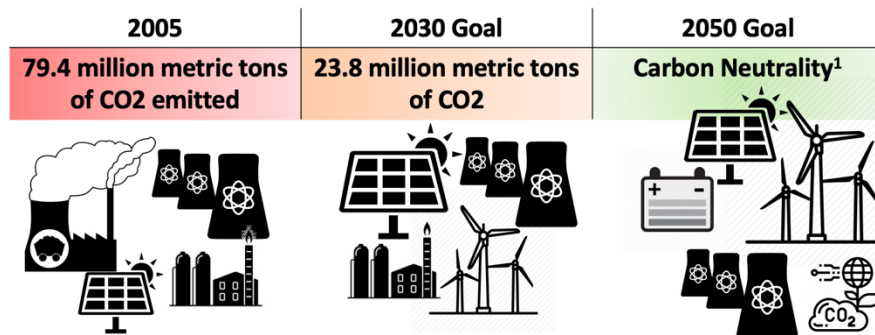


# Fact Sheet: Cleaner Power for North Carolina

## **Q: What is the Clean Energy Plan?**

The [North Carolina Clean Energy Plan](#) is the state’s plan to reduce the amount of carbon pollution from the electricity we generate and use. The plan was developed under Governor Cooper’s 2018 [Executive Order 80](#) to address climate change in North Carolina and transition to a clean energy economy. The Clean Energy Plan was the result of a yearlong process led by the North Carolina Department of Environmental Quality (DEQ) that involved facilitated workshops, regional listening sessions, statewide events and online input from the public.

Clean Energy Plan Electric Power Sector Emission Goals



The Clean Energy Plan calls for cutting carbon pollution from the electricity we generate and use in North Carolina by 70% compared to 2005 levels by 2030, and to be “carbon neutral” by 2050.<sup>1</sup> The Clean Energy Plan recommends almost 40 different actions and policies to achieve these goals.

Recommendation A1 is to produce a report that evaluates policies to reduce carbon pollution from the electric power sector on core values such as pollution reduction, affordability, and equity.

## **Q: Who produced the report?**

DEQ asked researchers at the Duke University [Nicholas Institute for Environmental Policy Solutions](#) and the University of North Carolina at Chapel Hill [Center on Climate, Energy, Environment & Economics \(CE3\)](#) to develop the report identified in the Clean Energy Plan.

1. The Clean Energy Plan does not provide a definition for carbon neutrality. However, generally, carbon neutrality refers the process of balancing carbon pollutions with activities that remove an equal amount of carbon from the atmosphere to what is emitted. It can also mean the elimination of all carbon pollution.

The Nicholas Institute and CE3 convened monthly working groups that included representatives from environmental and justice advocates, industrial customers, low-income advocates, renewable energy developers, state agencies, universities, and utilities to inform the process. A broader community of interested stakeholders met every other month to receive updates and provide input. In addition, two public forums were held in September 2020 to provide information about the carbon policies being analyzed, answer questions, and receive feedback. Staff from the Nicholas Institute and CE3 wrote the report, “[Power Sector Carbon Reduction: An Evaluation of Policies for North Carolina.](#)”

### ***Q: What are the key findings from the report?***

- The electric power system appears to be at a “tipping point” where small changes in natural gas prices or renewable costs can determine what types of generation plants will be built to meet our electricity needs (gas, renewables, or battery storage).
- Carbon dioxide (CO<sub>2</sub>) emissions from North Carolina’s electric power sector will continue to decline as coal plants retire. However, new policies are necessary to achieve the Clean Energy Plan emissions targets. If carefully designed, these policies can make emissions reductions more cost-effective, and drive positive economic development across the state.
- Coal retirement, carbon market, and carbon adder policies achieve reductions by lowering or “pushing out” in-state fossil generation, while clean energy standard (CES) policies increase in-state renewable generation, thus “pulling in” new resources to the grid. Combination policies can accomplish both outcomes more efficiently.
- Offshore wind requirements are projected to increase the cost of a CES but could drive economic development in supply chains and maritime trades.
- In addition to CO<sub>2</sub> emission reductions, some policies can achieve relatively deep reductions in local air pollutants. This can improve public health and is important when considering equity in policy design.

### ***Q: What recommendations does the report make for state policy makers?***

The report does not make specific recommendations. It offers options for action and a number of ways to compare policies and policy combinations to inform the design of effective, affordable, and equitable emissions reduction policies for the North Carolina power sector.

### ***Q: How was the analysis for the report conducted?***

Stakeholders studied North Carolina air quality and clean energy policies from the past, as well as climate policies implemented in other states, to refine the list of policies to study. Then, the policies were run through two power-sector capacity planning models to compare cost, emissions, and energy mix outcomes. The consulting firm ICF’s proprietary Integrated Planning Model (IPM) was selected because it is widely used by utilities, regulators, and environmental groups. The Nicholas Institute also ran an in-house model, the Dynamic Integrated Economy/Energy/Emissions Model (DIEM), to test more policy variations and assumptions. As with any modeling exercise, the results are not meant to be relied upon for their absolute values, but serve as useful directional signals showing relative impacts of different policy approaches on North Carolina’s power sector.

ICF also conducted a rate/bill impact analysis for a subset of policies and reported jobs and Gross State Product projections for each policy subset using the Regional Economic Models, Inc. (REMI) tool.

## **Q: What policies were analyzed?**

The working groups focused on policy options identified by stakeholders and listed in the Clean Energy Plan. There are many ways to think about these different types of policies; the descriptions in the table below describe what the working groups asked the modelers to analyze:

<b>Policy</b>	<b>What the Policy would do</b>
Accelerated Coal Retirement	Require or encourage some or all of NC's coal-burning power plants to retire before their end of life—in one case, all by 2030.
Carbon Adder	Require utilities to add in the cost of pollution when making decisions on which power plants to run and what types of new power plants to invest in. The policy has the effect of making fossil plants seem more “expensive” in comparison to lower- or zero-emitting generators and could change what a utility decides to build or run. Utilities would not actually have to pay anything under this policy.
Declining Carbon Cap/Carbon Market	Join the Regional Greenhouse Gas Initiative (RGGI) program run in 11 states. Each participating state sets a declining “cap” on the carbon pollution that the electricity sector can emit each year. The owner of a power plant would be required to hold one “allowance” for each ton of CO <sub>2</sub> the plant emits. DEQ could allocate allowances or sell them through an auction. Power plant owners could then buy or sell allowances to each other for use at any plant so long as the total amount of pollution does not exceed the cap. If there is an auction, the state can then re-invest funds in bill assistance, energy efficiency, storm recovery efforts, or other priorities.
Clean Energy Standard	Require a percentage of total electric power sales to be met through “clean” resources each year, which can be defined as zero-emitting or low-emitting generation.

## **Q: Can the power sector meet the Clean Energy Plan emissions targets without new policies?**

Economics, state clean energy policies, and ambitious climate commitments from Duke Energy and rural electric cooperatives are driving big changes to the state's grid, creating a shift toward cleaner options for electricity generation. By 2030, the system will likely have dropped emissions 50–60% from 2005 levels. However, the power sector cannot achieve the Clean Energy Plan's emissions targets under a “business as usual” approach. Modest, well-designed policies can accelerate pollution reduction already underway, while making change more affordable for state residents and businesses and stimulating job growth.

## **Q: What policies can achieve the Clean Energy Plan targets?**

Policies that achieve the 2030 Clean Energy Plan target in at least one of the models include:

- Carbon adders on generation (beginning at \$6/ton and growing at 7% per year);
- A CES (with or without an offshore wind requirement); and
- Combination policies that start with a CES and also include either accelerated coal retirements, RGGI, or a carbon adder.