

January 15, 2016

Submitted Electronically via Email to: daq.publiccomments@ncdenr.gov

Donald R. van der Vaart
Secretary, North Carolina Department of Environmental Quality
c/o Ms. Joelle Burleson
Division of Air Quality
1641 Mail Service Center
Raleigh, NC 27699-1641

RE: Comments on Proposed State Rules to Implement Clean Air Act section 111(d)

Dear Secretary van der Vaart:

The North Carolina Justice Center respectfully submits the following comments regarding the proposed state rules for the implementation of Clean Air Act section 111(d) also commonly referred to as the draft North Carolina Clean Energy Plan or draft NC CPP.

The Justice Center is a research and advocacy organization, whose mission is to eliminate poverty in North Carolina by ensuring that every household in the state has access to the jobs, services, and fair treatment it needs to achieve economic security. Part of our mission is to help make energy affordable and accessible for all North Carolinians in a manner that does not significantly harm low income communities and individuals.

Joining the Justice Center in support of these comments is the North Carolina Council of Churches, which enables denominations, congregations, and people of faith to individually and collectively impact our state on issues such as economic justice and development, human well-being, equality, compassion and peace; and North Carolina Interfaith Power & Light, which works with communities of all faiths to identify and implement positive, hope filled responses to climate change as a moral imperative. NCIPL core programs promote a variety of solutions including energy efficiency and conservation, increased renewable energy use, and collective low carbon lifestyle changes.

The Environmental Protection Agency's (EPA) Clean Power Plan (CPP) implemented through the Clean Air Act section 111(d) represents a significant opportunity for North Carolina to not only reduce carbon emissions but to also lower household energy costs through aggressive adoption of energy efficiency programs and increased utilization of renewable wind and solar energy generation resources.

Unfortunately, the current draft NC CPP proposed by the Department of Environmental Quality (DEQ) does not comply with the EPA CPP in several respects.

First, the proposed draft NC CPP will not achieve the required carbon reductions as stipulated by the EPA CPP. Second, there has not been a sufficient stakeholder process or consultation with vulnerable communities as required by the EPA CPP. For these reasons alone the Environmental Management Commission (EMC) should not approve the DEQ's proposed draft NC CPP. The draft NC CPP plan should also be rejected by the EMC for failing to incorporate provisions for participation in the Clean Energy Incentive Program (CEIP) and for failing to make any provision for the adoption of energy efficiency programs, and the utilization of renewable energy programs.

1. Reducing unaffordable energy costs for low income North Carolina residents through the CPP

Energy costs are already a significant burden in many North Carolina homes, and harm low income communities, seniors living on fixed incomes and communities of color. We are keenly aware that reducing carbon must and can be done in ways that protect low income ratepayers.

Approximately 17.2% of North Carolina's population, nearly 1.7 million people, lives in poverty (annual income of \$23,850 for a family of four).¹ Approximately 3.7 million or 38.6% of North Carolina's population are low income and live at 200% of the federal poverty level with an annual income for a family of four of \$47,700.²

For households experiencing economic hardship, energy costs take a significant portion of income and for many are simply unaffordable. Studies on the impact of economic hardship and energy costs bear this out. For example; those living at 50% of the Federal Poverty Level pay an estimated 36% of annual income towards home energy bills.³ Even those living between 185% to 200% of the Federal Poverty Level pay an estimated and remarkably high 7% of annual income towards home energy bills.⁴

In 2014, an estimated 1,427,486 North Carolina households faced unaffordable energy bills, an increase of 40,829 families when compared to 2013, when an estimated 1,386,657 households experienced unaffordable home energy burdens.⁵

While there are programs designed to assist low-income households meet their energy needs, these programs do not provide enough funding to meet the need in North Carolina.

¹ 2014 American Community Survey, US Census Bureau

² 2014 American Community Survey, US Census Bureau

³ "The Home Energy Affordability Gap 2014", (2nd Series), April 2015 Fisher, sheehan and Colton, Public Finance and general Economics; Belmont, MA.

⁴ "The Home Energy Affordability Gap 2014", (2nd Series), April 2015 Fisher, sheehan and Colton, Public Finance and general Economics; Belmont, MA.

⁵ "The Home Energy Affordability Gap 2014", (2nd Series), April 2015 Fisher, sheehan and Colton, Public Finance and general Economics; Belmont, MA.

LIHEAP, for example, is underfunded to meet the needs of North Carolina's low-income households.⁶

Given how volatile fossil fuel prices are likely to remain in the foreseeable future, irrespective of how the CPP is implemented, the state plan should identify ways that investing in carbon reductions can also shield low-income North Carolinians from increases in energy commodity prices. With the proper analysis, stakeholder engagement, and project design, investments in energy efficiency and renewable energy have the potential to reduce North Carolinians' exposure to global energy markets.

For these reasons, we encourage the EMC to alter the draft NC CPP plan to aggressively adopt energy efficiency and renewable generation programs that directly and indirectly benefit low income communities. We especially encourage modifying the draft NC CPP plan to include participation in the CEIP.

2. Leveraging the Clean Energy Incentive Program

We strongly encourage the EMC to revise the draft NC CPP Plan to require state participation in the Clean Energy Incentive Program (CEIP). The CEIP gives double credits for early carbon reductions from energy efficiency projects that serve low income communities. The CEIP also incentivizes early adoption of renewable energy projects.

A well designed program may make it possible to achieve carbon reductions through investments in low-income energy efficient housing, either through improving existing stock or building new energy efficient units, potentially utilizing funding structures for low-income housing that already exist in North Carolina.

It is imperative that the draft NC CPP take advantage of the remarkable opportunity the CEIP presents as the level of poverty and the number of households in North Carolina that cannot afford energy costs is at crisis proportions.

3. Maximizing employment benefits for North Carolinians

Different paths to meeting the CPP requirements could have a variety of employment impacts in North Carolina. Official estimates⁷ and independent analysis⁸ predict that the CPP will yield substantial employment benefits nationwide, particularly during the early years when new generation capacity comes online and energy efficiency projects are completed. We urge the

⁶ "The Home Energy Affordability Gap 2014", (2nd Series), April 2015 Fisher, sheehan and Colton, Public Finance and general Economics; Belmont, MA.

⁷ Environmental Protection Agency. (2014). "Regulatory Impact Analysis for the Proposed Carbon Pollution Guidelines for Existing Power Plants and Emissions Standards for Modified and Reconstructed Power Plants."

⁸ Bivens, J. (2015). "A Comprehensive Analysis of the Employment Impacts of the EPA's Clean Power Plan." *Economic Policy Institute*;

EMC to consider how the state implementation plan can maximize the number of job opportunities for North Carolinians.

4. Aggressive adoption of demand-side energy efficiency projects

Ramping up investment in demand-side energy efficiency improvements has substantial economic potential. The respected business consultancy McKinsey & Company found that improving end-user efficiency (residential, commercial, and industrial) could reduce total demand by 23% in 2020, while returning \$1.2 trillion in savings from \$520 billion in investment.⁹

In addition to being cost effective, many demand-side investments can deliver substantial economic and health benefits for North Carolina residents, including seniors, children with substantial health problems, and low-income communities of color.

a) Substantial opportunity for low cost carbon reduction

Most estimates find that a great deal of demand-side energy savings can be achieved more inexpensively than building the same amount of new generation capacity.¹⁰ Utility sector energy efficiency upgrades can achieve carbon reductions at one-half to one-third the cost of new generation capacity,¹¹ and many energy efficiency gains where electricity is used in homes and businesses can be similarly cost effective.

b) Localized economic impact

There are a number of reasons to expect that investing in making homes more energy efficient, particularly low-income residences can create more job opportunities for local residents than efficiency upgrades at the point of generation:

- *Broader range of skill levels needed:* Much of the work to be done on the generation side (e.g. industrial welding) will require skill and expertise that can't be developed quickly, making it difficult for most unemployed workers to get those jobs. In contrast, much of the actual work needed to make homes more energy efficient (e.g. caulking around windows, adding insulation, etc.) can be learned relatively quickly, making it much easier to enter into this part of the labor market.

⁹ McKinsey and Co. (2009). *Unlocking Energy Efficiency in the US Economy*

¹⁰ Freeman, L., Incorcio, S., & J. Park. (2010). "Implementing Energy Efficiency: Program Delivery Comparison Study." *Institute for Electric Efficiency*; Lazard (2015). "Levelized Cost of Energy Analysis 9.0." <https://www.lazard.com/perspective/levelized-cost-of-energy-analysis-90/>. Environmental Protection Agency. (2009). *Energy Efficiency as a Low-Cost Resource for Achieving Carbon-Reductions*. http://www.epa.gov/sites/production/files/2015-08/documents/ee_and_carbon.pdf

¹¹ Molina, M. (2014). "Best Value for America's Energy Dollar: A National Review of the Cost of Utility Energy Efficiency Programs." *American Council for an Energy-Efficient Economy*.

- *Less economic “leakage”*: In economic analysis, “leakage”¹² is when capital leaves a regional market. It happens whenever people or businesses buy goods and services that are supplied from outside the local economy. Minimizing leakage keeps capital circulating in local supply chains, creating more jobs for local residents and opportunities for businesses. Given that much of the equipment, parts, and labor used in upgrading generation facilities need to be sourced from specialty suppliers, it is likely that more of those suppliers will need to be located out of state. Where true, these supply chain realities will cause substantial leakage, as capital investment made to upgrade generation facilities leaves the state economy. In contrast, many of the basic construction materials and workers needed for improving customers’ homes can be sourced locally, keeping that capital working and creating jobs in North Carolina. A recent survey found over 800 companies domiciled in North Carolina that perform energy efficiency work¹³, indicating a depth of industry expertise that makes it likely that local companies are well positioned to capture the economic activity associated with investment in demand-side energy efficiency improvements.
- *Create jobs where they are most needed*: Investments in low-income housing can inject capital and create jobs in communities where they are sorely needed. Pairing investments in low-income housing with job training to make sure that local residents can get the jobs being created could leverage the central investment in our energy infrastructure to bolster communities and neighborhoods in North Carolina that face substantial economic hardship.

c) **Energy efficiency reduces vulnerability to energy price volatility**

Energy efficiency improvements, particularly on the demand-side, can provide a vital hedge against future volatility in the energy markets. Completely independent of the unfolding EPA CPP process, dynamics that have transformed the energy landscape over the last decade are likely to continually unsettle global energy markets for the foreseeable future:

- *Innovation*: Technological change will likely continue to alter the cost profile of different energy sources, as it has for natural gas and many renewable technologies in recent years.
- *Geopolitical instability*: Geopolitical and economic conflict continues to shape global energy costs. Saudi Arabia’s decision to increase oil production, which has contributed substantially to oil falling from nearly \$110 a barrel in 2014 to nearly \$30 early this year, is an example of how geopolitical and economic decisions beyond North Carolinian

¹² Basu, A. (2005). “Import Substitution as Economic Development.” *Urban and Regional Planning Economic Development Handbook*. University of Michigan. <http://www.umich.edu/~econdev/importsub/>

¹³ Alinda, Baehr, Supple, & Urlaub. (2015). “North Carolina Clean Energy Industry Census, 2014.” *North Carolina Sustainable Energy Association*..

ratepayers control, can nevertheless make their energy cost unpredictable and burdensome. Utilizing Energy Efficiency reduces vulnerability to these forces.

- *Fluctuations in macro demand:* Such changes will continue to unsettle global commodity markets even more in the near future, particularly as certain major developing economies undergo fundamental reorganization. The recent economic slowdown in China, tied to overbuilding in recent years, is currently exerting a major drag on global commodity prices. China is not the only country that is attempting to navigate the transition from an export-based manufacturing economy to service-based consumer economy, and these intersecting dynamics make it very difficult to see what the energy markets will look like in 10 or 20 years.
- *Price of natural gas likely to increase:* With new production coming online in the last decade, the price of natural gas has dropped to historic lows. We should be wary of over-exposing ratepayers to the risk of future rises in natural gas prices. Official projections are that natural gas prices will rise through 2040¹⁴ as market demand and production supply search for a new equilibrium, independent of the implementation of the EPA CPP. Given the amount of turbulence expected in the natural gas marketplace, and that prices are likely to settle above current levels, overreliance on natural gas as a fuel for electricity generation would expose North Carolina ratepayers to substantial risk, and warrants greater implementation of energy efficiency projects and renewable generation.

These are some of the reasons that energy efficiency investments are needed to shield North Carolina ratepayers from the worst effects of an uncertain global energy market and infrastructure costs. Certain energy and grid related infrastructure costs could rise even more than they are now. In turn, we encourage the EMC to require aggressive adoption of energy efficiency projects to reduce North Carolina's collective exposure to volatility in energy markets and delivery.

d) Particular opportunities in low-income housing

Weatherizing existing low-income housing can both provide an inexpensive means of meeting the State's obligations under the EPA CPP while also dramatically improving the health and wellbeing of many North Carolinians. Nationwide, existing low-income housing could represent almost 20% of cost effective efficiency gains,¹⁵ so we encourage the EMC to explore how programs can deliver investments in low-income housing that count toward CPP carbon benchmarks.

¹⁴ Energy Information Administration. (2015). *Annual Energy Outlook – With Projections to 2040*. [http://www.eia.gov/forecasts/aeo/pdf/0383\(2015\).pdf](http://www.eia.gov/forecasts/aeo/pdf/0383(2015).pdf)

¹⁵ McKinsey and Co. (2009). *Unlocking Energy Efficiency in the US Economy*

5. Incorporate renewable energy

The U.S. Energy Information Administration forecasts that renewable electricity generation will increase by 72% by 2040, accounting for roughly one-third of all new generation capacity.¹⁶ Given that renewable energy already supports more than 20,000 jobs in North Carolina¹⁷, is increasingly cost competitive, and can insulate North Carolina ratepayers from volatility in the energy commodity markets, we encourage the EMC to incorporate a strategy for accelerating the development of renewable energy capacity into the draft NC CPP.

a. Increasingly cost-competitive

The cost of renewable energy generation, particularly wind and solar, has come down substantially over the last decade, and is expected to become even more competitive in the future. Wind energy has been price competitive in many markets for years, and dropping costs have brought utility scale solar down to or below price parity as well.¹⁸

b. Community solar

Community solar offers a way for North Carolinians of modest means, or for those on fixed incomes and others to access carbon free energy and long-term price stability.. Community solar is fast emerging as a model for delivering low-cost renewable energy¹⁹ while also using affordable financing mechanisms.

¹⁶ Energy Information Administration. (2015). *Annual Energy Outlook 2015 – With Projections to 2040*. [http://www.eia.gov/forecasts/aeo/pdf/0383\(2015\).pdf](http://www.eia.gov/forecasts/aeo/pdf/0383(2015).pdf)

¹⁷ Alinda, Baehr, Supple, & Urlaub. (2015). "North Carolina Clean Energy Industry Census, 2014." *North Carolina Sustainable Energy Association*..

¹⁸ Lazard. (2015). *Levelized Cost of Energy Analysis 9.0*. <https://www.lazard.com/perspective/levelized-cost-of-energy-analysis-90/>

¹⁹ Lazard. (2015). *Levelized Cost of Energy Analysis 9.0*.

Conclusion

For all the above reasons we urge the EMC to reject the DEQ's proposed draft NC CPP and instead direct the DEQ to create a new proposal incorporating aggressive utilization of energy efficiency and renewable projects in conformance with the CEIP. As the EMC goes forward in meeting the EPA CPP requirements we hope there will be a robust stakeholder engagement process that solicits input on how the state can achieve the requirements of the EPA CPP while delivering tangible economic benefit to North Carolinians.

Thank you for the opportunity to make these comments. For more information please contact:

Alfred Ripley
Director of Consumer and Housing Affairs
North Carolina Justice Center
224 S. Dawson St.
Raleigh NC 27611-8068
(919) 856-2573

Signed:

North Carolina Justice Center