued:

- Renewable energy is arguably cheaper, faster, and ready now.
- Coal, to natural gas, to proposed new technologies is an undesirable transition.
- It is a fantasy; at best a stall tactic. It won’t be ready when needed.
- Costly technology increases profits and stock price, but harms ratepayers.

➔ Duke has committed to monitor and forecast these outcomes and risks.

The NCUC order can require the process to address these concerns for the life of the plan.
Advanced Technology: How is it employed in the four pathways?

- Options to phase out natural gas
  - To evolve Combined-cycle and Combustion Turbine plants to hydrogen fuel
  - To replace peaker plants with ~4-hr batteries

- Advanced nuclear to replace existing coal and gas
- Long-term storage to increase renewables
- Smart grid to add renewables and firm the grid

Success requires continuous assessment and evolution of the NC Carbon Plan to optimize carbon reduction, cost, reliability, societal impact, and risk NOW through 2050.
Lack of transparency re connections to other states and potential to import carbon
- Lack of interest in a Regional Transmission Organization (RTO)
- Southeast Energy Exchange Market (SEEM) is run by the utility members, not an impartial body

Failed to acknowledge a proper cost of carbon
- EO 246 requires state agencies to utilize federal Social Cost of Carbon
- RGGI generates a revenue for fossil fuel externalities

Equity
- Community voices were completely absent in the draft’s development
- The company commits to work with communities where plants are closing, but not with communities that have largely been ignored
- The draft does not ensure that communities can be resilient and energy independent
- Too little transparency and price discrepancy
Coal Retirements & Securitization

- HB951 requires Duke Energy to cut carbon in a least cost manner
- The law also allowed coal plants to be securitized up to 50% of total book value. Securitization is a tool that utility companies can use to accelerate the retirement of power plants without losing the total value of capital invested.
- Duke Energy is not stating that they plan to use this in the Carbon Plan.

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1Cliffside 6 is assumed to cease coal operations by the beginning of 2036 and was not included in the Carbon Plan’s Coal Retirement Analysis because the unit is capable of operating 100% on natural gas
2Allen 1 and 5 retirements are planned by 2024 and were not re-optimized in the Carbon Plan’s Coal Retirement Analysis
3Retirement year for Roxboro Units 3 and 4 vary by portfolio, with retirement of those units effective 2028 in P1, 2032 in P2, and 2034 in P3 and P4
Ways to Engage

**Intervenor**: NCUC must address concerns in the official docket. An intervention carries the most weight. To intervene in the NC Carbon Plan docket (#E-100, Sub 179), an individual must be a Duke Energy ratepayer. *Last day to submit a written notice of intent to intervene: July 14, 2022.*

**Public Testimony**: Individuals may, under oath, offer public testimony at the five upcoming hearings.

**Written Comments**: Between now and the plan’s finalization in December, ratepayers may offer written comments to the Commission. These will likely not receive a response of any kind but will be on the record in the docket.
Public Hearings & Key Dates

Public Comment Period

The following are opportunities to provide comments, under oath, about what ratepayers feel about Duke’s plan and what they’d like to see in the final NC Carbon Plan.

Monday, July 11 | 7:00 pm - Durham County Courthouse Courtroom D7 510 S. Dillard St. Durham, NC

Tuesday, July 12 | 7:00 pm - New Hanover County Courthouse Courtroom 317 316 Princess Street, Wilmington, NC

Wednesday, July 27 | 7:00 pm - Buncombe County Courthouse Courtroom 1-A 60 Court Plaza, Asheville, NC

Thursday, July 28 | 7:00 pm - Mecklenburg County Courthouse Courtroom 5350 832 E. 4th Street Charlotte, NC

Virtual hearings: Tuesday, August 23 | 1:30 - 4:30 & 6:30 - 10:30

July 15, 2022 | Deadline for alternative plans to be submitted by intervenors

December 31, 2022 | Deadline for final NC Carbon Plan to be submitted to the NC Legislature

For more information:

CleanAIRE NC - NC Carbon Plan Resource Page
Points to Raise with NC Utilities Commission

- **Carbon reduction**: Goals need to be more ambitious to address the urgency of the problem and meet 2030 deadline
- **Cost and Transparency**: Need more information
- **Equity**: Not addressed at all. Advancing equity should be an inherent (and explicit) goal of the Plan.
- **Risk**:  
  - Assumptions don’t hold from an environmental standpoint  
  - Relies on unproven new technologies

Suggested talking points can be found here:  
https://cleanairenc.org/nc-carbon-plan-talking-points
Webinar: People Power NC/Fossil Free NC

- **Wednesday, June 22, 6:00 pm**

- Learn what to expect when advocating before the NC Utilities Commission, how to prepare, and why it’s important.

- Check out the [12 principles](#) for a carbon planning process that would establish North Carolina as a leader in country for carbon emissions reduction.

- Register [here](#)