

## CHAPTER V

## COMMENTS DURING THE COMMENT PERIOD

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 4  
ATLANTA FEDERAL CENTER  
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ATLANTA, GEORGIA 30303-8960

JAN 15 2016

Sheila C. Holman, Director  
Division of Air Quality  
NC Department of Environmental Quality  
1601 Mail Service Center  
Raleigh, North Carolina 27699-1601

Re: Proposed Rule 15A NCAC 02D Section .2700: Standards of Performance for Existing Electric Utility Generating Units under Clean Air Act Section 111(d)

Dear Ms. Holman:

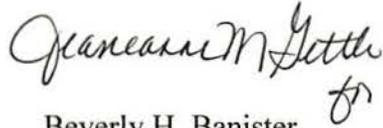
Thank you for providing this opportunity to comment on the above-referenced proposed rule. We appreciate your ongoing efforts to reduce carbon pollution emitted by the electric utility sector in the state.

The proposed revision to Section .2700 provides for measures to increase thermal efficiency at certain fossil fuel-fired power plants that are subject to the Clean Power Plan (CPP). At this point, it is unclear whether the proposed rule is intended to constitute a portion of, or possibly the entirety of, North Carolina's 111(d) state plan under the CPP (40 CFR Part 60, Subpart UUUU). With this in mind, and because the EPA is committed to working with states in developing approvable plans, we have prepared the attached comments on North Carolina's proposed rule. The attachment provides a preliminary set of comments regarding the proposed rule, particularly in light of the possibility that this rule may be a part of a forthcoming state plan under the CPP.

These comments are not intended to be exhaustive or comprehensive. The issues raised in these comments include the level of CO<sub>2</sub> emission reductions that the proposed rule will achieve; the adequacy of the emission standards in the proposed rule; monitoring, recordkeeping and reporting provisions; as well as two issues that would be relevant if this rule became a part of a CPP state plan.

We look forward to continuing to work with you on the development of an approvable state plan that satisfies all the requirements of the CPP by September 6, 2016 (or by September 6, 2018, should the state seek and receive an extension as outlined in 40 CFR §§ 60.5760 and 60.5765). Please contact Dave McNeal at 404-562-9102 or [mcneal.dave@epa.gov](mailto:mcneal.dave@epa.gov) if you have any questions specifically about these comments.

Sincerely,

A handwritten signature in cursive script, appearing to read "Beverly H. Banister".

Beverly H. Banister

Director

Air, Pesticides, and Toxics Management Division

Attachment

## Attachment

### U.S. EPA's Preliminary Comments on North Carolina's Proposed Rule 15A NCAC 02D Section .2700: Standards of Performance for Existing Electric Utility Generating Units under Clean Air Act Section 111(d)

These preliminary comments were prepared in light of the possibility that the proposed rule is intended to constitute a portion of, or possibly the entirety of, North Carolina's 111(d) state plan submittal under the Clean Power Plan. We are committed to working with states in the development of approvable state plans, and encourage North Carolina to work with the EPA as the state works toward the completion of its state plan submittal.

- **CO<sub>2</sub> Reductions:** In accordance with 40 C.F.R. § 60.5790, to meet its obligations under the federal Clean Power Plan, North Carolina would be required to demonstrate that the emission standards on affected electric generating units (EGUs), alone or in conjunction with any State measures, will achieve the CO<sub>2</sub> emission performance rates or statewide CO<sub>2</sub> emission goals described in 40 C.F.R. § 60.5855. Standing alone, North Carolina's draft rule does not appear to achieve either the CO<sub>2</sub> emission performance rates or the statewide CO<sub>2</sub> emission goals.
- **Standards of Performance:** As explained in the final Clean Power Plan rulemaking at 80 FR 64662, 64834 (Oct. 23, 2015), design, equipment, work practice, and operational standards cannot be considered to be "standards of performance" for purposes of a state plan under the Clean Power Plan. However, a state may include in its state plan an emission standard that is the rate or mass standard that results from the applicable operational or other standard. *Id.* North Carolina's draft rule would require affected EGUs to comply with various work practice or equipment requirements, but the draft rule does not appear to place enforceable CO<sub>2</sub> emission limits or rates on these units. Such enforceable emission standards would be required as part of a final state plan submittal, to the extent a state required affected EGUs to comply with work practice or equipment standards to meet Clean Power Plan obligations.
- **Enforceability:** As specified in 40 C.F.R. § 60.5745(a)(4), North Carolina's final Clean Power Plan submittal must include a demonstration that each affected EGU's emission standard is quantifiable, non-duplicative, permanent, verifiable, and enforceable according to 40 C.F.R. § 60.5775. As explained in the previous bullet, the work practice and equipment requirements in North Carolina's draft rule cannot be considered to be emission standards under the Clean Power Plan and – as related to enforceability – do not appear to be quantifiable, verifiable, permanent or enforceable because they rely on the affected EGUs complying with source-developed plans and manufacturers' recommended procedures, specifications, and guidelines that are not identified in the regulation.
- **Monitoring, Recordkeeping and Reporting:** To be approvable, North Carolina's final plan submittal must include monitoring for affected EGUs that is no less stringent than what is described in 40 C.F.R. § 60.5860. As currently written, North Carolina's draft rule does not appear to include monitoring, recordkeeping and reporting requirements that are as stringent as those specified in 40 C.F.R. § 60.5860.
- **Community Engagement:** Under 40 C.F.R. § 60.5745(a)(12), North Carolina's final plan submittal must include documentation of any conducted community outreach and community involvement, including engagement with vulnerable communities. *See also* 80 FR at 64848. In developing its final

plan, North Carolina must demonstrate that it meaningfully engaged with members of the public, including vulnerable communities; for example, workers and low-income communities, communities of color, and indigenous populations living near power plants and otherwise potentially affected by the State's plan. 40 C.F.R. § 60.5745(a)(12); 80 FR at 64827, 64848, 64668. Documentation of this type of engagement is also required as part of the initial submittal which is due by September 6, 2016, for states seeking to request an extension of time in which to submit a final state plan. The EPA appreciates the state's efforts to seek public comment on the proposed rule as an initial step towards satisfying the meaningful engagement requirements for state plan development.

- **Automatic Rescission Clause:** North Carolina's draft regulation at 15A NCAC 02D.2701(f) contains an "automatic rescission clause" that would automatically remove provisions from the approved state plan in the wake of specified triggering events, such as a decision by the D.C. Circuit declaring a provision unlawful. Under 40 C.F.R. § 60.5785(a), EPA-approved state plans can be revised only with approval by the Administrator. Federal regulations further require that with limited exceptions, the state shall conduct one or more public hearings on a plan revision prior to adoption. *See* 40 C.F.R. § 60.23(c)(1). Historically, the EPA has approved automatic rescission clauses into state implementation plans (SIPs) only if they include certain safeguards to ensure adequate public notice and EPA approval of any automatic change to the SIP that may result from the rescission clause's operation.

Pamela F. Faggert  
Chief Environmental Officer and  
Vice President-Corporate Compliance

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By Electronic Delivery: [daq.publiccomments@ncdenr.gov](mailto:daq.publiccomments@ncdenr.gov)  
January 15, 2016

Ms. Joelle Burleson  
Division of Air Quality  
1641 Mail Service Center  
Raleigh, North Carolina 27699-1641

**Re: Comments to the North Carolina Department of Environmental Quality, Division of Air Quality Notice of Proposed 15A NCAC 02D.2700; Standards of Performance for Existing Electric Utility Generating Units under Clean Air Act Section 111(d); November 16, 2015.**

Dear Ms. Burleson:

Dominion Resources Inc. (Dominion) appreciates the opportunity to provide comments on the proposed regulation codified at 15A NCAC 02D.2701 to comply with EPA's Standards for Performance for Existing Electric Utility Generating Units Under Clean Air Act Section 111(d), also known as the Clean Power Plan (CPP).

The proposed regulation to implement the CPP includes provisions to improve efficiency (heat rates) applicable to existing electric generating units and does not address the remaining "building blocks" applied by EPA in its determination of the "best system of emission reductions" (BSER) used to establish the emission reduction targets of the final CPP. We encourage the North Carolina Department of Environment and Natural Resources' (NCDENR) Department of Air Quality (DAQ) to develop and promulgate a state plan for implementing the CPP that incorporates all the elements of the final CPP rule which will be approvable by EPA. We believe that the certainty and flexibility of a state implementation plan is in the best interest of North Carolina and our customers rather than facing the imposition of a federal plan.

Dominion owns and operates two natural gas fired combined cycle combustion turbines (NGCC) at the Rosemary Power Station, located in Roanoke Rapids, North Carolina, that are subject to the CPP. To the extent the State proceeds with its currently proposed rulemaking, we offer the comments for consideration.

As proposed, the Rosemary Power Station will be subject to the provisions for NGCC plants codified at 15A NCAC 02D.2703(b)(4), which requires the following:

- (A) The owner or operator shall operate the NGCC unit, including the combustion turbine and the associated heat recovery steam generator, using natural gas as fuel during normal operation in accordance with the manufacturers' recommended procedures.*
- (B) Ongoing maintenance shall be performed according to the manufacturers' recommended maintenance procedures at the prescribed frequency levels.*

By Electronic Delivery: daq.publiccomments@ncdenr.gov

January 15, 2016

Page 2

The Rosemary facility operates two combustion turbines and a steam turbine. The combustion turbines are primarily fired on natural gas with Fuel Oil No.2 as a back-up fuel. DAQ's supporting document for the rule titled, "Supporting Basis for Determination of Best System of Emission Reduction (BSER) for Carbon Dioxide from Existing Electrical Generating Units" (Appendix B), defines BSER for EGUs for Rosemary as follows:

*Based on the above EPA determinations and considering the nature of operations of this facility, DAQ believes that efficient NGCC technology combined with the use of clean fuels (natural gas and distillate fuel) is BSER for EGUs at Rosemary (emphasis added).*

Under normal circumstances, the units operate per the manufacturer's guidelines and recommended procedures. For these NGCC units, some of the original manufacturer's parts could have been obsolete or replaced with aftermarket parts or repairs, as a part of routine maintenance and repair. As a result, the maintenance of these units does not always follow "original manufacturer's recommended maintenance practices." In these instances, the maintenance is performed as per good engineering industry practices for the actual components in service.

Therefore, in accordance with DAQ's recognition that BSER includes the use of distillate oil, we request that the DAQ revise the language in the proposal under Provision (A) to reflect the BSER determination. In addition, we recommend that the language proposed in Provisions (A) and (B) above be revised to provide flexibility to use operational and maintenance procedures that deviate from the manufacturers' recommendations as follows:

- (A) *The owner or operator shall operate the NGCC unit, including the combustion turbine and the associated heat recovery steam generator, using clean fuels (natural gas and distillate fuel oil) as fuel during normal operation in accordance with the manufacturers' recommended procedures or good engineering practices.*
- (B) *Ongoing maintenance shall be performed according to the manufacturers' recommended maintenance procedures at the prescribed frequency levels or good engineering practices.*

At the very least, there must be provisions for a regulated entity to obtain approval to use procedures for operations and maintenance that deviate from the manufacturers' procedures.

Thank you again for the opportunity to provide comments on this proposal. Please do not hesitate to contact me, Troy Breathwaite at Troy.Breathwaite@dom.com or Lenny Dupuis at Leonard.Dupuis@dom.com, if you have any questions.

Sincerely,



Pamela F. Faggert



January 14, 2016

North Carolina Division of Air Quality  
1641 Mail Service Center  
Raleigh, North Carolina 27699-1641

**Re: Comments on the adoption of proposed rules to implement standards of performance for carbon dioxide (CO<sub>2</sub>) emissions for existing electric utility generating units (EGUs) under Clean Air Act Section 111(d)**

Dear Ms. Sheila Holman:

The Alliance for Industrial Efficiency (hereinafter, “The Alliance”) appreciates the opportunity to comment at this early stage on North Carolina’s proposed Clean Power Plan (CPP) state compliance plan. The Alliance is a diverse coalition that includes representatives from the business, environmental, labor and contractor communities. Our national membership includes more than 20 contractors and businesses based in North Carolina alone. Among these are Stromberg Metal Works in Raleigh, the largest sheet-metal firm in the country; McKenny’s in Charlotte, the largest mechanical contracting firm on the East Coast; and K-Flex USSA, LLC in Youngsville. We are committed to enhancing manufacturing competitiveness and reducing emissions through industrial energy efficiency, particularly through the use of clean and efficient power generating systems, such as combined heat and power (CHP) and waste heat to power (WHP).

North Carolina’s state compliance plan relies exclusively on heat rate improvements at affected electric utility generating units (EGUs) to reduce emissions of carbon dioxide. We believe the state should adopt a system-wide approach to compliance and would like to take this opportunity to highlight energy efficiency as the easiest, fastest, and most cost-effective compliance tool available to help North Carolina achieve its emission reduction goals.

We strongly urge the Department of Air Quality to consider industrial energy-efficiency options, particularly combined heat and power (CHP) and waste heat to power (WHP), for inclusion in the state’s plan as opposed to an exclusive heat-rate improvement approach.

**I. Industrial Energy Efficiency Offers a Cost-Effective Option for Clean Power Plan Compliance**

The U.S. Environmental Protection Agency (EPA) has confirmed that states can use industrial efficiency as one way to meet their emissions targets under the Clean Power Plan.<sup>1</sup> Indeed, energy efficiency should be the cornerstone of a least-cost compliance strategy. Industrial energy efficiency represents not only an opportunity for achieving significant, low-cost emissions

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<sup>1</sup> See, e.g., U.S. EPA, Oct. 23, 2015, 80 Fed. Reg. 64662, 64666, “Final Rule: Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units” (“Each state will have the opportunity to take advantage of a wide variety of strategies for reducing CO<sub>2</sub> emissions from affected EGUs, including demand-side EE programs and mass-based trading...”); U.S. EPA, August 20, 2015, “FACT SHEET: Energy Efficiency in the Clean Power Plan” (<http://www.epa.gov/cleanpowerplan/fact-sheet-energy-efficiency-clean-power-plan>).



reductions, but also a means of supporting in-state jobs, economic competitiveness, and improved energy reliability. By including policies that advance industrial efficiency in its plan, North Carolina will strengthen its manufacturing base, promote economic growth, increase grid reliability, and reduce emissions while lowering everyone's electric bills.

We urge North Carolina to focus on industrial energy efficiency because the industrial sector is one of the sectors with the greatest potential for saving both energy and money. The industrial sector, which includes manufacturing, mining, construction and agriculture, accounts for roughly one-third of all end-use energy demand in the United States and continues to be the largest energy user in the U.S. economy. Studies have estimated that up to 32 percent of industrial energy use could be saved through cost-effective efficiency measures.<sup>2</sup> Further, as states and power companies look to meet GHG emissions reductions under the CPP, efficiency remains the least-cost resource and accordingly serves as the lowest cost compliance option identified by EPA in the proposed rule,<sup>3</sup> and on a national basis, industrial energy efficiency programs have the lowest cost of saved energy than any other end-use sector.<sup>4</sup>

By adopting industrial energy-efficiency measures, North Carolina will cut its manufacturing costs, make its manufacturers more competitive in international markets, and create jobs. Efficiency measures designed to improve a facility's energy productivity enable manufacturers to reduce costs, increase competitiveness and insulate themselves from volatile energy prices in the future. Industrial efficiency technologies such as CHP can be twice as efficient as the separate generation of thermal energy and electricity, which significantly cuts costs for businesses. What's more, manufacturers can reinvest the money they save on energy to expand production and hire more employees. Industrial efficiency offers economic benefits society-wide, helping to postpone or eliminate the need for expensive generation and transmission investments, and keeping energy costs down for all consumers.

## **II. CHP Offers Environmental, Economic, and Reliability Benefits**

By generating both heat and electricity from a single fuel source, CHP dramatically lowers emissions and increases overall fuel efficiency – allowing utilities and companies to effectively “get more with less.” CHP can operate using more than 70 percent of fuel inputs. As a consequence, CHP can produce electricity with roughly one-quarter the emissions of an existing coal power plant. Waste heat to power (WHP) can generate electricity with no additional fuel and no incremental emissions. Due to its scale, a single CHP or WHP investment can achieve significant emission reductions.

EPA recognizes these benefits. In fact, the Clean Power Plan final rule highlights CHP's thermal efficiency,<sup>5</sup> notes that CHP and WHP are eligible for ERCs, and exempts most industrial CHP

<sup>2</sup> U.S. DOE, June 2015, “Report to Congress: Barriers to Industrial Energy Efficiency,” at iii ([http://www.energy.gov/sites/prod/files/2015/06/f23/EXEC-2014-005846\\_6%20Report\\_signed\\_v2.pdf](http://www.energy.gov/sites/prod/files/2015/06/f23/EXEC-2014-005846_6%20Report_signed_v2.pdf)).

<sup>3</sup> Jeff Hopkins, May 2015, “Modeling EPA's Clean Power Plan: Insights for Cost- Effective Implementation” (<http://www.c2es.org/publications/modeling-epas-clean-power-plan-insights-cost-effective-implementation>).

<sup>4</sup> Aden, Nate, et al., 2014, “Beyond Lighting: The Role of Industry Programs in U.S. Ratepayer-Funded Energy Efficiency.”

<sup>5</sup> U.S. EPA, Oct. 23, 2015, 80 Fed. Reg. 64966 at 64996, “Proposed Rule: Federal Plan Requirements for Greenhouse Gas Emissions From Electric Utility Generating Units Constructed on or Before January 8, 2014” (“CHP units are typically very thermally efficient”).



systems.<sup>6,7</sup> Elsewhere, the preamble to the final rule acknowledges that “CHP units are low-emitting electric generating resources that can replace generation from affected EGUs.”<sup>8</sup> EPA has recognized the value of CHP as a proven cost-effective technology to reduce greenhouse gas emissions by providing technical assistance to large energy users through the Combined Heat and Power Partnership, exempting most industrial CHP units from regulation under the 111(b) rule,<sup>9</sup> and by issuing awards to various CHP ENERGY STAR<sup>®</sup> projects in recognition of their emissions reductions.<sup>10</sup> Upon awarding several industrial facilities for their investments in CHP, Administrator McCarthy explained, “The CHP technology offers a strategy to help meet the goals of the President’s Climate Action Plan for a cleaner power sector while boosting the efficiency and competitiveness for many U.S. manufacturers.”<sup>11</sup>

CHP and WHP can be effectively utilized in both a rate-based and a mass-based plan, so will be an appropriate compliance option regardless of which path North Carolina ultimately adopts. Under a rate-based plan, CHP and WHP installations at industrial facilities can offset the higher emission rates of affected EGUs. The CPP explicitly provides that CHP and WHP installations can sell ERCs to the utility in exchange for that benefit.<sup>12</sup> The revenue from ERC sales can offset the cost of CHP and WHP installations, encouraging private investment in these projects.

Under a mass-based plan, revenues from state auctions of emission allowances to owners of affected EGUs can be used to underwrite the cost of industrial efficiency investments, including CHP and WHP. Alternatively, some emission allowances can be set aside and given to industrial owners and operators who agree to undertake industrial energy efficiency projects or install CHP or WHP systems. These “set aside” allowances can be auctioned or otherwise monetized to provide revenue to offset the cost of these projects and programs, thus encouraging private investment in these emission-reduction strategies.

### **III. CHP Potential in North Carolina**

There is significant opportunity in North Carolina to implement CHP. Currently, the state has 72 CHP sites, generating 1,555 megawatts of clean and efficient power.<sup>13</sup> It is estimated that North

<sup>6</sup> *Id.* at 64902 (“Electric generation from non-affected CHP units may be used to adjust the CO<sub>2</sub> emission rate of an affected EGU”).

<sup>7</sup> *Id.* at 64953, §60.5850, “What EGUs are excluded from being affected EGUs?”

<sup>8</sup> *Id.* at 64902.

<sup>9</sup> U.S. EPA, 80 Fed. Reg. 64510, 64532, October 23, 2015, “Standards of Performance for Greenhouse Gas Emissions From New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units; Final Rule.”

<sup>10</sup> U.S. EPA, “Combined Heat and Power Partnership: Winners of the 2015 Energy Star CHP Award” (<http://www.epa.gov/chp/award-winners>).

<sup>11</sup> U.S. EPA, Sept. 30, 2014, “Press Release: EPA Honors Manufacturers with ENERGY STAR Award” (<http://yosemite.epa.gov/opa/admpress.nsf/d0cf6618525a9efb85257359003fb69d/41a49d0a9fa717d985257d63004f5b7f!OpenDocument>).

<sup>12</sup> U.S. EPA, Oct. 23, 2015, 80 Fed. Reg. 64662 at 64902, “Final Rule: Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units” (“Electric generation from non-affected CHP units may be used to adjust the CO<sub>2</sub> emission rate of an affected EGU, as CHP units are low-emitting electric generating resources that can replace generation from affected EGUs.”); and at 64902 (“WHP units that meet the eligibility criteria under section VIII.K.1 may be used to adjust the CO<sub>2</sub> emission rate of an affected EGU”).

<sup>13</sup> U.S. DOE Combined Heat and Power Installation Database, <https://doe.icfwebservices.com/chpdb/state/PA>.



Carolina has 4,402 megawatts of technical and commercial potential.<sup>14</sup> This technical potential indicates that North Carolina has a tremendous opportunity for CHP implementation.

#### **IV. Conclusion**

Despite the many benefits of industrial efficiency, a number of barriers impede greater adoption, including the internal competition for capital that often undervalues efficiency investments, utility business models that dis-incentivize utilities to fully promote industrial efficiency and CHP, and information barriers that make it harder for manufacturers to make informed decisions.

As North Carolina develops its Clean Power Plan compliance strategy, we urge you to consider strong complementary policies that address these hurdles to full deployment of all cost-effective energy efficiency in the industrial sector, and provide programs and incentives that reflect the true value of efficiency. Such policies will further allow power companies to meet compliance obligations under the CPP in a cost-effective manner. We hope that you will seize the potential for industrial efficiency in North Carolina's holistic approach to Clean Power Plan compliance so that your state can strengthen industry, increase grid reliability, and cost-effectively reduce emissions.

Thank you for the opportunity to comment.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jennifer Kefer'.

Jennifer Kefer, Director  
Alliance for Industrial Efficiency

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<sup>14</sup> Bruce Hedman, Anne Hampson, and Ken Darrow, American Gas Association, The Opportunity for CHP in the United States, May 2013, ([https://www.aga.org/sites/default/files/legacy-assets/Kc/analyses-and-statistics/studies/efficiency\\_and\\_environment/Documents/The%20Opportunity%20for%20CHP%20in%20the%20United%20States%20-%20Final%20Report.pdf](https://www.aga.org/sites/default/files/legacy-assets/Kc/analyses-and-statistics/studies/efficiency_and_environment/Documents/The%20Opportunity%20for%20CHP%20in%20the%20United%20States%20-%20Final%20Report.pdf)).



**COMMENTS OF**  
**THE MID-ATLANTIC RENEWABLE ENERGY COALITION ON**  
**NORTH CAROLINA'S COMPLIANCE WITH EPA'S CLEAN POWER**  
**January 15, 2016**

The Mid-Atlantic Renewable Energy Coalition (MAREC) appreciates the opportunity provided to us by the North Carolina Department of Environmental Quality for the opportunity to provide these written comments on North Carolina's compliance with EPA's Clean Power Plan (CPP). These comments augment our public statement made at the stakeholder session held on December 17, 2015 in Raleigh.

MAREC is a nonprofit organization that was formed to help advance the opportunities for renewable energy development primarily in the region where the Regional Transmission Organization, PJM Interconnection, operates. MAREC's footprint includes North Carolina and eight other jurisdictions in the region. MAREC members include wind developers, wind turbine manufacturers, service companies, non-profit organizations, and a transmission company dedicated to the growth of renewable energy technologies. MAREC members have developed, own, and/or operate thousands of megawatts of renewable energy serving the PJM territory, including the Amazon wind farm currently under construction in Pasquotank and Perquimans Counties.

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While the process in North Carolina seems to be focused on improving the efficiency of its existing fossil fuel plants, MAREC strongly believes that including wind energy as a means to help meet the CPP would bring significant value to the State and would also be a cost-effective tool for compliance. While North Carolina has no utility scale wind energy generating electricity at this time, as we had previously mentioned, a 208 MW project is currently under construction. There is also a strong resource for wind energy in the state, both on- and off-shore, as shown on the maps in Figure 1 and Figure 2.<sup>1, 2</sup> According to the National Renewable Energy Laboratory, which produced these maps, the state has a resource potential under current technology to produce an additional 2,201 MW of onshore wind capacity<sup>3</sup> and 50,000 MW of offshore nameplate wind capacity<sup>4</sup>.

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<sup>1</sup> National Renewable Energy Laboratory, Wind Speed at 80m. <<http://en.openei.org/w/index.php?title=File:NREL-awstpspd80on1-1dpi600NC.jpg>>

<sup>2</sup> National Renewable Energy Laboratory, Offshore Wind Speed at 90m. <<http://en.openei.org/w/index.php?title=File:NREL-NC-90mwind-speed-off.jpg>>

<sup>3</sup> American Wind Energy Association. North Carolina State Fact Sheet. <<http://awea.files.cms-plus.com/FileDownloads/pdfs/North%20Carolina.pdf>>

<sup>4</sup> State of North Carolina. Report of the Governor's Scientific Advisory Panel on Offshore Energy. <<http://www.nccommerce.com/Portals/14/Documents/OffshoreEnergy/12-13-2011%20Offshore%20Energy%20REPORT%20FINAL.pdf>>

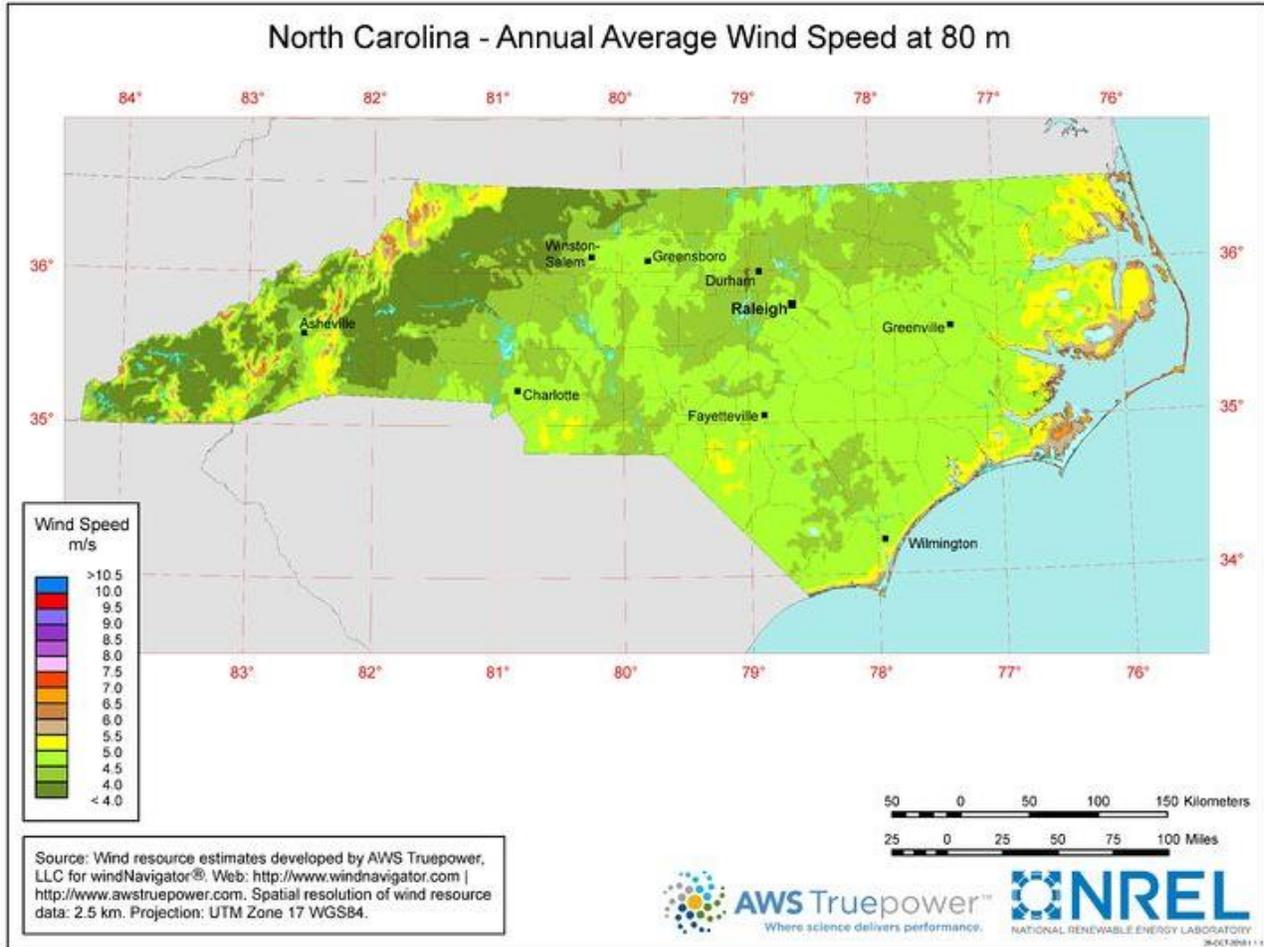


Figure 1 Average Wind Speed at 80m Height

Source: NREL

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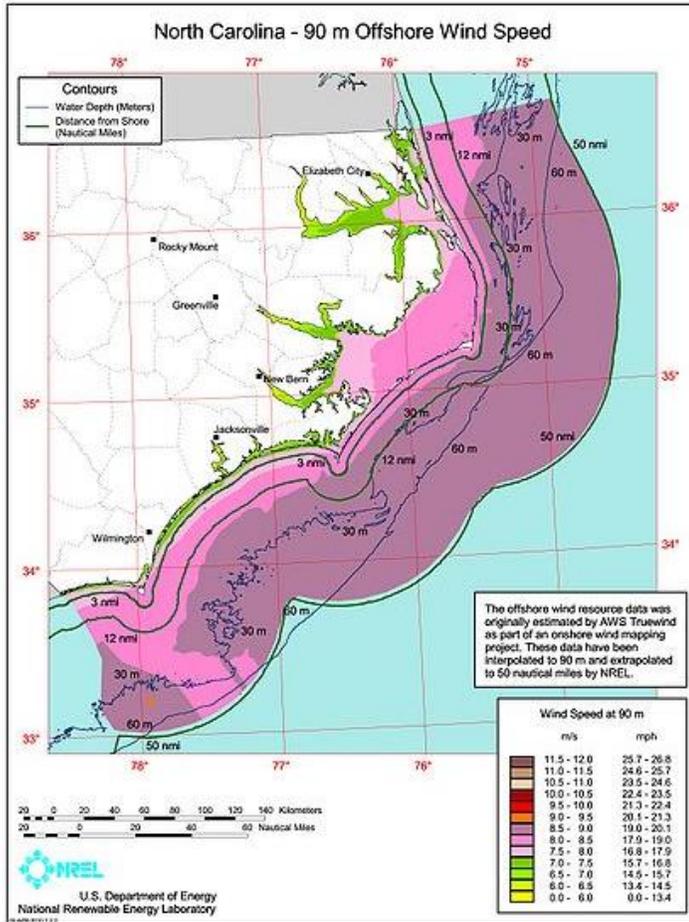


Figure 2 Average Wind Speed at 90m Height

Source: NREL

Developing this resource would lead to jobs and other benefits for the local economy. There are currently twenty eight facilities in the state of North Carolina producing components for the wind industry, and constructing more turbines will ensure their continued existence, as well as increase the likelihood of further manufacturing facilities in the state. As an example of what else is possible, Pennsylvania, which leads the eastern PJM region in wind development, has had \$2.7 billion of capital investment in wind energy projects. This, of course, leads to jobs and other benefits for the local economy. Farmers and other landowners could receive millions in lease payments for the use of their land, while still being able to utilize most of it for farming. Local communities would also benefit from tax payments paid by the owners of the wind energy facilities. Because North Carolina has an even greater resource than measured in Pennsylvania,

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using current technologies, there is a very positive outlook for advancing economic development in the state and areas where the wind farms would be located in North Carolina.

As far as wind energy's value in helping North Carolina meet the CPP, you should seriously consider the results of the U.S. Energy Information Agency (EIA) economic analysis study in which it modeled a range of options for complying with EPA's proposed rule across a variety of scenarios. Wind energy consistently emerged as the lowest cost option for reducing carbon emissions to support compliance with the CPP. Importantly, grid operator studies, including this region's grid operator, PJM, confirm that these levels of renewable energy can be reliably integrated into their transmission grids (see below). EIA finds that wind energy plays by far the largest role in the lowest cost energy portfolio for CPP compliance, with significant wind energy deployment in nearly all regions, including the Southeast. This strong showing by wind energy is due to recent declines in the cost of wind energy, coupled with wind's valuable role in protecting against increases in the price of natural gas. Using zero-emission wind energy provides states with valuable flexibility that allows far less drastic changes to the generation mix than using a resource with some emissions.<sup>5</sup>

Wind is reliable. More than a dozen wind integration studies by U.S. grid operators and others have found that wind energy can reliably supply at least 20-30% of our electricity.<sup>6</sup> One in particular, prepared for our grid operator, PJM, found that integrating 30% renewable energy

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<sup>5</sup> U. S. Energy Information Administration. Analysis of the Clean Power Plan.  
<<http://www.eia.gov/analysis/requests/powerplants/cleanplan/>>

<sup>6</sup> A small sample of the reports:

Synapse Energy Economics. "The Net Benefits of Increased Wind Power in PJM." May 2013. [http://www.synapse-energy.com/sites/default/files/SynapseReport.2013-05.EFC\\_Increased-Wind-Power-in-PJM.12-062.pdf](http://www.synapse-energy.com/sites/default/files/SynapseReport.2013-05.EFC_Increased-Wind-Power-in-PJM.12-062.pdf)

GE Energy Consulting. "PJM Renewable Integration Study." February 2014.

<http://www.pjm.com/~media/committees-groups/committees/mic/20140303/20140303-pris-executive-summary.ashx>

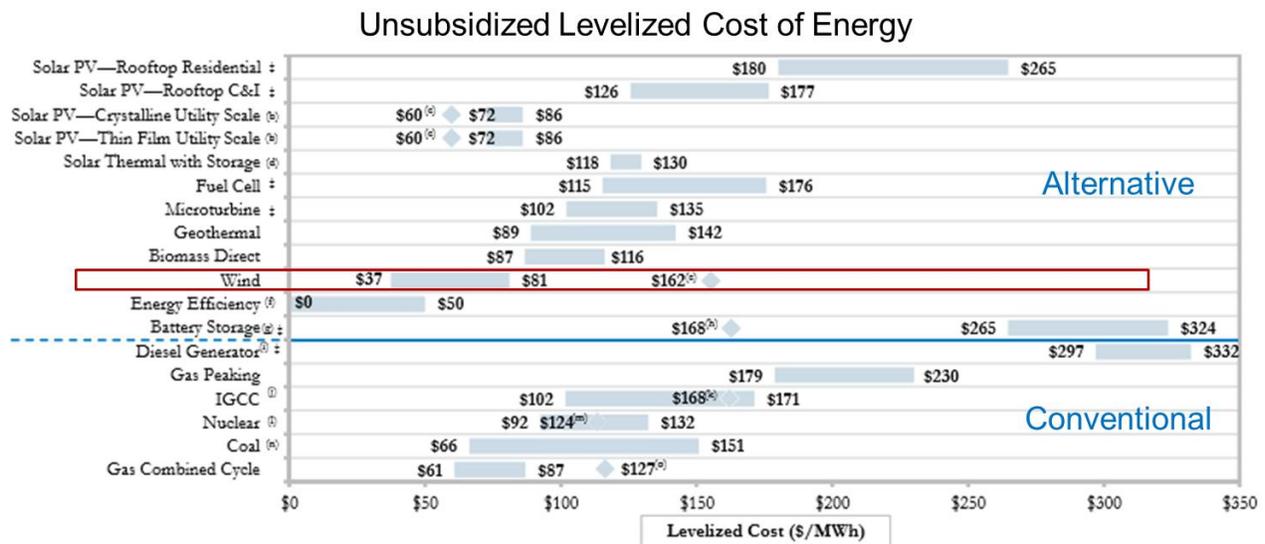
Synapse Energy Economics. "Meeting Load with a Resource Mix Beyond Business as Usual." April 2013.

<http://www.civilsocietyinstitute.org/media/pdfs/20130417Meeting%20Load%20with%20a%20Resource%20Mix%20Beyond%20Business%20as%20Usual%20-%20FINAL.pdf>

General Electric for ISO-NE. "New England Wind Integration Study." November 2010. [http://www.iso-ne.com/committees/comm\\_wkgrps/prtcpnts\\_comm/pac/mtrls/2010/nov162010/newis\\_ge.pdf](http://www.iso-ne.com/committees/comm_wkgrps/prtcpnts_comm/pac/mtrls/2010/nov162010/newis_ge.pdf)

into its transmission system is feasible, reliable, and in a manner that is cost-effective. Currently only 2-3% of the energy online in PJM is renewable, so the report demonstrated that the system could function with considerably more, being reliable at both 20% and 30% scenarios

According to the DOE’s Lawrence Berkeley National Laboratory, since 2009, onshore wind prices have dropped nearly 66 percent to their lowest levels ever.<sup>7</sup> Other than energy efficiency, wind has the lowest cost of energy for both conventional and alternative sources of electricity, as shown in Figure 3. When accounting for subsidies, the price drops even lower.<sup>8</sup>



**Figure 3 Unsubsidized Levelized Cost of Energy for Various Energy Types** Source: Lazard

Not only is wind energy cost-effective, but policies supporting long-term contracts for wind energy (10-20 years) help get these projects financed at reasonable rates and ensure price stability. This is because the resource itself is not subject to the price volatility facing traditional

<sup>7</sup> Department of Energy (DOE)'s "2014 Wind Technologies Market Report" (released August 2015) at page 56. <http://emp.lbl.gov/sites/all/files/lbnl-188167.pdf>

<sup>8</sup> Lazard’s Levelized Cost of Energy Analysis. September 2014. [http://www.lazard.com/media/1777/levelized\\_cost\\_of\\_energy\\_-\\_version\\_80.pdf](http://www.lazard.com/media/1777/levelized_cost_of_energy_-_version_80.pdf)

fossil fuel resources over the long-term, like coal and natural gas. This means that wind can act as a hedge against rising prices in the future. Figure 4 shows how long-term contracts can ensure a low price even while gas prices continue to rise.<sup>9</sup>

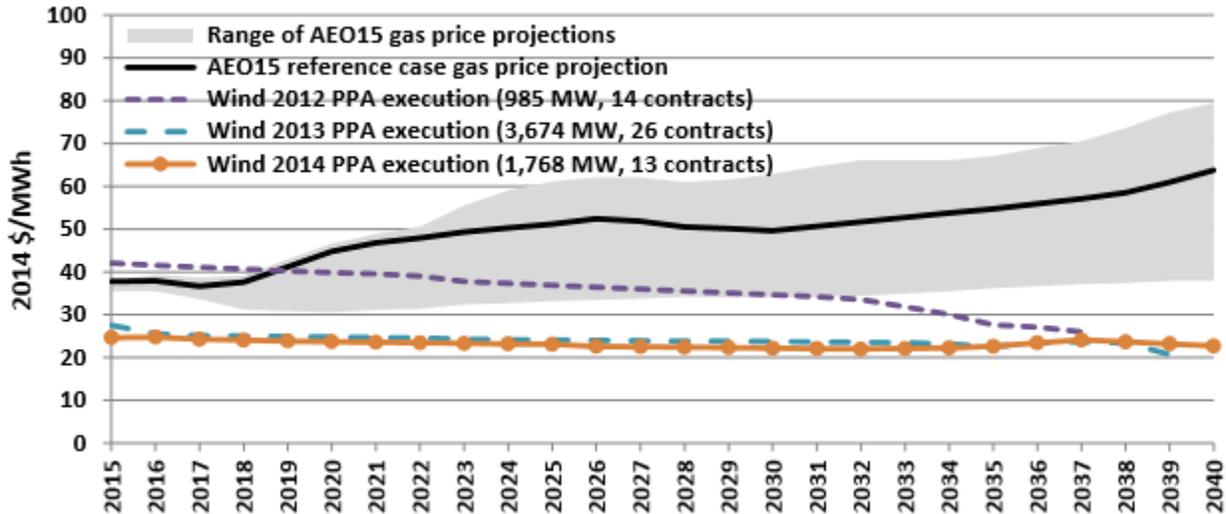


Figure 4 Comparison of Long Term Contract Prices and Future Natural Gas Price

Source: DOE

The benefits of switching to wind are easily measured and verifiable. One megawatt hour (MWh) of wind energy avoids .75 tons, or 1,500 pounds, of carbon dioxide emissions on average. A typical 2 megawatt (MW) wind turbine avoids around 4,000-4,500 tons of carbon emissions annually, equivalent to the annual carbon emissions of more than 700 cars. In 2013 alone, wind energy saved the state of North Carolina 25,000 short tons of CO<sub>2</sub> emissions, 144,000 pounds of SO<sub>2</sub> emissions, and 77,000 pounds of NO<sub>x</sub> emissions.<sup>10</sup>

While wind energy will not be the only component of implementing the CPP, it provides economic benefits across a wide range of policy and fuel price scenarios, and should be given strong consideration as a significant share of new generation going forward. Some estimates

<sup>9</sup> Department of Energy (DOE)'s "2014 Wind Technologies Market Report" (released August 2015) at page 60. <http://emp.lbl.gov/sites/all/files/lbnl-188167.pdf>.

<sup>10</sup> American Wind Energy Association. "The Clean Air Benefits of Wind Energy." May 2014. [http://awea.files.cms-plus.com/FileDownloads/pdfs/AWEA\\_Clean\\_Air\\_Benefits\\_WhitePaper%20Final.pdf](http://awea.files.cms-plus.com/FileDownloads/pdfs/AWEA_Clean_Air_Benefits_WhitePaper%20Final.pdf)

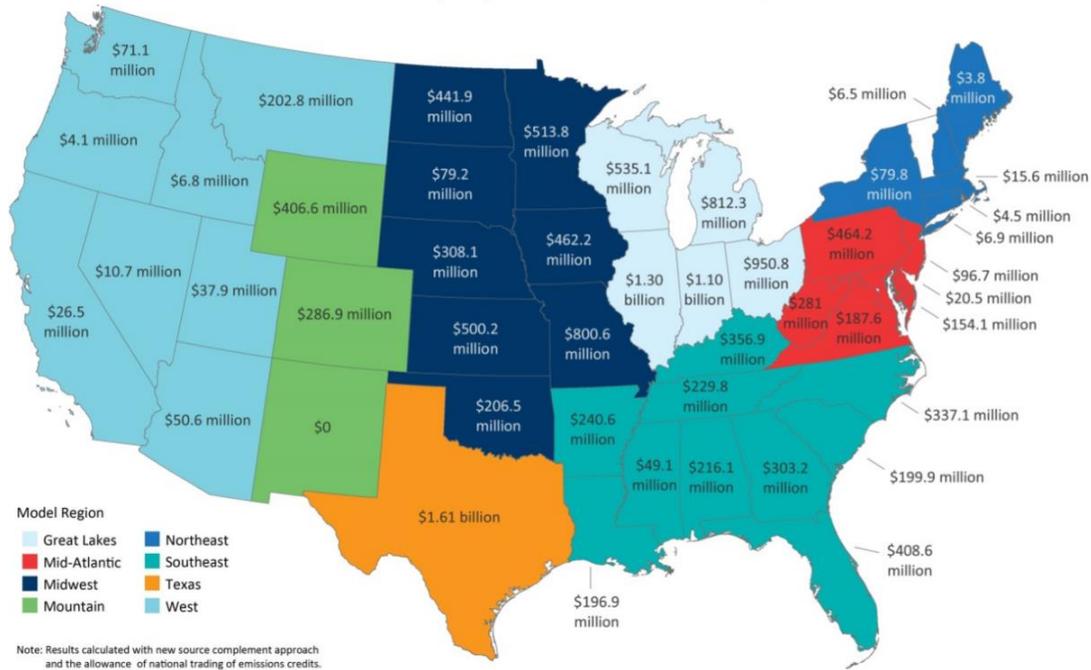
show a savings of over \$400 million through 2030 if renewables are optimally deployed (see Figure 5), assuming a gas price of \$5.50 / MMBtu (Henry Hub price).<sup>11</sup> Even if the gas price varies, optimally deploying renewable energy will still save money, as shown in Figure 6.<sup>12</sup> The graph in Figure 7 shows that not only does the average cost of the power system go down as the penetration of renewables for carbon reduction increases, but also the range between the high and low costs is substantially smaller at increased levels of renewables. This figure was produced using standard assumptions about fuel prices and load growth in the state. This tool is available for regulators so that users can test those assumptions, changing the fuel price and/or load growth to better understand the impact of renewables in their state.<sup>13</sup> Utilizing wind energy as a compliance tool would also provide the state with more flexibility in utilizing its existing generation, as switching to wind requires fewer coal retirements than switching to natural gas does due to emissions differences.

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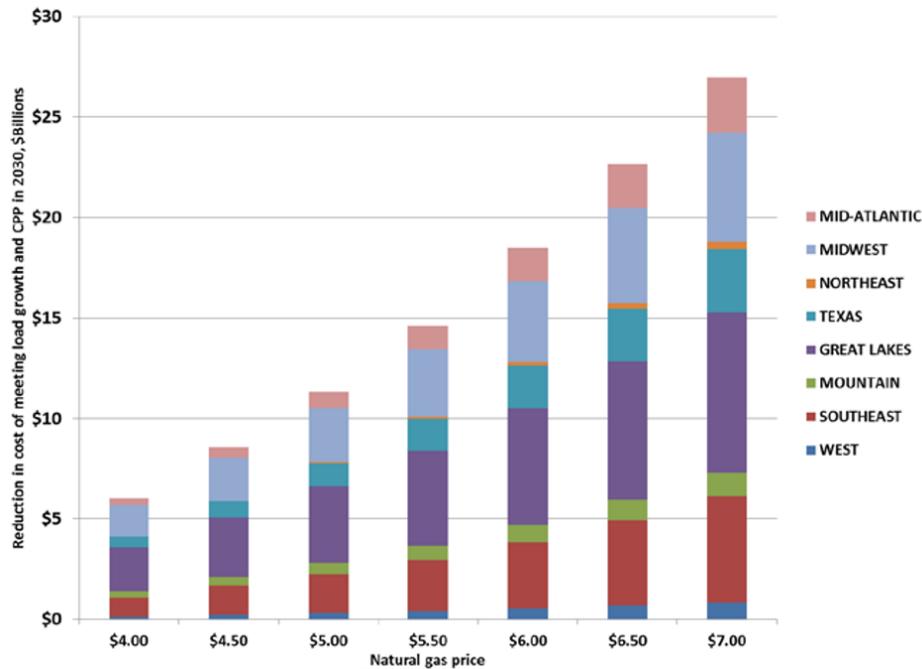
<sup>11</sup> American Wind Energy Association. "Wind energy is the low-cost, low-risk solution to Clean Power Plan compliance." October 2015, Unpublished.

<sup>12</sup> American Wind Energy Association. "Wind energy is the low-cost, low-risk solution to Clean Power Plan compliance." October 2015, Unpublished.

<sup>13</sup> AWEA Clean Power Plan Cost Optimization and Risk Evaluation (CORE) model  
<http://www.awea.org/applications/Forms/FormDisplay.aspx?FormID=42237>



**Figure 5 Cost Savings through Optimal Deployment of Renewables vs No Deployment of Renewables, 2030**  
 Source: AWEA

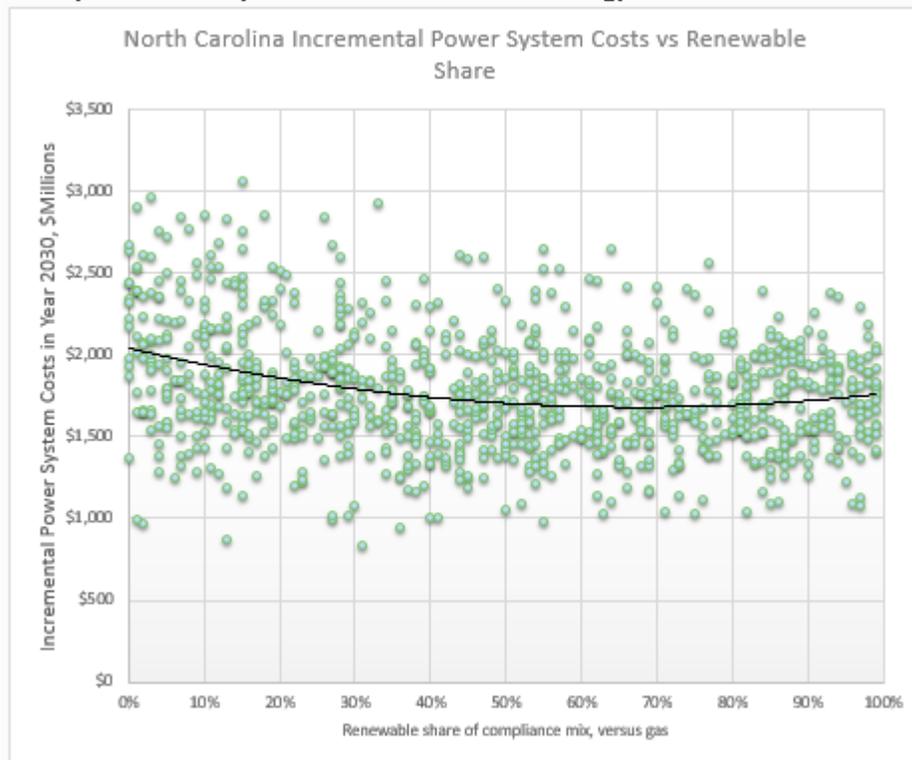


**Figure 6 Reduction in cost of meeting load growth and CPP from use of optimal level of renewable energy versus no renewable energy, in billions of annual dollars by region in 2030**  
 Source: AWEA

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**Figure 7 Range of Power System Costs at Various Levels of Renewable Energy**

Source: AWEA

Thank you for this opportunity to express MAREC's views on the implementation of the Clean Power Plan, and we look forward to further opportunities for more detailed comments as the process moves forward

Sincerely,

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January 15, 2016

Ms. Joelle Burleson  
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 North Carolina Department of Environmental Quality  
 1641 Mail Service Center  
 Raleigh, NC 27699-1641

*Submitted electronically via [daq.publiccomments@ncdenr.gov](mailto:daq.publiccomments@ncdenr.gov)*

**RE: Comments on proposed rules for carbon dioxide emissions standards for existing electric utility generating units under Clean Air Act Section 111(d).**

Dear Ms. Burleson,

We are greatly disappointed by the NC Department of Environmental Quality's draft rule to address the federal guidelines outlined in the U.S. Environmental Protection Agency's Clean Power Plan.

This draft rule from the NC Department of Environmental Quality fails to clean up dangerous carbon pollution from our air; ignores our state's capability and progress in generating electricity from renewable energy sources and increasing energy-efficiency programs; and fails to have an inclusive stakeholder process so all voices, especially from our most vulnerable communities, can be heard.

This is no North Carolina Clean Power Plan. It is a political ploy that wastes precious taxpayer resources and our time to address the growing threat to our health, our environment, and our changing climate.

Signed,  
 780 members of the NC League of Conservation Voters

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# Audubon NORTH CAROLINA

January 14, 2016

Ms. Joelle Burleson  
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North Carolina Department of Environmental Quality  
1641 Mail Service Center  
Raleigh, NC 27699-1641

*Submitted electronically via [daq.publiccomments@ncdenr.gov](mailto:daq.publiccomments@ncdenr.gov)*

**RE: Comments on proposed rules for carbon dioxide emissions standards for existing electric utility generating units under Clean Air Act Section 111(d).**

Dear Ms. Burleson,

In 1902, Audubon North Carolina was formed and helped spur wildlife conservation and protection efforts in the state. Today, on behalf of over 25,000 members and supporters, Audubon conserves and restores habitat we share with all wildlife, focusing on the needs of birds. Audubon North Carolina achieves this mission through a blend of science-based research and conservation, education and outreach, and advocacy.

In September 2014, Audubon released its groundbreaking Birds and Climate Change Report. To prepare this report, Audubon scientists used hundreds of thousands of citizen-science observations and sophisticated climate models to predict how birds in the U.S. and Canada will react to climate change. This work defines the climate conditions individual bird species need to survive, then maps where those conditions will be found in the future as the Earth's climate responds to increased greenhouse gases. The report is the broadest and most detailed study of its kind, and is the closest thing we have to a field guide of the *future* of North American birds.

The results of this peer-reviewed study are clear – climate change represents the greatest long-term threat to birds, endangering over half of America's bird species by 2080. Here in North Carolina, a total of 170 bird species, including iconic birds such as the Brown Pelican, Wild Turkey, Osprey, and Brown-headed Nuthatch are in trouble due to climate change. You can learn more about the study and its results here: <http://climate.audubon.org/article/audubon-report-glance>

Given the threat that climate change poses to North Carolina's natural heritage, the international community, the United States and individual states must all play an important role

in establishing ambitious, yet achievable and cost effective goals and implementation plans to reduce greenhouse gas emissions. Given its low emissions profile and rapidly declining costs, expanding renewable energy that is properly sited and designed should be a core component of North Carolina's emissions reduction strategy. Audubon encourages DEQ to develop a 'Smart from the Start' Program to support renewable energy developers in identifying and avoiding harm to sensitive bird habitat, migratory pathways and important natural areas as soon as possible in the renewable energy or biomass feedstock project planning process.

The Environmental Protection Agency's (EPA) Clean Power Plan under Section 111(d) of the Clean Air Act has established reasonable emissions reductions goals and provides states with significant flexibility in choosing how to meet those goals. We respectfully request that the Environmental Management Commission (EMC) not approve the proposed rules as submitted and instead encourage the Department of Environmental Quality (DEQ) to prepare and resubmit a new rule or 'backup plan' that fully complies with the emissions reduction goals that have been set by EPA. Waiting for all possible legal challenges to be resolved risks gambling with North Carolina's natural heritage and could lead to higher energy costs for North Carolina consumers.

The proposed 'backup plan' should be informed by a wide range of stakeholder groups and public opinion prior to release. North Carolina should consider approaches such as the open stakeholder listening sessions and working groups that informed regulators in Virginia and South Carolina. Soliciting and incorporating stakeholder feedback early in the compliance planning process will increase confidence in the regulatory process and the durability of the final plan.

Finally, at a time when we need higher levels of cost effective renewable energy to come online in North Carolina to meet the Clean Power Plan, we must send the appropriate market signals to industry. DEQ should recommend that North Carolina lawmakers keep in place and further strengthen important and complementary renewable energy policies such as the Renewable Energy and Energy Efficiency Portfolio Standard (REPS).

Thank you for accepting these comments. Audubon North Carolina looks forward to continued engagement with you on this important issue and working together to protect our state's natural heritage by expanding renewable energy and providing support to renewable energy developers to ensure that it is as bird-friendly as possible.

Sincerely,



Heather Hahn  
Executive Director  
Audubon North Carolina



NORTH CAROLINA  
CHAPTER

Regional  
Groups

Blue Ridge  
Boone

Cape Fear  
Wilmington

Capital  
Raleigh

Central Piedmont  
Charlotte

Cypress  
Greenville

Foothills  
Winston-Salem

Headwaters  
Durham

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Rocky Mount

Orange-Chatham  
Chapel Hill

Piedmont Plateau  
Greensboro

Pisgah  
Brevard

South Mountains  
Morganton

WENOCA  
Asheville

January 11, 2016

Ms. Joelle Burleson  
Division of Air Quality  
1641 Mail Service Center  
Raleigh, NC 27699-1641

*Submitted electronically to: [daq.publiccomments@ncdenr.gov](mailto:daq.publiccomments@ncdenr.gov)*

**Re: Comments on Proposed State Rules to Implement Clean Air Act Section 111(d)**

Dear Ms. Burleson:

The North Carolina Chapter of the Sierra Club represents approximately 60,000 members and supporters who support efforts to cut carbon dioxide emissions, a leading cause of climate change and an air pollutant under the Clean Air Act. One of these efforts is the EPA Clean Power Plan, also known as Clean Air Act Section 111(d), which aims to reduce carbon dioxide emissions from power plants. North Carolina is well positioned to meet the goals set forth in the Clean Power Plan if we build upon our state's renewable energy and energy efficiency successes. Unfortunately there is no renewable energy component in the Department of Environmental Quality (DEQ) proposed state rules to comply with the Clean Power Plan. There was also no stakeholder process leading up to the proposed state rules and no consultation with vulnerable communities as required. Finally, the proposed rules come nowhere close to meeting the required carbon dioxide emissions reductions. For these reasons, the Environmental Management Commission (EMC) should not approve the proposed rules to implement Clean Air Act Section 111(d).

Renewable energy and energy efficiency should be a core part of the state's proposed draft rules. We ask the EMC to require DEQ to affirmatively say, in the proposed rules that North Carolina plans to participate in the Clean Energy Incentives Program (CEIP). The CEIP offers states incentives, such as double credits, to develop clean energy and energy efficiency projects for low income communities. North Carolina should prioritize participation in this EPA Program but the

Ms. Joelle Burleson  
January 11, 2016  
Page 2

proposed rules do not include participation in the CEIP. Instead, DEQ has chosen a strategy that fails to take advantage of the cheapest, cleanest resource (energy efficiency) and fails to take advantage of homegrown, cost effective renewable energy. North Carolina could submit a request for extension if DEQ needs more time to prepare state rules to meet the required emission reductions.

We also ask that the EMC require DEQ to engage stakeholders in the creation of the state rules as required by the Clean Power Plan. The state rules must include documentation that the agency has conducted community outreach and community involvement, including engagement with vulnerable communities. The draft state rules do not include this documentation because there was no stakeholder process.

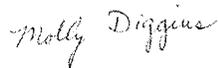
Finally, the NC Chapter of the Sierra Club asks the EMC to require DEQ to go back to the drawing board and come back to the EMC with policy proposals that will result in North Carolina meeting the carbon emissions reduction goals set for the state in the Clean Power Plan. At a time when nearly 200 nations have come together in Paris and signed an historic agreement acknowledging that climate change is real, that emissions from humans are a significant contributor, and that significant actions by all governments are needed to prevent a 2 degree centigrade rise in global temperature, DEQ has chosen to submit proposed rules that are completely inadequate. The DEQ proposal falls incredibly short of meeting the carbon dioxide emission reductions required by the EPA for 2030 and abandons North Carolina's history of leadership on clean energy. The EMC has the authority and the responsibility to ensure that North Carolina complies with federal environmental laws like the Clean Air Act.

Thank you for considering these comments.

Sincerely,



Steve Copulsky  
Chair, NC Chapter of the Sierra Club



Molly Diggins  
State Director, NC Chapter of the Sierra Club



**Domtar Comments on State Energy Plan and EPA's Clean Power  
Plan  
North Carolina**

Domtar is a leading provider of a wide variety of fiber-based products including communication papers, specialty and packaging papers, market pulp and absorbent hygiene products. With approximately 9,800 employees serving more than 50 countries around the world, Domtar is driven by a commitment to turn sustainable wood fiber into useful products that people rely on every day. Domtar's annual sales are approximately \$5.6 billion, and its common stock is traded on the New York and Toronto Stock Exchanges. Domtar's principal executive office is in Fort Mill, South Carolina.

Along with our principal offices in Fort Mill, SC more than a quarter of our footprint resides within a radius 300 miles. In North Carolina alone, we employ nearly 1,000 men and women, between our fluff pulp mill in Plymouth, personal care global headquarters in Raleigh, and manufacturing facility in Greenville, as well as several distribution centers and chipping operations. As is the case with many pulp and paper mills, our Plymouth mill resides in a rural area of Eastern North Carolina. We are by far the largest private employer in the county and thus have a profound impact on the local economy, from taxes, all the way to jobs that are created as a result of the mill. On average for every job in the mill, an additional 3.25 are created as a result: truckers, loggers, local restaurants and other businesses.

As well rooted we are in our communities, the pulp and paper industry has been facing ongoing headwinds, as electronic substitution has largely contributed to the decline of paper demand of 3-4% annually for over a decade. This gradual decline has led to an unprecedented downsizing and consolidation of the paper industry.

Long before the advent of smartphones, the pulp and paper industry realized the potential for efficiency and environmental improvements, which have helped evolve this industry into one of the most sustainable manufacturing processes in the world. Domtar's paper mills on average generate over 70% of their own electricity from materials used, recovered and recycled as part of our manufacturing process. Nevertheless, the pulp and paper manufacture process is very energy and resource intensive, and mills still purchase large amounts of electricity.

Many years ago, Domtar took the charge in the pulp and paper industry to adopt sustainability measures for the sake of it, as the "green trend" was still years if not decades away. While we agree in the importance of reducing emissions and protecting our communities, it is equally important that regulations like these do not create a stifling business environment. Domtar is most concerned with the many different costs associated with this rule, and implementing it. Any costs that utilities will occur as a result of this rule, they can easily pass on to their customers via

rate increases. While estimates vary, and experts suggests these numbers to be undervalued, studies by NERA suggest a 11-14% increase for retail customers and a study by NMA suggests a 23.7% increase for wholesale customers.

In a declining business that is energy/resource intensive, as well as trade exposed, we are challenged to find further cost savings to be achieved to absorb higher electricity prices. Unlike the utilities, manufacturers do not have public service commissions setting our prices. We cannot simply raise their prices by double-digits, as this could damage our business, by sending our customers to foreign competitors. Ultimately, this harms our colleagues. If more money is spent on electricity, all other aspects of our business will suffer, as there will be less capital left for investment in our assets. The paper industry, and Domtar, has already seen its share of machine and facility closures as a result of falling demand. When you add rising cost to that you create additional challenges to our ability to stay competitive, operate and keep open our highest cost facilities.

Domtar is also concerned with the current global picture: natural gas is currently abundantly available and affordable. This has been fueling conversions to gas by utilities, to meet clean energy mandates, and the rise in the export of liquefied natural gas (LNG). A sudden curtailment in supply or a dramatic increase in demand would drive these costs up for utilities and manufacturers, which would create price worries for the future, as well as issues of reliability. Manufacturers such as Domtar, rely on a steady uninterrupted stream of electricity. Any interruption in service, could have catastrophic consequences, as paper manufacturing equipment cannot be simply shut off, like a light switch – there are proper start-up and shutdown procedures. Supply issues are one worry in reliability, the other is delivery: in a world where coal-fired power plants have ample supply to generate electricity, in the giant heaps of coal they stored on site, shortage of raw material was rarely a worry. With cleaner natural gas, the delivery via pipeline necessitates an uninterrupted stream, which can be disrupted via shortage or sabotage.

Domtar is always open to work with partners in the utilities industry to both be part of articulating a solution. What we fear may happen in a few years is an iteration of the clean power plan for “general manufacturing” that would effectively result in being regulated twice. In this globalized environment, where United States manufacturers have to fight hard for market share with lower cost producers overseas, additional cost burdens will only make it more difficult for our business to stay remain competitive.

I'm June Blotnick, Executive Director of Clean Air Carolina, a Charlotte-based statewide organization working to ensure cleaner air quality for all North Carolinians.

On behalf of our members and all residents who want and need clean, healthy air, I'm here tonight to ask state officials to do everything in their power to reduce carbon pollution, the driving force behind climate change which threatens the lives of every North Carolinian, their children and their grandchildren.

The response the state has already taken to reduce North Carolina's carbon emissions is in direct opposition to the leadership shown by Republican and Democratic leaders in 2002 when the Clean Smokestacks legislation was passed to clean up our coal plants.

Instead of ignoring the problems of extreme air pollution in the cities and acid rain and haze in our mountains, state officials convened a large group of stakeholders including physicians, university researchers, representatives from utility companies, environmental groups, the legislature, the governor's office, state agencies, and electric rate payers' associations. This highly inclusive stakeholder process ensured all viewpoints were represented and resulted in landmark legislation.

The action lawmakers and state officials took as a result of Clean Smokestacks made North Carolina a leader in clean air efforts and vastly reduced the amount of sulfur dioxide and nitrogen oxides polluting our air and making us sick. We now know that the actions taken by our state legislature in 2002 along with other federal clean air rulemaking not only reduced air pollution but reduced death rates for asthma, emphysema and pneumonia for North Carolinians.

The Clean Power Plan should not be a political issue. It's a public health issue and we demand that those in power take the necessary steps to reduce carbon emissions through the expansion of our state's abundant renewable energy resources.

The private sector has already made a difference. Strong state policies of the past have driven the market in North Carolina, ranking us 4<sup>th</sup> in the nation for solar installations. Expanded action through the Clean Power Plan can make us first, adding jobs and more investment as companies start up and relocate to North Carolina.

The Clean Smokestacks legislation resulted in a reduction in air pollution, a reduction in the number of coal plants operating in the state, and reductions in illness and death among our residents.

The Clean Power Plan offers us the opportunity to reduce carbon pollution from existing coal plants and improve air quality and public health by taking advantage of our abundant sunshine and wind power on the coast.

Finally, I have to say that my two adult children still talk about what a great time they had on the middle school field trip to the Outer Banks, to New Bern and other stops along the coast. Who knows if their children will be able to have the same educational experience?

Generations will judge your actions today. Think of the leadership legacy you want to leave future North Carolinians. Please put clean air and public health first in your decision making.

North Carolina must continue its fight for cleaner air which will result in healthier residents, a healthier economy and a healthy environment for all of us.



January 15, 2016

Ms. Joelle Bureson  
Department of Environmental Quality  
Division of Air Quality  
1641 Mail Service Center  
Raleigh, NC 27699-1641  
*Submitted electronically to [daq.publiccomments@ncdenr.gov](mailto:daq.publiccomments@ncdenr.gov)*

Re: Comments on Proposed State Rules to Implement 40 C.F.R. Part 60, Subpart UUUU

Dear Ms. Bureson,

The North Carolina Sustainable Energy Association (“NCSEA”) is a 501(c)(3) nonprofit membership organization of individuals, businesses, local utilities, government and nonprofits interested in North Carolina’s sustainable energy future. NCSEA is devoted to leading public policy change and driving market development in ways that will create clean energy jobs and lower electric rates in the long-term. NCSEA submits these comments on the proposed rules 15A N.C.A.C. 02D .2700, et seq. (“proposed state rules”)<sup>1</sup> to implement the requirements of 40 C.F.R. Part 60, Subpart UUUU (“Clean Power Plan”).

NCSEA does not support approval of the proposed state rules because they (1) do not comply with the Clean Power Plan; (2) do not utilize renewable energy or energy efficiency as methods for complying with the Clean Power Plan; and (3) do not allow North Carolina to participate in the Clean Energy Investment Program (“CEIP”).

First, and most simply, NCSEA does not support approval of the proposed state rules because they do not comply with the Clean Power Plan. The Clean Power Plan sets explicit requirements for emissions of carbon dioxide from electricity generation in North Carolina.<sup>2</sup> The proposed state rules do not indicate that they will result in sufficient reductions of carbon dioxide emissions to comply with these requirements.<sup>3</sup>

Next, NCSEA does not support approval of the proposed state rules because they do not utilize renewable energy or energy efficiency as methods for complying with the Clean Power Plan. The Clean Power Plan provides numerous methods to comply with its emission reduction requirements. Two of these compliance methods are the use of renewable energy and the use of energy efficiency. Despite numerous compliance methods being available, the Department of Environmental Quality (“DEQ”) drafted the proposed state rules to include only one compliance method: heat rate improvements made at fossil fuel electric generating units. **North Carolina’s clean energy economy supports 1,208 businesses that employ 22,995 people and contribute \$4.8 billion in revenue to our state’s economy.**<sup>4</sup> Furthermore, renewable energy and energy

<sup>1</sup> North Carolina Register, Volume 30, Issue 10, pp. 1110-1117 (November 16, 2015).

<sup>2</sup> 40 C.F.R. Part 60, Subpart UUUU, Tables 2 and 3.

<sup>3</sup> DEQ has consistently stated that the Clean Power Plan is unlawful. However, to date, the Clean Power Plan has not been stayed by the courts and remains in full force despite pending legal challenges. As such, DEQ should develop and propose a compliant plan.

<sup>4</sup> Robin Aldina, Ellis Baehr, William Supple, and Ivan Urlaub, *2014 North Carolina Clean Energy Census*, North Carolina Sustainable Energy Association (February 2015), available at <http://c.ymcdn.com/sites/www.energync.org/resource/resmgr/Docs/2014census.pdf>.



efficiency have been shown to be valuable components of a least-cost portfolio, and could assist North Carolina greatly in cost-effective compliance with the requirements of the Clean Power Plan. DEQ's decision not to propose rules that utilize renewable energy and energy efficiency, despite evidence that these resources are important to the local economy and can save money for consumers, is grounds for not approving the proposed state rules.<sup>5</sup>

Finally, NCSEA does not support approval of the proposed state rules because they do not allow North Carolina to participate in the CEIP. The Clean Power Plan creates the CEIP, which rewards investments in renewable energy and energy efficiency in low-income communities in 2020 and 2021, at no cost to the states. All a state needs to do to participate in the CEIP is to indicate in their state plan that they wish to participate. Despite the numerous upsides to North Carolina participating in the CEIP, DEQ declined to opt-in to the CEIP in the proposed state rules and provides no justification for its decision not to participate.

For the foregoing reasons, NCSEA respectfully submits that the Environmental Management Commission should not approve the proposed state rules. Instead, the Environmental Management Commission should direct DEQ to develop rules that comply with the Clean Power Plan, utilize renewable energy and energy efficiency, among other methods, for compliance, and opt-in to the CEIP.

Thank you for considering these comments.

Respectfully submitted,

Peter Ledford  
Regulatory Counsel  
North Carolina Sustainable Energy Association

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<sup>5</sup> *Economic and Rate Impact Analysis of Clean Energy Development in North Carolina-2015 Update*, RTI International (February 2015), available at [http://www.energync.org/resource/resmgr/Resources\\_Page/RTI\\_2015.pdf](http://www.energync.org/resource/resmgr/Resources_Page/RTI_2015.pdf).

**CAVANAUGH***Stewardship Through Innovation*

January 15, 2016

Ms. Joelle Burleson  
Department of Environmental Quality  
Division of Air Quality  
1641 Mail Service Center  
Raleigh, NC 27699-1641  
Submitted electronically to [daq.publiccomments@ncdenr.gov](mailto:daq.publiccomments@ncdenr.gov)

Re: Comments on Proposed State Rules to Implement 40 C.F.R. Part 60, Subpart UUUU

Dear Ms. Burleson;

I appreciate the opportunity to provide comments on the subject proposed rule. I submit these comments as a life-long resident of North Carolina, raising a family and growing a small business that employs North Carolinians. I do not support the approval of the subject rule.

I presume that many of the comments you and the Department will receive on the proposed rule will reflect opinions on the negative health and environmental impacts of greenhouse gas and/or carbon emissions. I agree that the emissions of greenhouse gases are of concern, warranting attention and action to mitigate the negative impacts so caused. My desire is to focus your attention to ways in which the strategy of North Carolina can be improved through a revised rule that seeks to comply with the Clean Power Plan, addressing those carbon emissions stemming from the use of fossil fuels to generate electricity.

The EPA is not the only agency that has been active in evaluating ways to better manage the carbon cycle. Agencies such as USDA and DOE have been collaborating with EPA and other public agencies and private think-tanks to address carbon management – not only through the elimination of the combustion of fossil fuels, but through opportunities to displace the use of fossil-based subterranean carbon fuels with those fuels that stem from recycled atmospheric carbon. Why? Because the use of biogenic carbon (waste organics, in particular) makes good sense for the environment, and it makes great sense for our economy.

The conversion of organic waste into biogas, which may easily be refined to renewable natural gas, is an extremely positive approach to addressing carbon emissions. Such organic-waste-derived renewable natural gas allows us to continue utilizing existing electricity generating infrastructure (existing power plants that use natural gas to make electricity) and supports the electric utilities continuing to do what they do best – convert fuel into electrons. It also reduces carbon emissions (more on this in a minute), supports existing NC economic engines such as agriculture and forestry, and provides revenues and motivation for improved waste management across all sectors.

The final Clean Power Plan rule by EPA recognizes that carbon emissions from the decomposition of organic waste has a net neutral impact on greenhouse gas emissions. Simply put, organic stuff is created from atmospheric carbon, and when organic carbon decomposes, it re-releases the carbon to the atmosphere from which it came. Capturing the carbon emissions (methane) from this decomposing organic waste and then using it to create electricity along the way to being released does not add to atmospheric carbon levels. This is called organic recycling.

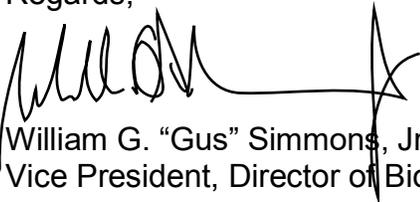
North Carolina is recognized by many reputable sources such as the National Renewable Energy Laboratory (NREL)<sup>i</sup>, as the third richest state in organic waste resources in the country, as expressed as biomethane potential. The abundance of this rich resource in NC continues to grow, as our state population grows and creates even more organic wastes. Agriculture has been the greatest contributor to our State's economy for a long, long time, and we still have great potential to harvest even more value from animal wastes, crop residues, and forestry residues. Disposing of these organic resources is the same as throwing cash in the garbage or flushing coins down the toilet. These materials are a resource, not a waste.

The utilization of other renewable energy resources, such as solar and wind, are also helpful in supplanting the use of fossil fuels like coal and natural gas, which pump carbon long-ago trapped deep in the earth into the atmosphere. The combined renewable resources available to our State are more than enough to displace the fossil fuels we buy from other states to create our electricity. We should be aggressively developing a plan to develop these renewable resources and keep the dollars we ship to other states to buy fossil fuels right here.

As an engineer, I am constantly looking for solutions that are economically, environmentally, and socially sound. Perhaps this is why I see a strategy to addressing the Clean Power Plan so obviously before us – harvest the renewable natural gas potential of our immense organic waste resources, use this Renewable Natural Gas to fuel our energy needs, and buy North Carolina fuel created by North Carolina resources. When you have an abundance of a renewable resource that you are currently wasting, dedicate yourself to becoming a good steward of this resource. Along the way, you will find yourself making good choices that have a positive impact for our State.

Thank you, in advance, for consideration of my comments. If, upon receipt and review of this information, you have any questions or would like to discuss this matter in more detail, please contact me at your earliest convenience.

Regards;



William G. "Gus" Simmons, Jr., P.E.  
Vice President, Director of Bioenergy

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<sup>i</sup> Reference page 3 of the NREL Biogas Potential in the United States Fact Sheet

December 17, 2015

Statement to Air Quality Division

Comments on draft NC Clean Power Plan

My name is Harvey Richmond and my comments today are on behalf of the NC Chapter of the Sierra Club. I'm a retired senior EPA environmental analyst and I worked over 31 years on national air quality regulations. I currently serve as co-chair of the NC Chapter of the Sierra Club's Clean Energy Campaign and serve in a volunteer capacity. My comments do not represent the views of the EPA.

At a time when nearly 200 nations, nearly the entire world, have come together in Paris and signed an historic agreement acknowledging that climate change is real, that emissions from humans are a significant contributor, and that significant actions by all governments are needed to prevent a 2 degree centigrade rise in global temperature, the NC Department of Environmental Quality has chosen to submit a draft plan that is completely inadequate. The draft plan deals with only those measures that can be taken to improve heat rate efficiency on site at existing coal-fired power plants. The DEQ proposal falls incredibly short of meeting the carbon dioxide emission reductions required by the EPA for 2030.

Instead of embracing and encouraging energy efficiency, and adoption of more solar and wind and other forms of renewable energy, the McCrory Administration would rather spend our taxpayers dollars on suing the EPA. Other states throughout the southeast and beyond, including a number of states that are also suing EPA, at least are holding substantive stakeholder meetings and developing real plans that are designed to meet the required EPA targets. North Carolina could submit a request for extension if it needs more time to prepare state rules to meet the called-for emission reductions, but instead is rushing through an inadequate plan guaranteed to be rejected by the EPA.

While EPA has built considerable flexibility into the Clean Power Plan rule, North Carolina's DEQ chooses to ignore the many possible alternatives it could include in a strong and just plan that would be designed to meet the federal targets. The flexibility of the Federal plan allows states like North Carolina to reduce costs to consumers and to spur private investments in clean energy. A real plan could and should include other state laws or policies that have the effect of reducing carbon dioxide emissions – like the renewable energy and efficiency portfolio standards (REPS). It is understood that meeting the existing REPS will go a long ways towards the state meeting the carbon dioxide reductions set forth by the EPA for 2030.

Instead of racing this inadequate draft rule through a public hearing process during the holiday season, DEQ should be engaging in a collaborative public stakeholder process, like other states

in the Southeast (e.g., Virginia, South Carolina, Georgia, and Florida) with the goal of developing a substantive plan, rather than the sham it has produced so far. DEQ has ignored the federal requirements in the final Clean Power Plan rule to include vulnerable communities in a substantive stakeholder process.

It is the Environmental Management Commission's (EMC's) responsibility to make sure that the NC DEQ submits a valid state compliance plan. Rather than rubber stamping the McCrory administration's plan to pursue lawsuit after lawsuit, the Sierra Club calls on the Environmental Management Commission to reject the inadequate plan put forth by the DEQ. The EMC should insist that DEQ develop a real plan for our state that 1) reduces carbon dioxide emissions in accordance with the federal requirements, 2) includes clean energy solutions, 3) protects our communities health and the environment, and 4) includes vulnerable communities and public stakeholders in the development of a substantive plan that meets the EPA targets for the year 2030.

The Sierra Club plans on submitting additional written comments prior to the close of the public comment period.

Harvey Richmond, Co-Chair

Clean Energy Campaign

NC Chapter of the Sierra Club

106 Hebride Court

Cary, NC 27513

**Duke Environmental Law & Policy Clinic**

Ryke Longest, Director • Michelle Nowlin, Supervising Attorney  
Box 90360 • Durham, NC 27708-0360  
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**Public Comment on North Carolina’s Clean Air Act Section 111(d) Proposed Rulemaking:  
15A NCAC 02D .2700, et seq.**

**Introduction**

My name is David Schwartz, and I work as a post-graduate law fellow with the Duke Environmental Law and Policy Clinic. I am submitting this public comment on North Carolina’s Proposed Clean Air Act Section 111(d) Rulemaking, 15A NCAC 02D .2700, et seq., on behalf of myself as a concerned citizen. While I appreciate North Carolina’s efforts to comply with the U.S. Environmental Protection Agency’s Clean Power Plan (“CPP”), there are several aspects of the proposed rule that, in my opinion, are troublesome, insufficient, and in need of revision.

Specifically, I take issue with, and will comment upon, the following items: (1) DAQ’s independent determination of what measures constitute the “best system of emission reduction” (“BSER”); (2) DAQ’s determination that BSER consists *solely* of “Building Block 1-type” heat rate improvement (“HRI”) measures; (3) DAQ’s determination that any cost of a potential CO<sub>2</sub> emission reduction measure above \$23 per ton CO<sub>2</sub> is “unreasonable,” and therefore that emission mitigation measures whose costs are above \$23 per ton CO<sub>2</sub> are not BSER; (4) the disproportionate health and environmental quality impacts the proposed rule will likely have upon low-income and minority communities; and (5) the language in Section .2701(f)(1)-(2) of the proposed rule.

I greatly appreciate this opportunity for public comment, and sincerely hope that this and other comments can be utilized by DAQ to strengthen, improve, and expand upon the CO<sub>2</sub> emission reductions established by 15A NCAC 02D .2700, et seq.

**I. DAQ’s INDEPENDENT DETERMINATION OF BSER IS IMPERMISSIBLE  
AND IS EXPRESSLY PROHIBITED BY THE CLEAN AIR ACT**

**A. The Authority to Determine BSER is Held by EPA, Not the States**

In DAQ’s “Supporting Basis for Determination of Best System of Emissions Reduction for Carbon Dioxide (CO<sub>2</sub>) Emissions from Existing Electric Utility Generating Units”<sup>1</sup> (“Supporting Basis”), in the preliminary discussion before analyzing potential BSER measures for each affected electric generating unit (“EGU”), DAQ repeatedly notes that:

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<sup>1</sup> NC Department of Environmental Quality, Division of Air Quality, *Supporting Basis for Determination of Best System of Emissions Reduction for Carbon Dioxide (CO<sub>2</sub>) Emissions from Existing Electric Utility Generating Units*, October 2015, available at [http://www.ncair.org/rules/draft/111d\\_Basis.pdf](http://www.ncair.org/rules/draft/111d_Basis.pdf).

[t]he DAQ will consider the above general principles in determining BSER for CO<sub>2</sub> emissions reduction from each EGU. *But, importantly, DAQ will determine BSER for each EGU based upon BBI-type measures only (i.e., measures which can be accomplished within the fence-line of the facility)...*<sup>2</sup>

This language indicates that DAQ believes it possesses the ability to determine what approaches constitute BSER. This conclusion is in error. Looking to the general structure of Clean Air Act (“CAA”) section 111 rulemakings, it is clear that states do not possess the authority to determine BSER. The authority to determine BSER resides solely with the EPA. In the CPP, EPA addresses and unambiguously rejects the notion that states can determine BSER.

In Section V(B)(1) of the CPP, EPA outlines the basis for its exclusive authority to determine BSER, beginning: “[i]n this section, we explain why the EPA, *and not the states*, has the authority to determine the BSER...”<sup>3</sup> Under Section 111(d) of the CAA, EPA is tasked with establishing a “section 110-like procedure under which each state submits a plan that ‘establishes standards of performance for any existing source of air pollutant’ and ‘provides for the implementation and enforcement of such standards of performance’.”<sup>4</sup> The term “standards of performance” is defined in section 111(a)(1) of the CAA as: “...a standard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction *which* (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) *the [EPA] Administrator determines* has been adequately demonstrated.”<sup>5</sup>

Section 111 of the CAA allocates to the EPA Administrator the responsibility of establishing standards of performance. In establishing these standards of performance, EPA is required to determine whether the standard is “achievable” via the best system of emission reduction that has been “adequately demonstrated.”<sup>6</sup> Since EPA, and not the States, in establishing standards of performance, is tasked with determining whether the BSER has been adequately demonstrated, it logically follows that EPA, and not the States, is tasked with the role of determining what approaches constitute BSER in the first place.<sup>7</sup>

Put simply, the CAA requires EPA to promulgate standards of performance for air pollutants; these standards must be “achievable” by applying the best system of emission

<sup>2</sup> *Supporting Basis*, at B-9, B-28, B-51, B-79, B-123, B-136, B-165, B-174, B-185, B-190, B-195, B-200, B-205, B-210, B-215, and B-220 (emphasis added).

<sup>3</sup> U.S. Environmental Protection Agency, *Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units; Final Rule*, 80 F.R. 205 at 64758 (October 23, 2015), available at: <https://www.gpo.gov/fdsys/pkg/FR-2015-10-23/pdf/2015-22842.pdf> (emphasis added).

<sup>4</sup> CPP, 80 F.R. 205 at 64758.

<sup>5</sup> 42 U.S.C. §7411(a)(1), *Standards of Performance for New Stationary Sources* (1977), available at <https://www.gpo.gov/fdsys/pkg/USCODE-2010-title42/pdf/USCODE-2010-title42-chap85-subchapI-partA-sec7411.pdf>.

<sup>6</sup> *Id.* See also CPP, 80 F.R. 205 at 64759 (“By its terms, this provision [CAA Section 111(a)(1)] provides that the EPA has the responsibility of determining whether the ‘best system of emission reduction’ is ‘adequately demonstrated’”).

<sup>7</sup> CPP, 80 F.R. 205 at 64759 (“By giving the EPA this responsibility [to determine whether the BSER is adequately demonstrated], this provision is clear that Congress assigned the role of determining the ‘best system of emission reduction’ to the EPA”).

reduction, which the EPA Administrator has determined is “adequately demonstrated.” Therefore, in determining whether or not a “standard of performance” is “achievable” through applying some “adequately demonstrated” BSEER measure, EPA must *also* have the authority to decide which measures or approaches constitute BSEER. How could EPA establish standards of performance based upon some “achievable” and “adequately demonstrated” BSEER measure if EPA did not, in the first place, have the ability to determine what measures are and are not BSEER? To conclude otherwise strains the plain language of the CAA.

This conclusion is supported by the legislative history of section 111. In the CPP, EPA notes that in a May 12, 1977 House of Representatives Committee report introducing substantive changes to section 111, the House maintained that when undertaking section 111 rulemakings, “[t]he [EPA] Administrator would establish *guidelines as to what the best system for each category of existing sources is,*” while States “would be responsible for determining the applicability of such guidelines to any particular source or sources.”<sup>8</sup> This language in the 1977 House Report, “indicates Congress was aware of and approved of the approach taken in the EPA’s implementing regulations for establishing guidelines, which determine the BSEER,” – namely, if Congress disagreed with the notion that EPA holds the authority to determine BSEER, “we would not expect the House report to adopt the EPA’s terminology to clarify CAA section 111(d).”<sup>9</sup>

Furthermore, the conclusion that EPA, and not the States, has the authority to determine what measures constitute BSEER is supported by the fact that EPA has followed this paradigm in *all* of its rulemakings under CAA Section 111(d). Past section 111(d) rulemakings following this paradigm include regulations pertaining to: large municipal waste combustors, municipal solid waste landfills, sulfuric acid production units, hospital/medical/infectious waste incinerators, small municipal waste combustion units, coal-electric utility steam generating units, and existing sewage sludge incineration units.<sup>10</sup>

Finally, EPA’s position – that it, and not the States, is responsible for determining what measures constitute BSEER – is consistent with the U.S. Supreme Court’s understanding of CAA section 111(d). In *American Power Co. v. Connecticut*, 131 S.Ct. 2527 (2011), the Supreme Court explained the regulatory regime established by section 111 as follows:

[o]nce EPA lists a category [of pollutant, that in EPA’s judgment causes or contributes significantly to air pollution which may reasonably be anticipated to endanger public health or welfare], *the agency must establish standards of performance* for emission of pollutants from new or modified sources within that category...[f]or existing sources, EPA issues emissions *guidelines* [i.e., standards of performance]; *in compliance with those guidelines and subject to federal*

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<sup>8</sup> H.R. Rep. No. 95-295, at 195 (May 12, 1977). *See also* CPP, 80 F.R. 205 at 64759 (emphasis added).

<sup>9</sup> CPP, 80 F.R. 205 at 64759.

<sup>10</sup> *Id.* (Noting that “...in all cases, the EPA has identified the type of emission controls for the source category and the level of emission limitation based on those controls”); *see also id.*, note 456 (Identifying rulemakings in which EPA, and not the States, has selected the type of emission control(s) to be applied).

*oversight, the States then issue performance standards for stationary sources within their jurisdiction.*<sup>11</sup>

As noted above, since the term “standards of performance” as defined by the CAA encompasses the BSER,<sup>12</sup> and since *American Power* confirms the understanding that the EPA, and not the States, is tasked with developing standards of performance (for new, modified, and existing sources), it follows that only EPA may determine the BSER for such sources.

DAQ erred in independently determining BSER for affected EGUs in North Carolina. This independent determination of BSER by DAQ violates the express terms of the CAA, the express terms of the CPP, and the accepted practice of section 111 rulemaking. DAQ’s independent determination of BSER has no merit and cannot be followed in DAQ’s final rule.

**B. The CPP Repeatedly Indicates That EPA Has Already Determined What Measures Constitute BSER, Making DAQ’s Independent Determination of BSER Superfluous**

Even if we assume for the sake of argument that EPA’s authority to determine BSER is unclear, the CPP unambiguously indicates that EPA has already determined what measures constitute BSER for reducing CO<sub>2</sub> emissions from existing fossil fuel-fired power plants. This effectively preempts the States from making their own determination as to BSER. As such, DAQ’s independent determination of BSER is invalid.

EPA’s announcement of what approaches constitute BSER can be found throughout the CPP. In Section I(A)(3)(c) of the CPP, EPA notes that “[i]n this final action, *the agency has determined that the BSER comprises the first three of the four proposed ‘building blocks’*...”<sup>13</sup> The three building blocks that *collectively* constitute the BSER are: (1) improving the heat rate at affected coal-fired steam EGUs, (2) substituting increased electricity generation from lower-emitting existing natural gas combined cycle units for electricity generation from higher-emitting affected steam generating units, and (3) substituting increased electricity generation from new zero-emitting renewable energy generating capacity for electricity generation from affected fossil fuel-fired generating units.<sup>14</sup>

Section V(A)(2) sets forth “EPA’s overall approach to *establishing the BSER*.”<sup>15</sup> In that Section, EPA unambiguously details the proper role for States in the CPP’s regulatory process:

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<sup>11</sup> *American Power Co. v. Connecticut*, 131 S.Ct. 2527, 2537–38 (2011) (emphasis added). Recall from above that Section 111(a)(1) defines ‘standard of performance’ as “a standard for emissions of air pollutants which reflect the degree of emission limitation achievable through the *application of the best system of emission reduction...the Administrator determines has been adequately demonstrated*” 42 U.S.C. § 7411 (emphasis added).

<sup>12</sup> 42 U.S.C. § 7411(a)(1), *supra* note 5 (“Standard of performance” is defined as “...a standard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction...”).

<sup>13</sup> CPP, 80 F.R. 205 at 64667 (emphasis added).

<sup>14</sup> *Id.*

<sup>15</sup> *Id.* at 64723 (emphasis added).

[i]n this rule, *the EPA determined the BSER*, and applied it to the category of affected EGUs to determine the performance levels...*States must impose standards of performance on their sources that implement the CO<sub>2</sub> emission performance rates...*<sup>16</sup>

That a section of the CPP is explicitly devoted to articulating, at length, “*the EPA’s process and basis for determining the BSER* for the purpose of determining the CO<sub>2</sub> emission performance rates,”<sup>17</sup> clearly establishes the fact that the measures constituting BSER had already been determined by the EPA – and were not up to the States to decide. As noted above, the very process through which air pollutants are regulated under section 111 involves EPA establishing the “standards of performance,” which in turn require EPA to establish the BSER, and for States to implement the standards of performance for affected sources within the State’s jurisdiction.

In sum, because the CPP repeatedly confirms the fact that EPA had selected the measures constituting BSER,<sup>18</sup> DAQ’s independent determination of the measures constituting BSER in its “Supporting Basis for Determination of BSER”<sup>19</sup> is clearly erroneous, preempted by the EPA’s prior determination of BSER, and is contrary to the accepted process of CAA section 111 rulemakings. DAQ’s independent determination of BSER is thus without force, and cannot be followed in the final state rulemaking.

### C. **DAQ’s Choice of BSER Measures is Expressly Rejected by the CPP**

Even if EPA’s legal authority to determine BSER were unclear (which it is not) and even if EPA had not already established BSER in its final rulemaking (which it has), DAQ’s determination of BSER would nevertheless be rejected by the express terms of the CPP. As noted above, DAQ’s independent determination of BSER rests upon a consideration of “BB1-type measures *only*...”<sup>20</sup> As will be detailed *infra* in Section II, DAQ’s determination that BSER consists solely of BB1-type measures runs afoul of the explicit terms of the CPP.<sup>21</sup>

## II. **DAQ’s CONCLUSION THAT BSER CONSISTS SOLELY OF BUILDING BLOCK 1 HEAT RATE IMPROVEMENT MEASURES IS ERRONEOUS, AND IS REPEATEDLY REJECTED BY THE CLEAN POWER PLAN**

### A. **Building Block 1 Measures by Themselves Do Not Constitute BSER**

Throughout the CPP, EPA addresses, and rejects, the notion that BSER can consist *solely* of BB1-type heat rate improvement measures. It is clear that DAQ’s determination of BSER (notwithstanding the above discussion of why DAQ’s independent calculation of BSER is inappropriate) as consisting only of BB1 heat rate improvement measures is erroneous, contrary to the express intent of the CPP, and cannot be followed in DAQ’s final rulemaking.

<sup>16</sup> *Id.* (emphasis added).

<sup>17</sup> *Id.* at 64724.

<sup>18</sup> *Id.* at 64744 (“[i]n this rule, *the EPA is finalizing as the BSER* a combination of building blocks 1, 2, ,and 3...”) (emphasis added).

<sup>19</sup> *See supra* note 2.

<sup>20</sup> *Id.* (emphasis added).

<sup>21</sup> *See* CPP, 80 F.R. 205 at 64667, 64727, 64744, 64745, 64748, 64751, 64758, and 64787.

First, from the very introduction of EPA’s formulation of BSER, it is abundantly clear that EPA understands BSER to encompass more measures than those within the framework of BB1 heat rate improvements: “[i]n this final action, the agency has determined that the *BSER comprises the first three of the four proposed ‘building blocks’*...”<sup>22</sup> This wording, “the BSER *comprises* the first three of the four proposed building blocks” readily lends itself to the interpretation that BSER constitutes the *combination* of the three building blocks, and not any one of them by themselves.

In Section V(A)(2)(d) – “Identification of the BSER Measures” – EPA outlines the factors used in order to determine which emission reduction approaches constitute BSER. EPA’s consideration included measures that reduce individual affected EGUs’ CO<sub>2</sub> emission rates, measures available because of the integrated electricity system, and others, such as cost reasonableness of the measure.<sup>23</sup> In discussing the measures that reduced individual affected EGUs’ CO<sub>2</sub> emission rates – arguably the most important factor in determining whether a measure constitutes BSER – EPA described heat rate improvements as, “a low-cost option that fit the criteria for the BSER, *except that they lead to only small emission reductions for the source category.*”<sup>24</sup> EPA expands upon this point in a footnote, remarking:

...if heat rate improvements at coal-fired steam EGUs were *implemented in isolation, without other measures to reduce CO<sub>2</sub> emissions*, the heat rate improvements could lead to increases in competitiveness and utilization of the coal-fired EGUs – a so-called ‘rebound effect’ – causing increases in CO<sub>2</sub> emissions that could partially or even entirely offset the CO<sub>2</sub> emission reductions achieved through the reductions in the amount of CO<sub>2</sub> emissions per MWh of generation.<sup>25</sup>

In light of this “rebound effect” possibility, EPA rejects the notion that BB1-type heat rate improvement measures *by themselves* can constitute BSER: “...the emission reductions limited to this set of heat rate improvement measures *would not meet one of the considerations critical to the BSER determination – the quantity of emissions reductions resulting from the application of these measures is too small for these measures to be the BSER by themselves.*...”<sup>26</sup>

In Section V(A)(4)(a), EPA discusses Building Block 1 at length.<sup>27</sup> From the outset of its discussion, EPA maintains that BB1 is a “component” of the BSER for coal-fired EGUs, suggesting that there are other measures, *in addition to BB1*, that comprise the BSER.<sup>28</sup> EPA acknowledges that although heat rate improvement measures are “a common and well-established practice within the industry that is capable of achieving meaningful reductions in

<sup>22</sup> CPP, 80 F.R. 205 at 64667 (emphasis added).

<sup>23</sup> *Id.* at 64727–28.

<sup>24</sup> *Id.* at 64727 (emphasis added).

<sup>25</sup> *Id.*, note 370 (emphasis added).

<sup>26</sup> *Id.* (emphasis added).

<sup>27</sup> *Id.* at 64745.

<sup>28</sup> *Id.*

CO<sub>2</sub> emissions at reasonable cost,” the amount of emission reductions achievable via, “...*heat rate improvement measures is insufficient for these measures alone to constitute the BSER.*”<sup>29</sup>

Heat rate improvement measures by themselves risk causing coal-fired EGUs “to become more competitive compared to other EGUs and increase their generation, leading to smaller overall reductions in CO<sub>2</sub> emissions.”<sup>30</sup> This “rebound effect” (mentioned above), unless mitigated through the combination of BB1 measures with BB2 and BB3, risks “exacerbating the inadequacy of emission reductions” from BB1 – and is the central reason for EPA’s conclusion that “building block 1 *alone* would not represent the BSER for this industry.”<sup>31</sup> Building Block 1 measures can indeed be considered an appropriate part of BSER, “*as long as the building block [BB1] is applied in combination with other building blocks.*”<sup>32</sup>

The EPA repeats this conclusion that BB1 measures by themselves cannot constitute BSER for affected coal-fired EGUs in Section V(A)(4)(d),<sup>33</sup> Section V(A)(4)(e),<sup>34</sup> and Section V(A)(7).<sup>35</sup> It is clear that DAQ’s determination that BSER is to be based upon “BB1-type measures only...”<sup>36</sup> is erroneous, contrary to the express wording of the CPP, and has no merit.

It is essential that DAQ revise the Proposed Rule to incorporate CO<sub>2</sub> emission reduction approaches from Building Blocks 2 and 3, in addition to the measures already selected under Building Block 1. It is clear that the Proposed Rule as currently written (utilizing only BB1 measures) produces a wholly insufficient reduction in CO<sub>2</sub> emissions – projected to result in only a 0.4% reduction in CO<sub>2</sub> emissions per year<sup>37</sup> – far short of EPA’s goal for North Carolina of approximately 36% reduction from 2012 baseline emission levels by 2030.<sup>38</sup>

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<sup>29</sup> *Id.* (emphasis added).

<sup>30</sup> *Id.*

<sup>31</sup> *Id.* (emphasis added).

<sup>32</sup> *Id.* (emphasis added).

<sup>33</sup> *Id.* at 64748 (Noting that “[a]s already discussed, each of the individual building blocks generally performs well with respect to the BSER factors identified by the statute and the D.C. Circuit. (*The exception, which we have pointed out above, is that building block 1, if implemented in isolation, would achieve an insufficient magnitude of emission reductions to be considered the BSER*)”) (emphasis added).

<sup>34</sup> *Id.* at 64751 (“We have already noted in our determination that *building block 1 in isolation is not the BSER because it would not produce a sufficient quantity of emission reductions...any combination of the building blocks (but not a BSER comprising building block 1 in isolation)* could be BSER if it were not for the fact that a BSER comprising all three of the building blocks will achieve greater emission reductions at a reasonable cost and is therefore ‘better’”) (emphasis added).

<sup>35</sup> *Id.* at 64758 (Noting that BB1, “[i]f implemented in combination with at least one of the other building blocks...is also a feasible and demonstrated means of reducing CO<sub>2</sub> emission from the utility power sector”) (emphasis added).

<sup>36</sup> DAQ, “Supporting Basis”, *supra* note 2.

<sup>37</sup> See NC DEQ, *Air Quality Committee & Environmental Management Commission Meeting, November 4 & 5, 2015 – Powerpoint Presentation*, Slide 18, available at: <http://daq.state.nc.us/rules/draft/> (Slide 18, “Rule Fiscal Impact Summary” notes that the Cumulative Reduction in CO<sub>2</sub> emissions under the Proposed Rule is predicted to be 191,826 tons per year, or 0.4% per year, relative to the 2012 baseline).

<sup>38</sup> See US EPA, *Clean Power Plan: State at a Glance – North Carolina*, <http://www3.epa.gov/airquality/cpptoolbox/north-carolina.pdf> (August 03, 2015) (Noting that North Carolina’s 2012 baseline CO<sub>2</sub> emission rate was 1,780 lbs CO<sub>2</sub> per net MWh, and that North Carolina’s Final Emission Rate Goal for 2030 under the CPP is 1,136 lbs CO<sub>2</sub> per net MWh. This equates to a 36.1% reduction from 2012 baseline levels by 2030: 1,780 – 1,136 = 644; [644 / 1,780] x 100 = 36.18%).

**B. The “Outside the Fence-Line” Measures Contained in Building Blocks 2 and 3 are Legal. DAQ Has Acted Impermissibly in Excluding Building Block 2 and 3 Measures from the Proposed Rule**

The basis for DAQ’s determination that BSER consists solely of BB1-type heat rate improvement measures appears to be based on the fact that DAQ has concluded that the so-called “outside the fence-line” measures of BB2 and BB3 are impermissible. Building Block 2 and 3 measures are referred to as “outside the fence-line” measures because they involve steps taken by actors other than the owner or operator of the affected EGU. That is, they are not purely technological emission reduction tools that can be implemented at the regulated facility; their implementation depends on cooperation from other, third party, actors. DAQ seems to maintain, as do many of the other Petitioners challenging the CPP,<sup>39</sup> that:

...under CAA section 111, the emission performance rates must be based on, and therefore the BSER must be limited to, methods for emission control that the owner/operator of the affected source can integrate into the design or operation of the source itself, and cannot be based on actions taken beyond the source [i.e. outside the ‘fence-line’ of the affected facility] or actions involving third-party entities.<sup>40</sup>

This position is reflected in DEQ’s November 4 & 5, 2015 Powerpoint Presentation used at the NC Environmental Management Committee meeting on the Proposed Rule.<sup>41</sup>

This conclusion is incorrect, and is rebuked at length by EPA in the CPP. Specifically, EPA contends that the plain meaning of the phrase “system of emission reduction” in “best system of emission reduction” is “deliberately broad and is capacious enough to include actions taken by the owner/operator of a stationary source designed to reduce emissions from that affected source, *including actions that may occur off-site and actions that a third party takes pursuant to a commercial relationship with the owner/operator...*”<sup>42</sup>

The phrase “system of emission reduction,” as used in section 111(a)(1) of the CAA and as applied to the instant EPA rulemaking via CAA section 111(d), is understood by EPA “to encompass a broad range of pollution-reduction actions, which includes the measures in building blocks 2 and 3.”<sup>43</sup> EPA’s broad interpretation of “system of emission reduction” to include so-

<sup>39</sup> See Petition for Review, *West Virginia, et al. v. EPA*, No. 15-1363 (October 23, 2015), available at: <http://www.ago.wv.gov/publicresources/epa/Documents/File-stamped%20petition%2015-1363%20%28M0108546xCECC6%29.pdf>.

<sup>40</sup> CPP, 80 F.R. 205 at 64760 (Quote reflects EPA’s characterization of the argument that “building blocks 2 (generation shift) and 3 (RE) cannot, as a legal matter, be considered part of the BSER under CAA section 111(d)(1) and (a)(1)”).

<sup>41</sup> See NC DEQ, *Air Quality Committee & Environmental Management Commission Meeting, November 4 & 5, 2015 – Powerpoint Presentation*, Slide 5, available at: <http://daq.state.nc.us/rules/draft/> (Slide 5 notes that, in DEQ/DAQ’s view, “Most importantly...Each emission guideline established for emission points located within the facility, not any emission sources located outside of the facility”) (emphasis original). See also *id.*, at Slide 8 (“North Carolina’s 2016 Plan Submittal: Overall Approach” – Slide 8 notes that the State Plan is to “Determine BSER on a unit specific basis, *within the fence line of the facility* (BB1 type)”) (emphasis added).

<sup>42</sup> CPP, 80 F.R. 205 at 64761 (emphasis added).

<sup>43</sup> *Id.*

called “outside the fence-line” measures is supported by the plain meaning of the phrase, as well as the statutory context in which the phrase appears. Namely, the phrase “system of emission reduction” in and of itself does not contain any limitations as to how, or where, it is applied. Taken literally, the phrase “system of emission reduction” applies to *any* approach that reduces emissions from the relevant source in the section 111 rulemaking. Understood in this way, an “inside the fence-line” measure is a “system of emission reduction” to the same extent an “outside the fence-line” measure is a “system of emission reduction”: each is a tool or method through which emission reductions are achieved.<sup>44</sup>

This is not to say that the term “system of emission reduction” is totally unqualified. The CAA does limit the scope of the term, though not in the way DAQ contends. The only qualifiers applicable to the phrase “[best] system of emission reduction” in section 111(a) of the CAA is that the system must be “achievable”, and that the system must be deemed by the EPA Administrator to be “adequately demonstrated”.<sup>45</sup> Nowhere in these qualifications can one find limitations based on whether or not the system of emission reduction is located within or without of the affected source’s fence-line. In order for an outside the fence-line measure to not constitute BSER, it must either not be “achievable” or must not be deemed “adequately demonstrated” by the EPA Administrator.

Neither of these two conditions have been met in the instant rulemaking, as EPA has expressly determined that the outside the fence-line measures of BB2 and BB3 are achievable and adequately demonstrated – *or else building blocks 2 and 3 would not be part of BSER!*<sup>46</sup> The very fact that EPA has included Building Blocks 2 and 3 as a part of the BSER (see *supra*, Section II(a) discussing EPA’s BSER determination) indicates that these Building Block measures have satisfied all of the applicable statutory conditions – that they are “achievable” and “adequately demonstrated”.

This broad understanding of “system of emission reduction” is supported by the legislative history of CAA section 111(d)(1) and (a)(1). In drafting and refining section 111, it was Congress’s intent to give the EPA “broad discretion in determining the basis for CAA section 111 control requirements, particularly for existing sources, and...to authorize EPA to consider measures that could be carried out by parties other than the affected sources.”<sup>47</sup> Specifically, in a Senate Committee Report on the 1970 CAA amendments, the term “standards of performance” is explained as “the degree of emission control which can be achieved through

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<sup>44</sup> See *id.* at 64762 (My characterization of the meaning of “system of emission reduction” mirrors the EPA’s – the EPA notes that “[a]s a phrase, ‘system of emission reduction’ takes a broad meaning to serve a singular purpose: *It is a set of measures that work together to reduce emissions*”) (emphasis added). See also *id.* (“[t]hus, a ‘system of emission reduction’ for purposes of CAA section 111(d) means a set of measures that source owners or operators can implement to achieve an emission limitation applicable to their existing source [i.e., with no distinction between inside the fence-line measures and outside the fence-line measures]...*Building blocks 2 and 3 each fall within the meaning of a ‘system of emission reduction’ because they consist of measures that the owners/operators of the affected EGUs can implement to achieve their emission limits*”) (emphasis added).

<sup>45</sup> 42 U.S.C. § 7411(a)(1).

<sup>46</sup> See CPP, 80 F.R. 205 at 64762 (EPA notes that “[t]he constraints included in these statutory requirements [i.e. that a system of emission reduction be achievable and adequately demonstrated] do not preclude building blocks 2 and 3 from the BSER”).

<sup>47</sup> *Id.* at 64761 (emphasis added).

process changes, operation changes, direct emission control, *or other measures...*<sup>48</sup> This phrasing – “or other measures” – indicates that the Senate understood that standards of performance would not be limited to any particular technological approach. Achieving emission reductions through coordination between the owner/operator of an affected source and some outside third party seems to be precisely the sort of “other measure” envisioned by Congress.

Additionally, in the 1977 CAA amendments, Congress amended section 111(d) to require states to implement the “standards of performance” based on the “best system of emission reduction...adequately demonstrated.”<sup>49</sup> In doing so, Congress understood that state action in order to achieve the standards of performance “would be based on the *best available means (not necessarily technological)* for categories of existing sources to reduce emissions”<sup>50</sup> – indicating that non-technological, outside-the-fence-line measures, are indeed encompassed by the term “system of emission reduction”.

Thus, on the basis of the plain language and common understanding of the CAA, in light of the Act’s long history, and in light of the basic issues the CAA seeks to address – it is abundantly clear that the term “system of emission reduction” is flexible enough to encompass the so-called “outside the fence-line” measures that comprise Building Blocks 2 and 3 of EPA’s CPP. Building Blocks 2 and 3, therefore, are a permissible component of BSER. DAQ’s determination that BSER is comprised solely of inside the fence-line BB1 measures is erroneous, mistaken, contrary to the history and understanding of the CAA, and without merit. DAQ’s final rule, therefore, must include Building Block 2 and 3 measures as a component of BSER.

### **III. DAQ ERRED IN CONFINING ITS CONSIDERATION OF BSER MEASURES TO THOSE WHOSE COSTS WERE LESS THAN OR EQUAL TO \$23 PER TON CO<sub>2</sub> EMISSION REDUCTION**

In addition to DAQ’s flawed reasoning for limiting BSER to BB1 type heat rate improvement measures, DAQ’s methodology for selecting which BB1-type measures to implement as BSER is flawed. DAQ’s methodology is flawed because it impermissibly limits its consideration to measures that, either individually or collectively, cost less than or equal to \$23 per ton of CO<sub>2</sub> emission reduction. This is for two reasons: (1) DAQ’s misinterpretation of cost “reasonableness” as understood by EPA and DC Circuit case law interpreting section 111 of the CAA; and (2) DAQ’s erroneous reading of EPA’s cost estimates in the CPP.

#### **A. Standards Guiding EPA’s Consideration of BSER Measure Costs**

Section V(A)(1)(c)(3)(a) of the CPP sets forth the standards used by EPA to guide its evaluation of the costs of achieving the various methods of emission reduction constituting the BSER.<sup>51</sup> Section 111(a) of the CAA, in defining the term “standard of performance,” requires EPA to take the costs of achieving the relevant emission reduction into account as part of EPA’s

<sup>48</sup> S. Rep. No. 91–1196 at 15–16 (Sept. 17, 1970); CPP, 80 F.R. 205 at 64764 (emphasis added).

<sup>49</sup> 42 U.S.C. § 7411(d)(1); *see also* CPP, 80 F.R. 205 at 64765.

<sup>50</sup> H.R. Rep. No. 95–294 (May 12, 1977), 1977 CAA Legis. Hist. at 2662 (emphasis added); *see also* CPP, 80 F.R. 205 at 64765.

<sup>51</sup> CPP, 80 F.R. 205 at 64720.

determination of BSER.<sup>52</sup> Section V(A)(1)(c)(3)(a) of the CPP, in commenting on the fact that EPA’s consideration of various BSER measures is constrained, in part, by the cost of such measures, notes that the cost of a given BSER approach cannot be “exorbitant,” “greater than the industry could bear and survive,” “excessive,” or “unreasonable.”<sup>53</sup>

EPA understands these terms to be synonymous, and thus throughout the CPP, when evaluating whether or not a particular emission control technology constitutes BSER, EPA uses a cost “reasonableness” standard. That is to say, “a control technology may be considered the ‘best system of emission reduction...adequately demonstrated’ if its costs are reasonable, but it cannot be considered the best system if the costs are unreasonable.”<sup>54</sup>

The terms “exorbitant,” “greater than the industry could bear and survive,” “excessive” and “unreasonable” are derived from various DC Circuit opinions articulating the nature of the EPA’s consideration of costs under CAA section 111 rulemakings – *Lignite Energy Council v. EPA*, 198 F.3d 930 (D.C. Cir. 1999), *Portland Cement Ass’n v. EPA*, 513 F.2d 506 (D.C. Cir. 1975), and *Sierra Club v. Costle*, 657 F.2d 298 (D.C. Cir. 1981), respectively.<sup>55</sup>

In *Lignite Energy Council*, the DC Circuit was confronted with a challenge to EPA’s new source performance standards for nitrogen oxide emissions from utility and industrial boilers.<sup>56</sup> Specifically, petitioners in *Lignite Energy* maintained that EPA did not properly balance the factors which CAA section 111 requires EPA to take into account, one such factor being the cost of achieving the emission reductions.<sup>57</sup> The DC Circuit noted that section 111 does not articulate the relative weight that should be assigned to each of the factors EPA must consider, and on that ground, the Court was reluctant to second-guess EPA’s discretion in balancing the factors.<sup>58</sup> In ruling in EPA’s favor, the DC Circuit maintained, “EPA’s choice [of emission control measures] will be sustained unless the environmental or economic costs of using the technology are exorbitant.”<sup>59</sup> The court did not provide a definition for the term “exorbitant”.

In *Portland Cement Ass’n v. EPA*, the DC Circuit dealt with a challenge to the validity of EPA’s stationary source standards, promulgated under section 111, for new or modified portland cement plants.<sup>60</sup> In clarifying the nature of EPA’s cost consideration under section 111, the Court sided with the EPA Administrator’s determination, noting:

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<sup>52</sup> 42 U.S.C. § 7411(a)(1) (“The term ‘standard of performance’ means a standard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction which (*taking into account the cost of achieving such reduction* and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated”) (emphasis added).

<sup>53</sup> CPP, 80 F.R. 205 at 64720.

<sup>54</sup> *Id.* at 64721.

<sup>55</sup> *See* CPP, 80 F.R. 205 at 64720.

<sup>56</sup> *Lignite Energy Council v. EPA*, 198 F.3d 930, 932 (D.C. Cir. 1999).

<sup>57</sup> *Id.* at 933 (In pertinent part, “[p]etitioners argue that the SCR is not the ‘best demonstrated system’ under section 111 because the incremental cost of reducing NOx emissions is considerably higher with SCR than with combustion controls...”).

<sup>58</sup> *Id.*

<sup>59</sup> *Id.* (citing *National Asphalt Pavement Ass’n v. Train*, 539 F.2d 775 (D.C. Cir. 1976)).

<sup>60</sup> *Portland Cement Ass’n v. EPA*, 513 F.2d 506, 507 (D.C. Cir. 1975).

[t]hough the Administrator found that ‘relating the cost of control to the benefits of the control at this time is a practical impossibility’, he went on to state that *where the costs of meeting standards would be greater than the industry could bear and survive*, such standards could not be implemented by the industry regardless of technological feasibility, and, moreover, *that a gross disproportion between achievable reduction in emission and cost of the control technique would not be required*. Here too we find no reason to disagree with the Administrator’s disposition of this aspect of the remand. *The industry has not shown the inability to adjust itself in a healthy economic fashion to the end sought by the Act as represented by the standards prescribed.*<sup>61</sup>

Under *Portland Cement*, it appears as though the DC Circuit will not second-guess EPA’s determination that the costs of an emission reduction measure are reasonable if the regulated industry cannot show that it is completely unable to adjust itself in a healthy economic fashion to the ends sought by the regulation. The burden of proof, therefore, when challenging EPA’s determination of cost reasonableness, rests on the challenging party (generally the regulated industry). Under *Portland Cement*, it is clear that for a court to deem the cost of a section 111 rulemaking to be unreasonable, it must truly be staggering – it must be greater than the industry could bear and survive. An “unreasonably” costly BSER measure is one that, for all practical economic purposes, is un-implementable regardless of the measure’s technological feasibility.

Finally, in *Sierra Club v. Costle*, the DC Circuit again dealt with a challenge to an EPA new source performance standard (“NSPS”) promulgation pursuant to section 111 of the CAA, this time in regard to more stringent pollution controls for sulfur dioxide and particulate matter from new coal-fired electric power plants.<sup>62</sup> There, the DC Circuit noted that “section 111 not only authorizes variable control but gives EPA authority when determining the best technological system [synonymous with BSER] to weigh cost, energy, and environmental impacts in the broadest sense at the national and regional levels and over time as opposed to simply at the plant level in the immediate present.”<sup>63</sup> In balancing these concerns, EPA concluded that the impact of their sulfur dioxide and particulate matter NSPS upon Electric Utilities’ forecasted cost, “was not excessive and did not make the cost of compliance with the standard unreasonable.”<sup>64</sup> The DC Circuit concluded that this cost determination was “a judgment call with which we are not inclined to quarrel...[t]he post-promulgation record does not require a contrary conclusion or indicate that the standard is *unreasonably costly*.”<sup>65</sup>

Taken together, these cases demonstrate that (1) the DC Circuit will not invalidate a CAA section 111 emission control measure on the grounds of being too costly unless the measure’s cost is demonstrably “unreasonable”; (2) the DC Circuit affords EPA’s decisions with regards to cost reasonableness a great deal of deference; and (3) the burden of demonstrating that an emission control measure’s cost is “unreasonable” falls on the challenging party, generally the regulated industry. Despite the fact that the DC Circuit has yet to give the term “unreasonable” a

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<sup>61</sup> *Id.* at 508 (emphasis added).

<sup>62</sup> *Sierra Club v. Costle*, 657 F.2d 298, 313 (D.C. Cir. 1981)

<sup>63</sup> *Id.* at 330.

<sup>64</sup> *Id.* at 383.

<sup>65</sup> *Id.* (emphasis added).

rigid definition, it is clear from the above cases that petitioners seeking to challenge EPA's determinations of cost reasonableness must be prepared to demonstrate that the costs imposed by the applicable emission control measure are truly astronomical, and would seriously jeopardize the economic viability of the industry if imposed.

### B. EPA's Calculation of Cost for BSER Measures

In the CPP, EPA estimates the costs of each of the Building Blocks to be \$23 per ton of CO<sub>2</sub> reduction, \$24 per ton CO<sub>2</sub> reduction, and \$37 per ton CO<sub>2</sub> reduction, respectively.<sup>66</sup> When applied together, all three building blocks collectively yield an estimated cost of \$30 per ton of CO<sub>2</sub> reduction – “an average of the estimates for each building block, weighted by the total estimated cumulative CO<sub>2</sub> reductions for each of these building blocks over the 2022 – 2030 period.”<sup>67</sup> EPA concluded that the costs for the three Building Blocks are “reasonable.”<sup>68</sup>

EPA's calculation of the estimated costs of each of the three BSER Building Blocks is just that: an estimation. These figures are rough guesses for where the costs of a given building block measure should fall, and *do not* set an “upper bound”, so to speak, for cost reasonableness, above which any costs are de-facto “unreasonable”. Specifically, EPA notes that in cases where the three Building Blocks are implemented simultaneously, “[t]he simultaneous application of all three building blocks produces interactive dynamics, some of which could increase the cost and some of which could decrease the cost represented in the individual building blocks.”<sup>69</sup>

EPA further notes that when Building Block 1 is combined with either Building Block 2 or 3, or both, “the combination has the potential to raise the cost of the portion of the overall emission reductions achievable through heat rate improvements relative to the cost of those same reductions if building block 1 were implemented in isolation...”<sup>70</sup> Though Building Block 1's combination with either Building Block 2 or 3 (or both) could result in CO<sub>2</sub> reduction costs above the values estimated by EPA, “the cost of emission reductions achieved through heat rate improvements *in the context of a three building block BSER will remain reasonable...*”<sup>71</sup>

This statement demonstrates that, in EPA's opinion, costs of CO<sub>2</sub> emission reduction *above* the estimated amounts of \$23 per ton, \$24 per ton, \$37 per ton (for BB1 – 3, respectively), and \$30 per ton (for all three Building Blocks implemented jointly) can still be considered reasonable. It is highly unlikely, for example, that the EPA would consider a BB1-type heat rate improvement measure cost of \$25 per ton to be “unreasonable,” even though the cost exceeds EPA's estimate of \$23 per ton. Equally, it would be highly unlikely for EPA to conclude that a \$35 per ton CO<sub>2</sub> reduction cost for a combination of all three Building Blocks to be “unreasonable”, even though this cost exceeds the \$30 per ton CO<sub>2</sub> estimate.

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<sup>66</sup> CPP, 80 F.R. 205 at 64749.

<sup>67</sup> *Id.*

<sup>68</sup> *Id.*

<sup>69</sup> *Id.*

<sup>70</sup> *Id.*

<sup>71</sup> *Id.* (emphasis added).

Therefore, as we shall see in subsection C, *infra*, DAQ's independent determination that any cost above \$23 per ton of CO<sub>2</sub> emission reduction is de-facto unreasonable for BB1-type heat rate improvement measures is in error. As a result, DAQ erred in confining its consideration of BB1-type heat rate improvement BSER measures solely to those whose costs per ton of CO<sub>2</sub> emission reduction were less than or equal to \$23 per ton.

**C. DAQ's Use of EPA's \$23 Per Ton Cost Estimate as an Absolute "Cost Effectiveness Threshold" to Determine Cost Reasonableness for BSER Measures Was in Error**

In DAQ's "Supporting Basis," DAQ repeatedly notes EPA's \$23 per ton CO<sub>2</sub> reduction cost estimate for BB1-type heat rate improvement measures. Based on EPA's cost estimate, DAQ maintains that, "[i]n determining a BSER for a particular EGU, DAQ will use the above cost effectiveness threshold of \$23 per ton to determine reasonableness of cost and whether one or more technically feasible measure(s) can be implemented, as long as, collectively, the total cost does not exceed this threshold."<sup>72</sup>

DAQ's position to consider only BSER measures whose costs are less than or equal to \$23 per ton CO<sub>2</sub> reduction, and thus to reject any BSER measure, or combination of BSER measures, whose costs are above \$23 per ton CO<sub>2</sub> reduction, if only slightly, is in error. First, as noted above, the cost estimates provided by EPA are not intended to serve as an absolute "ceiling" for cost "reasonableness."<sup>73</sup> DAQ's insistence that the cost of any BSER measure, or combination of BSER measures, falling above \$23 per ton CO<sub>2</sub> reduction is "unreasonable," rests on a mistaken understanding of the "reasonable" and "unreasonable" terms of art.

Although the DC Circuit does not explicitly define the terms "reasonable" or "unreasonable," it is clear that, for a BSER measure cost to be deemed "unreasonable," it must be *extremely prohibitive* for the industry to implement the measure. Unreasonable, therefore, does *not* simply mean any cost that happens to fall above a cost estimate provided by the EPA. An unreasonable cost is one in which "*the costs of meeting standards would be greater than the industry could bear and survive*,"<sup>74</sup> or is "exorbitant."<sup>75</sup> None of these phrases can be stretched to encompass *any* cost above a specific EPA estimate. In order for a BSER measure's cost to be deemed "unreasonable," the cost must be so astronomical that the affected industry would have no economically feasible way to implement the BSER measure, regardless of whether the measure is technologically possible. "Unreasonable" does not simply mean "expensive."

DAQ's misinterpretation of the term "unreasonable" is not without consequence. DAQ's misinterpretation causes DAQ to reject feasible heat rate improvement measures whose costs are only slightly above the \$23 per ton CO<sub>2</sub> mark. This results in numerous missed opportunities for greater carbon emission reductions under the proposed rule. I will now detail the various BSER

<sup>72</sup> *Supporting Basis*, at B-10, B-29, B-52, B-80, B-124, B-137, B-166, and B-175. *See also id.* at B-186, B-191, B-196, B-201, B-206, B-211, B-216, B-221 (all noting that "[t]he DAQ will use the above cost effectiveness threshold of \$23 per ton to determine reasonableness of cost for each of the technically feasible measure in determining BSER for a particular EGU").

<sup>73</sup> *See supra*, notes 70, 71.

<sup>74</sup> *Portland Cement Ass'n v. EPA*, 513 F.2d 506, 508 (D.C. Cir. 1975) (emphasis added).

<sup>75</sup> *Lignite Energy Council v. EPA*, 198 F.3d 930, 933 (D.C. Cir. 1999).

measures that, in my opinion, were wrongly rejected by DAQ for being slightly over the \$23 per ton cost, but whose costs, in EPA's eyes, are very unlikely to be considered "unreasonable."

For Unit 1 of Duke Energy Belews Creek Steam Station, DAQ rejects (as BSER) a combination of three HRI measures which yield an emission reduction of 43,205 tons CO<sub>2</sub> per year because the three measures collectively have a cost of \$28 per ton CO<sub>2</sub> reduction.<sup>76</sup> Is an extra \$5 per ton really an "unreasonable" cost to achieve an even greater emission reduction than yielded by the selected BSER measures, especially when the chosen BSER measures for Belews Creek Unit 1 only produce a 0.539% reduction in annual emissions from this unit?

Likewise, for Unit 2 at Belews Creek, DAQ rejects (as BSER) a combination of three HRI measures that collectively cost \$24 per ton of CO<sub>2</sub> reduction.<sup>77</sup> The rejected suite of measures would have yielded a CO<sub>2</sub> emission reduction of 36,331 tons per year.<sup>78</sup> Is an extra \$1 per ton really an "unreasonable" cost to reduce an extra 3,104 tons of CO<sub>2</sub> per year, especially when the selected BSER measures only amount to a 0.544% annual reduction in CO<sub>2</sub>?

For Duke Energy Cliffside Steam Station Unit 6, DAQ rejects (as BSER) a suite of HRI measures that are still below the \$23 per ton CO<sub>2</sub> estimate, costing \$-17 per ton (i.e. saving Duke Energy money). The rejected measures would result in an annual emissions reduction of 26,670 tons, greater than the emission reductions achieved by the selected BSER measures.<sup>79</sup> Additionally, DAQ rejects (as BSER) a second combination of HRI measures that would result in a reduction of CO<sub>2</sub> emissions of 34,432 tons per year. Granted, the rejected measures resulting in the 34,432 ton per year reduction collectively costs \$40 per ton. However, it is unlikely that the cost of \$40 per ton is too much for Duke Energy to bear and survive.

For Duke Energy Marshall Steam Station Unit 2, DAQ rejects (as BSER) a combination of two HRI measures that would result in an annual CO<sub>2</sub> emissions reduction of 6,022 tons – double the annual reduction of the selected BSER measure – costing only \$25 per ton.<sup>80</sup> Is an extra \$2 per ton really an "unreasonable" cost to produce double the anticipated emissions reduction, especially when the selected BSER measure is only expected to result in a paltry 0.209% yearly reduction in CO<sub>2</sub> emissions from this unit?

Finally, for Duke Energy Mayo Electric Generating Plant Unit 1 (1A & 1B), DAQ determined that no HRI measures constitute BSER, and thus no action is to be taken at this unit. However, DAQ rejected a HRI measure – CRR or Condenser Rebundle, Retubes, Rebuilds – that would result in an annual CO<sub>2</sub> reduction of 8,073 tons, at a cost of \$26 per ton.<sup>81</sup> It is highly doubtful that an extra \$3 per ton above the EPA's cost estimate is so astronomical as to be considered "unreasonable".

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<sup>76</sup> *Supporting Basis*, at B-16.

<sup>77</sup> *Id.* at B-17.

<sup>78</sup> *Id.* at B-15.

<sup>79</sup> *Id.* at B-37.

<sup>80</sup> *Id.* at B-86, B-89.

<sup>81</sup> *Id.* at B-128.

DAQ's mistaken insistence that the cost of any potential BSER measure, or combination of BSER measures, above EPA's \$23 per ton CO<sub>2</sub> estimate is "unreasonable" prevents the proposed rule from having a more significant impact on CO<sub>2</sub> emission reductions. It is patently stubborn for DAQ to consider potential BSER measures whose costs are only a few dollars over the EPA's estimate to be "unreasonable". DAQ's determinations as to cost unreasonableness are erroneous, and are contrary to the meanings of the terms of art "reasonable" and "unreasonable" as understood and applied by the DC Circuit. DAQ should therefore, in revising the proposed rule, give far more consideration to potential BSER measures whose costs are above \$23 per ton of CO<sub>2</sub> reduction, particularly those which are only moderately above the \$23 per ton figure. DAQ's intransigence prevents it from taking full advantage of the emission reduction capabilities of BB1-type HRI measures, and further exacerbates the proposed rule's insufficient reduction of CO<sub>2</sub> emissions.

**IV. DAQ'S DETERMINATION THAT THE BSER MEASURE FOR 14 OF THE 24 AFFECTED COAL-FIRED EGUS IN NORTH CAROLINA IS NO ACTION WILL DISPROPORTIONATELY IMPACT HUMAN HEALTH AND ENVIRONMENTAL QUALITY IN LOW-INCOME AND MINORITY COMMUNITIES**

**A. DAQ's Stated Reasons for Choosing "No Action" for These 14 EGUs**

Under the Proposed Rule, only 10 out of the 24 affected coal-fired EGUs in North Carolina are slated to receive emission control measures; 14 out of North Carolina's 24 affected coal-fired EGUs are not slated to receive any emission control measures. The 14 EGUs for which DAQ determined the BSER is to take "no action" are: Units 1 & 2 at Duke Energy-Asheville; Unit 5 at Duke Energy-Cliffside; Units 1 through 5 at Duke Energy-G G Allen; Unit 1 (1A & 1B) at Duke Energy-Mayo; Unit 1 of Duke Energy-Roxboro; Units 1 and 2 at Edgecombe Genco-Battleboro; Unit 1 at Westmoreland Partners-Roanoke Valley Energy Facility I; and Unit 1 at Westmoreland Partners-Roanoke Valley Energy Facility II.<sup>82</sup>

DAQ maintains that Asheville Units 1 & 2 are slated to receive no emission control measures under the proposed rule because of their imminent retirement, which is required to take place some time before January 31, 2020.<sup>83</sup>

DAQ maintains that Cliffside Unit 5 is not assigned any emission control measures under the proposed rule because the estimated cost of potential BSER measures for Unit 5 were calculated by DAQ to be above EPA's cost estimate of \$23 per ton CO<sub>2</sub> reduction, and so were deemed by DAQ to be "excessive", "exorbitant", or "unreasonable."<sup>84</sup>

DAQ maintains that Units 1 through 3 at the G.G. Allen plant are not assigned any emission control measures under the proposed rule because they are scheduled to be retired in 2023.<sup>85</sup> Units 4 and 5 at the G.G. Allen are not scheduled to receive any emission controls under

<sup>82</sup> See 15A NCAC 02D .2703(a).

<sup>83</sup> *Supporting Basis*, at B-181.

<sup>84</sup> *Id.* at B-33.

<sup>85</sup> *Id.* at B-49.

the proposed rule because none of the potential HRI measures for these two units could be achieved (either individually or collectively) for less than or equal to \$23 per ton CO<sub>2</sub> reduction, and so are considered “excessive”, “exorbitant”, or “unreasonable.”<sup>86</sup>

DAQ maintains that Unit 1 (1A and 1B) at the Mayo plant is not slated to receive any emission control measures because none of the potential HRI measures (either in isolation or collectively) can be implemented at a cost less than or equal to \$23 per ton CO<sub>2</sub>.<sup>87</sup> The same applies for Unit 1 of the Roxboro plant,<sup>88</sup> Units 1 and 2 of the Edgecombe Genco-Battleboro,<sup>89</sup> Unit 1 of the Westmoreland Partners – Roanoke Valley Energy Facility I,<sup>90</sup> and Unit 1 at Westmoreland Partners – Roanoke Valley Energy Facility II.<sup>91</sup>

As is readily apparent, the primary driver behind many of DAQ’s decisions not to implement any emission control measures at 14 of the 24 affected coal-fired EGUs in North Carolina is cost. As detailed *supra* in Section III, DAQ’s insistence that the cost of potential BSER measures must be less than or equal to \$23 per ton CO<sub>2</sub> reduction in order to be considered “reasonable” is misplaced, and is in error. As also noted *supra*, this stubborn insistence that BSER measure cost fall at or below EPA’s cost estimate only serves to exacerbate the proposed rule’s paltry impact on power plant carbon dioxide emissions.

#### **B. EGU Facilities Selected for “No Action” are Predominantly Located in Low-Income, Minority Communities**

To restate: the 14 coal-fired EGUs for which DAQ determined BSER is “no action” are: Units 1 & 2 at Duke Energy-Asheville; Unit 5 at Duke Energy-Cliffside; Units 1 – 5 at Duke Energy-G G Allen; Unit 1 (1A & 1B) at Duke Energy-Mayo; Unit 1 of Duke Energy-Roxboro; Units 1 and 2 at Edgecombe Genco-Battleboro; and Unit 1 at Westmoreland Partners-Roanoke Valley Energy Facility I & II.<sup>92</sup>

These facilities are located in or near the cities/towns of Skyland, NC; Mooresboro, NC / Cliffside, NC; Belmont, NC; Roxboro, NC; Semora, NC; Battleboro / Rocky Mount, NC; and Weldon / Roanoke Rapids / Garysburg, NC, respectively. By and large, the coal-fired units set to receive “no action” (i.e. BSER for these EGUs is to do nothing) under the proposed rule are located in low-income and/or minority communities. As a result, DAQ’s decisions not to implement emission control measures at these EGUs, regardless of the rationale – be it the upcoming retirement of the unit or the cost of implementing potential BSER measures – will disproportionately impact low-income and minority communities. Discussed below, these “no action” decisions will very likely exacerbate the negative health effects these communities already face due to their close proximity to these power plants. The detrimental health impacts

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<sup>86</sup> *Id.* at B-57, B-58.

<sup>87</sup> *Id.* at B-128.

<sup>88</sup> *Id.* at B-142, B-146.

<sup>89</sup> *Id.* at B-178.

<sup>90</sup> *Id.* at B-169

<sup>91</sup> *Id.*

<sup>92</sup> *See* 15A NCAC 02D .2703(a).

resulting from living within close proximity to coal-fired power plants are unequivocal and are well documented.<sup>93</sup>

### i. Cliffside Steam Station

Duke Energy's Cliffside Steam Station is listed as being located in the town of Mooresboro, NC, and is adjacent to the town of Cliffside, NC.<sup>94</sup> A 2012 report by the NAACP estimates that that 2,752 people live within 3 miles of the Cliffside Station, and that 5.8% of this three-mile population are people of color.<sup>95</sup> Though not a predominantly minority community, the areas surrounding the Cliffside Steam station are nevertheless low-income.

Mooresboro's population as of the 2010 Census was 311.<sup>96</sup> Of those residents, 18.6% are racial or ethnic minorities.<sup>97</sup> Cliffside's population as of the 2010 Census was 611.<sup>98</sup> Of those residents, 9.7% are racial or ethnic minorities.<sup>99</sup> Mooresboro is located in Cleveland County, which as of July 1, 2014 was estimated to have a population of 97,076.<sup>100</sup> Of Cleveland County's residents, one in four – 25.3% – are racial or ethnic minorities.<sup>101</sup>

In terms of income demographics, Mooresboro has a per capita income of only \$16,988, and an 8.0% poverty rate.<sup>102</sup> Cliffside's a per capita income is only \$15,506, and has the same 8.0% poverty rate.<sup>103</sup> The NAACP estimates that the average income of the 2,752 people who live within 3 miles of the Cliffside plant is \$18,299.<sup>104</sup> All told, these per capita income figures are well below North Carolina's average income of \$25,284.<sup>105</sup>

DAQ's decision that BSER for Unit 5 of Duke Energy's Cliffside Steam Station is to take "no action" will very likely have an adverse impact on the health and livelihood of those who live in the closest vicinity to the plant. The NAACP estimates that between 2007 and 2010, the Cliffside Station emitted an average of 23,045 tons of SO<sub>2</sub> annually, as well as an average of 1,668 tons of NO<sub>x</sub> annually.<sup>106</sup> This is in addition to the 1,192,056 tons CO<sub>2</sub> emitted annually

<sup>93</sup> See *infra*, discussion in subsection C of this section.

<sup>94</sup> See GOOGLE MAPS, <https://www.google.com/maps/place/Duke+Energy/@35.2155514,-81.7641624,17z/data=!3m1!4b1!4m2!3m1!1s0x885716b08c85ab03:0xe898f9fc7fb6e768> (listing the address of the Cliffside Station as 573 Duke Power Road, Mooresboro, NC 28114). See also DUKE ENERGY, *Rogers Energy Complex (Cliffside Steam Station)*, <https://www.duke-energy.com/power-plants/coal-fired/cliffside.asp> (noting the location of the plant as being in "Cleveland and Rutherford Counties, North Carolina").

<sup>95</sup> NAACP, *Coal Blooded – Putting Profits Before People* at 79, Appendix 1 (2012), <http://www.naacp.org/page/-/Climate/CoalBlooded.pdf>.

<sup>96</sup> U.S. DEPARTMENT OF COMMERCE – US CENSUS BUREAU, *American Fact Finder*, 2010 Demographic Profile Data [http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10\\_DP/DPDP1/1600000US3744160](http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10_DP/DPDP1/1600000US3744160).

<sup>97</sup> *Id.*

<sup>98</sup> *Id.* at [http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10\\_DP/DPDP1/1600000US3713100](http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10_DP/DPDP1/1600000US3713100).

<sup>99</sup> *Id.*

<sup>100</sup> *Id.* at <http://factfinder.census.gov/bkmk/table/1.0/en/PEP/2014/PEPANNRES/0500000US37045>.

<sup>101</sup> CENSUS.GOV, Quick Facts, [http://www.census.gov/quickfacts/table/PST045215/37045\\_00](http://www.census.gov/quickfacts/table/PST045215/37045_00).

<sup>102</sup> *Id.* at [http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14\\_5YR/DP03/1600000US3744160](http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14_5YR/DP03/1600000US3744160).

<sup>103</sup> *Id.* at [http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14\\_5YR/DP03/1600000US3713100](http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14_5YR/DP03/1600000US3713100).

<sup>104</sup> NAACP, *Coal Blooded – Putting Profits Before People* at 79, Appendix 1.

<sup>105</sup> CENSUS.GOV, Quick Facts at <http://quickfacts.census.gov/qfd/states/37000.html>.

<sup>106</sup> NAACP, *Coal Blooded – Putting Profits Before People* at 79, Appendix 1.

from Cliffside Unit 5, and the 4,416,678 tons CO<sub>2</sub> emitted annually from Cliffside Unit 6.<sup>107</sup> While Unit 6 is slated to receive a combination of 4 HRI emission reduction measures, this BSER approach is only estimated to reduce 26,098 tons CO<sub>2</sub> annually, only 0.591% per year.<sup>108</sup>

## ii. G.G. Allen Steam Station

Duke Energy's G.G. Allen Steam Station is located in Belmont, NC. The NAACP estimates that 6,652 people live within three miles of the G.G. Allen Steam Station, of which 12.8% are people of color.<sup>109</sup> As of the 2010 Census, Belmont's population was 10,076.<sup>110</sup> Of those residents, 16.8% are racial or ethnic minorities.<sup>111</sup> Belmont is located in Gaston County, which has an overall population (2010 Census) of 206,086, of whom a higher percentage – 22.8% – are racial or ethnic minorities.<sup>112</sup>

In terms of income demographics, Belmont and Gaston County fare better than Mooresboro and Cliffside. Belmont has a per capita income of \$32,283, and a 13.1% poverty rate.<sup>113</sup> Gaston County has a per capita income of \$22,654, and a high poverty rate of 18.1 percent.<sup>114</sup> The NAACP estimates that the average income for people living within three miles of the G.G. Allen Steam Station is \$24,749.<sup>115</sup> Belmont's per capita income is above, while Gaston County's per capita income is slightly below, North Carolina's average income.<sup>116</sup>

DAQ's decision that BSER for all five units at the G.G. Allen Steam Station is "no action" will very likely adversely impact the health and livelihood of those who live in the closest vicinity to the plant. The NAACP has estimated that between 2007 and 2010, the Allen Steam Station emitted a yearly average of 27,757 tons of SO<sub>2</sub>, and a yearly average of 5,264 tons of NO<sub>x</sub>.<sup>117</sup> This is in addition to the annual CO<sub>2</sub> emissions of 786,297 tons and 442,840 tons from Units 4 and 5, respectively.<sup>118</sup> Units 1 through 3 are scheduled to be shut down in 2023.<sup>119</sup>

## iii. Mayo Electric Generating Plant

Duke Energy's Mayo Electric Generating Plant is located near Roxboro, NC. The NAACP estimates that there are 793 people living within three miles of the plant, of whom a sizeable minority – 31.6% – are people of color.<sup>120</sup>

<sup>107</sup> DAQ *Supporting Basis* at B-31.

<sup>108</sup> *Id.* at B-37.

<sup>109</sup> NAACP, *Coal Blooded – Putting Profits Before People* at 76, Appendix 1.

<sup>110</sup> *American Fact Finder* at

[http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10\\_DP/DPDP1/1600000US3704840](http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10_DP/DPDP1/1600000US3704840).

<sup>111</sup> *Id.*

<sup>112</sup> *Id.* at [http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10\\_DP/DPDP1/0500000US37071](http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10_DP/DPDP1/0500000US37071).

<sup>113</sup> *Id.* at [http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14\\_5YR/DP03/1600000US3704840](http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14_5YR/DP03/1600000US3704840).

<sup>114</sup> *Id.* at [http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14\\_5YR/S1901/0500000US37071](http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14_5YR/S1901/0500000US37071).

<sup>115</sup> NAACP, *Coal Blooded – Putting Profits Before People* at 76, Appendix 1.

<sup>116</sup> CENSUS.GOV, Quick Facts at <http://quickfacts.census.gov/qfd/states/37000.html>.

<sup>117</sup> NAACP, *Coal Blooded – Putting Profits Before People* at 76, Appendix 1.

<sup>118</sup> *Supporting Basis* at B-54.

<sup>119</sup> *Id.* at B-49.

<sup>120</sup> NAACP, *Coal Blooded – Putting Profits Before People* at 72, Appendix 1.

As of the 2010 Census, Roxboro's population was 8,362, of whom a majority are racial or ethnic minorities: 44.9% are White, 46.8% are Black, 0.6% are American Indian, 0.4% are Asian, and 8.7% are Hispanic or Latino (of any race).<sup>121</sup> Roxboro is located in Person County, which as of the 2010 Census had a population of 39,464, of whom 28% are racial or ethnic minorities.<sup>122</sup>

In terms of income demographics, Roxboro is a very low-income community. The city has a median household income of \$21,076, a median family income of \$24,633, a per capita income of only \$12,253, and a staggeringly high poverty rate of 44.7%.<sup>123</sup> Person County fares a bit better, as its per capita income is \$21,191, and its poverty rate is "only" 19.9%.<sup>124</sup> The NAACP estimates that the average income of the people who live within three miles of the Mayo plant is \$15,810.<sup>125</sup> All told, the per capita incomes for Roxboro and Person County are significantly below North Carolina's average income of \$25,284.<sup>126</sup>

DAQ's decision that BSER for Unit 1 (1A and 1B) at the Mayo Electric Generating Plant is "no action" will very likely adversely impact the health and livelihood of those who live in the closest vicinity to the plant. The NAACP has estimated that between 2007 and 2010, the Mayo plant emitted a yearly average of 13,545 tons of SO<sub>2</sub>, and 1,702 tons of NO<sub>x</sub>.<sup>127</sup> This is in addition to the 3,813,684 tons of CO<sub>2</sub> Mayo Unit 1 emits annually.<sup>128</sup>

#### iv. Roxboro Steam Electric Plant

Duke Energy's Roxboro Steam Electric Plant is located near Semora, NC. The NAACP estimates that 1,440 people live within three miles of the Roxboro plant, of whom 31% are people of color.<sup>129</sup>

As of the 2010 Census, Semora's population (or at least the population of the 27343 zip code) was 1,716, of whom 61.5% are White, 36.0% are Black, 0.3% are American Indian, 0.2% are Asian, and 2.2% are Hispanic or Latino (of any race).<sup>130</sup> Semora is located primarily in Caswell County. As of the 2010 Census, Caswell County's population was 23,719, of whom 62.5% are White, 33.8% are Black, 0.4% are American Indian, 0.3% are Asian, and 3.1% are Hispanic or Latino (of any race).<sup>131</sup>

In terms of income demographics, Semora (or at least the 27343 zip code) has a per capita income of only \$22,235, and a high poverty rate of 18.3%.<sup>132</sup> Caswell County as a whole

<sup>121</sup> *American Fact Finder* at

[http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10\\_DP/DPDP1/1600000US3758160](http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10_DP/DPDP1/1600000US3758160).

<sup>122</sup> *Id.* at [http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10\\_DP/DPDP1/0500000US37145](http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10_DP/DPDP1/0500000US37145).

<sup>123</sup> *Id.* at [http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14\\_5YR/DP03/1600000US3758160](http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14_5YR/DP03/1600000US3758160).

<sup>124</sup> *Id.* at [http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14\\_5YR/DP03/0500000US37145](http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14_5YR/DP03/0500000US37145).

<sup>125</sup> NAACP, *Coal Blooded – Putting Profits Before People* at 72, Appendix 1.

<sup>126</sup> CENSUS.GOV, Quick Facts at <http://quickfacts.census.gov/qfd/states/37000.html>.

<sup>127</sup> NAACP, *Coal Blooded – Putting Profits Before People* at 72, Appendix 1.

<sup>128</sup> *Supporting Basis* at B-126.

<sup>129</sup> NAACP, *Coal Blooded – Putting Profits Before People* at 78, Appendix 1.

<sup>130</sup> *American Fact Finder* at [http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10\\_DP/DPDP1/8600000US27343](http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10_DP/DPDP1/8600000US27343).

<sup>131</sup> *Id.* at [http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10\\_DP/DPDP1/0500000US37033](http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10_DP/DPDP1/0500000US37033).

<sup>132</sup> *Id.* at [http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14\\_5YR/DP03/8600000US27343](http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14_5YR/DP03/8600000US27343).

is generally lower-income than the 27343 area code – with a per capita income of \$19,057, and a poverty rate of 21.7%.<sup>133</sup> The NAACP estimates that the average income of people living within three miles of the Roxboro Plant is \$22,115.<sup>134</sup> All told, the per capita incomes for Semora and Caswell County are below North Carolina’s average income of \$25,284.<sup>135</sup>

DAQ’s decision that BSER for Unit 1 at the Roxboro Steam Electric Plant is “no action” will very likely adversely impact the health and livelihood of those who live in the closest vicinity to the plant. The NAACP has estimated that between 2007 and 2010, the Roxboro plant emitted a yearly average of 27,856 tons of SO<sub>2</sub> and 7,135 tons of NO<sub>x</sub>.<sup>136</sup> This is in addition to the 1,973,768 tons of CO<sub>2</sub> Roxboro Unit 1 emits annually.<sup>137</sup>

#### v. Edgecombe Genco – Battleboro

Edgecombe Genco’s Battleboro Plant is located in Battleboro, NC, and is near the city of Rocky Mount, NC. The NAACP estimates that 4,370 people live within three miles of the Battleboro plant, of whom a significant majority – 67.2% – are people of color.<sup>138</sup>

As of the 2010 Census, Battleboro’s (or at least the 27809 zip code’s) population was 5,091, and is a majority African-American community: 45.8% of residents are White, 49.8% are Black, 0.8% are American Indian, 0.2% are Asian, and 3.6% are Hispanic or Latino (of any race).<sup>139</sup> Rocky Mount’s 2010 Census population was 57,477, and is also a majority African-American community: 33.5% of residents are White, 61.3% are Black, 0.6% are American Indian, 1.0% are Asian, and 3.7% are Hispanic or Latino (of any race).<sup>140</sup>

Battleboro is located on the borders of Edgecombe and Nash Counties. Rocky Mount likewise is located in both Edgecombe and Nash Counties. Nash County’s 2010 Census population was 95,840, of whom 45% are racial or ethnic minorities.<sup>141</sup> Edgecombe County’s 2010 Census population was 56,552, the majority of whom – 61.6% – are racial or ethnic minorities.<sup>142</sup>

In terms of income demographics, Battleboro (or at least the 27809 zip code) has a per capita income of \$23,910, and a poverty rate of 16.2%.<sup>143</sup> Rocky Mount has a per capita income of only \$20,236, and a high poverty rate of 19.6%.<sup>144</sup> Nash County has a per capita income of \$23,056, and a poverty rate of 17.8%.<sup>145</sup> Edgecombe County fares the worst among these cities and counties, with a median household income of \$33,892, a median family income of \$41,748,

<sup>133</sup> *Id.* at [http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14\\_5YR/DP03/0500000US37033](http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14_5YR/DP03/0500000US37033).

<sup>134</sup> NAACP, *Coal Blooded – Putting Profits Before People* at 78, Appendix 1.

<sup>135</sup> CENSUS.GOV, Quick Facts at <http://quickfacts.census.gov/qfd/states/37000.html>.

<sup>136</sup> NAACP, *Coal Blooded – Putting Profits Before People* at 78, Appendix 1.

<sup>137</sup> *Supporting Basis* at B-139.

<sup>138</sup> NAACP, *Coal Blooded – Putting Profits Before People* at 65, Appendix 1.

<sup>139</sup> *American Fact Finder* at [http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10\\_DP/DPDP1/8600000US27809](http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10_DP/DPDP1/8600000US27809).

<sup>140</sup> *Id.* at [http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10\\_DP/DPDP1/1600000US3757500](http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10_DP/DPDP1/1600000US3757500).

<sup>141</sup> *Id.* at [http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10\\_DP/DPDP1/0500000US37127](http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10_DP/DPDP1/0500000US37127).

<sup>142</sup> *Id.* at [http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10\\_DP/DPDP1/0500000US37065](http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10_DP/DPDP1/0500000US37065).

<sup>143</sup> *Id.* at [http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14\\_5YR/DP03/8600000US27809](http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14_5YR/DP03/8600000US27809).

<sup>144</sup> *Id.* at [http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14\\_5YR/DP03/1600000US3757500](http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14_5YR/DP03/1600000US3757500).

<sup>145</sup> *Id.* at [http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14\\_5YR/DP03/0500000US37127](http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14_5YR/DP03/0500000US37127).

a per capita income of only \$17,652, and a poverty rate of over one in four – 25.3%.<sup>146</sup> The NAACP estimates that the average income of persons living within three miles from the Battleboro plant is only \$11,735. All told, the per capita incomes for these towns and counties fall below North Carolina’s average income of \$25,284.<sup>147</sup>

DAQ’s decision that BSER for Units 1 and 2 at Edgecombe Genco’s Battleboro Plant is “no action” will very likely adversely impact the health and livelihood of those who live in the closest vicinity to the plant. The NAACP has estimated that between 2007 and 2010, the Battleboro plant emitted an average of 4,864 tons of SO<sub>2</sub>, and 2,964 tons of NO<sub>x</sub>.<sup>148</sup> This is in addition to the annual 79,170 metric tons of CO<sub>2</sub> emitted by each unit.<sup>149</sup>

#### vi. Westmoreland Partners – Roanoke Valley Energy Facility I & II

Westmoreland Partners’ Roanoke Valley Energy Facility (I & II) is located near the towns of Weldon, Roanoke Rapids, and Garysburg, NC. The NAACP estimates that there are 15,693 people living within three miles of the plant, of whom 42.1% are people of color.<sup>150</sup>

As of the 2010 Census, Weldon’s population was 1,655, of whom a significant majority are African-American: 25.4% of residents are White, 70.7% are Black, 0.3% are American Indian, 0.4% are Asian, and 1.1% are Hispanic or Latino (of any race).<sup>151</sup> Roanoke Rapids is the largest community adjacent to the Roanoke Valley Energy facility, with a 2010 Census population of 15,754, of whom 36.7% are racial or ethnic minorities.<sup>152</sup> Garysburg is the smallest of these three communities, and is overwhelmingly African-American, with a 2010 Census population of 1,057, of whom only 2.4% are White, 95.4% are Black, 0.9% are American Indian, and 0.8% are Hispanic or Latino (of any race).<sup>153</sup>

The Roanoke Valley Energy Facility is located in Halifax County, as are the communities of Weldon and Roanoke Rapids. Garysburg is located in neighboring Northampton County. As of the 2010 Census, Halifax County’s population was 54,691, of whom a majority – 59.8% – are people of color.<sup>154</sup> Northampton County’s 2010 Census population was 22,099, of whom 60.5% are racial or ethnic minorities.<sup>155</sup>

In terms of income demographics, these towns and counties are some of the poorest areas in North Carolina. Weldon’s median household income is \$36,417, its median family income is \$48,750, its per capita income is \$21,620, and its poverty rate is 23.7%.<sup>156</sup> Roanoke Rapids has

<sup>146</sup> *Id.* at [http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14\\_5YR/DP03/0500000US37065](http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14_5YR/DP03/0500000US37065).

<sup>147</sup> CENSUS.GOV, Quick Facts at <http://quickfacts.census.gov/qfd/states/37000.html>.

<sup>148</sup> NAACP, *Coal Blooded – Putting Profits Before People* at 65, Appendix 1.

<sup>149</sup> *Supporting Basis* at B-176.

<sup>150</sup> NAACP, *Coal Blooded – Putting Profits Before People* at 66, Appendix 1.

<sup>151</sup> *American Fact Finder* at

[http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10\\_DP/DPDP1/1600000US3771780](http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10_DP/DPDP1/1600000US3771780).

<sup>152</sup> *Id.* at [http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10\\_DP/DPDP1/1600000US3756900](http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10_DP/DPDP1/1600000US3756900).

<sup>153</sup> *Id.* at [http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10\\_DP/DPDP1/1600000US3725540](http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10_DP/DPDP1/1600000US3725540).

<sup>154</sup> *Id.* at [http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10\\_DP/DPDP1/0500000US37083](http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10_DP/DPDP1/0500000US37083).

<sup>155</sup> *Id.* at [http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10\\_DP/DPDP1/0500000US37131](http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10_DP/DPDP1/0500000US37131).

<sup>156</sup> *Id.* at [http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14\\_5YR/DP03/1600000US3771780](http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14_5YR/DP03/1600000US3771780).

slightly higher median household and median family incomes – \$36,477 and \$54,609, respectively – but has a lower per capita income of only \$20,042, as well as a comparable poverty rate of 23%.<sup>157</sup> Garysburg is significantly poorer than both Weldon and Roanoke Rapids, with a median household income of only \$18,583, a median family income of only \$24,886, a shockingly low per capita income of \$12,601, and an astoundingly high poverty rate of 40.0%.<sup>158</sup>

Halifax and Northampton Counties do not fare much better than Weldon, Roanoke Rapids, and Garysburg in terms of income demographics. Halifax County’s per capita income is only \$18,728, and its poverty rate is 25.8%.<sup>159</sup> Northampton County’s per capita income is \$18,546, and its poverty rate is more than one in four – 26.2%.<sup>160</sup> The NAACP estimates that the average income of persons living within three miles from the Roanoke Valley Energy Facility is \$15,339.<sup>161</sup> All told, Weldon, Roanoke Rapids, Garysburg, Halifax County, and Northampton County all have lower per capita incomes than the North Carolina average of \$25,284.<sup>162</sup>

DAQ’s decision that BSER for Westmoreland Partners’ Roanoke Valley Energy Facilities I and II is “no action” will very likely adversely impact the health and livelihood of those who live in the closest vicinity to the plant. The NAACP has estimated that between 2007 and 2010, the Roanoke Valley facility emitted an annual average of 8,707 tons of SO<sub>2</sub>, and 1,620 tons of NO<sub>x</sub>. This is in addition to the Roanoke Valley Energy Facility I’s annual 1,022,143 metric tons of CO<sub>2</sub> emissions and Roanoke Valley Energy Facility II’s annual 354,830 metric tons of CO<sub>2</sub> emissions.<sup>163</sup>

### **C. The Proposed Rule’s “No Action” Decisions will Adversely Impact Public Health in the Communities Adjacent to the EGUs**

The communities and counties outlined *supra* in subsection B of this section are among the most economically and politically marginalized areas in North Carolina. The people living in these areas very often lack the funds and tools to influence policy decisions with regards to public health and environmental quality. Simply put, many of the environmental risks and harms that burden these communities would never occur (i.e. would cause a political firestorm if implemented) in predominantly white, middle class neighborhoods. The State of North Carolina cannot turn a blind eye to the significant environmental and public health impacts thrust upon low-income and minority communities by fossil fuel-fired electricity generation. These communities disproportionately bear the overlooked consequences of cheap, easily accessible electricity, and should not be forced to shoulder such devastating health hazards simply because they are the least capable of influencing high-level state decision-making.

Climate change is an environmental justice issue. As EPA correctly notes in the CPP, “[l]ow-income communities and communities of color already overburdened by pollution are

<sup>157</sup> *Id.* at [http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14\\_5YR/DP03/1600000US3756900](http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14_5YR/DP03/1600000US3756900).

<sup>158</sup> *Id.* at [http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14\\_5YR/DP03/1600000US3725540](http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14_5YR/DP03/1600000US3725540).

<sup>159</sup> *Id.* at [http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14\\_5YR/DP03/0500000US37083](http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14_5YR/DP03/0500000US37083).

<sup>160</sup> *Id.* at [http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14\\_5YR/DP03/0500000US37131](http://factfinder.census.gov/bkmk/table/1.0/en/ACS/14_5YR/DP03/0500000US37131).

<sup>161</sup> NAACP, *Coal Blooded – Putting Profits Before People* at 66, Appendix 1.

<sup>162</sup> CENSUS.GOV, Quick Facts at <http://quickfacts.census.gov/qfd/states/37000.html>.

<sup>163</sup> *Supporting Basis* at B-167.

disproportionately affected by climate change and are less resilient than other to adapt to or recover from climate change impacts”.<sup>164</sup> It has been well documented that the communities in closest proximity to fossil fuel-fired power plants are disproportionately low-income and/or minority communities.<sup>165</sup>

In addition to the well-established connection between low-income and/or minority communities and proximity to coal-fired power plants, there is “no shortage of data to show that individuals living near a coal plant are at higher risk for health problems than those who do not live near a plant.”<sup>166</sup> Coal-fired power plants emit 84 of the 187 hazardous air pollutants identified by EPA as “posing a threat to human health and the environment.”<sup>167</sup> Additionally, fossil fuel-fired power plants contribute “[a]bout 60 percent of sulfur dioxide emissions, 50 percent of mercury emissions, and 13 percent of nitrogen dioxide emissions” in the US.<sup>168</sup>

The health impacts stemming from living near a fossil fuel-fired power plant (particularly coal-fired power plants) are numerous, severe, and potentially fatal. Adverse health impacts result from exposure to nitrogen oxide (NOx) emissions, sulfur dioxide (SO<sub>2</sub>) emissions, particulate matter emissions, mercury consumption (via consuming mercury contaminated fish); not to mention the climate-related health and livelihood impacts stemming from carbon dioxide emissions (manifesting through heat waves, droughts, floods, food insecurity, water insecurity, etc).<sup>169</sup> Health complications range from eye, nose and throat irritation, asthma, lung disease, cardiovascular disease, mercury-related sicknesses such as developmental defects and delayed

<sup>164</sup> CPP, 80 F.R. 205 at 64670.

<sup>165</sup> See *id.* (“The EPA analyzed the communities in closest proximity to power plants and found that they include a higher percentage of communities of color and low-income communities than national averages”). See also Diane Toomey, *Coal Pollution and the Fight for Environmental Justice*, (June 19, 2013), [http://e360.yale.edu/feature/naacp\\_jacqueline\\_patterson\\_coal\\_pollution\\_and\\_fight\\_for\\_environmental\\_justice/2664/](http://e360.yale.edu/feature/naacp_jacqueline_patterson_coal_pollution_and_fight_for_environmental_justice/2664/) (Noting that “[t]hirty-nine percent of the people living near coal-fired power plants are people of color... Seventy-eight percent of African Americans live within 30 miles of a coal-fired power plant”). See also NAACP, *Coal Blooded – Putting Profits Before People* at 15 (2012), <http://www.naacp.org/page/-/Climate/CoalBlooded.pdf> (“[n]early six million Americans live within three miles of a coal power plant... coal power plants tend to be disproportionately located in low-income communities and communities of color: people who live within three miles of a coal power plant have an average per capita income of \$18,400 which is lower than the US average of \$21,587; among those living within three miles of a coal power plant, 39 percent are people of color – a figure that is higher than the 36 percent proportion of people of color in the total US population”).

<sup>166</sup> ENERGY JUSTICE NETWORK, *Coal: Dangerous Power*, <http://www.energyjustice.net/coal>.

<sup>167</sup> U.S. NATIONAL LIBRARY OF MEDICINE, *Coal-Fired Power Plants, Why are Coal-Fired Power Plants a Concern?* (last updated Oct. 13, 2015), [http://toxtown.nlm.nih.gov/text\\_version/locations/php?id=155](http://toxtown.nlm.nih.gov/text_version/locations/php?id=155).

<sup>168</sup> *Id.*

<sup>169</sup> See Ariel Howoritz, Sarah Jackson, et al., *Environmental Justice and the Clean Power Plan* at 1 (December 2015), <http://www.synapse-energy.com/sites/default/files/EJ-Factsheet.pdf> (“EPA recognizes that smoke stack emissions pose health and safety risks to communities in the immediate vicinity of a power plant... These neighboring populations bear the brunt of many direct health impacts caused by power plant emissions, including asthma, lung disease, heart disease, and premature death due to high local concentrations of particulate matter, NOx, and SO<sub>2</sub>”). See also Erica Burt, Peter Orris, et al., *Scientific Evidence of Health Effects From Coal Use in Energy Generation*, UNIVERSITY OF ILLINOIS AT CHICAGO SCHOOL OF PUBLIC HEALTH at 2 (April 2013), [http://noharm.org/lib/downloads/climate/Coal\\_Literature\\_Review\\_2.pdf](http://noharm.org/lib/downloads/climate/Coal_Literature_Review_2.pdf) (“Air pollution produced by coal combustion in power plants can affect the respiratory and cardiovascular system as well as cause abnormal neurological development in children, poor growth of the fetus before birth, and can cause cancer”).

neurodevelopment in children, and cancer.<sup>170</sup> The low-income and/or minority communities who reside in closest proximity to fossil fuel-fired power plants generally disproportionately feel these impacts.<sup>171</sup>

Due to the well-documented connection between a whole suite of adverse health impacts and living in close proximity to fossil fuel-fired power plants (particularly coal-fired plants), DAQ’s decision that BSER for 14 of the 24 affected coal-fired EGUs in North Carolina is to take “no action” will adversely impact the health of the communities who reside closest to these facilities.

This conclusion is buttressed by the fact that several North Carolina’s power plants are included on a list of the 100 most heavily polluting power plants in the United States, compiled by Environment North Carolina. Overall, the 2014 study estimates North Carolina’s energy power sector’s annual CO<sub>2</sub> emissions to be approximately 55.7 million metric tons,<sup>172</sup> not far off EPA’s 2012 “baseline” annual emission estimate of 58,566,353 short tons.<sup>173</sup> Specifically, three North Carolina plants make the top-100 list – #12 Duke Energy Roxboro (where Unit 1 is slated to receive “no action” under the proposed rule), #18 Duke Energy Belews Creek (where BSER measures under the proposed rule will result in a mere cumulative 1.083% annual reduction in CO<sub>2</sub> emissions from Units 1 and 2), and #47 Duke Energy Marshall (where BSER measures under the proposed rule will result in a cumulative 1.857% annual reduction from Units 1 through 4).<sup>174</sup> Both Duke Energy Roxboro (where BSER for Unit 1 is “no action”) and Duke Energy Mayo (where BSER for Unit 1 [1A & 1B] is “no action”) are among North Carolina’s top 5 most polluting power plants.<sup>175</sup>

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<sup>170</sup> See Erica Burt, Peter Orris, et al., *Scientific Evidence of Health Effects From Coal Use in Energy Generation*, UNIVERSITY OF ILLINOIS AT CHICAGO SCHOOL OF PUBLIC HEALTH at 2, 6, 8 (April 2013), [http://noharm.org/lib/downloads/climate/Coal\\_Literature\\_Review\\_2.pdf](http://noharm.org/lib/downloads/climate/Coal_Literature_Review_2.pdf). See also PHYSICIANS FOR SOCIAL RESPONSIBILITY, *Coal-Fired Power Plants: Understanding the Health Costs of a Dirty Energy Source*, <http://www.psr.org/assets/pdfs/coal-fired-power-plants.pdf> (“Particulate matter is, perhaps the most harmful pollutant produced by coal-fired power plants...Inhaling particulate matter can result in a wide range of adverse health effects, including asthma attacks, lung tissue damage, stroke, heart attack and premature death”).

<sup>171</sup> See ENERGY JUSTICE NETWORK, *Coal: Dangerous Power*, <http://www.energyjustice.net/coal> (“In the United States, coal’s health risks affect African Americans more severely than whites, largely because a large portion of African Americans live close to coal plants and coal waste dumps. Sixty-eight percent of African Americans live within 30 miles of a coal plant, as opposed to 56 percent of whites and though African Americans comprise 13 percent of the US population, they account for 17 percent of the population living within 5 miles of a power plant waste site[.]. Asthma attacks triggered by exposure to above-average pollution levels send African Americans to the emergency room at three times the rate of whites. Hospitalizations and deaths from asthma are also higher among African Americans...”).

<sup>172</sup> Jordan Schneider and Julian Boggs, *America’s Dirtiest Power Plants: Polluters on a Global Scale*, at 25, Table A-1, ENVIRONMENT NORTH CAROLINA (September 2014), [http://environmentnorthcarolinacenter.org/sites/environment/files/reports/NC\\_Dirtiest\\_power\\_plants\\_scrn\\_0.pdf](http://environmentnorthcarolinacenter.org/sites/environment/files/reports/NC_Dirtiest_power_plants_scrn_0.pdf).

<sup>173</sup> U.S. EPA, *Clean Power Plan: State at a Glance, North Carolina* (Updated August 03, 2015), <http://www3.epa.gov/airquality/cpptoolbox/north-carolina.pdf>.

<sup>174</sup> See Jordan Schneider and Julian Boggs, *America’s Dirtiest Power Plants: Polluters on a Global Scale*, at 26 – 27, Table A-2. Emission reduction percentage figures were obtained from DAQ’s *Supporting Basis* by dividing the expected amount of emission reduction from the selected BSER measures by the 2012 baseline annual emissions.

<sup>175</sup> *Id.* at 33, Table A-3, “Share of Each State’s Electricity-Sector Carbon Dioxide Pollution Contributed by the Top 5 Most-Polluting Power Plants”.

These figures are corroborated by an NAACP study examining 378 coal-fired power plants across the United States. The study gives each power plant an “Environmental Justice Performance Ranking” letter grade – i.e. “how [each plant] affects low-income communities and communities of color.”<sup>176</sup> For North Carolina coal-fired power plants, three receive an “F” rating – Edgecombe Genco’s Battleboro Plant (set to receive “no action” under the Proposed Rule), Progress Energy’s now-offline Lumberton Power Plant (not included in the Proposed Rule since it does not meet the applicability criteria under 40 CFR 60.5850(a)(3)), and Westmoreland’s Roanoke Valley Energy Facility (set to receive “no action” under the Proposed Rule).<sup>177</sup> Duke Energy’s Mayo Electric Generating Plant received a C- rating (BSER for Unit 1 [1A & 1B] is “no action”), and Duke Energy’s Belews Creek received a C+ rating (where BSER measures under the proposed rule only result in a cumulative 1.083% annual reduction in CO<sub>2</sub> emissions from Units 1 and 2).<sup>178</sup>

DAQ’s final rule must be revised to safeguard the public health, wellbeing, and environmental quality of the most economically and politically marginalized communities throughout the state. This can be accomplished through implementing all three Building Blocks in the final rule, with particular emphasis on Building Block 3 – substituting new renewable energy generation for existing fossil fuel-fired generation. It is a grim reality that we as a culture readily shrug off the fact that hundreds of thousands of low-income and minority people are burdened with severe, even life-threatening, health complications in exchange for our modern ultra-availability of electricity. The state of North Carolina must act swiftly in aid of its most disenfranchised and vulnerable citizens.

#### **D. Full Implementation of the CPP Will Benefit Low-Income & Minority Communities in the Form of Lower Utility Rates**

Irrespective of the health-related benefits that would be realized if DAQ implemented emission control measures at the 14 affected EGUs discussed in this Section, North Carolina’s full implementation of the CPP – that is, utilizing a plan that encompasses all three building blocks – would benefit low-income and minority communities in the form of lower utility rates. Contrary to statements from Governor McCrory<sup>179</sup> and other EPA opponents, the Clean Power Plan is expected to *lower* utility rates here in North Carolina, not raise them.

One need only look to the impact of North Carolina’s wildly successful Renewable Energy Portfolio Standards (REPS) on utility prices in the state to realize that the higher amount of renewable generation incentivized by the CPP will not raise utility rates. In a February 2015 study on the Economic and Rate Impact of North Carolina’s REPS, Research Triangle Park-based RTI International found that “[o]ver the 21-year period since the start of clean energy policies in North Carolina, *rates are expected to be lower than they would have been had the*

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<sup>176</sup> NAACP, *Coal Blooded – Putting Profits Before People* at 9.

<sup>177</sup> *Id.* at 65 – 66, Appendix 1.

<sup>178</sup> *Id.* at 72, 76, respectively.

<sup>179</sup> GOVERNOR.NC.GOV, *Governor McCrory Criticizes Overreaching Regulations That Will Raise Consumer Power Bills* (Aug. 3, 2015), [www.governor.nc.gov/press-release/governor-mccrory-criticizes-overreaching-regulations-will-raise-consumer-power-bills](http://www.governor.nc.gov/press-release/governor-mccrory-criticizes-overreaching-regulations-will-raise-consumer-power-bills).

state continued to only use existing, conventional generation sources.”<sup>180</sup> Between 2007 and 2014, the value of renewable energy generation in North Carolina was estimated to be \$3,472.8 Million (\$3.4728 Billion).<sup>181</sup> These renewable energy projects, from 2007 to 2014, contributed to \$3,167.5 Million (\$3.1675 Billion) to North Carolina’s Gross State Product (GSP), 26,667 full time employment opportunities, and \$280.7 million in state and local tax revenue.<sup>182</sup>

RTI International’s report also ran a comparison on utility rates between two energy policy scenarios: a “Compliance Portfolio”, representing a scenario in which “existing clean energy policies are in place throughout the study period”, and a “Conventional Portfolio”, representing a scenario in which “only the energy policies prior to 2007 are in place.”<sup>183</sup> This study analyzed utility rate impacts from these two scenarios from 2008 to 2029.<sup>184</sup> Unsurprisingly, the clean energy “Compliance Portfolio” significantly outperformed the “Conventional Portfolio” with respect to utility rates.<sup>185</sup> Namely, the Compliance Portfolio produces a steadily-growing savings trend on utility rates compared to the Conventional Portfolio between 2008 and 2014, and between 2022 and 2029.<sup>186</sup> All told, the “net present value” of the Compliance Portfolio’s savings on utility rates compared to the Conventional Portfolio is 0.46 cents per kWh.<sup>187</sup>

It should be noted that the degree to which this RTI report is correct in concluding that North Carolina’s REPS will lower utility rates depends in part on what one predicts future natural gas prices, carbon prices, and the like will be in the future. Namely, the RTI report assumes for the purposes of its analysis (comparing the Compliance Portfolio with the Conventional Portfolio) that gas prices are \$3.73/mmBtu.<sup>188</sup> Currently, natural gas prices are hovering around \$2.40/mmBtu, and there are natural gas futures contracts in 2025 trading for \$2.75/mmBtu.<sup>189</sup> Nevertheless, a diverse energy portfolio like that modeled by the “Compliance Portfolio” is more likely than not beneficial for (or better for) ratepayers in the long run, because it mitigates exposure to natural gas prices if they happen to rise or return to past volatility.

Aside from North Carolina’s success in saving money, generating jobs, and lowering utility rates with its REPS, full compliance with the CPP is expected to *lower*, rather than raise,

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<sup>180</sup> RTI International, *Economic and Rate Impact Analysis of Clean Energy Development in North Carolina – 2015 Update* at ES-2 (February 2015),

[http://c.ymcdn.com/sites/www.energync.org/resource/resmgr/Resources\\_Page/RTI\\_2015.pdf](http://c.ymcdn.com/sites/www.energync.org/resource/resmgr/Resources_Page/RTI_2015.pdf)

<sup>181</sup> *Id.* at 2-1.

<sup>182</sup> *Id.* at 2-13.

<sup>183</sup> *Id.* at 3-1.

<sup>184</sup> *Id.*

<sup>185</sup> *Id.* at 3-13, Figure 3-4 “Rate Impact of Compliance Portfolio in Cents per kWh Compared with Conventional Portfolio”.

<sup>186</sup> *Id.*

<sup>187</sup> *Id.* See also *id.* at 3-14 (Concluding that “the use of existing resources and the addition of least-cost resources in a Compliance Portfolio results in savings over time when compared to the Conventional Portfolio. While significant in absolute dollars, *the savings result in a small reduction in the electricity rates. Even though the savings are small, the North Carolina REPS has a positive impact on electric ratepayers under the assumptions outlined in this analysis*”) (emphasis added).

<sup>188</sup> *Id.* at 3-10, Table 3-4, Levelized Cost Assumptions for 2013 (Nominal Dollars).

<sup>189</sup> See CME GROUP, *Henry Hub Natural Gas Futures Quotes*, [www.cmegroup.com/trading/energy/natural-gas/natural-gas.html](http://www.cmegroup.com/trading/energy/natural-gas/natural-gas.html).

utility rates in the state. This is due to a combination of two factors: (1) the ability of states to sell or trade unused compliance credits to other states in order to comply with the emission reductions guidelines in the CPP, and (2) the nature of public utility regulation in North Carolina.

First, under the regulatory regime set up by the CPP, states have the ability to utilize a “mass-based trading” program for reducing CO<sub>2</sub> emissions from their affected EGUs.<sup>190</sup> Under a mass-based emission program, states adopt plans designed to achieve EPA’s articulated Mass-Based CO<sub>2</sub> emission goal for that state – which sets forth a series of sequential total annual average CO<sub>2</sub> emissions the state must achieve between 2022 and 2029, and after 2030.<sup>191</sup> For example, North Carolina’s Mass-Based Goals are as follows: Interim Step 1 (2022 – 2024) = 60,975,831 short tons CO<sub>2</sub>; Interim Step 2 (2025 – 2027) = 55,749,239 short tons CO<sub>2</sub>; Interim Step 3 (2028 – 2029) = 52,856,495 short tons CO<sub>2</sub>; and the Final Goal for 2030 and beyond is 51,266,234 short tons CO<sub>2</sub>.<sup>192</sup>

A state that selects a mass-based approach has the option of utilizing a “market-based emission budget trading program”, in addition to the various Building Block emission control measures, in order to achieve its mass-based goals.<sup>193</sup> This trading program functions by EPA allocating to states so-called “emission allowances” in an amount “up to the [state’s] established emission budget”.<sup>194</sup> These allowances can be traded (i.e. sold) among affected sources and other states according to their relative need for emission allowances. EPA notes that the mass-based trading program is “a highly efficient, market-based approach for reducing CO<sub>2</sub> emissions from affected EGUs” since it places a limit on mass CO<sub>2</sub> emissions and provides short and long term price signals so that states can determine the most efficient means allocating their allowances and achieving their emission goals.<sup>195</sup>

The reason why full implementation of the CPP in North Carolina will very likely result in lower utility rates for consumers is two-pronged. First, EPA projects that North Carolina will have a very low cost of compliance (to the emission standards set forth in the CPP), relative to other states.<sup>196</sup> This puts North Carolina in a perfect position to be able to sell its emission allowances to other states at a profit, should North Carolina opt to implement a mass-based emission goal and related mass-based trading program. Since North Carolina’s cost of compliance with the CPP is lower than that of other states, North Carolina will thus be heavily incentivized to opt for a mass-based approach and to engage in emission allocation trading.

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<sup>190</sup> CPP, 80 F.R. 205 at 64666.

<sup>191</sup> *Id.* at 64834 (Noting that under a mass-based approach “the [state] plan would include federally enforceable emission standards for mass CO<sub>2</sub> emissions from affected EGUs. The plan would be designed to achieve the mass-based goal for a state’s affected EGUs or a level of CO<sub>2</sub> emissions equal to or less than the mass-based CO<sub>2</sub> goal plus the new source complement CO<sub>2</sub> emissions).

<sup>192</sup> U.S. EPA, *Clean Power Plan: State at a Glance, North Carolina* (Updated August 03, 2015), <http://www3.epa.gov/airquality/cpptoolbox/north-carolina.pdf>.

<sup>193</sup> CPP, 80 F.R. 205 at 64834.

<sup>194</sup> *Id.* at 64835.

<sup>195</sup> *Id.*

<sup>196</sup> *See generally*, U.S. EPA, *Analysis of the Clean Power Plan* (Last Updated December 8, 2015), [www.epa.gov/airmarkets/analysis-clean-power-plan](http://www.epa.gov/airmarkets/analysis-clean-power-plan).

Second, if North Carolina does opt to implement a mass-based approach and related mass-based trading program (which it will be heavily incentivized to do), based on the structure of North Carolina’s public utility laws, any profits obtained from the mass-based trading program *must* be allocated back to ratepayers in the form of lower utility bills. Namely, North Carolina General Statute Chapter 62-2 – articulating the policy of public utility regulation in North Carolina – maintains that the state must:

assure that resources necessary to meet future growth...include use of the entire spectrum of demand-side options, including but not limited to conservation, load management and efficiency programs, as additional sources of energy supply and/or energy demand reductions. *To that end, to require energy planning and fixing of rates in a manner to result in the least cost mix of generation and demand-reduction measures which is achievable, including consideration of appropriate rewards to utilities for efficiency and conservation which decrease utility bills.*<sup>197</sup>

Therefore, on the basis of this statutory requirement that the state, acting through the North Carolina Utilities Commission, must ensure that utility regulation is carried out in a “least cost” manner to benefit consumers, and the fact that North Carolina is anticipated to profit from selling its unused emission allowances under a mass-based trading program, such profits are required to be re-invested as credits to consumers / ratepayers – leading to reduced utility bills.

It is thus in the state’s best interest, and in the best interest of North Carolina ratepayers (particularly low-income ratepayers) to fully comply the CPP – through a mass-based approach.

**V. THE LANGUAGE IN 15A NCAC 02D .2701(f) GIVES THE STATE OF NORTH CAROLINA A PERVERSE INCENTIVE TO CHALLENGE THE CLEAN POWER PLAN, RATHER THAN TO COMPLY WITH IT**

Section .2701(f) of the Proposed Rule contains what can be characterized as an “opt out provision”. Section .2701(f) maintains that:

[i]n the event all or any portion of 40 CFR 60 Subpart UUUU containing the [CPP’s emission reduction] guidelines is: (1) Declared or adjudged to be invalid or unconstitutional or stayed by the United States Court of Appeals for the Fourth Circuit, by the District of Columbia Circuit, or by the United States Supreme Court: or (2) Withdrawn, repealed, revoked or otherwise rendered of no force and effect by the United States Environmental Protection Agency, Congress, or Presidential Executive Order. *Such action shall render the regulation as incorporated herein, or that portion thereof that may be affected by such action, as invalid, void, stayed, or otherwise without force and effect for purposes of this rule upon the date such action becomes final and effective; provided, further, that such declaration, adjudication, stay, or other action described herein shall not affect the remaining portions, if any, of the regulation as incorporated herein, which shall remain of full force and effect as if such portion so declared or*

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<sup>197</sup> N.C.G.S. §62-2(a)(3a) (emphasis added).

adjudged invalid or unconstitutional or stayed or otherwise invalidated or effected were not originally a part of this rule...<sup>198</sup>

Essentially, Section .2701(f) allows DEQ / DAQ to void portions of the proposed rule should the Federal Greenhouse Gas Emission Guidelines for Fossil Fuel-Fired EGUs be struck down in court, or withdrawn by either EPA, Congress, or the President. While this does not initially seem all that unreasonable Section .2701(f) is not as benign as it seems at first glance.

Specifically, Section .2701(f)'s troubling nature is understood only in light of the fact that North Carolina has joined 23 other states, led by West Virginia, in suing the Environmental Protection Agency in order to block the implementation of the CPP.<sup>199</sup> This fact makes one wonder whether the language in Section .2701(f) was included in the hopes that West Virginia's case against the EPA is actually successful – which would result in the invalidation of the emissions reduction provisions of the Proposed Rule.

The language in Section .2701(f) thus provides DEQ with a perverse incentive – it encourages DEQ to commit its efforts to the lawsuit against EPA, rather than towards developing a State Action Plan that will be accepted by EPA. Indeed, the Proposed Rule's expected CO<sub>2</sub> emission reduction of 0.4% per year from the 2012 emission baseline is so far behind EPA's goal for North Carolina of a 36% reduction in CO<sub>2</sub> emissions from the 2012 baseline by 2030 as to be laughable. If submitted as is, EPA will almost certainly reject the Proposed Rule.<sup>200</sup>

The multiple deficiencies with the Proposed Rule, as identified above, in addition to the Proposed Rule's paltry impact on CO<sub>2</sub> emissions, makes one wonder whether the Proposed Rule was written entirely so that it could be rejected by EPA in order to provide DEQ with “ammunition” in the ongoing lawsuit against the EPA. The DEQ and the McCrory

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<sup>198</sup> N.C. Department of Environmental Quality, *Standards of Performance for Existing Electric Utility Generating Units Under Clean Air Act Section 111(d)*, 15A NCAC 02D .2701(f)(1)–(2) (2015), available at: <http://daq.state.nc.us/rules/hearing/111dRules.pdf> (emphasis added).

<sup>199</sup> See Petition for Review, *West Virginia, et al. v. EPA*, No. 15-1363 (October 23, 2015), available at: <http://www.ago.wv.gov/publicresources/epa/Documents/File-stamped%20petition%2015-1363%20%28M0108546xCECC6%29.pdf> (Listing the State of North Carolina Department of Environmental Quality as a Petitioner and maintaining that, “Petitioners will show that the final rule [CPP] is in excess of the agency's [EPA's] statutory authority, goes beyond the bounds set by the United States Constitution, and otherwise is arbitrary, capricious, an abuse of discretion and not in accordance with law. Accordingly, Petitioners ask the Court to hold unlawful and set aside the rule and to order other such relief as may be appropriate”). See also Department of Environmental Quality, *DEQ and 22 States Challenge Federal Power Grab That Will Increase Energy Costs*, [http://portal.ncdenr.org/c/journal/view\\_article\\_content?groupId=4711509&articleId=26547389](http://portal.ncdenr.org/c/journal/view_article_content?groupId=4711509&articleId=26547389) (October 23, 2015) (“The N.C. Department of Environmental Quality, or DEQ, announced today that the McCrory administration, along with attorneys general from 22 other states, filed a lawsuit challenging the Obama Administration's Clean Power Plan”).

<sup>200</sup> See NC DEQ, *Air Quality Committee & Environmental Management Commission Meeting, November 4 & 5, 2015 – Powerpoint Presentation*, Slide 18, available at: <http://daq.state.nc.us/rules/draft/> (Slide 18, “Rule Fiscal Impact Summary” notes that the Cumulative Reduction in CO<sub>2</sub> emissions under the Proposed Rule is predicted to be 191,826 tons per year, or 0.4% per year, relative to the 2012 baseline). See US EPA, *Clean Power Plan: State at a Glance – North Carolina*, <http://www3.epa.gov/airquality/cpptoolbox/north-carolina.pdf> (August 03, 2015) (Noting that North Carolina's 2012 baseline CO<sub>2</sub> emission rate was 1,780 lbs CO<sub>2</sub> per net MWh, and that North Carolina's Final Emission Rate Goal for 2030 under the CPP is 1,136 lbs CO<sub>2</sub> per net MWh. This equates to a 36.1% reduction from 2012 baseline levels by 2030: 1,780 – 1,136 = 644; [644 / 1,780] x 100 = 36.18%).

administration should invest their time, efforts, and taxpayer money towards developing a Proposed Rule that will secure a sustainable and renewable energy future for North Carolina, rather than wasting it on petty political maneuvering and attempting to bait EPA in support of their precarious legal arguments against the CPP.

### CONCLUSION

Climate Change is too important of a problem to politicize. Climate Change is primarily driven by the combustion of fossil fuels for energy/electricity generation<sup>201</sup> – and any meaningful attempt to address climate change must absolutely address, and drastically reduce, CO<sub>2</sub> emissions from fossil-fuel fired power plants.<sup>202</sup>

Fossil fuel combustion accounted for nearly three-quarters of anthropogenic GHG emissions increase witnessed during the 40-year period (1970 – 2010) in which nearly HALF of humanity’s cumulative emissions – since the beginning of the Industrial Revolution – occurred. The link between fossil fuel combustion and climate change is unmistakable and is to be ignored at our own peril. It is unavoidable that any meaningful attempt to address climate change must significantly reduce fossil fuel combustion.<sup>203</sup>

The impacts of climate change are multi-faceted, complex, compounding, and non-linear.<sup>204</sup> Furthermore, the more warming the climate experiences, the more likely we are to

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<sup>201</sup> See United States Environmental Protection Agency, SOURCES OF GREENHOUSE GAS EMISSIONS (Last Updated July 2, 2014), <http://www.epa.gov/climatechange/ghgemissions/sources/electricity.html> (Noting that, in 2012, electricity generation in the US contributed to 32% of the nation’s GHG emissions. The “industry” sector contributed 20% of US GHG emissions over the same period while the “transportation” sector contributed 28% of US GHG emissions.)

<sup>202</sup> See IPCC, *Climate Change: Climate Change 2014, Fifth Assessment Synthesis Report – Summary For Policymakers, Longer Report* at 4, available at [http://www.ipcc.ch/pdf/assessment-report/ar5/syr/SYR\\_AR5\\_LONGERREPORT.pdf](http://www.ipcc.ch/pdf/assessment-report/ar5/syr/SYR_AR5_LONGERREPORT.pdf) (“Between 1750 and 2011, cumulative anthropogenic CO<sub>2</sub> emissions into the atmosphere were 2040 [plus or minus] 310 [gigatonnes] CO<sub>2</sub>. About 40% of these emissions have remained in the atmosphere...”). See also *id.* (Noting that about half of the total anthropogenic CO<sub>2</sub> emissions between 1750 and 2011 have occurred within the last 40 years, and that CO<sub>2</sub> from fossil fuel combustion and industrial processes account for about 78% of the total GHG emissions increase between 1970 and 2010 – the same 40 year period in which nearly half of humanity’s cumulative carbon emissions were emitted). See also, Jos G.J. Olivier, Greet Janssens-Maenhout, Jeroen A.H.W. Peters, *Trends in Global CO<sub>2</sub> Emissions, 2013 REPORT*, at 4 available at [http://edgar.jrc.ec.europa.eu/news\\_docs/pbl-2013-trends-in-global-co2-emissions-2013-report-1148.pdf](http://edgar.jrc.ec.europa.eu/news_docs/pbl-2013-trends-in-global-co2-emissions-2013-report-1148.pdf). See also Richard Heede, *Tracing Anthropogenic Carbon Dioxide and Methane Emissions to Fossil Fuel and Cement Producers, 1854 – 2010*, CLIMACTIC CHANGE, 122 229–41, at 234 (2014), available at <http://link.springer.com/article/10.1007%2Fs10584-013-0986-y> (“...[o]f total industrial CO<sub>2</sub> emissions from 1751 to 2010, one-half has been emitted since 1984. **Of the emissions traced to carbon major fossil fuel and cement production, half has been emitted since 1986**”) (emphasis added).

<sup>203</sup> See *id.* Richard Heede, *Tracing Anthropogenic Carbon Dioxide and Methane Emissions to Fossil Fuel and Cement Producers, 1854 – 2010*, CLIMACTIC CHANGE, 122 229–41, at 237.

<sup>204</sup> See generally, James Hansen, Pushker Kharencha, et al., *Assessing ‘Dangerous Climate Change’: Required Reduction of Carbon Emissions to Protect Young People, Future Generations and Nature* at 6 (“the uncertainty is not about whether continued rapid CO<sub>2</sub> emissions would cause large sea level rise, submerging global coastlines – it is about how soon the large changes would begin”) (emphasis added). See also Kevin Anderson and Alice Bows, *Beyond ‘Dangerous’ Climate Change: Emission Scenarios for a New World*, PHILOSOPHICAL TRANSACTIONS OF THE ROYAL SOCIETY 329 (2011) at 24 (“the impacts of rising temperatures are unlikely to be linear...rising temperatures are increasingly likely to be accompanied by additional feedbacks and hence further temperature

trigger catastrophic and potentially irreversible positive-reinforcing climactic warming feedbacks, such as methane release from thawing Arctic permafrost and destabilized sea methane hydrates.<sup>205</sup> Triggering such feedbacks could result in the release of gigatonnes of methane into the atmosphere, causing a sudden, abrupt period of warming.<sup>206</sup> Permafrost melt and methane hydrate destabilization may indeed be already occurring.<sup>207</sup> If we do not act swiftly and decisively on this matter, portions of the world may very well become ungovernable due to widespread societal or civilizational collapse set in motion by a wide mix of factors: water scarcity, food scarcity, record heat waves, rising sea levels, wide-scale human migration, and resource wars.<sup>208</sup> The U.S. Department of Defense considers climate change to be a current security threat, “not strictly a long-term risk”.<sup>209</sup>

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rises”). For depressing information concerning such events, see Timothy M. Lenton, Hermann Held, Elmar Kriegler, et al., *Tipping Elements in the Earth’s Climate System*, PNAS Vol. 105, No. 6 at 1792 (2008) available at [www.pnas.org/cgi/doi/10.1073/pnas.0705414105](http://www.pnas.org/cgi/doi/10.1073/pnas.0705414105).

<sup>205</sup> See Kevin Schaefer, Hughes Lantuit, et. al., *The Impact of the Permafrost Carbon Feedback on Global Climate*, ENVIRON. RES. LETT. 9 (2014) 085003 at 1–2 available at <http://iopscience.iop.org/1748-9326/9/8/085003> (“[p]ermafrost soils contain...nearly twice as much carbon than is currently in the atmosphere...If temperatures rise and permafrost thaws, the organic material will also thaw and begin to decay, releasing carbon dioxide (CO<sub>2</sub>) and methane (CH<sub>4</sub>) into the atmosphere and amplifying the warming due to anthropogenic greenhouse gas emissions...The PCF [permafrost carbon feedback] is irreversible on human time scales because in a warming climate...there is no way to convert CO<sub>2</sub> into organic matter and freeze it back into the permafrost”) (emphasis added). See also *id.* at 6 (Noting that “[w]e may be committed to long-term CO<sub>2</sub> and CH<sub>4</sub> emissions from thawing permafrost that will influence the climate system for centuries”). See also *id.* (Further remarking that, “[i]f we assume 60% of committed permafrost emissions will occur after 2100...[permafrost-driven emissions will account for] 9%–33% of total allowed emissions, indicating that **failure to account for CO<sub>2</sub> and CH<sub>4</sub> emissions from thawing permafrost in the treaty may result in overshooting the 2°C warming target**”) (emphasis added).

<sup>206</sup> See Qianlai Zhuang, C. Adam Schlosser, et al., *DOE Final Report on Collaborative Research: Quantifying Climate Feedbacks on the Terrestrial Biosphere Under Thawing Permafrost Conditions in the Arctic* at 2 (9/15/2015), [www.osti.gov/scitech/servlets/purl/1214557](http://www.osti.gov/scitech/servlets/purl/1214557) (Concluding that “[t]here exists a climate warming threshold beyond which permafrost degradation becomes widespread and stimulates large increases in methane emissions... **These changes would outweigh any increased uptake of carbon...and would result in a strong, positive feedback to global climate warming**”) (emphasis added).

<sup>207</sup> See H. Paul Johnson, Una K. Miller, et al., *Analysis of Bubble Plume Distributions to Evaluate Methane Hydrate Decomposition on the Continental Slope*, GEOCHEMISTRY, GEOPHYSICS, GEOSYSTEMS at 3834 (November 4, 2015), [www.onlinelibrary.wiley.com/doi/10.1002/2015GC005955/epdf](http://www.onlinelibrary.wiley.com/doi/10.1002/2015GC005955/epdf) (Concluding that “...the Cascadia margin appears to be an anomalously active region of methane plume emissions. Lacking any known alternative tectonic or geologic model that would produce anomalously high number of emission sites in this narrow depth range, and with new evidence that 44 years of seawater warming is also occurring at this depth, **a plausible remaining explanation is that methane hydrates at the upslope feather edge of phase stability appears to be decomposing along the entire Cascadia margin**”) (emphasis added). See generally, Susan M. Natali, Edward A. G. Schuur, et al., *Permafrost Thaw and Soil Moisture Driving CO<sub>2</sub> and CH<sub>4</sub> Release From Upland Tundra*, JOURNAL OF GEOPHYSICAL RESEARCH: BIOGEOSCIENCES (2015), [www.onlinelibrary.wiley.com/doi/10.002/2014JG002872/epdf](http://www.onlinelibrary.wiley.com/doi/10.002/2014JG002872/epdf)

<sup>208</sup> See generally, Intergovernmental Panel on Climate Change, *Climate Change 2014: Impacts, Adaptation and Vulnerability, Summary for Policymakers*, IPCC WGII AR5 at 778, Table 12-4, available at [http://www.ipcc.ch/pdf/assessment-report/ar5/wg2/WGIIAR5-Chap12\\_FINAL.pdf](http://www.ipcc.ch/pdf/assessment-report/ar5/wg2/WGIIAR5-Chap12_FINAL.pdf) (Extreme warming scenarios such as +4°C by 2100 will involve “the displacement of human societies associated with extreme events (*high confidence*); loss of land, cultural heritage sites, disrupting cultural practices embedded in livelihoods (*high confidence*); increased risk for violent conflict arising from deterioration in resource dependent livelihoods such as agriculture and pastoralism (*high confidence*); increased geopolitical competition over access to Arctic resources that escalates into dangerous tensions and crises (*high confidence*); and new or exacerbated conflict through land acquisition for climate change mitigation and adaptation (*medium confidence*)”). See also Mostafa Mahmud Naser, *Human Rights Implications of Climate Change Induced Displacement*, BOND LAW REVIEW, Iss. 2, Article 4 (2009) at 139 (“Climate change induced droughts, flooding, wildfires, extreme weather, soil erosion, desertification, deforestation and natural disasters are likely to further intensify pre-existing stress in vulnerable regions of the

If you have children or grandchildren, they are inheriting a world that is drastically and qualitatively different from the world you grew up in. We are already witnessing drastic shifts in weather patterns, storm intensity, and drought intensity – and this is due to only an approximately 1 degree Celsius temperature increase above pre-industrial levels.<sup>210</sup>

Our current trajectory puts us on pace for a nearly 5 degree Celsius warming by 2100.<sup>211</sup> It is a fool's endeavor to believe that humans can wantonly interfere with the planet's climatic system without consequence. It is therefore imperative for North Carolina to take bold action in compliance with EPA's Clean Power Plan and withdraw from legal challenge to the CPP.

world....[as well as] problems like food insecurity, scarcity of water, reduced agricultural production, population pressures, unequal access to resources, poverty, break-out epidemics and spreading of diseases”).

<sup>209</sup> U.S. Department of Defense, *National Security Implications of Climate-Related Risk and a Changing Climate* at 14 (July 23, 2015), [www.archive.defense.gov/pubs/150724-congressional-report-on-national-implications-of-climate-change.pdf?source=govdelivery](http://www.archive.defense.gov/pubs/150724-congressional-report-on-national-implications-of-climate-change.pdf?source=govdelivery) (“The Department of Defense sees climate change as a present security threat, not strictly a long-term risk. We are already observing the impacts of climate change in shocks and stressors to vulnerable nations and communities, including in the United States, and in the Arctic, Middle East, Africa, Asia, and South America”). *See id.* at 3 (Noting that it “...**is clear that climate change is an urgent and growing threat to our national security, contributing to increased natural disasters, refugee flows, and conflicts over basic resources such as food and water. These impacts are already occurring, and the scope, scale, and intensity of these impacts are projected to increase over time**”) (emphasis added).

<sup>210</sup> *See* MET OFFICE, *Global Climate in Context as the World Approaches 1°C Above Pre-Industrial for the First Time* (November 30, 2015), [www.metoffice.gov.uk/research/news/2015/global-average-temperature-2015](http://www.metoffice.gov.uk/research/news/2015/global-average-temperature-2015) (Noting that “The warmth of 2015 represents an important marker where global annual average surface temperature is set to reach approximately 1°C above pre-industrial levels for the first time. However, although temperatures are not about halfway to 2°C, sea-level rise is only about one-third of the total that could be seen by 2100 as a result of a changing climate, **and emissions are well over halfway through the budget that is likely to limit eventual warming to below 2°C**”) (emphasis added).

<sup>211</sup> *See* Intergovernmental Panel on Climate Change, “Climate Change 2014 Fifth Assessment Synthesis Report – Summary for Policymakers” at 13 (November 1, 2014), available at: [www.ipcc.ch/pdf/assessment-report/ar5/syr/SYR\\_AR5\\_SPM.pdf](http://www.ipcc.ch/pdf/assessment-report/ar5/syr/SYR_AR5_SPM.pdf). (Noting that a “business as usual” emission schedule, “[w]ithout additional mitigation efforts beyond those in place today” is likely to lead to warming in 2100 that is **more likely than not to exceed 4°C**) (emphasis added). *See also* Gernot Wagner & Richard J. Zeckhauser, *Expecting a Black Swan and Getting a Dragon: Confronting Deep Uncertainty in Climate Change*, 2 (draft) (October 18, 2013) available at: <http://www.huceconsortium.fas.harvard.edu/fs/docs/icb.topic1138315.files/Deep%20climate%20uncertainty-131018.pdf> (Remarking that a doubling of CO<sub>2</sub> concentrations relative to pre-industrial levels “is not a hypothetical. Concentrations are already up over 40% from preindustrial levels of 280 parts per million to around 400 ppm. At the rate we are going on emissions, pre-industrial levels will double well before the end of the century [2100], unless we significantly change course”). *See also* Kevin Anderson and Alice Bows, *Beyond ‘Dangerous’ Climate Change: Emission Scenarios for a New World*, PHILOSOPHICAL TRANSACTIONS OF THE ROYAL SOCIETY 329 (2011) at 41, available at <http://rsta.royalsocietypublishing.org/content/369/1934/20.full.pdf+html> (“...[t]here is not little to no chance of maintaining the rise in global mean surface temperature at below 2°C, despite repeated high-level statements to the contrary. Moreover, the impacts associated with 2°C have been revised upwards sufficiently so that 2°C now more appropriately represents the threshold between dangerous and extremely dangerous climate change...”) (emphasis added). *See also* Michael Jakob and Jérôme Hilaire, *Unburnable Fossil-Fuel Reserves*, NATURE Vol. 517, 150-51 at 150 (January 08, 2015) (“About 80%, 50% and 30% of coal, gas and oil reserves, respectively, would need to remain below Earth’s surface if the world is to limit an increase in global mean temperature to 2°C”) (emphasis added). The most comprehensive study concerning the necessity to leave fossil fuel reserves unburned and the distribution of so-called “untouchable” reserves appears to be, McGlade, C.E., & Ekins, P. *The Geographical Distribution of Fossil Fuels Unusued When Limiting Global Warming to 2°C*, NATURE, Vol. 517, 187 – 190 (2015).

Thank you very much for your time and for this public comment period. I sincerely hope DEQ, DAQ, and EMC wholly re-write 15A NCAC 02D .2700 et seq. to fully implement the EPA's Clean Power Plan. As the Proposed Rule currently stands, it does not bring about meaningful or drastic carbon dioxide reductions from North Carolina's affected EGUs. The Proposed Rule should be re-written to include all three Building Blocks, and should place an emphasis on Building Block 3 – substituting new renewable energy generation for existing fossil fuel-fired electricity generation – as well as Mass-Based emission allowance trading. By emphasizing Building Block 3, DAQ would build upon North Carolina's existing leadership in the renewable energy arena, particularly with regards to solar generation. A greater emphasis on substituting new renewable energy generation for existing fossil fuel-fired electricity generation will create jobs, improve air quality, and will produce a far more significant impact upon carbon emission reduction than seen in the Proposed Rule.

Sincerely,

X 

David Schwartz

## **Clean Power Plan Comments – North Carolina**

We appreciate this opportunity to provide comments in response to the Environmental Protection Agency's (EPA) proposed rule commonly known as the Clean Power Plan, which sets forth new carbon dioxide pollution emission guidelines for existing electric utility generating units.

With its headquarters based in Charlotte, Nucor is the largest steel producer in the United States and is North America's largest recycler. Last year we recycled over 19 million tons of scrap steel, turning it into new steel and steel products. Our company employs more than 23,000 teammates at approximately 200 facilities, which are primarily located in the U.S. and Canada. We produce a wide range of steel products for use in roads, bridges, automobiles, appliances, commercial buildings and a range of other markets. Our plate steel mill in Hertford County employs approximately 500 teammates who earn an average annual salary of over \$90,000 while producing more than \$1.2 billion in revenue each year. Since opening in 2000, Nucor Steel Herford has recycled over 20 million tons of steel.

As a company in an energy-intensive, trade-exposed industry, Nucor has serious concerns that the EPA's proposed rule regulating carbon emissions from existing power plants will negatively impact the economy, job creation and the U.S. steel industry.

In the alternative, Nucor supports the Division of Air Quality's alternate proposal, which is focused on improving power plant efficiency while also protecting the citizens of North Carolina from crippling energy price increases. It is our hope that other states follow North Carolina's lead based on balancing their own state's needs and the needs of their citizens and their families.

Our specific concerns regarding the rule the EPA is proposing on the federal level are that: 1) it will drive up energy costs for North Carolina's families and its manufacturers who employ them; and 2) the rule will compromise the reliable delivery of electricity to consumers.

First, regarding costs, the proposed rule is going to have huge financial consequences for both residential consumers and manufacturers. Steelmaking is an energy-intensive process. Nucor uses anywhere from 50 megawatts to 150 megawatts to melt scrap metal in electric arc furnaces to create new steel products. According to the American Iron and Steel Institute, in the past 25 years more than one billion tons of steel scrap have been consumed by steelmaking furnaces in North America and recycled into new steel instead of going to a landfill. Because we are a large energy user, energy consumption accounts for up to 20 percent of the cost of making each ton of steel.

The critical role energy plays in steelmaking is why we are concerned about electricity cost increases that will likely result from the proposed rule. Multiple studies project that annual residential electricity bills will increase by 10 to 13 percent and annual residential gas bills by almost 50 percent by 2020. These price increases mean North Carolina households would pay between \$400 and \$500 more per year for energy. Unfortunately, North Carolina families who are already struggling with high energy costs would have to shoulder a large portion of this burden. This will be a tremendous impact to the 2 million low-income and middle-income families in North Carolina who spend 20% of their after-tax income on energy.

The cost to North Carolina's manufacturers will also be severe. One study by Energy Ventures Analysis, projects industrial power rates in North Carolina will increase by 26 percent by 2020. Every one cent increase in electricity costs translates into a cost increase of millions per year for Nucor Steel Hertford.

In addition to the impact on electricity prices, we are concerned that the proposed rule will also increase natural gas prices as gas-fired generation replaces coal-fired generation that is shut down in response to the rule. In another study of the impact of the proposed rule, NERA Economic Consulting estimates that the increased reliance on gas-fired generation could increase natural gas prices by up to 29 percent. Nucor is one of America's largest consumers of natural gas, both through direct and indirect use. To put this into context, Nucor's direct gas usage could supply the average needs of 845,000 residential homes – which is equal to roughly all the households in Manhattan. The dramatic increase in natural gas production in the U.S. has kept prices low and helped spur a wave of manufacturing investment in this country. With the rule driving increased natural gas usage for electricity generation, there is a risk that price volatility in the natural gas market, particularly during periods of strong demand such as the winter heating season, will drive up both our natural gas and electricity costs.

This regulatory push by EPA for increased use of natural gas to generate electricity comes at a time when local governments around the country are placing moratoriums on hydraulic fracturing and EPA is attempting to expand its regulatory authority to include fracking. Hydraulic fracturing is the technological innovation that has opened up vast amounts of natural gas reserves in the U.S. By encouraging more natural gas use through this rule while impeding its development through other rules, EPA appears to be working at cross purposes. We risk under developing this important domestic energy resource by strangling it in regulations. If these proposed air regulations encourage fuel switching, while regulations on hydraulic fracturing discourage natural gas production, it will drive up natural gas costs for industrial consumers.

Cost competitiveness is incredibly important to steelmakers in the U.S. as we try to compete in the global market. Many foreign steel producers receive significant government support through subsidies, as well as restrictions on steel imports and raw material exports. Much of this governmental support is in violation of global trade rules. American steelmakers are the low-cost producers of steel globally, with affordable energy being one of our key advantages. Increasing energy costs will be very hard on the U.S. steel industry, which has seen a dramatic increase in unfairly traded imports in the last two years. American manufacturers simply ask for a level playing field. While the Clean Power Plan requires real reductions in the U.S., China's only commitment is to stop increasing their carbon dioxide emissions by the year 2030. Affordable and reliable electricity are absolutely essential to the steel industry's competitiveness and success.

Second, regarding reliability, the federal EPA's own analysis predicts that 46,000 to 49,000 megawatts of coal-fired generation will be shut down no later than 2020 as a result of the proposed rule. This loss of coal-fired electricity generation is in addition to more than 50,000 megawatts that will already retire this decade. Closing this much generation in such a short time frame raises serious concerns about the ability to maintain reliability and meet peak demand across the country, particularly in periods of extreme weather.

As mentioned previously, EPA's rule puts a heavy emphasis on the use of natural gas generation to replace the use of coal, particularly in the short term. However, there are infrastructure constraints in getting natural gas delivered to many parts of the country. Siting and constructing natural gas pipelines is a time consuming process and it is not clear whether sufficient infrastructure can be built to meet the interim timelines in the proposed rule. A similar infrastructure challenge exists in building enough transmission line capacity to move both natural gas and renewable generation required by the rule to parts of the country that are currently more dependent on coal.

**Conclusion**

Reliable, affordable energy is vital to creating a robust manufacturing economy and the high wage jobs manufacturers create. America's new found energy abundance, and the lower costs it has fostered, is creating a renaissance in our nation's manufacturing sector. EPA's proposed rule regulating carbon emissions from existing power plants will jeopardize this investment in the manufacturing sector by increasing energy costs for consumers and compromising the reliability of our nation's electricity grid.

Furthermore, the rapid retirement of coal-fired generation required under the proposed rule and tight timelines for implementation run the real risk of severely compromising reliability, leading to blackouts in various parts of the country. Coal and nuclear power are required to provide the level of base-load generation needed to maintain reliable, affordable power delivery for businesses and residential consumers.

Nucor believes EPA should scrap the Clean Power Plan and start over to create a plan that is more realistic in its treatment of base-load power and timelines for implementation. Since EPA went ahead and issued a final rule, we believe states are right to challenge this regulatory overreach. North Carolina's compliance plan offers a model for other states that believe EPA only has authority to regulate within the fence line of permitted facilities, are interested in protecting consumers from large energy cost increases, and want to preserve reliable electric service.

Thank you,



Sam Phillips  
Manager Environmental Affairs

## Comments on NCDENR's response to the EPA's Clean Power Plan

– David Straley ([dstraley@duke.edu](mailto:dstraley@duke.edu))

January 14, 2016

I address here only NCDENR's letter of Feb. 26, 2014 to Howard Shelanski of OMB (hereafter “the Letter”), and not any other responses by NCDENR to EPA's Clean Power Plan. I understand from the Letter that NCDENR does not contest the basic climate science, nor that the root cause of global warming is the burning of fossil fuels over the last 200-some years, from which most of the resultant CO<sub>2</sub> persists in the atmosphere today. Rather the points of contention are: (1) the degree of climate sensitivity to CO<sub>2</sub>; (2) the validity of the Social Cost of Carbon (SCC) models, not least their sensitivity to discount rate assumptions; (3) the authority of the EPA to issue the rules in question. I address here primarily the first 2 points.

One aspect of the Letter that troubles me is its confrontational tone, in which the author[s] pluck phrases from whatever document seems to back up their case, rather than soberly consider what the science says. While it's true that the models for climate sensitivity get different results depending on the parameter assumptions, these assumptions are reasonable and transparent, and the computer code for the models is available for download, tinkering, and running by anyone with the resources to do so. The Letter accuses the EPA of a lack of transparency for failing to provide documentation for the models, but I had no trouble finding online the documentation for the FUND 8.3 and PAGE09 models, and if Dr. Nordhaus' webpage changed since the EPA issued its Technical Update (TSD\*), that is not the fault of the EPA. The Letter quotes Dr. Pindyck and Dr. Nordhaus as having little faith in the SCC models, but Dr. Pindyck has said repeatedly that that he supports the proposed carbon tax and that the trouble with SCC models is that they *underestimate* SCC by ignoring the most catastrophic possibilities:

“Another major problem... is that the models ignore the possibility of a catastrophic outcome. The kind of outcome I am referring to is not simply a very large increase in temperature, but rather a very large economic effect.”

“[I]f the economic impact of that change is very large, it can push up the SCC considerably.” [1]

and the Letter quotes Dr. Nordhaus (“The vast changes in the projections of different variables might lead some to conclude that these undermine the credibility of the modeling approach”) but omits his next paragraph:

My response would be different, however, and can best be summarized by a remark made in another context. The economist John Maynard Keynes was criticized for changing his views on monetary policy during the Great

Depression. His response is reported to be, “When the facts change, I change my mind. Pray, sir, what do you do?” [2]

Arguing like lawyers rather than like scientists, trying to score points rather than understand together the problem we face, may win a temporary “victory” but be in fact a defeat for us all in the long run: the forces of nature care nothing about legal claims. This adversarial stance does not reflect well on NCDENR. The EPA's rhetoric is courteous and professional in contrast.

The Letter claims that the EPA's evaluation of SCC is too high. Many analysts, however, consider the SCC from current models to be too low: Nordhaus (op cit, p.11) admits “the current version ... does not include sharp thresholds or tipping points” [3]; Peter Howard details 11 areas in which the models underestimate SCC, and warns “\$37 should be viewed as a lower bound. This is because the studies available to estimate the SCC omit many climate impacts – effectively valuing them at zero” [4]; and I've quoted Pindyck to the same effect above.

The Letter also disputes the choice of discount rate. All economic projection models, we should observe, are sensitive to choice of discount rate in exactly the same way; this is not a special failing of SCC models. But SCC modeling is necessarily of a scale unprecedented in economic modeling, so that customary discount rates are not necessarily applicable. The Letter calls a rate of 7% “most relevant”. But a nominal 7% discount generally assumes inflation is occurring simultaneously, usually at a rate of 3% to 4% (approximate annual CPI increase 1983-2008 and 1964-2014, respectively), so the real discount rate is 4% to 3%, respectively. The SCC models do not mention an inflation rate; if future damages are assessed in 2007 dollars, then the discount rates in the chart on page 3 are real rates, to which inflation must be added to get the nominal rate. Therefore a 7% nominal rate corresponds to the 4% (SCC=\$30) or 3% (SCC=\$50) discount rates in the chart.

But is even a nominal 7% appropriate for such long term? 7% may be “too high for inter-generational cost-benefit analysis, and for treating monetized damages equivalently between regions, without regard to income levels”. [5] According to Pizer et al [6],

“Previous government guidance for CBA suggested discount rates of 3% and 7% for most projects, with possibly lower rates for phenomena (like climate change) with important intergenerational effects”

“Low discount rates typically follow from low economic growth, and economic growth is tied to climate impacts” so that as growth is likely to slow in the 21<sup>st</sup> century [7], the discount rate should also fall.

NCDENR also objects that the SCC models have a global perspective, and that OMB guidelines limit cost/benefit analysis to the USA. If this is true, perhaps the OMB guidelines do need revision, at least in cases with as pervasive an impact as climate change: this is a global problem, and nothing less than a global solution can cope with it. But Pizer (op cit) continues

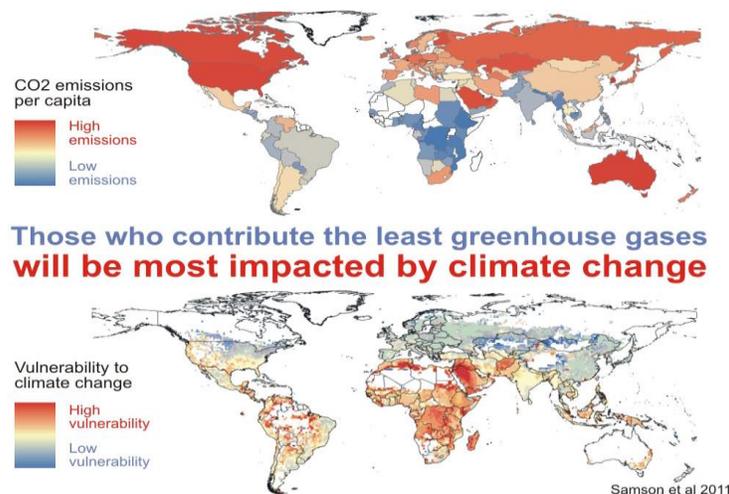
Unless a relevant statute clearly requires otherwise, the President and agencies have latitude to choose between domestic and global SCC values for regulatory analysis [including the authority to interpret silent or ambiguous statutes under the Chevron doctrine]. Key U.S. Statutes (e.g., Clean Air Act and National Environmental Policy Act) refer to global impacts in some sections and do not preclude a Presidential judgment that U.S. interests are best served via a global SCC.

While it is true that China has emerged as the greatest emitter of GHGs, the US must nevertheless act vigorously to limit its emissions because (1) historical responsibility: 25% of GHGs in the atmosphere originated in the US [8]; (2) the US is a major importer from China; since the end products are consumed here, our lifestyle exploits China's use of coal, and thus we bear some responsibility for GHGs emitted in China, increasing our carbon footprint as much as 11% [9]; (3) per capita, the US emits 3 to 4 times the GHGs as the rest of the world does, and around 13 times that of the less developed countries; and (4), we must set a good example for the rest of the world, for “Even if the U.S. Government cares only about domestic impacts, this potential to leverage foreign mitigation supports a domestic SCC estimate augmented by the expected foreign leverage.” [9]

The table on page 8 from R. Tol shows a doubling of CO<sub>2</sub> might be globally beneficial, but it obscures the fact that there will be winners and losers: what will happen to the losers? As Tol notes in the same paper,

... the output of the global economy is concentrated in the temperate zone, where warming reduces heating costs and cold-related health problems. Although the world population is concentrated in the tropics, where the initial effects of climate change are probably negative, the relatively smaller size of the economy in these areas means that—at least over the interval of small increases in global temperatures—gains for the high-income areas of the world exceed losses in the low-income areas.[10]

This represents an enormous transfer of wealth from the losers to the winners – a theft on a scale unprecedented in the history of the world. Because they are poor, the destruction of their livelihoods is undervalued in the accounting, but the course of action causing this destruction is seen as a good thing, because the rich countries



may gain more than the poor lose!

Source: <http://www.skepticalscience.com/print.php?r=299>

Spencer & Christy's demonstration (1990) that the models did not well predict the temperatures of the troposphere, much cited in “denier” literature, was indeed a valuable contribution to understanding how the troposphere behaves (which is important to understanding severe weather events), but the temperatures nearer

the earth's surface (where we actually live and which affect ice melting & sea level rise) have been predicted well by the models. On the other hand, arctic ice is melting faster than the models predicted. Projecting the climate 100 years from now is a very complex problem; more complete data is needed and even supercomputers are too limited, and no model will ever be able to predict with certainty improbable but overwhelmingly catastrophic events; but the models keep improving and narrowing the range of likely outcomes from various energy paths humanity might follow. They are the best tools we have to understand climate change, and we ignore their warnings to the immense peril of our grandchildren.

Failing to appropriately tax carbon will lock us into an infrastructure that will assure far more deleterious climate outcomes. The stakes could not be higher, if the science is correct. We need to be very sure we are right if we act contrary to those recommendations. Today a million or so refugees fleeing the chaos in Syria are more than the rest of the planet is ready to absorb: how will we react if a billion people try to flee southeast Asia and equatorial Africa made uninhabitable by climate change? Sadly, the reaction to serial climate-related disasters is likely to be more profiteering and escalating barbarity to segregate the losers from the winners.

#### References:

\*TSD *Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis under Executive Order 12866* EPA Nov 2013

[1] [http://switchboard.nrdc.org/blogs/ljohnson/robert\\_s\\_pindyck\\_in\\_his\\_own\\_wo.html](http://switchboard.nrdc.org/blogs/ljohnson/robert_s_pindyck_in_his_own_wo.html)

[2] Nordhaus: [http://www.econ.yale.edu/~nordhaus/homepage/documents/DICE\\_Manual\\_100413r1.pdf](http://www.econ.yale.edu/~nordhaus/homepage/documents/DICE_Manual_100413r1.pdf) p.54

[3] (ibid) p.11

[4] Howard, Peter (2013)

[http://costofcarbon.org/files/Omitted\\_Damages\\_Whats\\_Missing\\_From\\_the\\_Social\\_Cost\\_of\\_Carbon.pdf](http://costofcarbon.org/files/Omitted_Damages_Whats_Missing_From_the_Social_Cost_of_Carbon.pdf)

[5] Johnson & Hope (2012) <http://link.springer.com/article/10.1007%2Fs13412-012-0087-7>

[6] Pizer et al (2014) *Using & Improving the SCC* <http://www.hks.harvard.edu/fs/jaldy/img/science.pdf>

[7] Piketty, T. **Capital in the 21<sup>st</sup> Century** Ch.2

[8] Henson, R.: **The Thinking Person's Guide to Climate Change** (American Meteorological Society 2014) p.52

[9] Davis & Caldeira 2009: <http://www.pnas.org/content/107/12/5687> Abstract

[10] Tol, R *The Economic Effects of Climate Change* <http://pubs.aeaweb.org/doi/pdfplus/10.1257/jep.23.2.29> p.34

Robert Chew  
1211 Silver Sage Drive, Apt 6  
Raleigh, NC 27606

January 10, 2015

Joelle Burluson  
Division of Air Quality  
1641 Mail Service Center  
Raleigh, NC 27699-1641

**Subject:** 111(d)

Dear Ms. Burluson and other standing members of the Environmental Management Commission,

My name is Rob Chew and I'm a Data Scientist at RTI International in Durham, NC. I'm writing to you today because the proposed *Standards of Performance for Carbon Dioxide (CO2) Emissions for Existing Electric Utility Generating Units (EGUs) Under Clean Air Act Section 111(d)* inadequately represent the EPA's Clean Power Plan for North Carolina. In addition to not meeting EPA's requirements, the proposed standards could make meeting the CO2 reduction target more difficult and costly by narrowly focusing on power plant efficiency.

**By relying solely on improving power plant efficiency, North Carolina is missing the opportunity to invest in cleaner, lower-cost renewables and residential / business energy efficiency initiatives that would create 6,700 new jobs and save North Carolina households and businesses \$713 million on their electric bills in 2020<sup>1,2</sup>.**

### **Benefits of Energy Efficiency**

- Energy efficiency is our lowest-cost resource, as electricity savings can be achieved at costs well below those of new generation, resulting in lower retail electricity bills for homes and businesses.
- Energy efficiency investments create good-paying jobs as demand increases for manufacturers of efficient appliances, construction workers to build efficient homes and weatherize existing ones, and skilled technicians to do energy audits and install efficient technologies.
- In addition, as energy bill savings put more money into customers' pocketbooks, there is increased spending on other goods and services—and associated job creation—across the economy
- North Carolina has ample room for improvement – we were rated 28<sup>th</sup> in highest energy efficiency rates as of 2013<sup>3</sup>.

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<sup>1</sup> In NRDC's analysis, performed prior to the release of the Clean Power Plan, North Carolina's 2020

<sup>2</sup> NRDC, "New Carbon Pollution Standards Can Save Households \$13 Billion on Electric Bills, Create 274,000 Jobs," May 2014, [www.nrdc.org/air/pollution-standards/statebenefits.asp](http://www.nrdc.org/air/pollution-standards/statebenefits.asp).

<sup>3</sup> Acadia Center analysis of ACEEE Data

**Benefits of Renewables**

- Wind energy can diversify the economies of rural North Carolina communities, adding to the tax base and providing new types of income. Wind turbines can add a new source of property value in rural areas that have a hard time attracting new industry.
- Since North Carolina has no indigenous fossil fuel reserves, we must import all of the fossil fuels used to generate electricity in the state. Increasing the role of wind power in North Carolina's energy mix puts us in a strong position to withstand fossil fuel price increases in the future, puts our energy dollars back into our economy, and powers the economy without causing pollution, generating hazardous wastes, or depleting natural resources.
- North Carolina's ability to continue attracting companies in the solar industry, create jobs and promote economic development throughout the state is at risk unless policy makers act.

If we do not prepare an alternative proposal, the EPA could reject the current proposal that does not meet the requirements and impose a plan developed by the EPA. This would be a wasted opportunity for us to have a say in our clean energy future! I truly believe that embracing residential/commercial energy efficiency and renewables will significantly benefit present and future residents and help North Carolina remain a leader in clean energy and sustainability.

Sincerely,



Rob Chew

Secretary Donald R. van der Vaart  
North Carolina Department of Environmental Quality  
217 West Jones Street  
Raleigh, NC 27603

January 15, 2016

Dear Secretary van der Vaart,

Many business leaders are deeply concerned about the threat posed by climate change. While the Clean Power Plan is not a perfect solution, it is an important step in the right direction. The undersigned businesses view Clean Power Plan compliance as a significant opportunity for economic growth in North Carolina. We are well positioned to create new jobs while improving and expanding industries that enjoy a competitive advantage in our state. We strongly support a robust stakeholder process and the creation of a State Implementation Plan that will allow North Carolina to achieve its emissions reductions targets while minimizing costs and maximizing economic benefits.

Our neighbors in South Carolina have made strategic, pro-business choices with regards to Clean Power Plan implementation. Despite opposing the plan at the state level, their state government has engaged businesses in a robust stakeholder process to develop an opportunity-oriented implementation plan. Such contingency planning is a smart strategic choice for North Carolina.

We urge the NC Department of Environmental Quality to allow our state to have a robust stakeholder process involving business or rigorously consider what implementation options are best for business interests and economic development. Introducing a “Plan to Fail” will scare investors away from our state and hurt our economy. This is a bad strategic and economic choice that serves a narrow set of interests at the expense of the many.

The undersigned businesses have deep concerns about the State Implementation Plan proposed by the NC DEQ. We understand that the NC DEQ’s plan has been designed to fail so that North Carolina can be the first state in the nation to sue the EPA and challenge the constitutionality of the Clean Power Plan. We find this approach to be foolish and shortsighted. The NC DEQ’s approach is likely to raise the costs of compliance while missing a major opportunity to drive economic growth. Here are our specific concerns with the proposed North Carolina State Implementation Plan:

1. We believe that the proposed State Implementation Plan is likely to be rejected by EPA as insufficient, which will lead to an almost certain federal takeover of North Carolina’s Clean Power Plan. This creates considerable uncertainty about the future business environment while substituting the judgment of local stakeholders here in North Carolina for unelected bureaucrats in Washington.
2. The proposed State Implementation Plan, which is likely to be rejected, misses an opportunity to maximize the economic benefit of compliance through the creation of new industries. North Carolina is uniquely positioned to become a global leader in renewable energy, energy efficiency, and other industries of the future. The Clean Power Plan provides an exceptional opportunity to stimulate the growth of these industries.

3. The proposed State Implementation Plan, once rejected, could raise the cost of compliance, as the Federal plan will not be optimized to North Carolina's unique generation mix and local ecosystem. These costs would likely be passed onto businesses, thus depressing economic activity.

We strongly urge the NC DEQ to abandon its "Plan to Fail" and to immediately launch a robust stakeholder process as a first step towards creating a State Implementation Plan that will allow North Carolina to achieve its emissions targets while minimizing costs of compliance and maximizing economic benefits.

We hope that you will do whatever you can to ensure that we address climate change as a growing threat to North Carolina's citizens, businesses, and way of life.

Sincerely,

Lloyd Smith, Founder  
Cortech Solutions, Inc  
Wilmington

Scott Johnson, Chairman  
Cape Fear Economic Development Council  
Wilmington

Laura Ballance, Co-Owner  
Merge Records  
Durham

Peter Krull, President  
Krull & Company  
Asheville

Daniel Whittaker, Owner  
Green Planet Catering  
Raleigh

Les Stewart, Head Brewer  
Trophy Brewing Company  
Raleigh

Stew Miller, President  
Yes! Solar Solutions  
Cary

Mike Ruck, Owner  
Rain Water Solutions  
Raleigh

Andrew Scharfenberg, Logistics Czar  
Steel String Craft Brewery  
Carrboro

Jenn Vervier, Sustainability Director  
New Belgium Brewing  
Asheville

Lin Peterson, Co-Founder  
Locals Seafood  
Raleigh

Eric Henry, Owner  
T.S. Designs  
Burlington

Mary Farley, co-owner  
Native Landscapes Inc.  
Wilmington

Margi & Doug Erickson, Owners  
C.W. Worth House Bed & Breakfast  
Wilmington

John Davis, Co-Owner  
Mack and Mack, Inc.  
Greensboro

Kimberlie Meeker, Owner  
Runologie  
Raleigh

Mark Englander, Owner  
Charlotte Energy Solutions  
Charlotte

David Meeker, Owner  
Carpenter Real Estate  
Raleigh

Chris Powers, Co-Owner  
 Busy Bee Café,  
 Raleigh

David Lockwood, Co-Owner  
 State of Beer  
 Raleigh

Dale Batchelor, Owner  
 Gardener by Nature LLC  
 Raleigh

Dave Schwartz, owner  
 Cardinal Canoe  
 Greenville

Michael Tiemann, President  
 Manifold Recording, Inc.  
 Pittsboro

Jesse and Steven Kaufmann, Owners  
 Open Sky  
 Hillsborough

Jasmine Shoshanna, Owner  
 Jasmine's Gardens  
 Boone

Marie Montemurro, Co-Owner  
 Lovey's Natural Foods & Café  
 Wilmington

Bryan Rooney, Founding Partner  
 Triangle Adventure Outfitters  
 Cary

Bepi Pinner, President  
 Ninth Street Dance, Inc.  
 Durham

Pete Flood, Owner  
 The Folding Boat Company  
 Holly Springs

Tommy George, Proprietor  
 Pasta & Provisions  
 Charlotte

Tim Songer, President and Founder  
 Interactive Knowledge  
 Charlotte

Bob Binner, Owner  
 WoodTech Interiors, Inc.  
 Charlotte

Maria Kingery, Co-Founder  
 Southern Energy Management  
 Raleigh

Franzi Charen, Co-owner  
 Hip Replacements Clothing  
 Asheville

Ranald Totten, Publisher  
 WhatsOnWilmington  
 Wilmington

Erik Lensch, Managing Director  
 Entropy Solar Integrators  
 Chapel Hill

Patrick Cowden, Executive Chef  
 The Pharmacy Café  
 Raleigh

Joel Olsen, CEO  
 O2 EMC  
 Cornelius

Erin Whittle, President  
 Erin Whittle Photography  
 Wilmington

Sean Degnan, Co-Owner  
 Buku  
 Raleigh

Siobhan Southern, Co-Owner  
 It Takes Tu  
 Raleigh

Julie Halas Gros, Executive Vice President  
 Imex Management  
 Charlotte

Burwell Ware, General Manager  
 Caption Perfect  
 Chapel Hill

My name is Mani Berenji and I'm an Occupational and Environmental Medicine Physician at Duke University. Thank you for the opportunity to speak tonight. I'm here representing myself, but do support local environmental groups (including the Sierra Club and the Medical Advocates for Health Air/Clean Air Carolina). I'm here today to speak about the impacts of climate change on people's health. As a clinician, I have seen first-hand the impacts of climate change on our population. I have had many patients who have had multiple exacerbations of their asthma condition. I have seen a rise in the number of insect-borne diseases. Climate change raises the ambient temperatures and makes air pollution worse, impacting our lung function, our circulation, and our immunity. This phenomena affects all of us, but especially the young, the old, the poor, and the ill. It also impacts those who are disadvantaged. The Clean Power Plan is a step in the right direction. It will not only reduce carbon pollution, but will also reduce other harmful pollutants that cause respiratory and cardiovascular disease. Annually, it will prevent up to 3,600 premature U.S. deaths, 90,000 asthma attacks in children and the nation's students and workers will miss 300,000 fewer school and work days by 2030. So the answer is clear. We need a robust Clean Power Plan to lead us one step closer towards cleaning our air so future generations of North Carolinians can continue to lead healthy productive lives. Thank you.

[Transcript of testimony given in Raleigh, December 17, 2015, at the public hearing RE the McCrory administration's draft Clean Power Plan]

Good evening! My name is Karen Richardson Dunn. I am a minister with the United Church of Christ, and I am speaking on behalf of Creation Care Alliance, a faith-based environmental sustainability organization in Asheville, NC.

I believe that, despite the political divisiveness that exists among us, we, as North Carolinians, share a common core value: love for our children and the desire for the best possible lives for them. I also believe that whether we come down on the side of environmental activism or climate change denial, none of us can deny that our children's well-being is tied inextricably to the well-being of our shared home, the earth.

As did so many of you here, I had the luxury of growing up believing -- and taking for granted -- that the earth was stable, essentially unchanging, and the endless source of everything that was necessary to sustain life. But this is not the reality that my children or your children are inheriting. Their earth is a place of rising carbon dioxide levels, rising temperatures, rising sea levels. They do not have the luxury of taking this earth for granted, because their earth has become a problem to be solved, a crisis to be averted. And what a terrible shame this is.

I know, from having talked with my own children and the children of many other parents, that they are frightened and confused about their future, because they are frightened and confused as to the future of this planet. They don't understand why we, and those who have gone before us, have allowed the earth to become so imperilled to begin with. They don't understand why we, the trusted adults in their lives, are doing so little to stop or reverse this crisis. More, our children don't understand why we ask them to act with responsibility and accountability, when we have acted with so little of either in regards to this issue.

The Clean Power Plan offers us three powerful, critical choices: to take responsibility, right here, right now, for our planet, and for our children's future, or to abdicate that responsibility, and pass the buck. It offers us the choice as to whether our children will inherit a healthy, sustainable earth or an irreversibly diseased planet. It offers us the choice as to whether we will model for our children hope, and integrity, and radical responsibility, or model cynicism and radical irresponsibility.

Speaking for those who cannot speak for themselves, I urge you, Govern McCrory, members of the McCrory administration, our political and environmental leaders -- all of us here -- to make the right choices. Because what we do unto his planet, we do unto our children and to ourselves. I believe that together, through a just Clean Power Plan, we have a chance to make this right.

So let's make this right.



Mr. Chris Carter  
Members, Environmental Management Commission

December 17, 2015

Dear Mr. Carter,

Seeking to put God's love into action, Habitat for Humanity brings people together to build homes, communities and hope. Habitat for Humanity International operates in more than 95 countries around the world, building and repairing homes at no profit for those in need.

Habitat started in North Carolina in 1983. Today, 70 Habitat for Humanity affiliates operate across North Carolina. Collectively, we have built or rehabbed more than 7,500 homes, and have revitalized neighborhoods throughout North Carolina, performing critical repairs on an additional 1,700 homes. North Carolina produces more Habitat housing than any state in the nation, with the exception of Florida and Texas.

Environmental stewardship and sustainability are a part of Habitat's core principles. Energy efficiency in the homes we build is one measure our commitment to responsible homebuilding.

Our homeowners are considered low or very low income, and so we strive to make Habitat homes as affordable to maintain as possible. In North Carolina, half of our 70 affiliates build System Vision, energy-efficient certified homes—primarily because energy efficient homes save homeowners money.

Hence, we were disappointed to learn that the Department of Environmental Quality's proposed implementation plan under the Clean Power Plan does nothing to promote or incentivize additional investments in energy efficiency for low-income communities. If made, these investments would not only reduce carbon pollution, but would also pay immediate dividends by saving consumers money on their power bills.

The EPA's Clean Power Plan includes an optional program, the Clean Energy Incentive Program (CEIP), to incentivize low-income energy efficiency. As you know, under the CEIP, North Carolina could get "extra credit" for investments in energy efficiency that benefit low income populations, making it easier to comply with the Plan's carbon pollution reduction targets.

Habitat for Humanity of North Carolina  
323 W. Jones Street  
Suite 501  
Raleigh NC 27603  
919.390.1660  
[www.habitatnc.org](http://www.habitatnc.org)

We think it is especially important to take advantage of this program so that more of our most vulnerable neighbors can expect to pay less for their energy needs.

We believe that when these investments are made, we can expect to see an increase in local economic activity, through sales of solar panels, efficient electric devices, insulation, and related goods and through increased jobs associated with audits, installations, and related activity.

States that do not opt-in to the CEIP risk losing out to those that do, leaving Habitat NC and other affordable housing providers without additional resources to invest in cost-saving energy efficiency upgrades for those we serve. We would ask DEQ to work with Habitat for Humanity and other affordable housing advocates to craft and implement a plan that meets the needs of our hardworking, low-income communities. Such a plan would then reflect Habitat for Humanity's commitment to affordable housing, sustainability, and human dignity.

Sincerely yours,

Greg Kirkpatrick  
Executive Director & President

Habitat for Humanity of North Carolina  
323 W. Jones Street  
Suite 501  
Raleigh NC 27603  
919.390.1660  
[www.habitatnc.org](http://www.habitatnc.org)



EDGECOMBE GENCO, LLC

January 15, 2016

**Electronic Delivery:**

daq. publiccomments@ncdenr.gov

**Mail Delivery:**

Ms. Joelle Burleson  
Division of Air Quality  
1641 Mail Service Center  
Raleigh, North Carolina 27699-1641

*Attention: Proposed Rule 15A NCAC 02D .2700, Standards of Performance for Existing Electric Utility Generating Units under Clean Air Act Section 111(d)*

Dear Ms. Burleson:

Edgecombe Genco, LLC (Edgecombe) welcomes the opportunity to comment on North Carolina Department of Environmental Quality's (DEQ's) proposed *Standards of Performance for Existing Electric Utility Generating Units Under Clean Air Act Section 111(d)* (Proposed Rule). Edgecombe operates a coal-fired cogeneration unit in Battleboro, NC, which provides environmental value through reducing the need for operating less efficient industrial boilers.

Edgecombe has found areas within the proposed rule that appear to be counteractive to efficient plant modifications and operations needed to achieve the emissions reductions contained in the performance standards, as well as points of possible clarification in the rule. In addition, Edgecombe supports any opportunity to promote economic efficiency in concert with emissions reductions. Our more detailed comments on each of these areas follow.

## **ATTACHMENT A - PROPOSED RULES**

### **Applicability - 15A NCAC 02D .2701(b)**

The language in 15A NCAC 02D .2701(b) is unclear. The rule implies that electric generating units (EGU) are applicable to the rule if they meet the following criteria:

1. Serve a generator connected to a utility power distribution system with a nameplate capacity of 25 MW-net or greater and capable of selling greater than 25 MW of electricity;
2. Have a base load rating or design heat input capacity greater than 250 MMBtu/hr or greater heat input of fossil fuel either alone or in combination with any other fuel; and
3. Are stationary combustion turbines that meet the definition of either a natural gas combined cycle or combined heat and power combustion turbine.

This could be construed to imply that EGUs which do not use combined cycle turbines are not subject to this rule. DEQ should incorporate the entire EGU applicability statement from 40 CFR 60.5845 and exemptions in 60.5850. DEQ should also use the definition of "Affected EGU" in 15A NCAC 02D .2702 for the applicability statement in 02D .2701(b).

## Definitions - 15A NCAC 02D .2702

The definition of "Net Generation" in 15A NCAC 02D .2702(15) refers to the definition of "Net Electric Output" as defined in 40 CFR 60.5880. This definition does not account for steam or other useful thermal energy. DEQ should change this definition to refer to "Net Energy Output" as defined in 40 CFR 60.5880, in order to include useful thermal energy.

The definition of "Heat Input" in 02D .2702(8) refers to an unspecified amount of time, making the definition ambiguous. The definition should read:

*"Heat input" from fuel is determined by multiplying the higher heating value of the fuel times the amount of fuel consumed over a specified time period.*

## Standards of Performance - 15A NCAC 02D .2703

15A NCAC 02D .2703 lists two (2) units for Edgcombe. However, Edgcombe operates four (4) boilers, each an affected unit under the proposed rule. Generator Unit 1 is served by boilers ES-1-1A and ES-1-1B, and boilers ES-2-2A and ES-2-2B provide steam to Generator Unit 2. Please change the unit list in 02D .2703 to list all four boilers, with appropriate unit IDs, for the Edgcombe Genco - Battleboro facility, as listed in Attachment B, Page B-172.

## Monitoring, Recordkeeping and Reporting - 15A NCAC 02D .2705

Finally, the reporting requirements in 15A NCAC 02D .2705(f) are nebulously defined in the proposed rule. DEQ should specify the following:

- Whether all facilities are required to report, or only those with requirements under the rule;
- If reporting is per unit or for the whole facility;
- If reporting is based on 40 CFR Part 75 monitoring or other requirements.

Additionally, DEQ should include useful thermal energy in the reported parameters in 02D .2705(f)(1), as a significant part of the Edgcombe facility's output is in thermal energy.

Also, some of the terms in 02D .2705(f) are ambiguously defined, including:

- Net Electrical Generation - This should be changed to "Net Generation" in order to include useful thermal energy produced.
- Gross Electrical Generation - This term is not defined in the proposed rule. Edgcombe proposes the following definition for use in this rule: *Gross Electrical Generation means the total electricity produced by an EGU, including usage within the plant.*
- Gross Electrical Generation - As with the "Net Electrical Generation" term discussed above, "Gross Electrical Generation" should be changed to "Gross Generation" in order to include both plant electricity usage and useful thermal energy produced.
- Forced or Operational Outages - These terms are not defined in the proposed rule. DEQ should provide definitions for these terms in 15A NCAC 02D .2702. In order to clarify the requirement, DEQ should revise condition 02D .2705(f)(2)(B) as follows:

*Forced or operational outages of equipment related to the BSER measures lasting longer than ten days, the corresponding time period, and the reason(s) why;*

- 15A NCAC 02D .2705(f)(2)(C) is not clearly presented. Edgcombe suggests revising the condition as follows:

*Instances where operational procedures associated with the BSER measures were not followed for a period lasting longer than ten days and the reason(s) why;*

## **ATTACHMENT B - SUPPORTING BASIS COMPILATION**

### **Boiler Classification**

On Page B-172, DEQ describes the boilers at the Edgemcombe facility as "coal, natural gas, No. 2 fuel oil, No. 4 fuel oil, tire derived fuel (TDF), wood chip-fired electric steam generating boilers." Edgemcombe would like to clarify that these boilers are primarily coal-fired, and are permitted to burn the other listed fuels as supplemental fuels only. Edgemcombe requests that DEQ modify this section to describe the non-coal fuels as "supplemental."

### **Administrative Updates**

Edgemcombe requests that DEQ make an administrative change to Page B-172, to change "Unit 1" and "Unit 2" to "Generator Unit 1" and "Generator Unit 2" respectively. Please use the boiler IDs in this section to populate the table in 15A NCAC 02D .2703, rather than the current listing of only two units, as discussed in the Attachment A section of this letter.

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We wish to express our appreciation for the opportunity to submit comments. If you have any questions on these comments, please contact Mr. Slate Thompson of Edgemcombe at (252) 442-1235, extension 402.

Sincerely,

POWER PLANT MANagements SERVICES, LLC



William Smith  
Projects General Manager

## **Good Afternoon Ladies, and Gentlemen, and member's of the Press**

*My name is Debra Baker and I live in Belmont NC. and GG Allen Coal Fired power plant is my neighbor.*

*My husband and I moved to Belmont in April of 1996, expecting our first child, and buying our first home.*

*We were very concerned about the Power plant, however, were told there were not any problems with the plant because it was monitored, and put through many environmental testing. We believed it!*

*My husband Jack L. Baker, who was healthy when we moved in, started experiencing problems with severe breathing, and lung problem's when our son was about 6.*

*We were told it was Respiratory Bronchiolitis Interstitial lung disease something you acquire environmentally, might I add he did not smoke.... So the journey began, in and out of hospitals, medicines, and breathing treatments, with oxygen constantly towards the end. My husband passed away on June 9<sup>th</sup> of 2008..... Jack was only 46 years old, way too young to lose his life, not to mention my Son Charlie, was only 11 years old, and now I was a widow.*

*Charlie also has had health problems off and on, pneumonia, bad allergies, with numerous bronchitis infections, and nosebleeds, one that he experienced just this past Monday night.....Last year September 22<sup>nd</sup>, I had a heart attack at the gym, no red flags, and no past family history.*

*In April of 2015 I received a certified letter with my water test results. My vanadium level was 12.6 and my hexavalent chromium was 0.90. This was the day I started questioning everything that had happened in the last 19 years. So many question's and thoughts went through my mind! Did this help kill my husband? Did it make my Son sick? How many times did my son drink from the hose pipe, or did we get ice from the icemaker? Did it cause me to have a heart attack out of nowhere??*

*Duke told us in 1996 that they were a good company, and cared about their neighbors, now have they contaminated our water, and made so many sick. We have had 4 deaths on our road in the last 7 months..... Three had cancer, 1 died of a major heart attack only 43 years old! Something is definitely not right here.....*

*I have heard so many stories of when the coal ash fell looking like snow, landing on the cars, the boats, and the outdoor patio furniture... You could not hang your clothes out to dry because of the coal ash. Still to this day I get a black residue on my sidewalks, and driveway...*

*Governor McCrory's current plan does nothing to help the communities that are most affected by the byproducts of dirty energy. We must complete the transition from harmful fossil fuels. And that is why Governor McCrory needs to put forth a real plan that reduces harmful carbon pollution.*

*Our water and air are precious resources and once contaminated, this can be impossible to correct. The Clean Power Plan will allow North Carolina to build upon our proud tradition of working together to clean up air pollution, retire dirty energy, and protect all of our communities.*

*Thank you for your time today, and listening to my story and concern's.*

*Sincerely,  
Debra A. Baker  
704-840-8026*

## Clean Power Plan Hearing Testimony before NC DEQ

Self-Help Credit Union, 301 W. Main Street, Durham NC 27701. [www.Self-Help.org](http://www.Self-Help.org)

**Presented by Melissa Malkin-Weber, Sustainability Director**

I'm here with the Self Help Credit Union. We have 17 retail branches across NC.

Self-Help was founded in 1980. Our mission is to promote and support economic development, with a focus on low/moderate income families and rural communities. We provide small business loans, home loans and community facilities loans, including charter school loans. Since 1980, we have provided over 46.8 billion dollars in financing to over 100,000 families and businesses. As we learn, we branch out to increase our impact for the people we serve. For example, we became the first North Carolina charter school lender because we saw that low-income and often rural families needed high quality education alternatives to serve students not succeeding in their traditional public schools.

Self-Help is pleased to provide comment here on the proposed rule. Specifically we would like to express our support for this opportunity to share stakeholder input.

I'd also like to focus on an opportunity to expand the benefits of the Clean Power Plan to the state by investing in energy efficiency.

Like our interest in charter schools, Self-Help's interest in energy efficiency emerged as an added way to serve our members. We know that low and moderate income families often face very high energy bills because they can't afford to make investments in energy efficiency that are available to higher income families. Low income families on average spend 13% of their take-home pay on energy costs, nearly double the national average.<sup>1</sup>

We also know that it does not have to be that way. With innovative methods of financing, energy efficiency can be accessible to even low and moderate income people. For example Self-Help has invested 22.1 million dollars in a portfolio of energy efficiency loans to Oregon homeowners who repay that loan with a line item on their utility bill. With this innovative "On Bill Repayment" method their out of pocket costs are the same or lower than before they improved their homes, their homes are more valuable, and they get the benefits of improved indoor environmental quality.

I am here today because Self-Help Credit Union seeks to connect our lending experience to broader public policy impacts. We'd like to work with DEQ to extend the benefits of energy efficiency to more NC families.

In serving our members, we have come to understand renewable energy as an engine of economic growth for rural NC. As we educated ourselves, we grew our investment to over 75 million dollars in loans to utility scale solar farms across North Carolina.

What are the components of that economic engine? The solar industry has created thousands of construction jobs in which skilled laborers go from site to site in a relatively small region of the state and

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<sup>1</sup> LIHEAP Home Energy Notebook For Fiscal Year 2011. US Department of Health and Human Services. Accessed 1/5/16 at [https://www.acf.hhs.gov/sites/default/files/ocs/fy2011\\_hen\\_final.pdf](https://www.acf.hhs.gov/sites/default/files/ocs/fy2011_hen_final.pdf)

are employed year by the same subcontractors. These job skills are both portable and high value. Our borrowers have seen some of their crew members obtain solar certifications, begin to work around the state, rise to site super and then start their own crews. Solar provided these laborers with a path to a solid career that can be taken anywhere in the world where solar is installed. There are dozens if not hundreds of jobs created in support industries, from materials and equipment suppliers, transport, inspecting engineers to auditors, appraisers, technical designers, QC providers and utility interconnection crews.

Renewable energy provides tax base that can mean hundreds of thousands in new county revenue that can go to infrastructure and other essential county services. Landowners who lease their land to solar farms diversify their revenues, while retaining possession of the land for the future. The racking for the solar is not even installed in concrete. You could pull up the array and farm the land the next day.

Thank you for this opportunity to comment and again Self-Help would be glad to work with DEQ to help extend the economic benefits of energy efficiency to more North Carolina businesses and families.

**Comments Submitted on behalf of:**

Evan Auld, Energy QA and the Building Performance industry of North Carolina.

Evauld@energy-qa.com

Good Evening, thank you for the opportunity to testify on behalf of my profession, company, and industry. My name is Evan Auld, I am a professional energy rater and sustainable building consultant, and program manager at Energy QA. I have a Bachelor of Applied Science in Sustainable technology and development from Appalachian State. I am certified to rate homes and buildings on 4 major green building standards, including LEED, Energy Star, and one of the few truly qualified professionals to conduct the minimally required energy testing and modeling on new construction.

I want to take this opportunity to call on the McCrory administration and all related stakeholders to fully support, and even attempt to surpass the tenets of the clean power plan. I have heard many points advocating the clean power plan and just as many denouncing it. What I have not heard is the opportunity for economic growth and job creation the plan provides our construction industry. The plan provides 3 core avenues to help curb our power plant emissions. One of those tenets is the adoption of renewable energy generation. I'd like to offer for consideration the unequivocal best form of renewable energy: Building performance and usage efficiency.

Very Few think of efficiency as a renewable resource, but dollar for dollar upgrading our usage efficiency has the largest return on investment compared to investing in new PV or Wind generation, or tightening down on coal fired efficiencies. Currently our building industry is driving backwards as the market rewards those who can build the fastest regardless of the quality thereby ballooning maintenance and operational costs to new owners. thousands of homes built by builder's committed to quality are up

against the track builders who steamroll quality in pursuit of quantity. This culture is systemic to the construction industry. My industry is slowly growing and is already a 2 billion dollar a year industry as determined by researchers at UNC in conjunction with NC building performance association. They project triple that if more initiatives, such as this, are adopted and strengthened.

I helped start Energy QA 2 years ago. we now successfully ensure builders who build to quality get their message out there to homeowners without washing the facts, and even get rewarded through rebates and appraisals. Our integrity hasn't come without cost and obstacles because of the current attitudes of the construction industry towards efficiency and performance. Supporting the clean power plan's renewables option via building efficiency as a compliance route will finally help galvanize the building performance industry. thousands of contractors, experts and generations of those entering the workforce will be able succeed and flourish.

Money is coming for these initiatives nationally and globally. Combined with the money saved through building efficiency, a swift payback period for everyone: business, owners, consumers, Utilities, and the state economy is guaranteed. To support this is to support the North Carolina economy, businesses, consumers, and as for this professional here before you is concerned; to support my job and the jobs of the potentially thousands of north carolinians set to be created by stronger renewables initiatives. Thank you.

My name is Keith Wilson. I am an Independent voter and NC taxpayer.

I am speaking to you as both a **tree hugger and business person**.

I am disappointed in our state's position on the Clean Power Plan and advocate moving the ball further down the path of renewable energy than the plan is required to do.

I say this as per the **2015 Global Risks Report prepared by the World Economic Forum**, the two greatest risks noted by member organizations over the next 10 years are

**(1) Global Water Crisis and**

**(2) Failure to act on climate change**

The need to move to renewable energy is more than a climate change issue, **it is a water issue**. As noted by the excellent Charlotte Observer series last month, **we have global, national and regional water crisis, which will only be made worse by climate change**.

**Water is the new oil.**

In the Observer series, it noted that Duke Energy loses about 1%- 2% of water on a daily basis when creating power from the Catawba River using fossil fuel and nuclear energy. The water is lost through dissipated steam.

At a conference called "Our Water: An Uncertain Future" last month, the director of Duke's Water Strategy noted that **Duke Energy includes climate change impact in their water projection models**. He noted that they expect to **lose an additional 11% of reservoir water** due to more evaporation from climate change.

Per Duke's projections, the **Catawba River cannot support the growth in the Metro Charlotte area without change**.

The move from **water intensive fossil fuel and nuclear energy** to renewable energy is key, as **solar and wind energy need not be water reliant** to create power.

**Man-influenced climate change** will only make our water problem worse.

From a **business standpoint**, there are several reasons why the move to renewable energy is key.

The fossil fuel industry likes to **tout jobs and impact on people in poverty** as drawbacks to the move. These are shortsighted reasons, as **solar and wind energy jobs** are growing like gangbusters with double digit growth. On the cost of energy being higher, that is also shortsighted as well and is using the wrong equation.

**The cost of production** of renewables continues to fall and wind energy is the most cost effective source in the UK and Germany, right now. But, that **is not the right equation**.

A **total cost equation** will look at the present value cost of production,

- plus healthcare,
- plus environmental degradation,
- plus water loss,
- plus litigation,
- plus maintenance of coal ash sites.

When these total costs are compared, my guess is the result **will easily favor renewable energy.**

Further, companies like **Apple, Facebook and Google** are relocating power intensive data centers to NC due to our solar energy success and incentives. These companies are attracted to innovation.

\*\*\*\*\*

So, the **tree hugger** in me says you better be concerned about our water and what climate change will do to it.

The **business person** in me says, the better bet is on renewables.

Let me close that this is not just a progressive issue. Per a ClearPath survey of conservative voters, **75% favor a move down the path** of renewable energy.

It is time our state and national leaders caught on to this desire.

My strong recommendation is to **improve the Clean Power Plan** and stop wasting taxpayer money on the shortsighted EPA lawsuit.

The issue before us is simple. We combust excessive amounts of fossil fuel, we pollute our atmosphere with giga tons of carbon dioxide, methane and toxic chemicals. These uncontrolled toxic emissions are so overwhelming that **we are changing our present climate, we are altering basic chemical and biological pathways of our world ocean, and we are subjecting millions of people born and unborn to preventable diseases and unfulfilled destinies.**

As a former oceanographer and current practicing physician in New Hanover County, the present affects of climate change are visible everyday.

#### Oceanographic Impacts:

In New Hanover County everyone sees them as they drive north of town. Few realize what the dead trees along Smith Creek are telling us. The acres of dead cypress and tupelo trees lining Smith Creek are clear evidence of the effects of the melting of land-based glaciers in Greenland, Asia and Antarctica. Glacial melting combined with thermal expansion of seawater causes more frequent high tide flooding along the Cape Fear River. These once vibrant fresh water forests, which were once filled with freshwater crayfish, are now transitional salt-water marshes - populated by saltwater hermit crabs. These silent dead trees are signaling us that our ocean is rising and that climate change is here.

In 1960 high tide flooding along Water Street on the Wilmington waterfront happened on just one occasion. Since 1960, with increasing atmospheric temperatures our sea level has risen and high tide flooding in these same areas has increased to 71 flood days yearly. Annual projected flood days for 2045 are estimated to be 343—almost a five-fold increase and almost everyday.

While our elected Congressional leaders in Washington are ignoring

climate change, **in Raleigh our governor, our Department of Environmental Quality and Duke Power are holding back room meetings** and are spending state money and resources on suing the federal government over the EPA's Clean Power Plan. **While Raleigh sleeps and obstructs more enlightened southern cities like Miami and Charleston are spending hundreds of millions of dollars protecting their communities from the same high tide flooding, the same rising sea.**

As climate change accelerates, the acidity of ocean water increases. Surface water acidification has increased by 30% in the last several centuries threatening the base of marine food chains and presently established pathways of ocean chemistry. Without action to curb atmospheric carbon dioxide levels, chemical oceanographers predict an additional increase of seawater acidity by 150 percent. Ocean plankton, our planets most prolific life form, the basis of the marine food chains that sustain us, is highly sensitive to acidification. **Significant alterations in plankton abundance or species composition will be catastrophic for the marine food chain and global food supplies, threatening global advancement and security.**

**Rather than relying on North Carolina's history of rising to the occasion and leading the nation in scientific innovation our state leadership is sending in lawyers to hold back the rising tide.**

Health Impacts:

While the effects of climate change on our global economy and marine environment are enormous, the present health impacts on North Carolinians are more direct and much more personal.

**The negative health costs of relying on the excess combustion of fossil fuels in our present power system are never calculated into**

**the true cost of burning coal and natural gas.**

**We have state officials publically stating that our present system is mandatory for economic advancement but no state officials accurately telling us the costs of their actions on public health in North Carolina.**

Particulate matter, nitrous oxide and volatile organic acids released in fossil fuel power generation are the main components of air pollution. Across all age groups air pollution contributes to a myriad of health problems including cardiopulmonary disease, cancer, diabetes, high blood pressure, stroke, brain disorders, asthma and fetal demise.

**With no safe exposure limits for these dangerous chemicals, every family in North Carolina is affected by bad air at present levels and even more so in future years.**

How bad is our present air? **The truth is that North Carolina Air Quality officials have no idea what the air quality is in metropolitan New Hanover County.** They have had no idea for over 12 years.

Twelve years ago NC DAQ moved our PM 2.5 monitor from the YMCA on Market Street to Holly Shelter Road over 11 miles from where the majority of the people in New Hanover County work and raise their families.

Wilmington and New Hanover County have grown markedly, NCDAQ has not taken a single PM 2.5 sample where we actually live in over 12 years. Our distant monitor (recording the direct air quality of alligators, bobcats and bears rather than people) is often off line (not operating) or provides truncated (incomplete data). Today our monitor was once again off line. Yesterday it provided incomplete data. This is a reoccurring pattern for a poorly located and poorly functioning air monitor that is designed to

protect public health of Wilmington and New Hanover County.

**While the medical literature finds more and more disease states linked to lower and lower pollution levels, our leaders in Raleigh are working to remove air quality monitors and weaken air quality regulations - monitors and regulations that are presently saving lives.**

As sea levels rise and as citizens suffer from avoidable air pollution, North Carolina officials and Duke Power are delaying critical action on climate change with legal maneuvers and political posturing. **They are spending more on litigation and mitigation than they are spending on science based innovation.**

Our Smith Creek salt-water marsh speaks of our present. Our US EPA Clean Power Plan speaks to our future.

Dr. Robert Parr  
Board Member Medical Advocates for Healthy Air  
6706 Falcon Pointe Road  
Wilmington, North Carolina 28411

December 3, 2015

Joelle Burleson

North Carolina Department of Environment and Natural Resources

Raleigh, NC

Dear Ms. Burleson:

I am a scientist (Sustainable Development and Anthropology) and Professor Emeritus at Appalachian State, retired, after 44 years of teaching young North Carolinians about the way the world works. President Obama's Clean Power plan is a good first step to stopping climate change, which, besides nuclear weapons, is the only other potentially existential problem for Planet Earth. I urge you to recognize this, and design a North Carolina version of the President's plan that complies with this first step, and leads to even more effective steps for protecting our world's future. To design such steps is what scientists do. This is why scientists and political leaders from literally all over this world are gathering in Paris, France, as we consider our state's reaction to the crisis of climate change.

I am painfully aware of our state utility, Duke Energy's, 15-year Integrated Resource Plan (IRP) which intends to double down on natural gas and nuclear power, which will be a disaster for our state environmentally, and will cost more money than I can imagine. Two things seem unavoidable if you put forth an energy plan for our state that is based on Duke's current, 2015, IRP. First, is that nuclear power is an anachronism of the 1950's which costs so much now that a nuclear plant is highly unlikely ever to be completed in our state. To try to saddle you and me and our families to pay for this technology through CWIP (Construction Work In Progress) is a mistake of gigantic proportions. My financial nightmare scenario is that Duke will start down the 10-year path of building a nuclear power plant, and then have to abandon the half-completed project when cost overruns make completion impossible, leaving us customers with much higher utility bills for years, and nothing to show for it.

Second, replacing coal with natural gas, I have found from the latest scientific research (Schneising 2014, Howard 2015, Howarth 2015, and Shindell 2012)

makes it clear that natural gas, especially shale gas, can easily be double the GHG (Greenhouse Gas) emissions of coal. While natural gas only emits 60% of the CO<sub>2</sub> as coal when burned, good, but the leakage of methane in the extraction and storage phases makes natural gas, either conventional or shale gas, worse than coal. So, to plan 10,000 or 11,000 MW of new natural gas capacity over the next 15 years in the Carolinas, will make matters much worse.

Further, at the same time that solar is now at parity with natural gas when 30-40 years of fuel costs are considered, over recent years, solar has become about 10% cheaper per year. By say, 2020, solar will be considerably cheaper than coal or natural gas, and never look back. Fossils will simply be priced out of the market. Do we want to be left holding the bag for another 25-35 years of natural gas or coal?

Therefore, from both a science and financial perspective, the answer clearly lies in renewables and energy conservation. Wind is great on the Atlantic coast or offshore— it's the best off-shore wind resource on the U.S. East coast-- and, if fully utilized, can produce more electrical energy than North Carolina needs. Solar works well all across the state. My wife Mackie and I have a 5 kW rooftop PV system for electricity and our solar thermal collector handles over half of our water-heating needs. With the help of Elon Musk's new lithium-ion, 10 kWh battery, I can charge my Chevy Volt with that clean power—we will do all our in-town Volt driving on solar power for all but the least-sunny months (winter). And the non-profit I co-direct, Boone-based Climate Voices US ([climatevoicesus.org](http://climatevoicesus.org)) in 2015 installed 35-40 rooftop units on homes up here in Watauga, Avery and Ashe Counties.

North Carolina nationally ranks 3<sup>rd</sup> in solar installed in the last two years and number one in the South. The reason is, that North Carolinians recognize a clean, safe source of free fuel. Why would we want our state to send billions of \$ out of state for coal, natural gas and uranium, when we have more free fuel than we can possibly use?

Since the last legislative session in Raleigh, with the ending of the NC solar tax credit, and the defeat of the solar-promoting 3<sup>rd</sup> party sales, many scientists with

whom I have spoken are ashamed of our state when it comes to energy. We have several of the most respected universities in the country when it comes to energy science and technology and to the battle to halt the advance of climate change. I do not know even one of my science colleagues at Appalachian who is not fully on board with climate change, the settled science that the world is warming rapidly and the main cause is human activity. Why would our culture, who looks to science for answers about how the world works, reject science's most important message ever delivered? Climate change can kill us all if we don't act soon! And we ignore this warning to our peril.

My biological colleagues at AppState, especially ecologists, are well aware that geologists/physicists/chemists, the physical scientists, might not see as clearly as they, that ending the crisis of climate change by ending the burning of fossil fuels is only part of the solution. Simply put, the earth's forests, including our temperate forests here in the Southeast, are as advertised, "the lungs of the Earth." They act as a complement to animals including humans, who depend on the production of oxygen by plants for our existence. Likewise, the trees and indeed plants in general, depend on animal's waste gas, carbon dioxide. Neither plants, most importantly forests, nor animals, could exist without the symbiotic other.

So, the other thing I would urge the state of North Carolina to do is to protect our state's forests, especially at this time of so much excess carbon in the Earth's atmosphere. To cut our forests now, especially to burn it for fuel is adding insult to injury. A dead tree obviously no longer absorbs carbon, and if burned, it releases all the carbon it had stored over the years. We have burned fossil fuels, overloading the Earth's biotic ecosystem with greenhouse gases. It makes no sense to remove nature's filters at the same time.

Thanks for considering my comments.

Dr. Harvard Ayers, Professor Emeritus of Anthropology and Sustainable Development, Appalachian State University

346 Fieldstream Dr.

Boone, NC 28607

828-262-5238





January 15, 2016

Ms. Sheila C. Holman  
Director, Division of Air Quality  
NC Department of Environment and Natural Resources  
1641 Mail Service Center  
Raleigh, NC 27699-1641

SUBJECT: **Comments to proposed 15A NCAC 02D .2700 – Standards of Performance for Existing Electric Utility Generating Units Under Clean Air Act Section 111(d)**

Dear Ms. Holman:

Duke Energy is pleased to provide the North Carolina Division of Air Quality (“DAQ”) comments on the proposed rule to require improvements to heat rate at electric generating units (EGUs) affected by the federal Clean Power Plan.

Over the last 10 years Duke Energy has embarked on an ambitious fleet modernization initiative that has resulted in the retirement of half of our older coal-fired EGUs in North Carolina. The remaining fleet of coal-fired EGUs includes some of the most environmentally controlled and efficient units in the country (the Marshall, Cliffside, and Belews Creek generating stations are among the ten most efficient coal-fired stations in the United States). Indeed, measured on a mass of carbon dioxide (CO<sub>2</sub>) per MWh basis, North Carolina’s fleet of coal-fired EGUs is the most efficient in the country.

Please accept our comments and recommendations, as organized herein by Attachment.

**Attachment A:**

[15A NCAC 02D .2701 Purpose and Applicability](#)

[Page A-1](#)

Duke Energy commends DAQ for including the language in section (f) that addresses the applicability of this rule in the event that the underlying federal rule is no longer in effect. This is important, because while the rule will be part of the North Carolina Administrative Code, it may arguably impose compliance requirements in the absence of a federal requirement. For the same reason, Duke Energy supports language that would make clear that this State Rule imposes obligations on source owners only when approved by EPA. Thus, if EPA disapproves the State Plan, then these provisions would not go into effect. Otherwise, affected sources may

Ms. Sheila C. Holman  
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be subjected to dual or conflicting regulation as a result of implementation of a federal plan. In addition, sources may be required to implement measures not contemplated by the federal rule or a federal plan and may be mandated to do so far earlier than would otherwise be required.

15A NCAC 02D .2702 Definitions

Page A-3, A-4, & A-5:

Suggested changes to the definitions:

*(2) "Air heater leakage reduction (ALR)" means to reduce air leakage between the pre-combustion air and the effluent flue gas of the rotary air heaters through improved sealing.*

As originally drafted the language of the definition could potentially exclude other available options and new technologies to reduce air heater leakage and improve air heater efficiency such as adjustable sector plates, casing repairs, etcetera.

*(4) "Combustion optimization (CO)" means addition of advanced fuel and/or air flow sensors to enhance the monitoring and control of the fuel and air flow distribution, furnace exhaust gas temperatures, and/or boiler steam temperatures designed to maximize boiler efficiency and minimize air pollutant emissions.*

As originally drafted the definition language excludes other available options to improve combustion performance. Note the removal "with neural network" from the measure name as other options such as advanced fuel and air measurement technologies are available and preferable.

(5) We recommend deletion of the definition for "*Condenser rebundle, retube, rebuild (CRR)*" as it is not an identified measure for any affected units.

*(6) "Controllable loss reduction (CLR)" means developing and implementing a site-specific plan for best operations and maintenance practices (O&M) to monitor and maintain unit efficiency. CLR involves a comprehensive effort to collect information that may not be readily collected through existing sensors and data collection systems, interpret all data collected, and make decisions regarding actions to be taken to improve or maintain performance.*

We recommend the Controllable loss reduction definition be changed to widen its applicability. CLR will be a broad effort that will include but not be limited to both development and implementation of an efficiency improvement plan, installation of additional instrumentation for enhanced data collection, development and monitoring of performance trends both on site and remotely, and potential use of new technologies.

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*(7) "Forced draft fan variable frequency drive (FDF)" means the use of electronic motor controllers to optimize the speed of the Forced Draft Fan motors to match demand when below full load operation resulting in reduced auxiliary power consumption.*

As originally drafted the FDF definition may prove to be too limiting as new technologies may arise over time that provide better control/performance.

*(10) "Induced draft fan or booster fan variable frequency drive (IBD)" means the use of electronic motor controllers to optimize the speed of the Induced and/or Booster motors to match demand when below full load operation resulting in reduced auxiliary power consumption.*

As originally drafted the IBD definition may prove to be too limiting as new technologies may arise over time that provide better control/performance.

*(11) "Intelligent sootblowing (ISB)" means the use of software, instrumentation, sensors, and/or automated controls to identify areas in the furnace wall and convective section heat transfer surfaces that have ash or slag buildup to activate sootblowers based on need rather than time intervals resulting in improved boiler efficiency.*

As originally drafted the ISB definition could prove to be too limiting as new technologies may arise over time that provide better control/performance.

*(17) "Variable speed drives" means the use of motor controllers to optimize the speed of large motors to match demand resulting in reduced power consumption. Also known as variable frequency drives.*

We recommend modification or deletion of definition (17) "Variable speed drives" as it is a restatement of the FDF and IBD variable frequency drive options and is not a specifically identified measure for any affected units on its own.

#### 15A NCAC 02D .2703 STANDARDS OF PERFORMANCE REQUIREMENTS FOR CARBON DIOXIDE

##### Page A-7:

Under "*Best system of Emission Reduction Measure(s)*" associated with Duke Energy – H.F. Lee, Duke Energy – L.V. Sutton and Duke Energy – Sherwood H. Smith, Jr., we recommend the following change: "*NGCC operation firing natural gas*" to "*NGCC operation firing natural gas and/or distillate.*"

Note that DEP NGCC units in NC are dual fuel capable and the use of distillate may be dictated by operational needs; gas may not be available when the units are called upon to generate electricity.

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Page A-8 & A-9:

We recommend insertion of *"or best engineering practices derived"* after every instance of *"in accordance with the manufacturers' recommended"...* Through our decades of operational experience Duke Energy has learned that variations in the manufacturers' recommended maintenance practices and frequencies are sometimes preferred. Operating conditions and run times, as well as variability in fuels, can result in the need for more frequent or less frequent maintenance or different maintenance practices.

(4) (B) should read *"Ongoing maintenance impacting heat rate shall be performed according to the manufacturer's or best engineering practices derived procedures at the prescribed frequency levels."*

(d) The definition of the rule's effective date is not clear. Is it six months after promulgation by the Environmental Management Commission? Six months after EPA approves the State Plan? In any event six months is inadequate to properly define alternate BSER. We recommend no less than 36 months for this determination as measured from the final compliance date of the rule (see the following paragraph).

Page A-10:

Section (g) Compliance Schedule: The implementation date for the identified BSER measures should be adjusted to be consistent with compliance dates in the federal Clean Power Plan. The September 1, 2019 date does not allow for adequate time for proper project planning, scheduling, and implementation based on outage cycles. Outage planning is a complex, lengthy process and some equipment needed for compliance may have long lead times. Furthermore, unplanned or forced outages may impact HRI measure scheduling and installation. Duke Energy believes that the final compliance date of this rule should be aligned with dates in the federal rule. To this end, we recommend a final compliance date of December 31, 2024 (the end of the first compliance period in the federal rule).

Section (g) row 24 change *"in place"* to *"in operation"*.

15A NCAC 02D .2704 PERMITTING

Page A-11:

Permitting requirements: The proposed permitting requirements in 15A NCAC 02D .2704 are unnecessary and redundant because the requirements and procedures to incorporate all applicable rules into a Title V permit are already established in 15A NCAC 02Q .0500. Further, the draft rule 15A NCAC 02D .2704 includes provisions which are not necessary to implement the requirements of the rule. The proposed rule requires that each affected source must submit a permit application that includes a "heat rate improvement evaluation" to comply with

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the requirements of the rule. This requirement to provide a heat rate improvement evaluation is not referenced or defined anywhere else within the rule and does not seem to have any applicability to how these sources will be permitted, and therefore this does not belong in the rule. The Title V permit for a source can only include the applicable requirements, and those are established by the specific work practice standards identified in 15A NCAC 02D .2703. The only place where the rule would require an evaluation of the potential for heat rate improvement as part of a permit application would be if the source is proposing an alternative BSER, and that is addressed through the procedures for applying for an alternative BSER. The proposed 15A NCAC 02D .2704 should be deleted, or at most should simply require that an application must be submitted to incorporate the applicable requirements of Section .2700 into the Title V permit for the source.

#### 15A NCAC 02D .2705 MONITORING, RECORDKEEPING, AND REPORTING

##### Page A-12 and following

The definition of installation records creates unnecessary ambiguity. For example, photographs are not a record always produced and it is unclear if listing photographs is intended to create a duty to produce photographic records. What do these photographic records pertain to? It seems arbitrary to require one source to maintain for years photos taken ad hoc, when another source making the same installation and taking no photos has no such retention requirement. Moreover, including the phrase "and other documentation routinely developed" is a broadly worded catchall category that warrants clarification. This compliance requirement to maintain records should be more focused and narrowly defined to identify only the specific records required to be maintained. Duke Energy suggests the following changes:

"The owner or operator shall document the installation of equipment or modification of existing equipment necessary to meet this standard, maintain the installation records on site for ten years, and the records shall be available for review by the Division of Air Quality. Documentation shall include work orders, invoices, permits, and engineering drawings or specifications developed to install or modify equipment or otherwise make plant improvements to comply with this rule."

##### Pages A-12 and A-13

(b)(2) and (d)(1) – The requirement to record "all" operating parameters is overly broad and may not be appropriate or necessary. In addition, the source owner or operator must retain the flexibility to develop its own operating procedures based on best engineering practice. We recommend that the word "all" be removed and the phrase "or procedures developed by the owner or operator in accordance with best engineering practice for application at the facility" be added after "manufacturer's recommended operating procedures."

Page A-13

(f) and (f)(1) – The proposed rule will result in implementation of monitoring, recordkeeping, and reporting activities as early as September 2017, a schedule far in advance of the federal requirements. While the proposed rule does not specifically reference the reporting requirements in the federal rule, Duke Energy is concerned that sources will be held accountable to the specific terms and conditions of the federal rule which define how parameters identified in (f)(1) are to be reported. Adherence to the terms and conditions in the federal rule will require extensive evaluation of current monitoring systems, particularly for measurement of electrical generation and auxiliary losses to determine the “net electrical generation,” and may require installation of various upgrades to equipment which may impose significant cost and the installation of which may not be feasible by September 2017. Of particular concern, the federal rule requires that electrical generation measurements must be in accordance with ANSI 12.20 standards, and many of Duke Energy’s facilities may require upgrades to metering equipment to assure compliance with that standard. We recommend that all recordkeeping and reporting requirements be implemented on the schedule required under the federal regulation.

Also, clarification is required on what is to be reported for “heat input.” The definitions in the proposed rule identify “heat input” as the higher heating value of the fuel multiplied by the quantity of fuel consumed over that time. But “heat input” for coal units is also routinely reported under 40 CFR 75 requirements based on stack monitoring systems which estimate the heat input based on F-Factor equations.

For clarification, we recommend that the proposed rule be revised to specify that heat input, not electrical generation, and gross electrical generation be reported to NC DAQ as reported to the FERC in GADS. That will assure consistency with the data that NC DAQ evaluated to develop the proposed rule.

(f)(2)(C) – Duke Energy requests clarification of the phrase “Instances where operational procedures associated with the BSER measures were not observed for an [sic] period lasting longer than ten days.” As written, the meaning of this phrase is vague and open to varying interpretations. In fact, it seems that (f)(2)(C) is redundant with the Title V Permitting Requirements, and this paragraph should be deleted. The Title V permit is required to include appropriate reporting requirements to demonstrate compliance with all terms and conditions of the permit.

**Attachment B Comments:**

Throughout

The Heat Rate Reduction (Btu/kWh) for the Forced Draft Fan Variable Frequency Drive [FDF] measure for all Duke Energy Coal units is inconsistent with the likely heat rate improvement of

Ms. Sheila C. Holman  
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0.3% previously communicated. previously communicated. The benefit should be changed appropriately and results recalculated.

The Heat Rate Reduction (Btu/kWh) for the Induced Draft Fan Or Booster Fan Variable Frequency Drive [IBD] measure for all Duke Energy Coal units is inconsistent with the likely heat rate improvement of 0.7% previously communicated. previously communicated. We recommend that benefit be changed appropriately and the results recalculated.

Pages B-44 to B-48:

The significance of the asterisks after "*Cliffside U6\**" is unclear.

Page B-77:

The Marshall Steam Station is located in Terrell, NC not Belmont, NC.

Pages B-87 & B-88:

The Heat Rate Reduction for the Intelligent Sootblowers shown for Marshall 3 and Marshall 4 are inconsistent. Marshall 3 shows the halved amount while Marshall 4 shows the full amount. Note that the ISB benefit should be halved if the measure is implemented alongside a Combustion Optimization (CO) measure.

Pages B-193 and 197 – Correct Unit destinations for Dan River CC .

Pages B-191, B-196,

Replace the first paragraph of each section "*4. BSER Evaluation*" with:

*"Duke Energy Carolinas, LLC (DEC) has provided information to aid in DAQ's efforts in determining BSER for the EGUs at this facility including possible heat rate improvement measures along with associated estimated reductions in heat rate, estimated costs (capital, operation and maintenance), and other information."*

Pages B-201 B-206, B-212,

Replace the first paragraph of each section "*4. BSER Evaluation*" with:

*"Duke Energy Progress, LLC (DEP) has provided information to aid in DAQ's efforts in determining BSER for the EGUs at this facility including possible heat rate improvement measures along with associated estimated reductions in heat rate, estimated costs (capital, operation and maintenance), and other information."*

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Pages, B-192, B-197, B-202, B-207, B-212:

Under section "5. BSER for Unit" insert "*economically justified, proven, cost effective, and*" between "*implement*" and "*efficient*".

Replace reference to "*natural gas*" with "*natural gas and distillate*" for consistency and account for NGCCs that are dual fuel capable.

Pages B-17, B-37, B-93, B-148, B-187, B-192, B-197, B-202, B-207, B-212.:

The implementation date should be changed to reflect and be consistent with the EPA CPP implementation date. The September 1, 2019 date does not allow for adequate time for proper project planning, scheduling, and implementation based on outage cycles.

### **Attachment C Comments:**

Pages C10, C11:

Change the definitions as follows to be consistent with Attachment A:

- "*Air heater leakage reduction (ALR)*" means to reduce air leakage between the pre-combustion air and the effluent flue gas of the rotary air heaters through improved sealing.
- "*Combustion optimization (CO)*" means addition of advanced fuel and/or air flow sensors to enhance the monitoring and control of the fuel and air flow distribution, furnace exhaust gas temperatures, and/or boiler steam temperatures designed to maximize boiler efficiency and minimize air pollutant emissions.  
(Note the removal of reference "*with neural network*" from the measure name as other options are available and preferable)
- "*Controllable loss reduction (CLR)*" means developing and implementing a site-specific plan for best operations and maintenance practices (O&M) to monitor and maintain unit efficiency. CLR involves a comprehensive effort to collect information that may not be readily collected through existing sensors and data collection systems, interpret all data collected, and make decisions regarding actions to be taken to improve or maintain performance.
- "*Forced draft fan variable frequency drive (FDF)*" means the use of electronic motor controllers to optimize the speed of the Forced Draft Fan motors to match demand when below full load operation resulting in reduced auxiliary power consumption.
- "*Induced draft fan or booster fan variable frequency drive (IBD)*" means the use of electronic motor controllers to optimize the speed of the Induced and/or Booster motors to match demand when below full load operation resulting in reduced auxiliary power consumption.

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- *"Intelligent sootblowing (ISB)" means the use of software, instrumentation, sensors, and/or automated controls to identify areas in the furnace wall and convective section heat transfer surfaces that have ash or slag buildup to activate sootblowers based on need rather than time intervals resulting in improved boiler efficiency.*

Pages C20, C21, C22:

Change the definitions as follows to be consistent with Attachment A:

(2) *"Air heater leakage reduction (ALR)" means to reduce air leakage between the pre-combustion air and the effluent flue gas of the rotary air heaters through improved sealing.*

(4) *"Combustion optimization (CO)" means addition of advanced fuel and/or air flow sensors to enhance the monitoring and control of the fuel and air flow distribution, furnace exhaust gas temperatures, and/or boiler steam temperatures designed to maximize boiler efficiency and minimize air pollutant emissions.*

Note the removal "with neural network" from the measure name as other options such as advanced fuel and air measurement technologies are available and preferable

(5) Delete this sentence: *"CRR results in greater and more consistent condenser vacuum under the range of boiler operating conditions and available cooling water temperatures."*

(6) *"Controllable loss reduction (CLR)" means developing and implementing a site-specific plan for best operations and maintenance practices (O&M) to monitor and maintain unit efficiency. CLR involves a comprehensive effort to collect information that may not be readily collected through existing sensors and data collection systems, interpret all data collected, and make decisions regarding actions to be taken to improve or maintain performance.*

(7) *"Forced draft fan variable frequency drive (FDF)" means the use of electronic motor controllers to optimize the speed of the Forced Draft Fan motors to match demand when below full load operation resulting in reduced auxiliary power consumption.*

(10) *"Induced draft fan or booster fan variable frequency drive (IBD)" means the use of electronic motor controllers to optimize the speed of the Induced and/or Booster motors to match demand when below full load operation resulting in reduced auxiliary power consumption.*

(11) *"Intelligent sootblowing (ISB)" means the use of software, instrumentation, sensors, and/or automated controls to identify areas in the furnace wall and convective section heat transfer surfaces that have ash or slag buildup to activate sootblowers based on need rather than time intervals resulting in improved boiler efficiency.*

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(17) *"Variable speed drive" means the use of motor controllers to optimize the speed of large motors to match demand resulting in reduced power consumption. Also known as variable frequency drives.*

Pages C23, C24:

Under "*Best system of Emission Reduction Measure(s)*" change "*NGCC operation firing natural gas*" to "*NGCC operation firing natural gas and/or distillate*".

Note that DEP NGCC units in NC are dual fuel capable and use of distillate may be dictated by operational needs.

Pages C24, C-25:

Insert "*or best engineering practices derived*" after every instance of "*in accordance with the manufacturers' procedures*"...

Pages C15, C18, C27:

The implementation date for the identified BSER measures should be changed to be consistent with those outlined in the federal Clean Power Plan. The September 1, 2019 date does not allow for adequate time for proper project planning, scheduling, and implementation based on outage cycles.

## **Concluding Remarks**

The transition of our generating fleet over the past decade has included retirement of less efficient coal-fired units, an increase in our reliance on natural gas, and increased adoption of utility-scale renewables. With these improvements, Duke Energy has reduced our CO<sub>2</sub> emissions in North Carolina by over 20 percent compared to 2005 levels. Combining these efforts with potential retirements outlined in our most recent Integrated Resource Plan (2014), the recent retirement announcement of the coal-fired units in Asheville by 2020, construction of additional natural gas generation, and continued deployment of renewables demonstrate Duke Energy's leadership in moving towards a lower carbon future. It is important to mention that Duke did not achieve these accomplishments alone. The State of North Carolina has led by collaborative example in the past on important energy and environmental issues, including the Clean Smokestacks Act of 2002 and Senate Bill 3, which created the first renewable energy and energy efficiency portfolio standards in the Southeast, in 2007. We encourage North Carolina to continue this collaborative approach as it develops its state implementation plan for the Clean Power Plan.

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A diverse mix of efficient and increasingly clean generation plays a critical role in delivering reliable and affordable electricity to the customers and communities we serve. As Duke Energy continues to modernize our fleet, we look forward to working with the State of North Carolina to identify cost-effective opportunities to continue progress toward a lower carbon future. If you have questions about these comments or need additional clarification, please do not hesitate to contact me.

Sincerely,

A handwritten signature in blue ink, appearing to read "Mark McIntire", with a long horizontal flourish extending to the right.

Mark McIntire

## GAYLE GOLDSMITH TUCH, P.C.

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January 15, 2016

Via Email: [daq.publiccomments@ncdenr.gov](mailto:daq.publiccomments@ncdenr.gov)Ms. Joelle Burleson  
Division of Air Quality  
1641 Mail Service Center  
Raleigh, North Carolina 27699-1641In Re: Comments regarding the North Carolina proposed rule pursuant to  
Federal Clean Power Plan (CAA Section 111(d))

Dear Ms. Burleson:

The Federal Clean Power Plan (CPP) sets significant carbon pollution standards for power plants in the U.S., potentially reducing air pollution and carbon emissions, which are considered significant greenhouse gas emissions, contributing to climate change. The CPP, which only requires reductions from coal power plants, directs North Carolina to reduce carbon dioxide emission rates by 32 percent by 2030 compared with 2012 levels. Each state is expected to submit a plan in compliance with the rules in order to reduce carbon emission rates to this level by September 2016.

North Carolina's constitutional mandate is "to control and limit the pollution of our air and water" and to protect "in every other appropriate way to preserve as a part of the common heritage of this State its forests, wetlands, estuaries, beaches, historical sites, open lands, and places of beauty".<sup>1</sup> The Environmental Management Commission's (the Commission's) clear statutory mandate is to promulgate rules and regulations that protect and preserve North Carolina's air. The North Carolina proposed plan is a "set-up for failure" to reduce emissions as required under the Federal Clean Power Plan.

It has come to my attention that the Environmental Management Commission's Hearing Officer is attorney Charlie Carter whose current clients

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<sup>1</sup> N.C. CONST. art. XIV § 5.



Ms. Joelle Burleson  
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include entities which are anti-regulation and anti-environment, supporting the interests of large corporations and the fossil fuel industry. In general, his job for them is to oppose regulations, especially air quality regulations such as the Federal Clean Power Plan. Since this rule directly impacts the financial interests of his firm's clients, it is not reasonable to expect Mr. Carter to change his perspective in his role as Hearing Officer on this rulemaking. It is his responsibility to this and recuse himself. Since this has not occurred, he should be removed from this position.

Although its severity may be in question, it has been accepted by the NC Attorney General's office that climate change is a threat to our society and the environment. In North Carolina, climate change is causing, among other things, more extreme heat, rising sea levels, more intense hurricanes, and changing precipitation patterns with extreme swings between drought and heavy rainfalls.<sup>2</sup> Respiratory illnesses are on the rise. As temperatures increase, the risk of heat related injuries, including stroke and death, will also increase.<sup>3</sup>

The regulations under the Clean Power Plan are thought to be the minimum of what is necessary to slow the effects of climate change. It may not even be enough. On Behalf of Hallie Turner, co-counsel and I submitted a Petition for the Promulgation of a Rule Based on the Best Available Climate Science to Limit North Carolina's Carbon Dioxide Emissions. A hearing on this rulemaking was denied by the Environmental Management Commission. That proposal limits carbon emissions from the largest emitters not just the coal power plants. By implementing such a rule, a single industry would not be impacted as significantly and reduction requirements would be easier to meet.

In an attempt to protect the public's health, our economy and the environment, our state must set emission standards which reduce carbon

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<sup>2</sup> *Adapting To Climate Change: A Handbook for Local Governments In North Carolina*, Sierra C. Woodruff ET. AL., Coastal Hazards Ctr., Univ. of N.C. at Chapel Hill., (2013), (November 24, 2014, 10:20 AM) <http://coastalhazardscenter.org/dev/wp-content/uploads/2013/06/adapt.pdf> .

<sup>3</sup> *Risky Business: The Bottom Line on Climate Change*, by Michael R. Bloomberg, Henry M. Paulson, Jr. and Thomas F. Steyer, <http://riskybusiness.org/site/assets/uploads/2015/09/Climate-Risk-in-Southeast-and-Texas.pdf>

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emissions (and other greenhouse gases) by a *minimum* of 32 percent by 2030 compared with 2012 levels.

The Commission has been granted the statutory duty and power to promulgate rules and regulations necessary to achieve the constitutional mandate "to control and limit the pollution of our air and water." Regardless of where the reductions come from, by decreasing emissions from power plants, other greenhouse emitting sources, or increasing energy efficiency or the use of renewable energy sources such as solar and/or wind power, our state is in a tremendous position to do so without damaging our economy. We have an opportunity to be a leader instead of wasting resources fighting to maintain business as usual.

At a minimum, the Commission must amend the proposed rule to comply with the Federal Clean Power Plan to reduce carbon dioxide emissions from power plants. In addition, the proposed should take it one step further, by reducing other greenhouse gases (in particular, methane) and requiring a reduction of carbon and other greenhouse gas emissions from other large source emitters.

Please take the foregoing comments into consideration when the proposed rule is amended.

Very truly yours,



Gayle Goldsmith Tuch

GGT;s

cc: Ryke Longest, Attorney  
Shannon Arata, Attorney  
Hallie Turner, Petitioner

Harry Taylor  
1901 Brandon Circle  
Charlotte, NC 28211  
hataylor@ccim.net

January 12, 2016

North Carolina Division of Air Quality  
Raleigh, NC

Sent via: [daq.publiccomments@ncdenr.gov](mailto:daq.publiccomments@ncdenr.gov)

**Re: Public Comment Review, Clean Power Plan**

At a time when all people throughout the world must be taking every measure to assure that each breath we take is safe and healthy, the N.C. Department of Environmental Quality seeks to move forward with a Clean Power Plan designed to be rejected by the EPA.

Why?

Because doing so creates a viable “wedge issue” to divide one group of people against another? There is no such thing as Democratic, Republican, or Libertarian air. Toxic air – at any level – damages life of every sort.

Because Governor McCrory wants to assure his previous employer – in which he is financially invested – that there is no urgency, that through litigation a clean air future can be delayed through litigation for years or decades?

Because it may be more expensive in financial terms than doing what is right?

Planet Earth is where we live! It supports us, but only if we support it with intelligent and effective action. Please...stop playing children’s politics with the future of humanity. We, the citizens of North Carolina and Planet Earth demand a proper, aggressive, and genuine Clean Power Plan...now!



Harry Taylor



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910-484-9098 Office  
[www.sustainablesandhills.org](http://www.sustainablesandhills.org)

State of North Carolina  
North Carolina Clean Power Plan- Comments submission  
[daqpubliccomments@ncdenr.gov](mailto:daqpubliccomments@ncdenr.gov)  
Subject line: 11D

Sustainable Sandhills, a small environmental nonprofit based in Fayetteville, North Carolina, submits the following public comments on the 11D North Carolina Clean Power Plan.

**Renewable Energy:**

This Clean Power Plan is negligent in its lack of support for solar industry growth and utilization of renewable energy sources in the state. The State of North Carolina ought to provide clear regulatory support for the renewable energy industry, specifically the large and growing solar industry. The proposed NC Clean Power Plan does not include provisions on solar, wind, biomass, biodigestion or other self-sustaining renewable energy industries in North Carolina. Reducing carbon emission through stricter regulation of power plants is one coherent step but not to the exclusion of investment in renewable and carbon-neutral energy sources.

**Definition:**

The Clean Energy Power Plan should ensure that the following are not defined as "clean energy" sources:

- a. wood pellet industry
- b. ethanol power plants
- c. natural gas drilling or power plants

**Affordability:**

NCDENR and the State of North Carolina needs to provide a focus on affordable sustainable energy sources for our rural communities and elderly residents. The Clean Power Plan neglects to provide a Clean Energy Incentive Plan as recommended by the US EPA to make clean, affordable energy available to low-income homeowners while creating jobs in North Carolina's already burgeoning clean energy sector

Renewable sources of energy are more reliable and less susceptible to market forces; as such, a State Clean Power Plan that meets or exceeds EPA guidelines will reduce - not increase - the average resident's monthly utility bills, saving North Carolina voters \$651 million over the next two decades

**Climate Change Adaptation:**

DEQ's dismissal of Building Blocks 2 and 3 of the Federal Clean Power Plan represents a danger to the health, safety and economic well-being of North Carolina's citizens. Pollutants, including CO2 emissions, from coal-fire and natural gas plants exacerbate anthropogenic climate change, to which North Carolina citizens - especially along our vast and pristine coastline - are particularly vulnerable

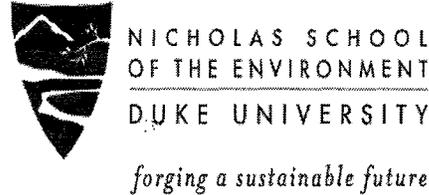
**Economic Growth:**

A state-issued mandate to begin the reduction of dirty power and replacing it with renewable resources would not only serve to protect North Carolina's ecological wealth and diversity, but create reliable, long-term jobs across the state while increasing the visibility of North Carolina's leadership in clean energy.

Today's corporate leadership, including Google, Facebook, and Apple, all of which currently operate data centers in North Carolina, consistently and vocally demand the kind of safe, reliable and stable energy that renewable resources provide - increasing our use of solar, wind, geothermal and biomass energies will not only keep the quality jobs that such companies bring but increase corporate investment throughout the state, thus providing greater employment opportunities for citizens.

**State Control:**

Taxpayer dollars could better be spent expanding North Carolina's transition from fossil fuels to renewable energy, creating reliable employment for citizens, and reducing the health and ecological costs of coal and other non-renewable energy sources than through litigation against the federal EPA. North Carolina and the states it has joined in this action risk losing local and state control over the Clean Power Plan should this litigation be unsuccessful, with future implementation solely in the hands of the federal EPA. Public input rooted in local community needs ought to be the guiding principle of state energy policy and it is in the best interest of the public to retain this role under state government purview.



**Duke Environmental Law & Policy Clinic**

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January 15, 2016

Ms. Joelle Burleson  
Division of Air Quality  
1641 Mail Service Center  
Raleigh, North Carolina 27699-1641  
daq.publiccomments@ncdenr.gov

RE: Comments regarding rulemaking process for CAA Section 111(d)  
proposed rule submitted on behalf of my client, Hallie Turner.

Dear Ms. Burleson,

The North Carolina Administrative Procedure Act (“APA”) was enacted to grant procedural rights to all persons to “ensure that the functions of rule-making, investigation, advocacy, and adjudication are not all performed by the same person in the administrative process.”<sup>1</sup> The practice of allowing chairs of Environmental Management Commission (“EMC”) committees to serve as hearing officers on rulemaking proceedings related to their areas of authority threatens to violate this principle. The function of the hearing officer is to assemble the record, transmit it to the agency, and to make recommendations based on those hearings. The public’s only opportunity to speak to the EMC is through the voice of the hearing officer. Appointing a member of the rulemaking body to serve this function violates the separation principle of the APA. Appointing the EMC member who serves as chair of the EMC’s Air Quality Committee, the committee most involved with the proposed rule’s drafting, further compounds this APA violation. The APA’s separation principle is reinforced by the Internal Operating Procedures of the EMC which counsels the Chair to consider objectivity in hearing officer appointments. For this particular rulemaking, EMC Hearing Officer Charlie Carter’s professional interests, longstanding leadership role with the environmental regulation-averse John Locke Foundation, and well-documented, public statements demonstrating his personal hostility toward the regulatory subject in question all worsen the existing separation principles violation.

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<sup>1</sup> See N.C. Gen. Stat. § 150B-1(a).

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Mr. Carter's situation is analogous to that of both Rolf Blizzard and Dan McLawhorn, who sought guidance from the N.C. Ethics Commission regarding their respective roles in rulemaking and service to other entities. Mr. McLawhorn sought guidance on the potential for conflicts between his legal employer's interest and his service on the N.C. Rules Review Commission. The Ethics Commission advised Mr. McLawhorn to abstain from voting on the rules in question.<sup>2</sup> Mr. Blizzard served on the Board of a nonprofit and on a State Commission considering grant applicants. The Ethics Commission advised Mr. Blizzard to recuse himself if his dual membership would influence his decisions.<sup>3</sup> The Ethics Commission's webpage does not reflect whether Mr. Carter has sought its guidance on this matter. The failure to seek guidance on this question before agreeing to serve as hearing officer for this rulemaking prejudices the outcome of the rulemaking from the very beginning.

From the administration of President Ronald Reagan through the mid-point of the presidency of George H.W. Bush, Mr. Carter was employed at the United States Environmental Protection Agency ("EPA"). Mr. Carter's work for EPA was extremely influential and he was awarded both the EPA Bronze Star and Gold Star as reward for his service to the nation. At EPA, Mr. Carter's work focused on the Clean Air Act.

Since leaving EPA, Mr. Carter has built a career on challenging environmental regulations on behalf of private interests, a career that mirrors his personal pursuits described below. Professionally, Mr. Carter is an attorney with the private law firm Nexsen Pruet, specializing in environmental, legislative, and regulatory law.<sup>4</sup> Mr. Carter is nationally recognized as one of the most experienced and highly effective advocates for private parties challenging regulations, especially air quality regulations. His expert handling of matters for these clients has been recognized, as is demonstrated by his selection to the Best Lawyers in America for environmental defense practice as recently as the 2016 list.<sup>5</sup> Of particular note, Mr. Carter's biography highlights his representation of the South Carolina Chamber of Commerce and the West Virginia Manufacturers Association in two distinct Clean Air Act challenges. In both cases, Mr. Carter challenged the EPA's authority to regulate air emissions under the Clean Air Act.<sup>6</sup> It is

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<sup>2</sup> See Formal Opinion dated November 19, 2010 to Daniel C. McLawhorn. <http://www.ethicscommission.nc.gov/library/pdfs/AOs/PDFs/aoE10004.pdf>

<sup>3</sup> See Formal Opinion dated November 13, 2009 to Rolf Blizzard <http://www.ethicscommission.nc.gov/library/pdfs/AOs/PDFs/aoE09005.pdf>

<sup>4</sup> Nexsen Pruet, Charles S. Carter, [www.nexsenpruet.com/professionals/charles-s-carter](http://www.nexsenpruet.com/professionals/charles-s-carter) (last visited Jan. 4, 2016).

<sup>5</sup> See Best Lawyers in America, 2016, <http://issuu.com/bestlawyers/docs/north-carolina-best-lawyers-2016/12?e=3342698/31991508> (last visited January 5, 2016).

<sup>6</sup> *Id.*; Final Brief of *Amici Curiae*, *South Carolina v. U.S. EPA* (No. 98-1621), 1999 WL 34840986 (representing the South Carolina Chamber of Commerce, Environmental Management Association of South Carolina, South Carolina Manufacturers Alliance, and South Carolina Farm Bureau in support of the State of South Carolina seeking to vacate and remand EPA's action); *Appalachian Power Co. v. EPA*, 251 F.3d 1026 (D.C. Cir.

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clear that his private practice role will conflict with his role as hearing officer for this rulemaking that directly impacts the financial interests of his firm's clients.

In addition, Mr. Carter serves on the board of the John Locke Foundation (the "Foundation"), a nonprofit organization with a stated libertarian policy perspective that publishes a wealth of anti-regulation, anti-environment, and pro-industry literature.<sup>7</sup> The Foundation was co-founded and remains heavily funded and influenced by the John William Pope Foundation, James Arthur "Art" Pope's family foundation that funds a long list of other outspoken policy advocacy groups, including Americans for Prosperity, the Pacific Legal Foundation, the CATO Institute, and the Heritage Foundation.<sup>8</sup> Each of these groups has vocally opposed efforts by North Carolina and the EPA to regulate emissions of greenhouse gases.

Specific to climate change and greenhouse gas regulation, the Foundation has long played a role in advocating against any such regulation of greenhouse gases, including carbon dioxide, the subject matter of the present rulemaking. As early as 2007, the Foundation joined the Heartland Institute and Better Government Project in developing Climate Strategies Watch, a self-described "watchdog" group formed to combat climate change science emanating from organizations whose origins they do not trust.<sup>9</sup> These anti-climate science efforts caught the attention of reporters and scholars who made the link between the Foundation's activities and a broader trend of climate change denial activism and related advocacy highlighting scientific views at odds with mainstream scientists.<sup>10</sup> This surge in ideologically-driven science, funded by politically-

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2001) (representing non-electric generating/industrial petitioners, including the West Virginia Manufacturers Association).

<sup>7</sup> See, e.g., Jon Sanders, *Reining in Regulation*, John Locke Found. (Nov. 6, 2015), [http://www.johnlocke.org/research/show\\_story.html?id=264&type=policy%20reports](http://www.johnlocke.org/research/show_story.html?id=264&type=policy%20reports); John Locke Found., *Energy & Environment*, <http://www.johnlocke.org/research/topic/4> (last visited Jan. 4, 2016) (providing a list of the Foundation's research and reports attacking environmental- and energy-related regulatory efforts and calling into doubt environmental concerns).

<sup>8</sup> John William Pope Found., *Our Grants*, <https://jwpcf.org/grants/> (last visited Jan. 4, 2016); see also Sue Sturgis, *Cabinet of Controversy: N.C. Gov. Pat McCrory's 5 Most Dubious Appointments*, Inst. for Southern Studies (Jan. 11, 2013, 10:48 AM), <http://www.southernstudies.org/2013/01/cabinet-of-controversy-nc-gov-pat-mccrory-s-5-most.html>.

<sup>9</sup> Climate Strategies Watch, *Do Alarmists Control Global Warming Policies in Your State?*, <https://web.archive.org/web/20080302055221/http://climatestrategieswatch.com/index.php> (last visited Jan. 4, 2016) (

<sup>10</sup> See, e.g., Sue Sturgis, *Art Pope's Millions Fund Climate Change Denial*, Grist (Oct. 27, 2010), <http://grist.org/article/2010-10-26-a-pope-of-climate-denial/>; Sue Sturgis, *Art Pope Still Funding Climate Disinformation*, Inst. for Southern Studies (Feb. 6, 2013, 1:17 PM), <http://www.southernstudies.org/2013/02/art-pope-still-funding-climate->

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motivated organizations and individuals, including the Foundation, led U.S. Senators Ed Markey, Barbara Boxer, and Sheldon Whitehouse to question the funding behind the science of climate change denial.<sup>11</sup> The Foundation and its supporters vigorously dispute the inquiry by these Senators and allege they are victims.

Whether these senators' concerns have merit, the Foundation has articulated a clear policy advocacy position opposing greenhouse gas regulation. The Foundation has publicly decried efforts to curb climate change and has funded its own research to promote a do-nothing policy.<sup>12</sup> In February of 2011, the Foundation publicly called upon the North Carolina General Assembly to pursue its own climate change do-nothing policy, mirroring the playbook which the EMC has now adopted.<sup>13</sup> These statements by the Foundation's staff clearly show the official positions of the Foundation on the subject of the rulemaking before the EMC. As a Board member, Mr. Carter cannot reasonably be expected to treat the opinions of other economists or policy experts equally with those employees of the Foundation on whose Board he serves. Mr. Carter's ties to Foundation and its policy positions eliminates the possibility for his unbiased consideration of the merits of the proposed rule, which he worked to develop as chair of the EMC Air Quality Committee, versus other policy choices.

Mr. Carter has publicly opposed EPA's Clean Power Plan. Mr. Carter's public statements endorsing the proposed rule and the truncated rulemaking process it is following are also a matter of public record. For example, in April of 2015, the N.C. House of Representatives passed House Bill 571 in a bipartisan vote of 84-43 in favor.<sup>14</sup> House Bill 571 would have created an open process for North Carolina's response to the Clean Power Plan developed by the US EPA. In June of 2015, Mr. Carter publicly

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[disinformation.html](#); Robert J. Brulle, *Institutionalizing Delay: Foundation Funding and the Creation of U.S. Climate Change Counter-Movement Organizations*, Climate Change (2014), available at <http://link.springer.com/article/10.1007%2Fs10584-013-1018-7>.

<sup>11</sup> MD Kittle, *Democratic-Led Witch Hunt into 'Climate Change Deniers' Picks up Force*, Human Events (Mar. 2, 2015, 11:00 AM), <http://humanevents.com/2015/03/02/democrat-led-witch-hunt-into-climate-change-deniers-picks-up-force/>; Sheldon Whitehouse, *Right-Wing Groups Get Overheated on Climate Questions*, Huffington Post (June 13, 2015, 5:59 AM), [www.huffingtonpost.com/sen-sheldon-whitehouse/right-wing-groups-get-ove\\_b\\_7054956.html](http://www.huffingtonpost.com/sen-sheldon-whitehouse/right-wing-groups-get-ove_b_7054956.html).

<sup>12</sup> See, e.g., Roy Cordato, *New Report Highlights Harm from Climate Change Policies*, John Locke Found. (May 1, 2008), [www.johnlocke.org/press\\_releases/show/372](http://www.johnlocke.org/press_releases/show/372); John Hood, *Not Worth the Paper It's Scribbled on*, Carolina J. Online (Jan. 17, 2008), [www.carolinajournal.com/exclusives/display\\_exclusive.html?id=4545](http://www.carolinajournal.com/exclusives/display_exclusive.html?id=4545);

<sup>13</sup> Roy Cordato, *Time for a Change: New Legislature Should Realign Its Positions on Environmental Issues*, John Locke Found. (Feb. 15, 2011), <http://www.johnlocke.org/research/show/spotlights/258>.

<sup>14</sup> Implement Clean Power Plan, N.C. House Bill 571, <http://www.ncleg.net/gascripts/BillLookUp/BillLookUp.pl?Session=2015&BillID=H571&submitButton=Go>.

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critiqued the provisions of House Bill 571 and urged the Senate to reject the proposal altogether, instead aggressively attacking the US EPA's plan.<sup>15</sup> Mr. Carter further claimed that the new bill placed excessive burden on the EMC and that North Carolina should oppose the US EPA's Clean Power Plan.<sup>16</sup> The EMC's parent agency, the North Carolina Department of Environmental Quality ("NC DEQ"), has since followed Mr. Carter's plan and presented the draft rule to the EMC which follows his stated legal position and the policy preferences of the Foundation.<sup>17</sup>

In November of 2015, Mr. Carter claimed that the State's currently proposed CAA Section 111(d) rule was the only legal course available to North Carolina.<sup>18</sup> Mr. Carter's public statements clearly indicate that he has his mind made up regarding the sufficiency of the proposed rule. The role of advocacy, rulemaking, and hearing officer is now residing in the same person on the EMC. The public cannot expect to get a fair hearing when the hearing officer decided the outcome of the rulemaking proceeding before the hearings were even held. Mr. Carter should have been disqualified from serving as hearing officer under the Internal Operating Procedures of the EMC as it was clear that a hearing officer without personal bias was needed to hear and report on the public's comments.<sup>19</sup>

The people's right to petition the government for redress of their grievances is a cherished right protected by both the State and Federal Constitutions. The APA is a remedial statute, granting remedial relief to protect the right of the people to have their concerns heard by administrative agencies, and to prevent administrative agencies from exercising blended power. The APA sought to ensure that the functions of rule-making,

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<sup>15</sup> Charlie Carter, *The Coming EPA Mandate and North Carolina's Bad Bill*, News & Obs. (June 10, 2015, 5:45 PM), [www.newsobserver.com/opinion/op-ed/article23688772.html](http://www.newsobserver.com/opinion/op-ed/article23688772.html) (identifying himself as "an environmental attorney and former EPA assistant general counsel, is an EMC member and chairs its Air Quality Committee").

<sup>16</sup> *Id.*

<sup>17</sup> Jonathan Drew, *North Carolina Uses Unique Tactic Against New EPA Power Rule*, Charlotte Obs. (Dec. 25, 2015, 4:34 PM), <http://www.charlotteobserver.com/news/business/article51596035.html>; Sharon McCloskey, *Setting up a Straw Man to Fight the Clean Power Plan*, NC Policy Watch (Nov. 4, 2015), <http://www.ncpolicywatch.com/2015/11/04/setting-up-a-straw-man-to-fight-the-clean-power-plan/>.

<sup>18</sup> Charlie Carter, *NC on Correct Clean Power Path*, News & Obs. (Nov. 23, 2015, 5:05 PM), <http://www.newsobserver.com/opinion/letters-to-the-editor/article46096385.html>.

<sup>19</sup> "In making hearing officer appointments, the Chairman shall consider the geographic location of the hearing, the technical complexity of the matter being considered, the public interest in the matter, and the **necessity of having an impartial hearing officer without personal bias.**" *Internal Operating Procedures of the Environmental Management Commission*, Article 11, § 2 (as adopted Sept. 10, 2015); see *Ass'n of Nat'l Advertisers, Inc. v. FTC*, 627 F.2d 1151, 201 U.S. App. D.C. 165, 167 (D.C. Cir. 1979).

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investigation, advocacy, and adjudication are not all performed by the same person in the administrative process.<sup>20</sup>

Mr. Carter is a man who wears many hats and is a highly-skilled advocate, but his skillful advocacy precludes him from demonstrating the objectivity necessary for that of a hearing officer. Mr. Carter has acted in his official and unofficial capacities to lobby against environmental rulemakings, and may reasonably be expected to treat rulemaking comments contrary to his own beliefs in a biased manner. To be sure, Mr. Carter is a highly accomplished attorney and active member in many civic and professional organizations. His professionalism is not on trial, but his ability to serve as arbiter of public opinion in a disinterested manner is clearly compromised by his professional and volunteer service activities. With his history of advocacy on this issue, Mr. Carter should have been engaged in these rulemaking proceedings in front of the podium as an advocate, not from behind the table as a hearing officer and decision-maker.

Our laws charge the EMC with the duty to protect the water and air resources of the State for the benefit of all its people. Rulemaking hearing officers should always be impartial investigators of facts and presenters of information since they are conduits of public opinion to the rest of the EMC. In the past, hearing officers were often DEQ staff brought in from other, non-interested divisions or sections. This process helps keep these advocacy and investigatory functions separate, as commanded by the APA. The EMC's operating procedures explicitly recognize this point. Giving the job of hearing officer to review and respond to testimony to someone with a clearly-established position on the matter violates the principles of our APA. Mr. Carter should not have been appointed as hearing officer to this matter of vital importance to the future of our nation. Mr. Carter should have been disqualified and should have recused himself from further involvement in this rulemaking as a hearing officer.

To proceed with this rulemaking process under his service is erroneous as a matter of law. As the Romans instructed on this principle of natural justice, "*nemo iudex in causa sua.*" No one should be the judge of his own cause.

Very Truly Yours,



Ryke Longest  
Attorney for Hallie Turner

Cc: Gayle Tuch, Attorney for Hallie Turner  
Shannon Arata, Attorney for Hallie Turner  
Roy Cooper, Attorney General of North Carolina

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<sup>20</sup> See N.C. Gen. Stat. § 150B-1(a).

January 15, 2016

**BY EMAIL**

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

Transmitted by e-mail to: [daq.publiccomments@ncdenr.gov](mailto:daq.publiccomments@ncdenr.gov)

**Reference: 111(d); Comments by the Natural Resources Defense Council to Standards of Performance for Carbon Dioxide (CO<sub>2</sub>) Emissions for Existing Electric Utility Generating Units (EGUs) Under Clean Air Act Section 111(d).**

**Dear Secretary van der Vaart:**

North Carolina has a long tradition of environmental stewardship and clean energy leadership that has yielded dividends we all enjoy today. And through it we have inherited a clean, beautiful and resource rich state we can all proudly call home. Unfortunately, the hubris exhibited by agency leadership threatens our ability to carry on this tradition.

The North Carolina Department of Environmental Quality (DEQ) has chosen to not develop a rule in good faith to comply with the requirements of the Clean Power Plan (CPP) crafted by the US Environmental Protection Agency (EPA). As is evident, the agency has designed a plan that the EPA must reject and amounts to little more than a risky pretext for another legal challenge to EPA's authority to regulate greenhouse gases. Risky because rather than creating an effective plan, the current version all but ensures a federal takeover of state implementation or a haphazardly designed plan that forces North Carolina to miss opportunities and/or needlessly suffer economically. The place to challenge EPA's authority in establishing the CO<sub>2</sub> Emission Guidelines is within the existing lawsuit (State of West Virginia vs EPA), in which the state is already a party. Using the remaining time, to craft a bad faith plan in order to generate another lawsuit is irresponsible and contrary to the responsibilities of the agency.

Simply stated, North Carolina deserves better. We deserve leadership that will take the time to develop an effective plan with the help of diverse stakeholders including utilities, business leaders, energy experts, environmental experts and frontline communities among others. We deserve a plan that takes advantage of our resources and enormous success in the area of clean energy to drive the state towards the type of energy future we collectively envision. And we deserve the opportunity to use the time allotted to develop the right plan for us rather than waste it seeking needless, duplicative litigation.

NRDC does not support the current plan, which we believe was created by this agency in bad faith. Rather than offering suggestions on how to repair an intentionally deficient plan, we limit our comments to recommendations for meaningful public engagement that would lead to a real plan from which we would all benefit. We hope that the agency has the prudence to withdraw this draft and establish a stakeholder process by which to design the plan North Carolina deserves.

**Comments and recommendations for meaningful public engagement and outreach to frontline communities in the state planning process in North Carolina.**

**A robust state planning process involving all stakeholders and in particular vulnerable, frontline communities is necessary to an effective rule in North Carolina under the Clean Power Plan.**

In order to maximize benefits for the citizens of North Carolina, DEQ must support robust stakeholder engagement within the state's planning process, taking full advantage of the time, guidance, resources and flexibility EPA has provided to states. Because the impacts of pollution often hit vulnerable populations the hardest, how a state chooses to approach public engagement under the CPP is an area worthy of full consideration by stakeholders and decision-makers within the state planning process.

**NRDC requests that the North Carolina Department of Environmental Quality to explore and adopt a stakeholder process similar to the one underway in South Carolina, in order to develop the best rule for the state under the Clean Power Plan.**

In 2013, the South Carolina Department of Health and Environmental Control (DHEC) began a statewide stakeholder process to shape the state's strategy under the then forthcoming CPP. The process yielded collaborative partnerships which have enabled South Carolina to take an inclusive approach to the statewide planning process. DHEC's commitment to working with all stakeholders participating in the process, spanning a variety of backgrounds and interests, is a prime example of how states can support an inclusive state planning process through robust stakeholder engagement and information-sharing. The group includes representatives of state government, federal government, industry, business, utilities, academia, low income groups, plus experts and consultants.

The Stakeholder process has moved forward pursuing these ten goals:

- 1) Ensure a common sense approach in the development of federal rules by continuing to be engaged in federal rulemaking, and when possible, enable stakeholders to have a 'seat at the table' in developing national policy.
- 2) Provide maximum flexibility in its approach to the development and implementation of federal GHG rules at the state level.
- 3) Eliminate regulatory barriers in the implementation of federal rules that might hamper the development of a statewide policy. For example, the power industry does not need the GHG rule to mandate its dispatch processes.
- 4) Promote the most cost-effective, sensible, and best state-specific system of emission reductions and approaches to federal rules and requirements.
- 5) Focus on a program/strategy that relies on meaningful and cost-effective, system-wide GHG emission reductions compared to a relative baseline year.
- 6) Ensure that the GHG reduction goals set are based on a state's actual system-wide emission reduction efforts.
- 7) Identify resources and tools to enable states to determine and implement the best strategies to meet the needs of its power generation, economy, and citizens.
- 8) Provide clear criteria for approval of state plans and re-assess the timeframe to allow for the adequate development of state plans (under CAA Section 111(d)) to include state rulemaking laws and federal requirements for public notice and comment.
- 9) Recognize that South Carolina is ranked high among states for clean energy use (5th) and Leadership in Energy and Environmental Design (LEED) for building space per capita (top 10). Credit should be available in the Emissions Guidance for existing state initiatives achieving

quantifiable reductions through, for example, energy efficiency, demand response, pollution controls, lower emitting fuels, and clean energy investments, specifically nuclear capacity.

- 10) Understand South Carolina's unique economic challenges. For example, South Carolinians are 50% more likely to live below the poverty line. In some months, many state residents can spend 60-80% of income on energy and South Carolina ranks 7th in cooling degree days per year. While ensuring a safe, secure, and predictable energy future, EPA should recognize individual state characteristics and not place undue economic hardships on its citizens, businesses, manufacturing or industrial sectors.

### **Options Recommended for Consideration to Promote Meaningful Public Involvement in the State Planning Process**

First and foremost, public engagement should provide stakeholders with an opportunity to share feedback and input on state plan elements and state-level decision making regarding plan implementation. NCDEC's DAQ should work with the assistance of its partner divisions and agencies in state government to develop and lead stakeholder outreach activities. Several types of opportunities to provide public comment should be provided to interested stakeholders.

Clean Power Plan Webpage: NC DEQ should consider providing access to educational materials regarding the Clean Power Plan generally and information pertaining to opportunities to provide public comment and feedback to during plan development phases. The webpage should be updated as needed to reflect the most current information available and remain active through the pre-compliance, compliance, and post-compliance period. The webpage will should be advertised and linked to other relevant webpages on the agency site, and included in any stakeholder outreach materials developed by NC DEQ.

Clean Power Plan Comment Form: develop a web-based form, accessible via the Agency Clean Power Plan webpage that can be used by stakeholders to submit comments to the Agency regarding the state plan. Commenters can be required to indicate their name, affiliation, email address, and phone number (optional) upon submittal of comments. The Clean Power Plan commenting form should be available for the purposes of developing the initial plan submittal. All comments received via the web-based form could be batched on a weekly basis and provided to the internal staff working on the state plan development.

Public Listening Sessions: host listening sessions for the purposes of developing the initial plan submittal that are open to the public in cities representative of major regions across the state. NC DEQ should consider hosting additional listening sessions in specific vulnerable communities.

Environmental Agency Board Updates: develop and present frequent and regular updates to the Air Agency oversight body, intended to provide the most current information regarding agency efforts to develop its initial plan submittal and feedback received from stakeholders.

## Recommendations for Consideration to meet EPA requirements for consultation and involvement of vulnerable and frontline communities in the State Planning Process

The CPP offers benefits and key opportunities for low- and fixed-income households in particular. In addition to lowering harmful carbon pollution in underserved communities, continued momentum in the state to shift away from fossil fuels by putting a price on carbon and shifting generation towards investments in clean energy alternatives, such as energy efficiency and renewable energy, can result in numerous benefits including but not limited to lower energy consumption and costs, increased investment in local community resources, and job creation. With all of this in mind, the EPA outlines clear requirements and necessary actions state agencies must take towards meaningful public engagement, including consideration of frontline communities.

The Clean Power Plan builds in environmental justice considerations from the ground up to ensure that the interests of those Americans most vulnerable to power plant pollution are safeguarded. EPA established new environmental justice requirements and recommendations for how environmental and human health effects on low-income communities and communities of color should be addressed as states develop their compliance plans, and included a lengthy and explicit discussion about various community and environmental justice considerations states are either encouraged or in some cases required to make during the development and submission of state plans. The table below describes the process as it is outlined in the CPP.

<b>Phase 1: Preparation of Initial Plan</b>	States should conduct environmental justice analyses:	<ul style="list-style-type: none"> <li>✓ Air quality monitoring</li> <li>✓ Generation modeling</li> <li>✓ Health data evaluation</li> </ul>
	States must conduct outreach to vulnerable communities, including:	<ul style="list-style-type: none"> <li>✓ Information sharing</li> <li>✓ Solicitation of input on environmental justice analysis and initial plan</li> <li>✓ Sharing of financial and technical resources</li> </ul>
<b>Phase 2: Submission of Initial Plan</b>	Plans must include demonstrations of engagement:	<ul style="list-style-type: none"> <li>✓ Description of community engagement to date</li> <li>✓ Methodology for identification of vulnerable communities</li> </ul>
	Plans must report future steps and include:	<ul style="list-style-type: none"> <li>✓ Description of plan for involvement of vulnerable communities in final plan process</li> </ul>
<b>Phase 3: Preparation of Final Plan</b>	States must conduct public hearings in which:	<ul style="list-style-type: none"> <li>✓ Translators should be provided</li> <li>✓ Responses should be given to all comments</li> </ul>
	States must conduct continued outreach:	<ul style="list-style-type: none"> <li>✓ Solicitation of and response to comments on initial plan submission is required</li> <li>✓ Translation of information into appropriate languages is recommended</li> </ul>
<b>Phase 4: Submission of Final Plan</b>	Final filings must include:	<ul style="list-style-type: none"> <li>✓ Information on public hearings, and how they were made accessible</li> </ul>
	Requests for extension require:	<ul style="list-style-type: none"> <li>✓ Demonstration of meaningful engagement with vulnerable communities</li> </ul>

**Table 1. Steps states must take to include environmental justice considerations in compliance planning process**

Source: Synapse Energy Economics (2016)

States must demonstrate how they are engaging traditionally vulnerable communities including low-income residents, communities of color, and tribal communities. The CPP identifies a handful of technical resources and non-technical guidance documents EPA has either made available or plans to make available to states to support these considerations, as well as EPA's commitment to provide state outreach and training sessions regarding community engagement and environmental justice matters.

Environmental justice information for North Carolina's communities is available through EPA's publicly available [EJSCREEN](#) tool. This tool demonstrates the reality that in North Carolina, as in many other states, communities located near power plants tend to be disproportionately low-income and communities of color. These neighboring populations bear the brunt of the many direct health impacts caused by power plant emissions, including asthma, lung disease, heart disease, and premature death due to high local concentrations of particulate matter, NO<sub>x</sub>, and SO<sub>2</sub>.

Potential Methodologies for Identifying Vulnerable Communities (NOTE: A combination of all methodologies is recommended and would ensure the most comprehensive process and certainty regarding areas to target. However, each approach could be used individually.)

- EPA-developed Clean Power Plan proximity analysis and EJSCREEN can be utilized as initial screening tools to highlight potential vulnerable communities.
- Housing development agencies can assist with the identification of geographic locations within communities with greater density of low-income households.
- State and local economic development agencies can assist with the identification of geographic locations exhibiting the greatest stress with regards to economic development and activities.
- State Departments of Health can assist with the identification of geographic locations exhibiting the greatest levels of health stressors pertaining to poor air quality.
- Title VI and Environmental Justice Personnel can assist with identifying communities which historically have expressed concerns over disproportionate community impacts resulting from environmental regulatory actions.
- Utilize existing partnerships with community organizations which typically work with low-income and other vulnerable communities to identify specific stakeholders.



Ms. Joelle Burleson  
Division of Air Quality  
1641 Mail Service Center  
Raleigh, North Carolina 27699-1641

Re: Standards of Performance for Carbon Dioxide (CO<sub>2</sub>) Emissions for Existing Electric Utility Generating Units (EGUs) Under Clean Air Act Section 111(d).

I am manager of Medical Advocates for Healthy Air, a program of Clean Air Carolina. Our members are North Carolina medical and health professionals concerned about the effect of air quality on health. I have had a disturbing number of conversations with state and local health and education professionals who disagree with this proposal but fear for their jobs if they comment, even on their own time. It is a sorry indication of the deterioration of our democratic American values when people feel threatened for speaking their mind. I am speaking on behalf of these dedicated North Carolina servants.

We are experiencing the health effects of climate change in North Carolina. This summer, we saw a spike in hospital admissions due to heat exposure, and if we continue on our current trajectory, we can expect the number of 95 degree days to increase from an average of 7 days a year to 31 days a year before mid-century. I killed mosquitos throughout the month of December, keeping me mindful of the Centers for Disease Control's prognosis of increased incidence of vector-borne illnesses like West Nile Virus and Lyme disease due to a longer growing season. The increasingly common phenomenon of "flushing", when heavy rains follow significant drought, can contaminate water supplies, especially in rural areas. As a social worker, I'm particularly concerned about the mental health impacts on those of us who will experience loss and displacement due to fire, flood and sea level rise. The Pentagon warns that these effects around the globe set the stage for civil unrest and pose a national security threat. We must face this urgent challenge with courage.

The EPA's Clean Power Plan gives North Carolina the opportunity to be a leader in protecting our public health, maintaining our leadership in renewable energy and saving us money through increased energy efficiency. Many other states are taking advantage of this opportunity and instituting plans with carbon reduction targets even more aggressive than the EPA's.

Our leadership in the Clean Smokestacks Act significantly reduced air pollution from power plants. It's time to take leadership again to reduce carbon pollution. Our taxes should go to preserving a healthy environment and developing the green economic opportunities of the future. I urge the DAQ to develop a plan that meets or exceeds the EPA target.





January 15, 2016

Governor Pat McCrory  
116 West Jones Street  
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Donald R. van der Vaart  
Secretary, North Carolina Department of Environmental Quality  
c/o Ms. Joelle Burluson  
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Transmitted by email to: [Joelle.Burluson@ncdenr.gov](mailto:Joelle.Burluson@ncdenr.gov)

**Re: Standards of Performance for Carbon Dioxide (CO<sub>2</sub>) Emissions for Existing Electric Utility Generating Units (EGUs) Under Clean Air Act Section 111(d).**

Dear Governor McCrory and Secretary van der Vaart,

We, the undersigned, are members of Medical Advocates for Healthy Air, a statewide network of medical and health professionals who are concerned about the impact of air pollution on human health. We strongly support the full implementation of the Clean Power Plan as outlined by the EPA.

In 2009, the EPA, in response to the 2007 Supreme Court ruling requiring scientific investigation of the link between global warming emissions as air pollutants endangering the public's health and welfare, found that global warming pollution is linked to heat-related illness, increases in respiratory diseases, and injuries and death related to extreme weather. To address global warming, on August 3, 2015, the EPA released the Clean Power Plan, designed to cut carbon pollution from the power sector by approximately 30 percent from 2005 levels by 2030. It will also reduce pollutants that contribute to toxic soot and smog by over 25 percent.

You have stated that, to meet the goals of the Clean Power Plan, North Carolina will focus exclusively on controlling CO<sub>2</sub> emissions from power plants. While reducing the CO<sub>2</sub> emissions from power plants is important, we urge moving away from fossil fuels, the sooner the better. Regardless of how clean coal- and gas-fired power plants become, it is impossible to eliminate all of the toxic chemicals, fine particulate matter (PM) and ground-level ozone that result from the extraction, transportation, combustion and disposal processes involved in generating energy

PO Box 5311 • Charlotte NC 28299 • [www.medicaladvocatesforhealthyair.org](http://www.medicaladvocatesforhealthyair.org)



from fossil fuels. These pollutants are linked to diseases and conditions such as respiratory illnesses, autism, ADHD, low birth weight, miscarriage, diabetes, obesity, cancer, stroke and dementia.

We are especially concerned by the prevalence of respiratory disease in our population. The NC Department of Health and Human Services finds that asthma affects one out of every 10 children in our state and is the leading medical cause for school absences, with effects rippling beyond the health of the individual: parents lose time at work, and extended or frequent absences from school disrupt not only the individual child's education but the flow of an entire classroom.

The Clean Power Plan's flexible "building blocks" (reducing power plant CO<sub>2</sub> emissions, increasing renewable energy generation, and moving from coal to natural gas) enable North Carolina to continue our leadership in the renewable sector, which has the additional advantages of providing clean jobs and lowering energy bills. We should take advantage of that flexibility.

We call on you to fully implement the Clean Power Plan and strengthen North Carolina's investment in emission-free energy production. It is the right thing to do for the health of the people who live, grow, study, and work in our state.

Sincerely,

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*Via Electronic Mail*

Donald R. van der Vaart  
Secretary, North Carolina Department of Environmental Quality  
c/o Ms. Joelle Burluson  
Division of Air Quality  
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Transmitted by e-mail to: [daq.publiccomments@ncdenr.gov](mailto:daq.publiccomments@ncdenr.gov)

**Reference: 111(d); Comments by SELC, Clean Air Carolina, Environment North Carolina, North Carolina Council of Churches, North Carolina Interfaith Power and Light, North Carolina League of Conservation Voters, and the Southern Alliance for Clean Energy on Standards of Performance for Carbon Dioxide Emissions for Existing Electric Utility Generating Units Under Clean Air Act Section 111(d).**

Dear Secretary van der Vaart:

On behalf of itself, Clean Air Carolina, Environment North Carolina, North Carolina Council of Churches, North Carolina Interfaith Power and Light, North Carolina League of Conservation Voters, and the Southern Alliance for Clean Energy, the Southern Environmental Law Center submits these comments in opposition to the North Carolina Department of Environmental Quality's ("DEQ") proposal to submit a plan that is deliberately designed to fall short of the requirements of the Clean Power Plan. DEQ's proposal would result in missed opportunities and the imposition of a federal implementation plan in North Carolina, and should be abandoned.

In particular, the following comments show that:

- 1) By proposing a plan that is designed to fail, DEQ has violated state law and abdicated its duty to implement federal clean air standards;
- 2) North Carolina is well-positioned to comply with the Clean Power Plan, yet DEQ's plan fails to take advantage of the major strides in clean energy that North Carolina has already made or committed to make;
- 3) Under DEQ's plan-to-fail, North Carolina would miss out on significant customer savings, job opportunities, and health benefits provided by the Clean Power Plan;

- 4) North Carolina also risks missing out on the benefits of the Clean Energy Incentive Program, which rewards states for early action on solar, wind, and low income energy efficiency; and
- 5) Even North Carolina's heat rate improvement proposal, which achieves only a small fraction of the reductions required under the Clean Power Plan, is fraught with missed heat rate improvement opportunities and a lack of transparency.

## **I. Background**

The Clean Power Plan presents the first national limits on carbon dioxide pollution from power plants. It will reduce carbon emissions by 870 million short tons by 2030—the equivalent of the emissions of 95 percent of the homes in the United States. In the process of furthering the transition to a modern, clean energy economy, it will reduce electric bills by about \$85 per year, create new jobs, and help build healthier communities. The Clean Power Plan sets emission reduction targets that states must meet, and allows states great flexibility in crafting plans for compliance.

Under the Clean Power Plan, North Carolina is required to either reduce its emissions “rate”—the amount of carbon produced per unit of energy generated—by approximately 32 percent, or reduce its “mass” emissions—the total amount of carbon from affected power plants—by a comparable amount. Thanks to actions taken to date and policies that are already in place, North Carolina is on track to meet its target by 2021, before the Clean Power Plan compliance period even begins.

Yet DEQ's proposal for “compliance” with the Clean Power Plan would not even come close to meeting these required reductions. Instead, DEQ's proposal focuses exclusively on marginal upgrades at coal plants, and completely disregards all other means of complying with the Clean Power Plan, including clean and low-cost options such as energy efficiency, solar, and wind. It also fails to take advantage of extra credit opportunities for early action on solar, wind, and low-income energy efficiency. DEQ's plan-to-fail would achieve a meager 0.4 percent improvement in the efficiency of coal plants—a far cry from the overall 32 percent emissions rate reductions required.<sup>1</sup> As a result, DEQ's proposal violates state law, and would almost certainly be rejected and replaced with a federal plan. DEQ should abandon this proposal and commence a robust stakeholder process to develop a compliance plan that is in the best interest of the people of North Carolina.

## **II. DEQ's Proposed Rule Fails to Comply with the Clean Power Plan and Unnecessarily Limits the State's Flexibility to Achieve Carbon Emissions Reductions.**

The Environmental Management Commission (“EMC”) should reject DEQ's proposal because it fails to comply with either the procedural or substantive requirements of the Clean Power Plan. The proposed rule is instead calculated to defy federal requirements as part of

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<sup>1</sup> Department of Environmental Quality, *Presentation, Air Quality Committee & Environmental Management Commission Meetings* (Nov. 4-5, 2015), [http://www.ncair.org/Calendar/Planning/November2015AQC/Agenda\\_3.4.pptx](http://www.ncair.org/Calendar/Planning/November2015AQC/Agenda_3.4.pptx).

DEQ's risky litigation strategy. Based on statements by DEQ Secretary Donald van der Vaart, it appears that the draft rule is the opening salvo in a reckless plan by DEQ to trigger rejection of North Carolina's compliance plan by the EPA, risking imposition of a federal compliance plan as a result. DEQ has already joined a legal challenge to the Clean Power Plan. With this noncompliant proposed rule, DEQ is betting the state's electricity future on its hopes of prevailing in a legal challenge rather than working in good faith to develop a plan that best meets the needs of our state.

As described more fully in Section II of these comments, North Carolina is well-positioned to meet the requirements in the Clean Power Plan thanks to proactive state policies like the Clean Smokestacks Act and the Renewable Energy and Energy Efficiency Portfolio Standard ("REPS"). In particular, maximizing reliance on clean, low-cost energy efficiency and renewables has the potential to save customers money while at the same time boosting our thriving clean energy economy. It simply defies common sense for DEQ to dig in its heels rather than move forward to develop a compliance plan that takes full advantage of our state's bountiful clean energy resources.

**A. The process for developing the rule and submitting it for public comment was deficient.**

1. *DEQ did not allow for public participation in developing its plan.*

There was little to no participation by stakeholders—other than Duke Energy and owners of other affected facilities—in the process of developing DEQ's proposed rule.<sup>2</sup> Members of the public were shut out of these discussions until the proposed rule was finalized by DEQ. Once it finished its proposed rule, DEQ rushed through a public hearing process that coincided with the winter holidays. Only three forums were provided for public comment for a rule that will affect the entire state decades into the future. No translators or interpreters were provided at these forums.

Further, those hearings did nothing to address the additional requirements to reach out to vulnerable communities as set forth in the Clean Power Plan. The EPA explicitly stated that meaningful involvement in plan development "goes beyond the holding of a public hearing."<sup>3</sup> The final Clean Power Plan directed DEQ to make environmental justice concerns a central part of its compliance planning process. DEQ was encouraged to analyze the impact of its proposed compliance plan on vulnerable communities and was required to conduct outreach to those communities to involve them in the development of the state plan.

The EPA recognizes that low-income communities and certain communities of color are disproportionately affected by climate change impacts. To ensure that its proposed rule does not further harm communities of color or low-income communities, the EPA created screening tools

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<sup>2</sup> From the limited production of public records received from DEQ so far, it appears that there were a number of meetings with representatives of Duke Energy during the development of the proposed rule (at a minimum, one on August 6 and another on October 8, 2015).

<sup>3</sup> EPA, Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units 80 Fed. Reg. 64,662, 64,848 (Oct. 23, 2015).

to help evaluate how existing and future pollution from fossil fuel fired electricity generation harms those who live closest to those power plants.<sup>4</sup> The EPA then provided these tools to the states for their use in developing compliance plans. There is no evidence that DEQ has engaged in any of this proximity analysis. This failure is particularly troubling in light of DEQ's decision to rely solely on heat-rate improvements for compliance, a strategy that could result in the increased use of coal-fired electric generating units, further exacerbating harmful health impacts to vulnerable communities.

The EPA has found, for example that climate change will have a disproportionately harmful impact on African Americans in the United States:

Many African Americans are already at risk from air pollution. Climate change is expected to lead to increased air pollution, contributing to asthma attacks and other respiratory issues. African Americans continue to have higher rates of asthma than the national rates. About 1 in 9 (11 percent) non-Hispanic blacks of all ages and about 1 in 6 (17 percent) of non-Hispanic black children had asthma in 2009, the highest rate among racial/ethnic groups. The greatest rise in asthma rates (almost a 50 percent increase) was among black children from 2001 through 2009.... Increased levels of ozone caused by climate change will exacerbate asthma attacks and other respiratory ailments that disproportionately harm African Americans, leading to increased hospitalizations.<sup>5</sup>

For these and related reasons, the EPA rightfully emphasized in the Clean Power Plan that states should conduct outreach to vulnerable communities when designing their compliance plans.

To comply with the requirements for public participation, states must engage in “meaningful, active ways” with low-income communities and communities of color. When it submits its proposed plan to the EPA, DEQ will be required to document what steps it took to “meaningfully” engage vulnerable communities and what methodology it employed to identify vulnerable communities.<sup>6</sup> DEQ will not be in a position to comply with these requirements because it has made no effort to involve vulnerable communities before preparing its proposed plan. This is just one of many ways in which DEQ is intentionally setting itself up for rejection by the EPA.

2. *DEQ failed to respond to public records request in adequate time.*

On November 11, 2015, the Southern Environmental Law Center submitted a public records request to DEQ asking for records related to DEQ's development of the proposed rules. Anticipating the expedited timeframe for promulgating the proposed rule, our request was submitted promptly. We asked for these public records two days before our receipt of DEQ's

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<sup>4</sup> *Id.* at 64,916.

<sup>5</sup> EPA, *EPA's Clean Power Plan, Climate Change and African Americans*, <http://www3.epa.gov/airquality/cppcommunity/afam-climate-change.pdf>.

<sup>6</sup> 80 Fed. Reg. at 64,854.

November 13, 2015 email to air quality stakeholders transmitting the notice that the EMC would accept public comments. We did not receive any documents in response to our public records request until January 8, 2016—just one week before the January 15, 2016 deadline for the submission of comments. Moreover, the January 8th production was only a partial response to our request. As of January 15, 2016—the deadline for these comments—we have not yet received an estimate of when we can expect to receive the remaining documents.

The proposed rules are complex and implicate matters important to all North Carolinians. While we have provided thorough comments on many aspects of DEQ’s proposal, DEQ’s delay in producing records has compromised our ability to undertake a full analysis. As noted above, EPA specifically requires robust public participation in state processes that implement the Clean Power Plan. Limiting timely access to public records relating to DEQ’s proposed rule thwarts this explicit goal of meaningful public participation.

Because of the significant delay in DEQ’s response to our public records request, we submitted a written request for a 30-day extension on the comment period in order to provide us with adequate time to review the records. This request was submitted on December 15, 2015, with a follow-up request on December 22 when it became clear that the delay would continue. Despite repeated inquiries on the status of the request, we received no response until January 12, 2016—just three days before the comment deadline. In addition, DEQ’s only response was to simply refer us to Charles Carter, Chairman of the EMC Air Quality Committee. This response was puzzling because we had included Commissioner Carter as a recipient of the original written extension request. Our subsequent outreach to Commissioner Carter on January 13, 2016 has also gone unanswered. DEQ, a public agency, has failed to make a decision on a long-pending request for a reasonable extension of the comment deadline, compounding its failure to produce public records in a timely or complete fashion. For an agency that has been instructed by the EPA to involve stakeholders in its development of a compliance plan, DEQ has shown a troubling inability to communicate or share information with the public.

### 3. *The EMC improperly waived its 30-day review period.*

DEQ requested and obtained a waiver of the usual 30-day period for the relevant committee of the EMC’s review of DEQ’s proposal. In its haste to fast-track its ill-conceived proposal, DEQ asked the Air Quality Committee, with just over a week to review the draft rule, to approve the request for a 30-day waiver and send the request to proceed to public hearing to the full EMC the following day. The Air Quality Committee complied with this request.

The EMC’s rulemaking authority is subject not only to specific procedural requirements imposed by statute<sup>7</sup>, but also the procedures adopted by the EMC itself. Pursuant to the authority conferred under North Carolina General Statutes § 143B-18 and § 143B-282, *et seq.*, the EMC has adopted its own internal operating procedures. According to the internal procedures, “[e]xcept as provided for in this or other sections of the bylaws, the Commission shall take no actions on rulemaking issues that have not been acted on by the appropriate committee at a scheduled meeting of the committee which was held prior to a previous

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<sup>7</sup> See generally N.C. Gen. Stat. Chapter 143.

Commission meeting.”<sup>8</sup> The inclusion of this provision in the EMC procedures reflects the importance of informed deliberation by members of the EMC prior to taking action on a rulemaking. The provision ensures that one or more of the standing or special committees with subject matter expertise has an opportunity to review a proposed action prior to its consideration by the full EMC. Importantly, it also ensures that Commissioners have ample notice of, and opportunity for thoughtful deliberation on, the proposed actions on which they are asked to vote.

4. *The hearing officer publically opposes the very rule that DEQ is required to implement.*

In addition to short-circuiting its own procedures for reviewing the proposed rules, the EMC appointed a hearing officer who has publically expressed his disdain for the Clean Power Plan. Commissioner Carter has made no secret of his opposition to the EPA’s Clean Power Plan and his support for DEQ’s strategy of submitting a noncompliant plan.<sup>9</sup> Appointing someone to preside over the public hearings and review of the proposed rule who has already prejudged the pertinent issues does little to instill confidence in this body’s ability to independently review the shortcomings of DEQ’s actions.

**B. DEQ’s proposed rule places unnecessary limits on the agency’s own authority to allow “beyond the fence-line” compliance measures in implementing the Clean Power Plan.**

Rather than developing a plan that draws from the wide array of sensible, low-cost compliance measures available to reduce carbon emissions—such as energy efficiency and renewable energy—DEQ’s proposal would achieve reductions through costly engineering measures at individual power plants. The proposed rule limits itself to Building Block 1 of the Clean Power Plan—heat rate improvements at existing power plants. DEQ’s command-and-control style proposed rules would require power plant operators to install specific equipment, or make other engineering or operational changes, at specific power plants across the state.<sup>10</sup>

Although not well explained in the Supporting Basis Document, it appears that DEQ interprets Section 111(d) of the CAA to allow controls on emission sources only, and to not authorize “beyond the fence-line” compliance measures. In explaining the basis for the proposed rule, the agency states: “importantly, [DEQ] will determine BSER for each EGU based upon BB1-type measures only (i.e., measures which can be accomplished within the fence-line of the facility), conforming to the §111(d) of the CAA and the requirements of 40 CFR 60 ‘Adoption

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<sup>8</sup> EMC, *Internal Operating Procedures*, Art. VII § 2 (Sept. 11, 2014).

<sup>9</sup> See, e.g., Charlie Carter, *The Coming EPA Mandate and North Carolina’s Bad Bill*, News & Observer (June 10, 2015), available at <http://www.newsobserver.com/opinion/op-ed/article23688772.html>; Charlie Carter, *NC on Correct Clean Power Path*, News & Observer (Nov. 23, 2015), available at <http://www.newsobserver.com/opinion/letters-to-the-editor/article46096385.html>. Mr. Carter referred to the EPA’s plan as a “federal takeover,” arguing that the “CPP will impose federal control over...six-sevenths” of the economy and refers to the supposed “draconian effects of the CPP on our electricity supply.”

<sup>10</sup> Attachment 1, Letter from Mark McIntire, Duke Energy to Sheila Holman, N.C. Division of Air Quality (July 31, 2015) (expressing concern with DEQ’s approach and stating that heat rate improvements are “highly variable” and “by their very nature, only temporary.”)

and Submittal of State Plans for Designated Facilities.”<sup>11</sup> DEQ’s decision to propose a rule that limits compliance options to those that can be accomplished “within the fence-line” of each affected EGU reflects a flawed interpretation of the Clean Air Act that DEQ has asserted in presentations to various federal and state legislative and executive committees and in oral and written statements to EPA.<sup>12</sup> This contention lacks merit, as explained in the following sections.

1. *The Clean Air Act framework.*

Section 111 of the Clean Air Act directs EPA to establish “standards of performance” limiting emissions of harmful air pollutants in three phases. First, EPA must identify categories of stationary sources that cause or contribute significantly to “air pollution which may reasonably be anticipated to endanger health or welfare.”<sup>13</sup> Second, EPA must establish national standards of performance for *new sources* in each such category.<sup>14</sup> Finally, once EPA has developed standards of performance for new sources in a category, it must then prescribe regulations under which states develop standards of performance for *existing sources* in the same source category.<sup>15</sup>

Section 111(d) provides that EPA “shall prescribe regulations which shall establish a procedure . . . under which each State shall submit [to EPA] a plan which . . . establishes standards of performance for *any air pollutant* . . . to which a standard of performance under this section would apply if such existing source were a new source.”<sup>16</sup> Congress exempted two categories of air pollutants from this mandate: *any air pollutant* (1) for which air quality criteria have been issued or which is listed under section 108(a); or (2) which is emitted from a source category covered under the hazardous air pollutant provisions of section 112.<sup>17</sup> Neither exemption applies here.

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<sup>11</sup> DEQ, Supporting Basis for Determination of Best System of Emissions Reduction for Carbon Dioxide (CO<sub>2</sub>) Emissions from Existing Electric Utility Generating Units at 3 (Oct. 2015) (the “Supporting Basis”).

<sup>12</sup> In addition to the “beyond the fence line” argument, DEQ has raised three main additional arguments, each of which is also flawed. First, DEQ claims that EPA cannot regulate power plant carbon dioxide emissions under Clean Air Act section 111(d) because EPA has promulgated emission standards for power plant hazardous air emissions under section 112. However, EPA’s interpretation of section 111(d) to limit development of standards of performance for specific *pollutants* regulated under section 112—rather than for entire categories of *sources* regulated under that section—is not only permissible, it is also the most natural reading of the statute and the one that best effectuates each of the statutory provisions. Second, DEQ has argued that EPA cannot use section 111(d) to limit carbon dioxide emissions because it already is listed as a criteria pollutant under section 108. This assertion is false; EPA has not listed carbon dioxide as a criteria pollutant. Finally, DEQ also has argued that EPA cannot establish guidelines for regulating existing power plant sources of carbon dioxide under section 111(d) because EPA’s proposed standards of performance for new power plant sources under section 111(b) are unlawful. We do not address this mistaken contention here, but incorporate by reference our comments in the rulemaking docket for the new source standards under section 111(b).

<sup>13</sup> 42 U.S.C § 7411(b).

<sup>14</sup> *Id.*

<sup>15</sup> *Id.* §7411(d).

<sup>16</sup> *Id.* (emphasis added).

<sup>17</sup> *Id.*

EPA regulations implementing section 111(d) establish a broad framework under which EPA establishes emission guidelines for each covered pollutant.<sup>18</sup> The guidelines set minimum required emissions limitations based on the best adequately demonstrated systems of emission reductions.<sup>19</sup> States then have flexibility to tailor their own plans to implement the standards of performance, so long as they meet or are equivalent to EPA’s emission guideline.<sup>20</sup> EPA’s implementing regulations also provide for case-by-case variances from an emission guideline to allow for “significantly more reasonable” compliance options,<sup>21</sup> such as where necessary to take into account the remaining useful life of an existing source that would be subject to the performance standard.<sup>22</sup>

Although EPA promulgated its guidelines for implementing section 111(d) in 1975, the agency has issued few performance standards for existing sources. Thus, while this is EPA’s default approach, it has not been extensively elaborated or refined through a long history of prior rulemakings, and nothing in the Clean Air Act requires EPA to adhere rigidly to this approach for each air pollutant or each existing source category. In fact, EPA may adopt any reasonable approach to develop, issue, and implement existing source standards, so long as they meet the minimum requirements of the Clean Air Act and the agency adequately explains its approach and rationale through appropriate notice and comment rulemaking.<sup>23</sup> In this instance, EPA’s rationale for using 111(d) as a legal basis to establish guidelines of performance for existing power plant sources of carbon dioxide is fully consistent with the Clean Air Act, EPA’s implementing regulations, and past practice.

## 2. *Regulating “beyond the fence-line.”*

DEQ erroneously claims that “[t]he plain language of the Act as well as legal precedent precludes EPA and States from designing a standard that relies on reductions made outside of the emissions unit.”<sup>24</sup> Tellingly, DEQ does not identify the “plain language” or the legal precedent that purportedly limits EPA to developing unit-specific guidelines and constrains EPA from creating flexible compliance options. The reason for this omission is simple—it does not exist. In contrast to DEQ’s unsupported argument, “[t]here is widespread agreement in the academic community that § 111 authorizes the use of many types of flexible approaches.”<sup>25</sup>

To the extent the Clean Air Act defines the terms used in section 111(d), it does so broadly, leaving EPA wide latitude to interpret them in any reasonable manner that effectuates the pollution reduction goals of the Act. In section 111(a), Congress defined “standard of

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<sup>18</sup> 40 C.F.R. § 60.22(a).

<sup>19</sup> *Id.* § 60.22(b).

<sup>20</sup> *Id.*

<sup>21</sup> *Id.* § 60.24(f)(3)

<sup>22</sup> 42 U.S.C. § 7411(d)(1)(B).

<sup>23</sup> *See, e.g., FCC v. Fox Television Stations, Inc.* 566 U.S. 502, 515 (2009) (an agency may change its position so long as it provides “good reasons” for doing so).

<sup>24</sup> Donald van der Vaart Testimony before the House Committee on Energy and Commerce at 6 (Nov. 14, 2013).

<sup>25</sup> G. Wannier et al., *Prevailing Academic View on Compliance Flexibility under Section 111 of the Clean Air Act*, Institute for Policy Integrity, New York University School of Law Discussion Paper No. 2011/2 at 1.

performance” to mean “a standard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated.”<sup>26</sup> The general definitions in Clean Air Act section 302 define “standard of performance” to mean “a requirement of continuous emission reduction, *including* any requirement relating to the operation or maintenance of a source to assure continuous emission reduction.”<sup>27</sup> On the face of the statute, EPA has broad discretion to identify the best *system* of emission reduction and is limited only to the extent the standard is achievable and considers certain factors such as cost and other non-air quality impacts. The applicable definitions do not, as DEQ argues, limit EPA to developing unit-specific guidelines. And courts should not infer such an unexpressed limitation on the agency’s discretion to reasonably interpret its statutory mandate.<sup>28</sup>

To the extent Congress has spoken on the issue of EPA’s discretion to fashion flexible compliance approaches under section 111(d), “it has removed, rather than added, barriers to flexible mechanisms in EPA regulations.”<sup>29</sup> In particular, “Congress amended § 111 [in 1990] to remove the word ‘technology’ from its definition of performance standards, indicating that standards need not be technology-based.”<sup>30</sup> Thus, not only is there no support in the statute for DEQ’s overly restrictive reading of the statute, accepted principles of statutory interpretation refute DEQ’s contention.

Additionally, section 111(d) dictates that the procedure for implementing standards of performance for existing sources “shall . . . be similar to that provided by section 7410 [section 110] of this title.”<sup>31</sup> The process prescribed under section 110 grants states great latitude to fashion state implementation plans so long as they will achieve air quality protections that are at least equivalent to minimum federal standards, and specifically authorizes flexible compliance approaches “including economic incentives such as fees, marketable permits, and auctions of emission rights.”<sup>32</sup> Based on well-established practice, states have, in fact, exercised this flexibility to implement pollutant reductions required under section 110 through a variety of non-source-specific mechanisms, including renewable portfolio standards, demand-side management, utility planning, and other indirect emission reduction systems.<sup>33</sup> And there is no question that

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<sup>26</sup> 42 U.S.C. § 7411(a)(1).

<sup>27</sup> *Id.* § 7602(l) (emphasis added).

<sup>28</sup> *Chevron U.S.A. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837, 863 (1984); see *Texas Rural Legal Aid Inc. v. Legal Serv. Corp.*, 940 F.2d 685, 694 (D.C. Cir. 1991) (“Under *Chevron* [courts] normally withhold deference from an agency’s interpretation of a statute only when Congress has ‘directly spoken to the precise question at issue.’”).

<sup>29</sup> G. Wannier, *et al.*, *Prevailing Academic View on Compliance Flexibility under Section 111 of the Clean Air Act*, *supra*. n.25 at 4.

<sup>30</sup> *Id.*

<sup>31</sup> 42 U.S.C. § 7411(d)(1).

<sup>32</sup> 42 U.S.C. § 7410(a)(2)(A).

<sup>33</sup> See EPA, *Roadmap for Incorporating Energy Efficiency/Renewable Energy Policies and Programs into State Implementation Plans/Tribal Implementation Plans* (2011); EPA, *Guidance on SIP Credits for Emissions Reductions from Electric-Sector Energy Efficiency and Renewable Energy Measures* (2004) (These guidance documents have been successfully implemented in Texas, Shreveport, Louisiana, and the Washington, D.C. region,

EPA has similar flexibility in suggesting—and in some cases implementing through Federal Implementation Plans—flexible compliance approaches, as section 111(d)(2) accords EPA the same authority granted to the states in order to fashion a federal “backstop” program for existing sources.<sup>34</sup>

Thus, contrary to DEQ’s unsupported criticisms, there is little question that “EPA has the authority to outline flexible structures in its [section 111(d)] guidance to states on existing source regulation, either in the form of a specific preferred option or by listing several alternative options.”<sup>35</sup> Meanwhile, DEQ is not free to pick and choose which federal regulations it decides to enforce. Though free to pursue its quixotic court challenges—however imprudent they may be—unless a court were to agree with DEQ’s misguided interpretation of section 111(d), it must comply with lawfully promulgated federal regulations. DEQ has offered no justification for its willful failure to do so here.

3. *State law requires DEQ to implement Clean Air Act regulations promulgated by EPA, including the Clean Power Plan.*

Not only does DEQ have ample authority to fully implement the Clean Power Plan, it is *required* to do so. Under N.C. Gen. Stat. § 143-215.107(a)(10), “The Commission *is hereby directed and empowered* . . . [t]o develop and adopt standards and plans necessary to implement requirements of the federal Clean Air Act and implementing regulations adopted by the United States Environmental Protection Agency.”<sup>36</sup> And N.C. Gen. Stat. § 143-215.3(a)(4) gives the EMC the power to delegate this duty to DEQ. DEQ’s refusal to implement the Clean Power Plan is therefore a violation of its mandates under state law.

**C. DEQ’s plan to submit an insufficient state plan and then challenge EPA’s rejection of that plan in court cannot be used as a collateral attack on the Clean Power Plan.**

When a party challenges EPA’s rejection of a state implementation plan, that challenge is limited to whether or not the plan is sufficient to comply with federal requirements.<sup>37</sup> The challenge cannot be used as a collateral attack on the original federal rulemaking setting out the requirements. It is therefore a waste of valuable time and money to develop a state plan that is designed to be non-compliant with the federal Clean Power Plan, in an attempt to attack the legality of the Clean Power Plan itself.

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all of which modified their SIPs to receive credit for reductions achieved through energy efficiency and renewable energy measures).

<sup>34</sup> 42 U.S.C. § 7411(d)(2); see G. Wannier et al., *Prevailing Academic View on Compliance Flexibility under Section 111 of the Clean Air Act*, supra n.25 at 4.

<sup>35</sup> G. Wannier, et al., *Prevailing Academic View on Compliance Flexibility under Section 111 of the Clean Air Act*, supra n.25 at 4.

<sup>36</sup> (emphasis added).

<sup>37</sup> See *ARTBA v. EPA*, 705 F.3d 453, 458 (D.C. Cir. 2013), *cert. denied*, 134 S. Ct. 985 (U.S. 2014) (holding that petitioners cannot challenge the substance of Clean Air Act regulations by challenging EPA’s application of those regulations in a state implementation plan).

### **III. North Carolina’s Emissions Target is Readily Achievable, and North Carolina has Already Achieved and Committed to Significant Emission Reductions.**

North Carolina is well-positioned to comply with its target in the Clean Power Plan, thanks to its impressive renewable and energy efficiency installations, the proactive Clean Smokestacks Act passed over a decade ago, and its commitments under the Renewable Energy and Energy Efficiency Portfolio Standard (“REPS”). North Carolina is poised to exceed its mass-based target and nearly exceed its rate-based target *before the Clean Power Plan compliance period even begins*, through actions that the state has already taken to date or committed to take through 2021. Even DEQ itself has stated that North Carolina will comply with the Clean Power Plan under the state’s business-as-usual trajectory.<sup>38</sup> It is therefore especially bewildering that DEQ would spend valuable resources creating a state plan that is designed to fail, and mounting costly legal challenges to the Clean Power Plan.

#### **A. North Carolina’s baseline emission rate.**

In developing a carbon dioxide (“CO<sub>2</sub>”) emissions target for North Carolina, EPA calculated a baseline emissions rate based on 2012 emissions and generation data for coal, oil, and natural gas-fired facilities. In 2012, North Carolina produced approximately 50 million megawatt-hours (“MWh”) of generation from its coal-fired power plants and approximately 15 million MWh from natural gas combined cycle (“NGCC”) plants. As shown in Figure 1 below, these sources emitted nearly 117 billion pounds of CO<sub>2</sub> in 2012 with an emission rate of 1,778 lbs/MWh.

**Figure 1: Calculation of North Carolina Baseline Emission Rate**

Baseline Emission Rate	=	million lbs. CO <sub>2</sub>	103,867	12,840	0	0	<b>= 1,778 lbs/MWh</b>
			Coal	NGCC	Renewables*	EE*	
		million MWh	50.57	15.06	0	0	

\*EPA assumed renewables and EE are at zero for purposes of calculating the baseline emission rate

EPA then added an assumed emission and generation rate for post-2012 affected facilities that were considered to have commenced construction by January 8, 2014.<sup>39</sup> The addition of these affected units resulted in the “Adjusted Baseline.” As shown in Figure 2 below, the adjusted 2012 baseline emission rate for North Carolina was calculated at 1,673 lbs/MWh.

<sup>38</sup> Michael Walker, DEQ, *ICYMI – Roy Cooper’s puzzling stance on Clean Power Plan* (Aug. 17, 2015, 9:38 AM), [http://portal.ncdenr.org/web/guest/denr-blog/-/blogs/icymi-%E2%80%93-roy-cooper%E2%80%99s-puzzling-stance-on-clean-power-plan?\\_33\\_redirect=%2Fweb%2Fguest%2Fdenr-blog](http://portal.ncdenr.org/web/guest/denr-blog/-/blogs/icymi-%E2%80%93-roy-cooper%E2%80%99s-puzzling-stance-on-clean-power-plan?_33_redirect=%2Fweb%2Fguest%2Fdenr-blog) (explaining that North Carolina “is on track to meet the president’s goal of a 30 percent reduction by 2030”).

**Figure 2: Calculation of North Carolina Adjusted Baseline Emission Rate**

Adjusted Baseline Emission Rate	=	million lbs. CO <sub>2</sub>	112,797	21,757	0	0	= <b>1,673 lbs/MWh</b>
		million MWh	54.92	25.52	0	0	
			Coal	NGCC	Renewables*	EE*	

\* EPA assumed renewables and EE are at zero for purposes of calculating the adjusted baseline emission rate

## B. North Carolina’s 2030 emission reduction target.

EPA developed a “Best System of Emission Reduction” (“BSER”) for fossil-fueled facilities based on three “building blocks”: (1) improving the efficiency (or “heat rate”) at existing coal plants; (2) increasing use of existing, underutilized natural-gas combined cycle plants; and (3) increasing renewable generation. These building blocks are proven strategies that are already being used by power companies and states across the country to reduce emissions of carbon pollution and other harmful air pollutants from fossil-fuel-fired power plants. Furthermore, states have the flexibility to use other methods to meet their goals, including energy efficiency measures.

Applying each of the building blocks to reduce North Carolina’s baseline emission rate, EPA established an emission rate target for North Carolina of 1,136 lbs CO<sub>2</sub>/MWh by 2030. In the alternative, EPA established a mass-based cap of 51,266,234 tons of CO<sub>2</sub> in annual average emissions by 2030. As discussed below, North Carolina is already on track to achieve significant reductions, and the 2030 targets are readily achievable.

## C. North Carolina has already achieved significant carbon emission reductions.

North Carolina has made significant emission reductions since 2012, bringing the state closer toward its 2030 targets and making its reduction goals easier to meet. These reductions come as a result of post-2012 coal unit retirements, heat rate improvements, and running inefficient coal plants less often. The baseline emission rate calculated by EPA included a number of coal-fired units that are now retired or planned for retirement. These coal plants, along with their 2012 emissions and generation, are shown in Figure 3 below. As shown in Figure 4 below, these retirements result in a reduction of roughly 12 billion pounds of CO<sub>2</sub> emissions and 5.6 million MWh of coal-fired generation, lowering North Carolina’s emission rate to 1,633 lbs/MWh.

**Figure 3: North Carolina Post-2012 Coal Plant Retirements and Retirement Commitments**

Plant	2012 Emissions (lbs CO <sub>2</sub> )	2012 Generation (MWh)
Buck	485,138,840	219,929
L.V. Sutton	3,038,946,000	1,281,857
Riverbend	404,612,000	156,511
Cape Fear	953,802,000	473,340
Lee	1,696,340,000	829,335
Asheville	3,974,980,000	1,810,736
Allen 1,2,3	1,686,228,000	784,450

Lumberton	0	0
<b>Total</b>	<b>12,240,046,000</b>	<b>5,556,158</b>

**Figure 4: Reductions Achieved through Post-2012 Coal Plant Retirements and Retirement Commitments**

Reductions Achieved through Coal Retirements	=	million	112,797				<b>= 1,633 lbs/MWh</b>
		lbs. CO <sub>2</sub>	- 12,240	21,757	0	0	
			= 100,557				
			Coal	NGCC	Renewables*	EE*	
		million MWh	54.92				
			- 5.56	25.52	0	0	
			= 49.36				

\* EPA assumed renewables and EE are at zero for purposes of calculating the adjusted baseline emission rate

In addition to coal plant retirements, North Carolina has experienced an even further reduction of carbon emissions as a result of heat rate improvements at coal-fired power plants. As shown in Figure 5 below, heat rate improvements made as of September 2015 resulted in a reduction of 17 billion pounds of CO<sub>2</sub> emissions and more than 7 million MWh of coal-fired generation. The result is a further reduction of North Carolina’s emission rate to 1,558 lbs/MWh.

**Figure 5: Reductions Achieved through Post-2012 Coal Plant Retirements and Heat Rate Improvements**

Reductions Achieved through Coal Retirements and Heat Rate Improvements	=	million	100,557				<b>= 1,558 lbs/MWh</b>
		lbs. CO <sub>2</sub>	- 17,033	21,757	0	0	
			= 83,524				
			Coal	NGCC	Renewables*	EE*	
		million MWh	49.36				
			- 7.31	25.52	0	0	
			= 42.05				

\* EPA assumed renewables and EE are at zero for purposes of calculating the adjusted baseline emission rate

**D. North Carolina has already committed to making further emission reductions in the form of renewables and energy efficiency.**

North Carolina’s Renewable Energy and Energy Efficiency Portfolio Standard (“REPS”) requires that the state’s electric power suppliers (investor-owned utilities, electric membership corporations or cooperatives, and municipal utilities) supply an increasing portion of their retail electricity sales from renewable energy or energy efficiency resources. Beginning in 2012, each electric power supplier was required to meet 3 percent of the prior year’s retail electricity sales from renewable energy resources. This percentage ultimately increases to 10 percent of retail sales in 2018 for all suppliers (capping out at this level for EMCs and municipal utilities), and 12.5 percent in 2021 for the investor-owned utilities. Through 2020, up to 25 percent of the total requirement (3.125 percent of sales) can come from implementation of energy efficiency measures, and in 2021 and thereafter, up to 40 percent of the requirement (5 percent of sales) can be met with energy efficiency measures.<sup>40</sup>

As shown in Figure 6 below, assuming that utilities will meet the REPS requirements using the maximum allowable 5 percent of sales using energy efficiency measures, the REPS will result in the generation of 10 million MWh of renewable energy and nearly 7 million MWh of energy efficiency by the year 2021. These reductions, which are already in progress, and to

<sup>40</sup> N.C. Gen. Stat. § 62-133.8(b)-(c).

which North Carolina has already committed, will result in a further reduction of North Carolina’s emission rate to 1,250 lbs/MWh.

**Figure 6: North Carolina Reductions Achieved through Post-2012 Coal Plant Retirements and Heat Rate Improvements, Plus Emission Reductions through Existing 2021 REPS Requirements**

Existing Reductions and 2021 REPS Requirements	=	million lbs. CO <sub>2</sub>	83,524	21,757	0	0	= 1,250 lbs/MWh
			Coal	NGCC	Renewables*	EE*	
		million MWh	42.05	25.52	10	6.67	

**E. The increases in clean energy under the REPS will allow North Carolina to lessen its reliance on more polluting resources.**

According to load forecasts published by Duke Energy Progress and Duke Energy Carolinas, North Carolina will require generation of 132.4 million MWh of electricity in the year 2020. North Carolina, however, is on track to generate 143.9 million MWh of electricity in the year 2021, exceeding generation demands by approximately 11.5 million MWh.<sup>41</sup> This surplus of approximately 11.5 million MWh of generation would provide the opportunity to reduce more heavy emitting generation, thereby bringing North Carolina even closer to its 2030 target. More specifically, this surplus could help to achieve a further reduction of 2021 CO<sub>2</sub> emissions to less than 44 million tons, and lower the emissions rate to 1,201 lbs/MWh.

**F. North Carolina has already made significant progress toward its 2030 targets, and remaining emission reductions are readily achievable.**

As shown in Figure 7 below, all of the reductions that North Carolina has already achieved or committed to achieve, in addition to the additional reductions possible due to the projected generation surplus, would allow North Carolina to far surpass the mass-based goal, and come within 90 percent of compliance with the rate-based goal—nine years ahead of its compliance deadline.

**Figure 7: Progress Toward 2030 Goals by 2021**

Rate-Based Goal	True Baseline (lbs/MWh)	Progress (lbs/MWh)	Target (lbs/MWh)	Compliance (%)
	1,778	1,201	1,136	90%

Mass-Based Goal	Adjusted Baseline (tons)	Progress (tons)	Target (tons)	Compliance (%)
	67,277,341	43,663,899	51,266,234	117%

<sup>41</sup> Projected 2021 generation includes the following sources: coal, NGCC, nuclear, petroleum, renewables, EE, “other” (non-biogenic municipal solid waste, batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, tire-derived fuels, waste heat and misc. technologies), and 10 percent of 2020 projected load from out-of-state generation.

EPA's own projections for North Carolina estimate that the state will have achieved comparable reductions earlier, by 2020.<sup>42</sup> According to the EPA, North Carolina will have achieved a CO<sub>2</sub> emissions rate of 1,273 lbs/MWh by 2020, and annual average CO<sub>2</sub> emissions of less than 49 million tons. Most importantly, EPA projects that North Carolina will achieve these reductions *without the Clean Power Plan*. As shown below in Figure 10, based on EPA's projections, the state will have reached 74.49 percent of its rate-based goal, and will have exceeded its mass-based goal, by the year 2020 without the Clean Power Plan. Likewise, an analysis conducted by E9 Insight projects that North Carolina will become a seller of credits under the Clean Power Plan, indicating that the state is in a strong position relative to others to exceed its target and have excess carbon credits to sell.<sup>43</sup>

**Figure 10: EPA Projections for Progress Toward 2030 Goals by 2020—without Clean Power Plan**

<b>Rate-Based Goal</b>	Adjusted Baseline (lbs/MWh)	Progress (lbs/MWh)	Target (lbs/MWh)	<b>Compliance (%)</b>
	1,673	1,273	1,136	<b>74.49%</b>

<b>Mass-Based Goal</b>	Adjusted Baseline (tons)	Progress (tons)	Target (tons)	<b>Compliance (%)</b>
	67,277,341	48,856,544	51,266,234	<b>104.93%</b>

Any remaining gap that exists after taking into account existing reductions and commitments can easily be met through renewable energy development and the adoption of energy efficiency measures during the extensive 9 year compliance period. Indeed, North Carolina ranked second in the nation in new installation of solar PV in 2015 and fourth in cumulative installed capacity. Renewable energy development has grown rapidly in the state due to adoption of the REPS, a state renewable tax credit, quickly advancing technologies, and decreasing costs. Particularly as the Amazon Desert Wind project prepares to become the first utility-scale wind farm in North Carolina, and as wind energy developers eye the state's coast, known for its highly-ranked wind energy potential, the next 15 years of renewable energy growth in the state will be significant.

Likewise, energy efficiency demonstrates great potential for lowering North Carolina's CO<sub>2</sub> emissions over the course of the compliance period. Energy efficiency is an abundant, least-cost resource that has been deployed across the United States for decades. In fact, North Carolina's major electric utilities have already made a serious commitment to aggressive energy efficiency goals. In connection with the merger of Duke Energy and Progress Energy, DEC and DEP each agreed to adopt an annual energy efficiency savings performance target of 1 percent of the prior year's retail electricity sales beginning in 2015 and a cumulative target of 7 percent of retail electricity sales over the five-year period 2014-2018.<sup>44</sup> In their Integrated Resource Plans, DEC and DEP each modeled a level of energy efficiency that was based on these performance

<sup>42</sup> See EPA, Clean Power Plan: State at a Glance, North Carolina (Aug. 3, 2015), available at <http://www3.epa.gov/airquality/cpptoolbox/north-carolina.pdf>.

<sup>43</sup> Attachment 2, E9 Insight, Regulatory Brief, Clean Power Plan & Public Utility Commissions (Nov. 2015).

<sup>44</sup> The EE savings targets were memorialized in a settlement agreement with Southern Alliance for Clean Energy, the South Carolina Coastal Conservation League and Environmental Defense Fund, which was approved by the Public Service Commission of South Carolina in its Order Approving Joint Dispatch Agreement, Order 2012-517, SC PSC Docket No. 2011-158-E (July 11, 2012) at 43.

targets. DEC modeled a “High EE” scenario under which it achieved a total load reduction of 11 percent over the 2009-2029 period.<sup>45</sup> Under DEP’s “High EE” scenario, the utility would achieve a 9.1 percent total load reduction from 2009-2029.<sup>46</sup> In its 2014 IRP, DEC projects that its energy efficiency programs will reduce demand and load by about 7.6 percent of retail sales by 2022, or about 1700 MW.<sup>47</sup>

Moreover, efficiency savings achieved in leading states demonstrate the increasing achievability of energy efficiency. Eleven states achieved energy savings of more than 1 percent of retail sales in 2012,<sup>48</sup> and leading utilities are already saving from 1.5-2 percent of annual electricity sales.<sup>49</sup> National investments in utility energy efficiency programs have grown at a rapid pace—increasing from \$1.6 billion in 2006 to \$5.9 billion in 2011<sup>50</sup>—and are projected to continue to increase to between \$8.1 billion and \$12.2 billion over the next decade, with the most significant increases occurring in regions with lower levels of historical program spending.<sup>51</sup> Given these trends, and the comparatively low levels of energy efficiency currently being realized in North Carolina, the potential to ramp up energy savings across the State is substantial.<sup>52</sup>

With North Carolina on track to surpass its mass-based goal and to come within 90 percent of compliance with its rate-based goal *nine years ahead of the compliance deadline*, it is evident that the state can easily fill the gap with renewable energy generation and energy efficiency over the remainder of the compliance period. North Carolina is therefore exceedingly well-positioned to comply with its targets, and DEQ’s effort to subvert the Clean Power Plan reveals a willful blindness to the critical need to confront the twin threats of climate change and air pollution.

#### **IV. Under DEQ’s Plan-to-Fail, North Carolina would Miss out on the Significant Customer Savings, Job Opportunities, and Health Improvements Provided by the Clean Power Plan.**

By rejecting the Clean Power Plan and instead pursuing a costly plan that is designed to fail, DEQ will prevent North Carolina from meeting the Clean Power Plan targets using the cost-effective and clean energy resources that North Carolina is already deploying. As a result, North Carolina would not be able to take advantage of the significant benefits of solar, wind, and

<sup>45</sup> Duke Energy Carolinas, Integrated Resource Plan (Annual Report) at 52 (Sept. 1, 2014), *available at* <http://starw1.ncuc.net/NCUC/ViewFile.aspx?Id=c3c5cbb5-51f2-423a-9dfc-a43ec559d307>.

<sup>46</sup> Duke Energy Progress, Integrated Resource Plan (Annual Report) at 51 (Sept. 1, 2014), *available at* <http://starw1.ncuc.net/NCUC/ViewFile.aspx?Id=badec175-5e4f-4bea-a267-80e113db8c16>.

<sup>47</sup> Calculated by comparing projected 2022 gross EE impacts, DEC 2014 IRP at 102, to projected 2022 retail sales, DEC-DEP Response to Public Staff Data Request Item 1-9.

<sup>48</sup> *Id.* at 5-17-5-19.

<sup>49</sup> ACEEE, 2014 State Energy Efficiency Scorecard (Oct. 21, 2014), *available at* <http://aceee.org/research-report/u1408>.

<sup>50</sup> EPA, Technical Support Document: GHG Abatement Measures at 5-2, 5-14 – 5-15, 5-19 (June 10, 2014), *available at* <http://www.epa.gov/sites/production/files/2014-06/documents/20140602tsd-ghg-abatement-measures.pdf>.

<sup>51</sup> *Id.*

<sup>52</sup> *Id.* at 5-19.

energy efficiency—the cheapest energy resource available—when complying with the Clean Power Plan. These benefits include customer savings on utility bills, business development and job growth, clean energy credits that could be marketed out of state, and healthier communities.

**A. The Clean Power Plan will reduce energy costs for customers.**

1. *Study after study shows that the Clean Power Plan will lower electric bills.*

The Clean Power Plan’s economic benefits to North Carolina electricity customers far outweigh the costs of compliance with the Plan. According to a report by Synapse Energy Economics, Inc. (the “Synapse Report”) on the proposed Clean Power Plan targets, North Carolina customers will save **\$201 to \$348 million** dollars each year in 2030 and beyond by complying with the Clean Power Plan.<sup>53</sup> These savings result from the use of energy efficiency and renewables to displace the higher operating and fuel costs of existing fossil plants (i.e., coal, NGCC, and other power plants that burn fossil fuels). The total savings increase with increased reliance on energy efficiency. While EPA relaxed North Carolina’s targets somewhat in the final rule, these calculations still provide a helpful approximation of the benefits to customers under the Clean Power Plan.

Importantly, these figures capture only how much customers will save on their electricity bills, and do not include a host of additional economic and quality of life benefits, including job creation, economic growth, and improvements to public health and welfare resulting from lower carbon dioxide emissions. These additional benefits are discussed in more detail in separate sections below.

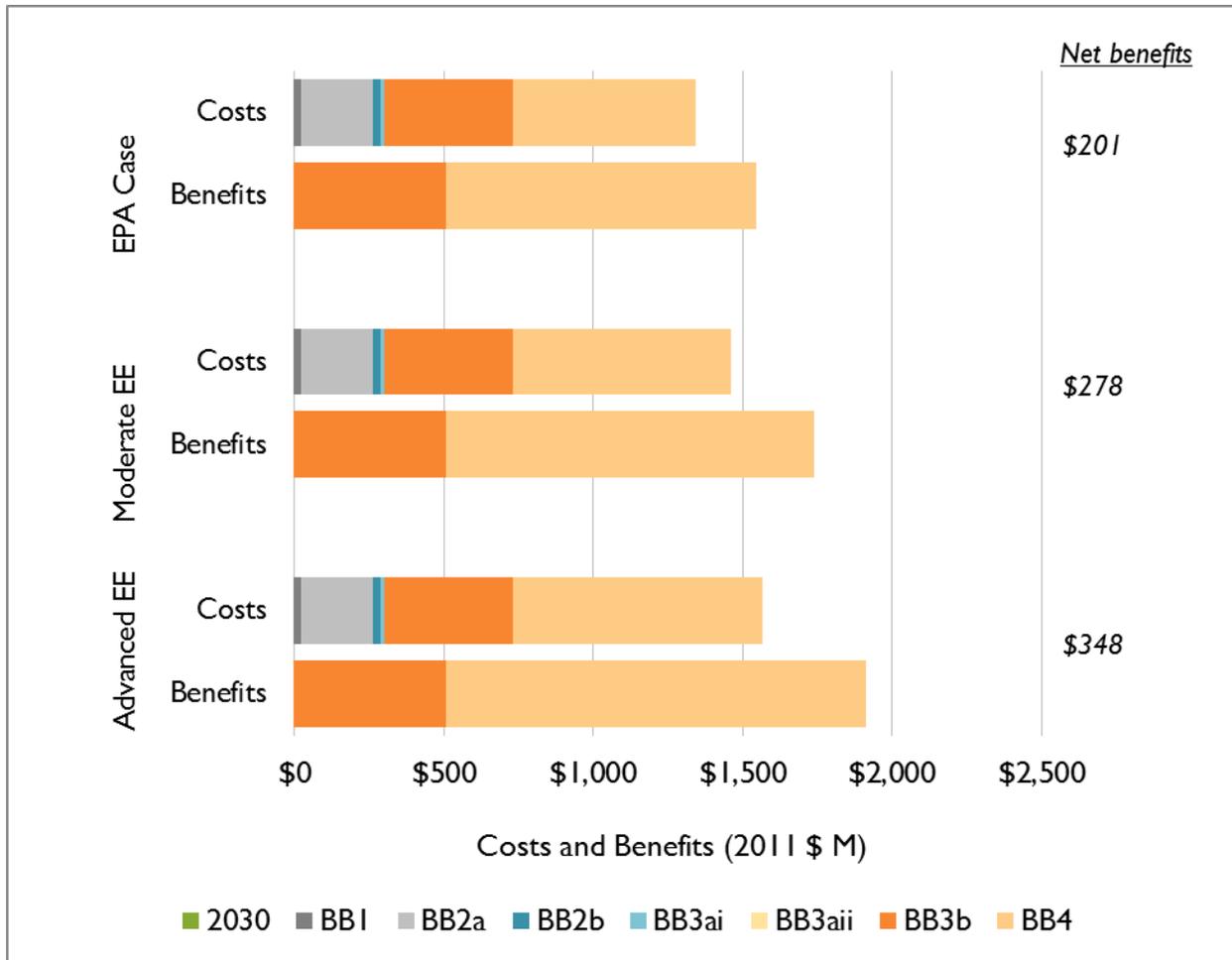
Figure 11, below, shows the net benefits—meaning the benefits that exceed the costs—of the Clean Power Plan to North Carolina customers under three scenarios at varying levels of efficiency savings:

- (1) The “EPA Case” shows the benefits if North Carolina’s compliance plan matches the energy efficiency that EPA identified as achievable in the proposed rule, which is 1.5 percent annual savings by 2023.
- (2) The “Moderate EE Case” shows the benefits if North Carolina increases its annual energy efficiency savings level to 1.75 percent by 2023.
- (3) The “Advanced EE Case” shows the benefits if North Carolina increases its annual energy efficiency savings to 2 percent—the level that many states are already achieving today—by 2022.

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<sup>53</sup> Attachment 3, Synapse Energy Economics, Inc., Alternate Scenarios for 111(d) Implementation in North Carolina (Nov. 26, 2014).

**Figure 11: Annual Customer Costs and Benefits of Clean Power Plan Compliance in North Carolina by 2030**



BB1: Coal plant heat rate improvements  
 BB2a: Redispatch to existing natural gas  
 BB2b: Redispatch to under-construction natural gas  
 BB3ai: Maintain 6 percent of existing nuclear  
 BB3aii: Under-construction nuclear  
 BB3: Increase renewable generation to 10 percent  
 BB4: Energy efficiency<sup>54</sup>

<sup>54</sup> While Building Block 4 was removed in the final Clean Power Plan, states are still permitted to use energy efficiency as a means of achieving their state targets.

Under the EPA Case, North Carolina customers will save \$201 million in annual benefits by 2030. If North Carolina relies more heavily on energy efficiency for compliance, the cheapest system resource—as allowed by the flexibility of the Clean Power Plan—then the net benefits rise to \$348 million under the Advanced EE scenario, or \$278 million under the Moderate EE scenario.

The Advanced EE scenario represents an aggressive but attainable savings level, based on savings levels already achieved in several leading states.<sup>55</sup> The Moderate EE scenario represents a savings level that is in line with savings that are already achieved and targeted in an even greater number of states. Cumulative energy savings under both scenarios are estimated using EPA's Clean Power Plan GHG Abatement Scenario 1 EE Savings Tool.<sup>56</sup>

It is important to note that increased energy efficiency savings will reduce the need for North Carolina to rely on other compliance tools, reducing costs even further. This impact is not shown in the Moderate and Advanced EE scenarios, which instead depict the other building blocks as constants and the additional energy efficiency savings as additive—in other words, the Moderate and Advanced EE scenarios show the impacts of *over-compliance* with the Clean Power Plan. In reality, additional energy efficiency would displace the extent to which North Carolina needs to rely on other, more expensive compliance tools, reducing the costs of compliance and increasing the net benefits of the Clean Power Plan to even more than \$278 or \$348 million.

Numerous other studies of the Clean Power Plan confirm that it would save people money across the nation and in North Carolina particularly. EPA's heavily vetted regulatory impact analysis shows that electricity bills are going to fall by \$85 dollars per year as a result of the Clean Power Plan.<sup>57</sup> That translates to a decrease in electricity bills of about 7 percent in 2030.<sup>58</sup> In a recently released study of the final Clean Power Plan targets, Synapse confirms that North Carolina residents would save over \$15 per month on their electric bills if the state pursues energy efficiency in its compliance plan.<sup>59</sup>

An independent study by RTI International of North Carolina's Renewable Energy Portfolio Standard further confirms the savings provided by energy efficiency and renewables in our State.<sup>60</sup> The REPS requires investor-owned electric utilities to obtain 12.5 percent of North

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<sup>55</sup> These states include Vermont, Massachusetts, and Rhode Island. See ACEEE, *The 2013 State Energy Efficiency Scorecard*, App. H (Nov. 4, 2013), available at <http://aceee.org/research-report/e13k>; EEAC Consultant, *2013 Plan-Year Reports, Initial Review* (2014), available at <http://www.ma-eeac.org/Presentations.html>; National Grid, 2013 Energy Efficiency Year-End Report (May 1, 2014).

<sup>56</sup> The EE Savings Tool is available at: <http://www2.epa.gov/carbon-pollution-standards/clean-power-plan-proposed-rule-technical-documents>.

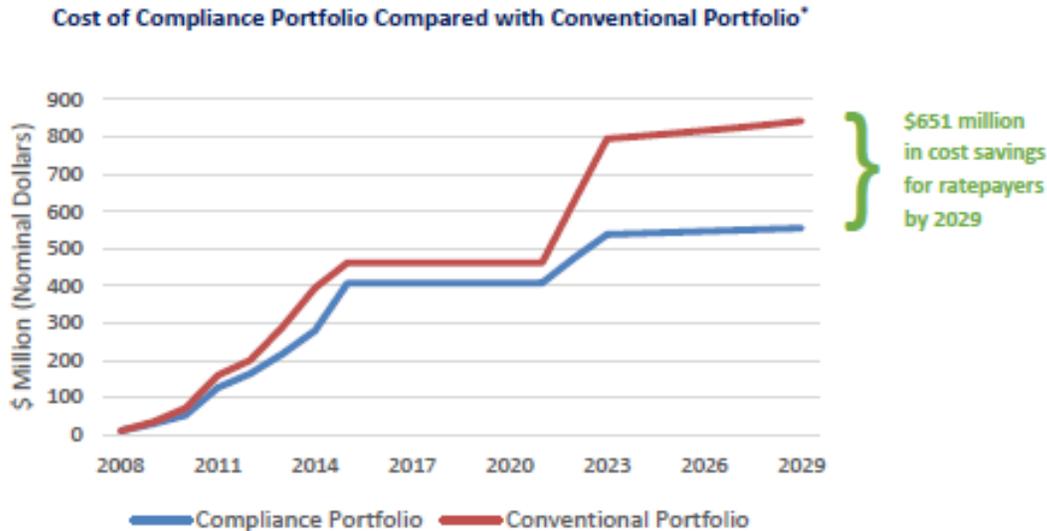
<sup>57</sup> The White House, *Fact Sheet: President Obama to Announce Historic Carbon Pollution Standards for Power Plants*, <https://www.whitehouse.gov/the-press-office/2015/08/03/fact-sheet-president-obama-announce-historic-carbon-pollution-standards> (last visited Jan. 15, 2016).

<sup>58</sup> EPA, *Regulatory Impact Analysis for the Clean Power Plan Final Rule* at 3-40 (Oct. 23, 2015).

<sup>59</sup> See Attachment 4, Synapse Energy Economics, *Cutting Electric Bills with the Clean Power Plan* (Jan. 14, 2016).

<sup>60</sup> RTI International, *Economic and Rate Impact Analysis of Clean Energy Development in North Carolina – 2015 Update* (2015), available at [http://c.ymcdn.com/sites/www.energync.org/resource/resmgr/Resources\\_Page/RTI\\_2015.pdf](http://c.ymcdn.com/sites/www.energync.org/resource/resmgr/Resources_Page/RTI_2015.pdf).

Carolina's energy needs from renewables by 2021.<sup>61</sup> Compared to business-as-usual, the REPS has already saved customers \$162 million since it was adopted with overwhelming bipartisan support in 2007, and will save customers a total of \$651 million through the years by 2021.<sup>62</sup>



This finding is consistent with comprehensive national assessments that have found numerous benefits from the implementation of REPS around the country.<sup>63</sup>

DEQ's plan deliberately excludes these benefits. The designed-to-fail plan includes zero wind, solar, and energy efficiency resources. It even declines to take advantage of North Carolina's ongoing commitment to clean energy under the REPS. Instead, DEQ opts for costly command-and-control infrastructure to be added to aging coal plants. Though the DEQ Secretary falsely labels the Clean Power Plan a federal "takeover" of our state's energy sector, he is guaranteeing EPA control of our compliance plan by deliberately putting forward a noncompliant plan. By putting ideology before the best interests of North Carolina citizens, DEQ's plan turns a savings opportunity into a costly endeavor. DEQ must abandon its plan to run North Carolina's energy future into the ground, and instead take advantage of modern, clean energy resources to make sure that customers enjoy the savings provided by the Clean Power Plan.

2. *Even studies cited by DEQ confirm that North Carolina will save money under the Clean Power Plan.*

<sup>61</sup> *Id.*

<sup>62</sup> *Id.*; NC SEA, *Your Electric Bill: Better Off With REPS* (Feb. 2015), <http://c.ymcdn.com/sites/www.energync.org/resource/resmgr/legislative/REPSCharges.pdf>.

<sup>63</sup> Lawrence Berkeley National Laboratory and National Renewable Energy Laboratory, *A Retrospective Analysis of the Benefits and Impacts of U.S. Renewable Portfolio Standards*, NREL/TP-6A20-65005 (Jan. 2016), available at <http://www.nrel.gov/docs/fy16osti/65005.pdf>.

DEQ attempts to point to a study of the proposed Clean Power Plan prepared by Energy Ventures Analysis—a group with ties to coal and natural gas industries<sup>64</sup>—to support its flawed contention that the Clean Power Plan will cause bills to go up.<sup>65</sup> This is simply not true. Despite its attempts to skew the numbers and artificially inflate the costs of the Clean Power Plan, the Energy Ventures report actually shows that North Carolina customers' bills will go *down* under the Clean Power Plan. In fact, the Energy Ventures report shows that residential bills in North Carolina will decrease by 6 percent in 2020 under the proposed Clean Power Plan.<sup>66</sup> The report is plagued with numerous problems, such as its failure to include a business-as-usual scenario for comparison, its failure to evaluate *any* benefits under the Clean Power Plan, and its failure to evaluate savings opportunities that are present in interstate trading. Tellingly, even with all of these flaws, the report still concludes that North Carolina ratepayers will save money under the Clean Power Plan. It is therefore baffling that DEQ would attempt to reference this report as support for expending resources challenging the Clean Power Plan, rather than complying with it.

In sum, the Clean Power Plan—far from increasing electricity costs, as DEQ claims—will lower electric utilities' costs to serve North Carolina customers. Moreover, higher levels of energy efficiency will reduce costs even further. In addition to lowering electric system costs, compliance with the Plan will benefit North Carolina's citizens in a number of ways, as described below.

## **B. The Clean Power Plan will spur job growth in North Carolina.**

Compliance with the Clean Power Plan will generate additional jobs and spur business growth in North Carolina. Thanks to the State's proactive policies, North Carolina's clean energy sector is already thriving and poised for exponential growth as the nation transitions toward a lower-carbon economy. The employment and business opportunities that will be spurred by EPA's plan include work in the solar, wind, energy efficiency, and energy storage sectors.<sup>67</sup>

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<sup>64</sup> Kathiann M. Kowalski, *Coal Connections Cloud Reliability Report Cited by Ohio Agency* (Mar. 10, 2015), <http://midwestenergynews.com/2015/03/10/coal-connections-cloud-reliability-report-cited-by-ohio-agency/>.

<sup>65</sup> Michael Walker, DEQ, *ICYMI – Roy Cooper's puzzling stance on Clean Power Plan* (Aug. 17, 2015, 9:38 AM), [http://portal.ncdenr.org/web/guest/denr-blog/-/blogs/icymi-%E2%80%93-roy-cooper%E2%80%99s-puzzling-stance-on-clean-power-plan?\\_33\\_redirect=%2Fweb%2Fguest%2Fdenr-blog](http://portal.ncdenr.org/web/guest/denr-blog/-/blogs/icymi-%E2%80%93-roy-cooper%E2%80%99s-puzzling-stance-on-clean-power-plan?_33_redirect=%2Fweb%2Fguest%2Fdenr-blog).

<sup>66</sup> See Energy Ventures Analysis, *Energy Market Impacts of the Clean Power Plan* at 30 (Nov. 2014). The purported “increase” in bills in North Carolina only appears when you look only at nominal (versus real) dollars. Nominal dollars have not been adjusted for inflation, meaning that the increase in Energy Venture's analysis is due purely to inflation. Economists agree that any proper comparison of current and future prices must rely on real, instead of nominal, dollars. See, e.g., Bernard Baumohl, *The Secrets of Economic Indicators* (2004). Energy Ventures also provides an analysis of real dollars in its report, which plainly shows savings rather than costs to North Carolina residential customers. See Energy Ventures Analysis, *Energy Market Impacts of the Clean Power Plan* at 30 (Nov. 2014).

<sup>67</sup> According to an analysis prepared by ICF International, Inc. for the Natural Resources Defense Council, more stringent targets than those in the final Clean Power Plan could have created approximately 6,700 jobs in North Carolina. Natural Resources Defense Council, *New Carbon Pollution Standards Can Save Americans \$37.4 billion on Electric Bills, Create 274,000 Jobs*, <http://www.nrdc.org/media/2014/140529.asp>; <http://www.nrdc.org/air/pollution-standards/files/cps-state-benefits-NC.pdf>. This analysis is illustrative of the

North Carolina's substantial progress toward meeting its Clean Power Plan target is largely due to its robust clean energy sector, which has been creating jobs for years. According to a report by Environmental Entrepreneurs, North Carolina announced over 10,000 clean energy jobs in 2012, including but not limited to jobs in solar energy, energy efficiency, and wind energy.<sup>68</sup> According to a 2014 Clean Industry Census, there are nearly 20,000 jobs across the state in the energy efficiency and renewable sectors, including efficiency, solar, storage, smart grid, hydropower, geothermal, alternative fuel vehicles, wind, and fuel cells.<sup>69</sup> In 2014, these clean energy activities in North Carolina generated \$4.5 billion in revenue.<sup>70</sup>

Solar in particular is booming in North Carolina and across the country. In North Carolina, the solar industry alone supports over 4,000 jobs and growing. North Carolina was second only to California in new solar installations added in 2014.<sup>71</sup> North Carolina currently boasts 1.248 gigawatts of installed solar capacity, enough to power over 130,000 homes. North Carolina is one of only four states in the country to meet this mark. Nation-wide, there are over 200,000 Americans working in the solar industry, a 123 percent increase since the first survey in 2010.<sup>72</sup> There are now more Americans working in the solar industry than are currently working as coal miners.<sup>73</sup> Solar jobs also exceed all of the gas and oil extraction jobs.<sup>74</sup> According to the Department of Energy's SunShot Vision Study, continued cost reductions will lead to over 340,000 workers in the solar industry by 2030.<sup>75</sup>

These benefits are widely distributed across North Carolina. In contrast to traditional power plants, renewables and energy efficiency resources are dispersed across the State. This means that rural as well as more populated counties can take advantage of the economic growth created by clean energy development, as shown by this map from the N.C. Sustainable Energy Association<sup>76</sup>.

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magnitude of job growth under the final Clean Power Plan, even though the targets have changed since the proposal. These job opportunities will grow if North Carolina pursues advanced energy efficiency savings.

<sup>68</sup> E2 Environmental Entrepreneurs, *Clean Energy Works for Us*, available at <http://cleanenergyworksforus.org/wp-content/uploads/2013/07/North-Carolina.pdf>.

<sup>69</sup> N.C. Sustainable Energy Association, *North Carolina Clean Energy Industry Census of 2014* at 7 (Feb. 2015). The figure cited in the text above excludes jobs in the biomass industry.

<sup>70</sup> *Id.*

<sup>71</sup> Solar Energy Industries Association, *2014 Top 10 Solar States*, <http://www.seia.org/research-resources/2014-top-10-solar-states> (last visited Jan. 15, 2016).

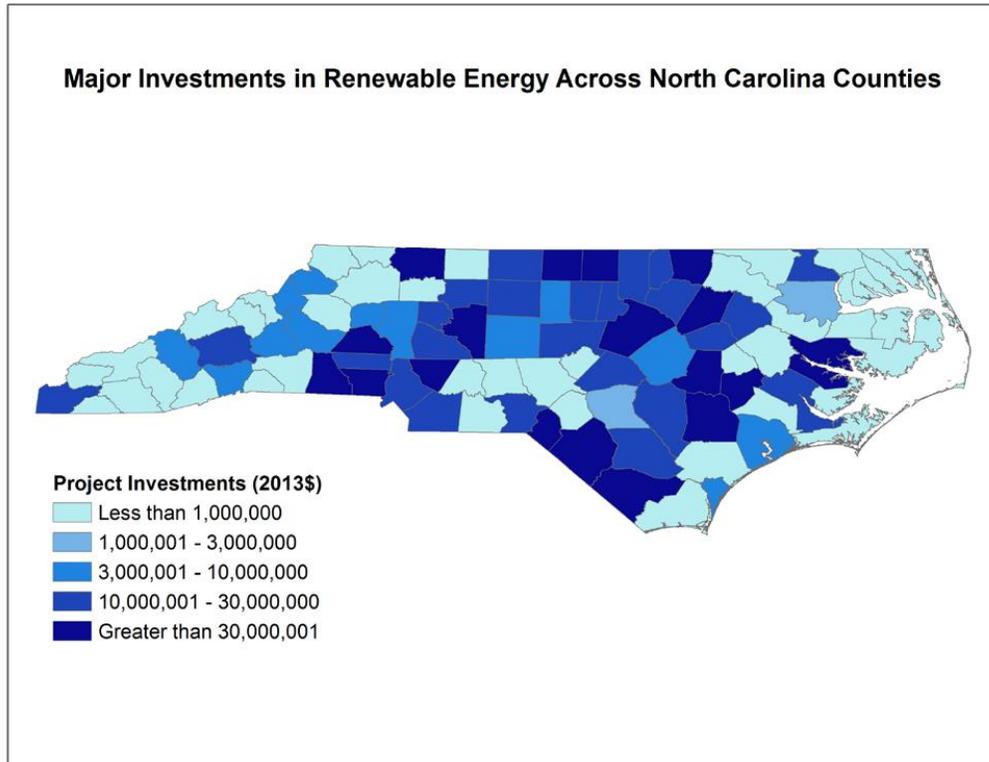
<sup>72</sup> Solar Foundation, National Solar Jobs Census of 2015 (Jan. 2016), <http://www.thesolarfoundation.org/>.

<sup>73</sup> Rob Wile, *The US now has more solar workers than coal miners*, Business Insider (July 2014), available at <http://www.businessinsider.com/us-has-more-solar-workers-than-coal-miners-2014-7>.

<sup>74</sup> Katherine Tweed, *US Solar Industry Provides More Jobs Than Oil and Gas Extraction*, GTM (Jan. 12, 2016), <http://www.greentechmedia.com/articles/read/US-Solar-Industry-Provides-More-Jobs-Than-Oil-and-Gas-Extraction>.

<sup>75</sup> U.S. Dep't of Energy, *SunShot Vision Study* (Feb. 2012), available at <http://www.eere.energy.gov/solar/sunshot/vision-study.html>.

<sup>76</sup> North Carolina Sustainable Energy Association, *Economic Impact Analysis of Clean Energy Development in North Carolina – 2014 Update*.



Because of these opportunities, a majority of small businesses in North Carolina support the Clean Power Plan.<sup>77</sup> In a letter urging North Carolina to create a plan to fully comply with the Clean Power Plan, companies with a significant presence in North Carolina explained that “[c]lean energy solutions are cost effective and innovative ways to drive investment and reduce greenhouse gas emissions.”<sup>78</sup>

DEQ’s plan would forego all of these business and job growth opportunities, in disregard of the economic interests of North Carolina and the clear signal from the business community in favor of pursuing full compliance with the Clean Power Plan.

### **C. The Clean Power Plan will help create healthier communities in North Carolina.**

By reducing the need for polluting, fossil-fueled generation, the Clean Power Plan will benefit the health and welfare of people across North Carolina. Cleaner air and cleaner water will result in lower incidences of illness and disease and fewer deaths from pollution-related illnesses.

<sup>77</sup> E2 Environmental Entrepreneurs, *Survey: Majority of NC Small Businesses Support Carbon Pollution Limits, Addressing Climate Change* (June 2, 2014), <https://www.e2.org/jsp/controller?docId=34116>.

<sup>78</sup> Letter from Arjuna Capital et al. to Governor Pat McCrory, Support for State Implementation of Carbon Pollution Standards (July 31, 2015), available at <http://www.ceres.org/files/clean-power-plan-state-letters/north-carolina-cpp-letter>.

EPA's proposal encourages the use of clean energy resources like energy efficiency and renewable energy, which have many additional co-benefits. Emissions from coal power cause asthma, heart disease, and other health impacts due to air and water pollution.<sup>79</sup> According to the American Lung Association's State of the Air report, numerous counties in North Carolina receive an "F" for high levels of ozone pollution, also known as smog.<sup>80</sup> In 2015, there were nearly 200,000 cases of childhood asthma in North Carolina.<sup>81</sup>

The Clean Power Plan will lead to a 72 to 90 percent reduction in the pollutants that cause soot and smog, compared to 2005 levels.<sup>82</sup> Across the country, the rule is expected to avoid thousands of premature deaths and thousands of asthma attacks every year.<sup>83</sup> Nationwide, the Clean Power Plan will lead to \$14-34 billion in public health and climate benefits, far outweighing the \$8.4 billion in compliance costs.<sup>84</sup> In North Carolina, these health benefits would translate to approximately 1,300 lives saved from 2020 to 2030, as well as hundreds of avoided hospitalizations and heart attacks, according to a study of the proposed rule conducted by the Harvard School of Public Health.<sup>85</sup> That study identified North Carolina as a health benefits "hot spot" under the Clean Power Plan.

Renewable resources and energy efficiency also protect water quality and save water. Renewable resources like solar PV and wind turbines operate using no water, unlike steam cycle thermal power plants such as fossil and nuclear plants. Renewable resources and efficiency also eliminate the many risks to public health and the environment posed by fossil and nuclear plants, including contamination of ground- and surface water by coal ash pits, catastrophic failure of coal ash dams and nuclear plants, thermal discharges (also known as heat pollution) by plants that lack closed-loop cooling systems, discharges of pollutants to surface waters, and loss of fish and other aquatic life that are impinged and entrained in power plant cooling systems.

**D. The Clean Power Plan will allow North Carolina to capitalize on its strong history of promoting cleaner energy resources.**

Because North Carolina can easily comply with the Clean Power Plan, as described above in Section II, North Carolina is well-positioned to profit from its ongoing investments in renewables and energy efficiency. According to a report by E9, North Carolina would be a net exporter of clean energy credits under the Clean Power Plan, allowing North Carolina to sell extra credits to states around the country.<sup>86</sup> This would further incentivize development of clean energy resources in North Carolina, along with all of the co-benefits they bring.

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<sup>79</sup> C.B. Golin, *Towards the Full Cost of Coal: A Review of Recent Literature Assessing the Negative Health Care Externalities Associated With Coal-Fired Electricity Production* (2012).

<sup>80</sup> American Lung Association, State of the Air 2015, North Carolina Report Card, <http://www.stateoftheair.org/2015/states/north-carolina/> (last visited Jan. 15, 2016).

<sup>81</sup> *Id.*

<sup>82</sup> EPA, *Fact Sheet: Clean Power Plan By the Numbers*, <http://www.epa.gov/cleanpowerplan/fact-sheet-clean-power-plan-numbers> (last updated Aug. 13, 2015).

<sup>83</sup> *Id.*

<sup>84</sup> *Id.*

<sup>85</sup> Harvard School of Public Health, *Health Co-Benefits of Carbon Standards for Existing Power Plants*, <http://www.chgeharvard.org/resource/health-co-benefits-carbon-standards-existing-power-plants>; *North Carolina: A Health Benefits Hot Spot*, [http://www.chgeharvard.org/sites/default/files/userfiles2/north\\_carolina.jpg](http://www.chgeharvard.org/sites/default/files/userfiles2/north_carolina.jpg).

<sup>86</sup> E9 Insight, *Clean Power Plan & Public Utility Commissions* at 6 (Nov. 2015).

In contrast, DEQ's plan would put North Carolina at a disadvantage compared to neighboring states. By failing to take advantage of low-cost clean energy resources in-state, North Carolina will be left with no choice except to buy credits from out-of-state. DEQ's plan would force North Carolina to effectively "just say no" to millions in customer savings and homegrown clean energy jobs.

**E. The Clean Power Plan will provide additional resiliency to the electric system.**

The Clean Power Plan encourages the use of modern electricity resources, such as solar power and energy efficiency, which have many additional co-benefits. Solar and energy efficiency technologies can be deployed quickly and easily in many locations, making them extremely flexible energy resources.

In addition, solar is a zero-fuel resource, so solar energy protects customers from the risks of price volatility from fossil fuel generation. This allows solar energy, when purchased over a long term contract, to provide transparent and stable energy prices that are not pegged to fluctuating fuel prices or subject to cost increases.<sup>87</sup> As a result, solar energy can provide important hedge value to customers, insulating them from potential future increases in fuel prices from natural gas and coal.

Finally, distributed solar power and energy efficiency benefit our transmission system. Because they allow us to generate electricity right where we need it, these resources can lessen the strain on our aging grid and reduce the need for expensive new transmission and distribution infrastructure.<sup>88</sup> Solar and energy efficiency improvements can also reduce system energy losses when installed near high-use areas, which can be as high as 7 percent on a distribution system and up to 20 percent at the time of system peak.<sup>89</sup>

**F. The Clean Power Plan will help combat the effects of climate disruption in North Carolina.**

In addition to all of the economic and health reasons to support the Clean Power Plan, North Carolina also has a significant self-interest in avoiding the effects of climate disruption, which would dramatically change life in the state. North Carolina is vulnerable to many of the problems created by climate change. Under the current emissions trajectory, the number of days where temperatures exceed 95 degrees Fahrenheit is expected to triple in next few decades.<sup>90</sup> Expected periods of drought will threaten our farmers, disrupt food supplies, and put a strain on limited drinking water supplies. The expected increase in the frequency and severity of hurricanes could cause devastation in our coastal communities. Sea level along some areas of

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<sup>87</sup> Solar Energy Industries Association, *Cutting Carbon Emissions Under §111(d): The case for expanding solar energy in America* at 16 (2014), available at <http://www.seia.org/research-resources/cutting-carbon-emissions-under-111d-case-expanding-solar-energy-america> (last visited Jan. 15, 2016).

<sup>88</sup> *Id.*

<sup>89</sup> *Id.* at 14.

<sup>90</sup> Risky Business, *Southeast Report*, <http://riskybusiness.org/index.php?p=reports/southeast-report/executive-summary>.

the North Carolina coast will likely rise by as much as 1.4 feet by 2050, and as much as 3.6 feet by the end of the century.<sup>91</sup> Sea level rise and attendant salt-water intrusion already threaten coastal communities and their fresh water supplies.

Recently, major U.S. banks issued a statement warning that climate change poses “significant risks to the prosperity and growth of the global economy,” and highlighting the need to “build a more sustainable, low-carbon economy” to help manage and mitigate these risks.<sup>92</sup> DEQ’s plan-to-fail ignores cost-saving opportunities to combat climate disruption in North Carolina.

**G. DEQ’s plan also defies the widespread public support for the Clean Power Plan in North Carolina.**

Given all of the benefits of the Clean Power Plan, it is clear why a supermajority of North Carolinians support the Clean Power Plan, rather than DEQ’s plan-to-fail. According to a recent survey by Public Policy Polling, 67 percent of North Carolinians favor the Clean Power Plan and the benefits it will bring to our state. By abdicating its duty to implement the Clean Power Plan and instead crafting a plan designed to fail, DEQ is acting against the interests of all those who favor the Clean Power Plan.

**V. DEQ’s Plan Fails to Take Advantage of Early Action Opportunities and Extra Credit for Renewables and Low Income Energy Efficiency.**

Another deficiency with the State’s proposed plan is the complete failure to take advantage of the Clean Energy Incentive Program (CEIP) offered by the EPA. The CEIP provides a voluntary matching fund of allowances or emission rate credits (referred to collectively as allowances for simplicity’s sake) to participating states that take early action to reduce fossil-fuel electricity production through either (1) deploying solar or wind resources; or (2) investing in energy efficiency programs that benefit low-income communities.

**A. CEIP Addresses Many of the Stated Concerns of the Secretary of NC DEQ.**

When the EPA released the final Clean Power Plan in August of 2015, N.C. DEQ Secretary van der Vaart issued a statement criticizing the Clean Power Plan because, he argued, it would have an adverse effect on low-income communities by increasing electricity prices and slowing job creation.<sup>93</sup> The Secretary’s fear is not well-grounded. Complying with the Clean Power Plan is more likely to benefit low-income and other vulnerable populations. Several comprehensive studies have concluded that complying with the Clean Power Plan will create a net-savings for customers, provide additional economic benefits by creating jobs in the clean

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<sup>91</sup> *Id.*

<sup>92</sup> Benjamin Hulac, Wall Street Banks Call GHG Emissions a 'Significant Risk,' Promise to Finance Solutions, ClimateWire (Sept. 28, 2015), <http://www.eenews.net/climatewire/2015/09/28/stories/1060025395>.

<sup>93</sup> NC DEQ, Secretary van der Vaart's Statement on Federal Clean Power Plan (Aug. 5, 2015), available at <http://portal.ncdenr.org/web/guest/denr-blog/-/blogs/secretary-van-der-vaart-s-statement-on-federal-clean-power-plan>.

energy and energy services sector, and bring ancillary health benefits from improved air quality, as described above in Section III.

But if the Secretary nevertheless remains concerned about the Clean Power Plan's potential impact on our state's low-income residents, then DEQ has all the more reason to take advantage of CEIP.

**B. Benefits to Low-Income, Distressed Communities from Investments in Energy Efficiency.**

The investments in low-income energy efficiency that are incentivized by the CEIP are particularly important for North Carolina. Given the DEQ Secretary's expressed concern for low-income residents, he is perhaps already aware of the energy burdens placed on our state's poorest residents. In 2014, North Carolina "households with incomes of below 50 percent of the Federal Poverty Level [paid] 36 percent of their annual income simply for their home energy bills."<sup>94</sup> The CEIP would begin to improve this situation, providing a tangible financial incentive to increase investments in low income energy efficiency.

Eligible investments in low-income EE earn a double compliance credit. Qualifying efficiency programs receive two credits (in the form of allowances or ERCs) for each MWh of end-use energy saved by those measures (one early action credit from the state and another full matching credit from the EPA). To be eligible for this extra credit, low-income EE measures must be implemented between the submission of compliant plans and 2020 or 2021. The EPA will establish a special set-aside of early action allowances for its matching pool.

The EPA created the CEIP in part to address environmental justice concerns relating to the final Clean Power Plan. The EPA recognized that it would need to take special steps to ensure that the benefits of the rule would be shared broadly across all segments of society and that "undue burdens should not be imposed on low-income ratepayers."<sup>95</sup> By providing a double credit for investments in low-income energy efficiency, the CEIP helps to "level the playing field." Existing energy efficiency programs too often do not benefit low-income ratepayers because they operate on a limited scale; require upfront payments, credit checks or direct loans to those who have little capacity to take on more debt; or are only available for those who own their homes.

Low-income EE programs also create good paying jobs in economically distressed parts of the state. When the federal government invested in weatherization programs under the American Recovery Act, the national effort supported 28,000 jobs and generated approximately \$1.1 billion in energy savings for low-income residents.<sup>96</sup> The CEIP could provide another

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<sup>94</sup> Fisher, Sheehan, & Colton, *North Carolina Home Energy Affordability Gap Fact Sheet 2014* (Apr. 2015), [http://www.homeenergyaffordabilitygap.com/03a\\_affordabilityData.html](http://www.homeenergyaffordabilitygap.com/03a_affordabilityData.html).

<sup>95</sup> 80 Fed. Reg. at 64,676.

<sup>96</sup> Office of Energy Efficiency & Renewable Energy, *Weatherization Assistance Program National Evaluation*, available at: <http://energy.gov/eere/articles/energy-department-announces-results-national-evaluation-weatherization-assistance>. Over 12,000 homes received weatherization assistance in North Carolina as a result of the American Recovery and Reinvestment Act. See *American Recovery and Reinvestment Act, Investing in North Carolina*, available at <https://www.whitehouse.gov/files/documents/arra-fact-sheets/nc.pdf>.

needed boost into this work that helps to put money back in the pockets of our poorest neighbors and put people to work improving the housing stock.

EE investments in low-income communities bring other benefits. Better sealed and insulated homes not only waste less energy (and thus, require less money to pay for heating and cooling), but bring improved indoor air quality and comfort. A home that has been upgraded with cost-saving EE measures is also far less likely to have the fire or carbon monoxide poisoning risks associated with kerosene space heaters or other heating substitutes.

Existing programs that could receive a boost from taking action pursuant to the CEIP include:

- Weatherization Assistance Program – administered through the Division of Energy, Mineral and Land Resources of DEQ
- Duke Energy Income-Qualified Weatherization Program
- On-bill tariffed EE programs: Roanoke Electric Corporation’s Upgrade to Save is an innovative program that pays for energy efficiency upgrades that save the member money on her electric bills and that are recovered by the utility over a number of years with a fixed-charge on the member’s bill. Though not limited to low-income members, its program design is well-suited to benefit those who would qualify for the CEIP. The upgrades save the members money over the course of the year even as the utility recoups the costs of the EE upgrades. The program is financed by USDA’s Rural Utility Service Energy Efficiency Conservation Loan Program and could be replicated by any of the Electric Membership Cooperatives in the state with an eye towards being eligible for CEIP credits.
- Duke Energy’s Helping Home Fund – Performs cost-saving EE upgrades to Duke customers who are at or below 200 percent of the Federal Poverty Guidelines (administered by NC Community Action Association).

### **C. CEIP is Timed to Provide Needed Boost to Solar and Wind Development.**

Solar photovoltaic power has a substantial foothold in the state and is well positioned to benefit from the renewable energy side of the CEIP program. As described in Section III, North Carolina has seen robust growth in the installation of solar PV systems at all levels: utility scale, commercial, and residential. This growth has helped to diversify our state’s energy mix; contribute to cleaner air by displacing generation from fossil fuel power plants and thus, reducing harmful emissions; keep electricity rates down by reducing the need for utilities to generate expensive peak power in the hot summer months; and provide direct employment to thousands of North Carolinians.<sup>97</sup> But with the recent expiration of the state renewable energy tax credit, North Carolina’s growth in solar PV will likely slow. The CEIP could provide a needed a boost in renewable energy investment, particularly in 2019 when the federal investment tax credit (“ITC”) begins to ramp down in value.

Finally, the CEIP could provide extra incentives for wind energy to develop in our state. The Amazon Desert Wind project could be the first of several utility scale wind farms built in the

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<sup>97</sup> N.C. Sustainable Energy Association’s 2014 Survey reports over 4,300 direct jobs in the solar energy sector, and over 5,600 in the direct supply chain.

state, producing reliable, inexpensive, clean power. Such projects bring other benefits, including good-paying jobs, lease payments to landowners, and a boost to the tax base of otherwise struggling, rural counties. Participating in the CEIP could provide an added incentive to such projects, adding low-cost power to the grid that will benefit all ratepayers.

**D. REPS Make it Easy to Find Ways to Benefit from CEIP.**

Ever since the General Assembly enacted Senate Bill 3, the state has benefited from the Renewable Energy and Energy Efficiency Portfolio Standard (“REPS”), as described in Section III. Given that REPS are already an existing, enforceable state policy, there is no reason not to include that policy as part of the compliance pathway for North Carolina under the Clean Power Plan. Doing so, in conjunction with the CEIP, could position targeted EE or new solar or wind development to benefit from early action credits.

**E. Non-Binding Statement of Intent to Participate in CEIP should be in State’s Final Plan.**

At this stage in the process, all that is required of DEQ is a statement in its initial submittal of a final plan is a non-binding statement that it intends to participate in CEIP. For North Carolina to be eligible for a matching award of allowances from the EPA, it must demonstrate that it will award them only to “eligible” projects. Under the Clean Power Plan, these are projects that:

- Are located in or benefit a state that has submitted a final state plan that includes requirements establishing its participation in the CEIP;
- Are implemented following the submission of a final state plan to the EPA, or after September 6, 2018, for a state that chooses not to submit a complete state plan by that date;
- For RE: Generate metered MWh from any type of wind or solar resources;
- For EE: Result in quantified and verified electricity savings (MWh) through demand-side EE implemented in low-income communities; and
- Generate or save MWh in 2020 and/ or 2021.

**VI. Even DEQ’s heat rate improvements fall far short of what is feasible.**

Although heat rate improvements may form a component of the state’s compliance plan, they are clearly insufficient on their own. DEQ, however, artificially limits the scope of the rules to heat rate improvement measures only, while neglecting options such as renewables and energy efficiency. Furthermore, in its attempt to create a deficient state plan and limit itself to heat rate improvements, DEQ failed to even conduct a proper analysis of potential measures in this relatively minor category of compliance options. As detailed below, DEQ’s faulty analysis is fraught with missed heat rate improvement opportunities, questionable inputs and a lack of transparency.

Section 111(d) of the Clean Air Act requires EPA to identify the Best System of Emission Reduction (“BSER”) that is adequately demonstrated and available to limit pollution, and to set guidelines for states to reflect BSER. Based on its evaluation of BSER for existing fossil fuel-fired electric generating units (“EGUs”), the Clean Power Plan sets state-specific goals for reducing carbon dioxide emissions from the power sector. States are each required to develop a plan, including necessary rules, to meet those goals. Notably, North Carolina’s proposed rules only incorporate heat rate improvements as BSER,<sup>98</sup> effectively rejecting building blocks two and three or other options for reducing carbon dioxide emissions.<sup>99</sup>

Heat rate is the amount of heat input (in Btu) in a boiler required for generating a kilowatt-hour (kWh) of energy as electricity that can be sold to others. It is measured in “net” Btu/kWh for coal-fired units, meaning the net electricity generated beyond what is used on-site by the utility. Typical heat rates for coal-fired units can range from approximately 9,000 to 12,000 Btu/kWh. The lower the heat rate (i.e., the less heat input needed to generate the electricity), the more efficient the unit. Because the heat input in a boiler is obtained from burning coal (which, in turn creates numerous air pollutants, including carbon dioxide), the lower the heat rate, the less coal a unit has to burn to create the same amount of electricity. Heat rate improvements therefore translate to lower emissions.

As discussed below, there are numerous approaches for achieving heat rate improvements. Some require the use of additional or upgraded hardware or monitoring equipment; others require improved operational practices. Individually, a particular approach may only provide relatively modest heat rate improvements such as 50 or 100 Btu/kWh. But, collectively, such approaches can result in significant reductions in a unit’s overall heat rate and therefore less coal usage and lower emissions.

In the Clean Power Plan, EPA expects that heat rate improvements could provide a 4.3 percent reduction in heat rate for units located in the Eastern US—including those in North Carolina.<sup>100</sup> DEQ’s proposed rules identify the following affected coal-fired units, along with the proposed BSER for each unit. Of the 20 units that are part of the Duke system in North Carolina: 9 units have no BSER requirement; 4 units are required to implement only 1 BSER strategy; and only 7 units are required to implement two or more BSER strategies. Meanwhile, DEQ’s proposed rules would not require any BSER for the 4 non-Duke coal-fired units in North Carolina.

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<sup>98</sup> The proposed rules define BSER as “a design, equipment, work practice, or operational standard, or combination thereof, which reflects the best technological system of continuous emission reduction taking into consideration the cost of achieving such reduction, and any non-air quality health and environmental impact and energy requirements. 15A NCAC 02D .2702(a)(2).

<sup>99</sup> In developing the Clean Power Plan, EPA determined that BSER consisted of: (1) heat rate improvements; (2) redispatching from coal-fired power plants to existing natural gas plants; and (3) electricity generation from new renewable energy sources.

<sup>100</sup> 80 FR 64,727.

**Affected Units - Coal-fired EGUs**

Utility Company - Facility	Unit ID	Best System of Emission Reduction Measure(s)
Duke Energy - Asheville	1	none
Duke Energy - Asheville	2	none
Duke Energy - Belews Creek	1	ALR, CLR and FDF
Duke Energy - Belews Creek	2	CLR and FDF
Duke Energy - Cliffside	5	none
Duke Energy - Cliffside	6	ALR, CO, CLR, FDF and ISB
Duke Energy - G G Allen	1	none
Duke Energy - G G Allen	2	none
Duke Energy - G G Allen	3	none
Duke Energy - G G Allen	4	none
Duke Energy - G G Allen	5	none
Duke Energy - Marshall	1	ISB
Duke Energy - Marshall	2	ISB
Duke Energy - Marshall	3	ALR, CO, FDF and ISB
Duke Energy - Marshall	4	ALR, CO, FDF and ISB
Duke Energy - Mayo	1A & 1B	CRR
Duke Energy - Roxboro	1	none
Duke Energy - Roxboro	2	FDF, IBD and ISB
Duke Energy - Roxboro	3A & 3B	ALR and ISB
Duke Energy - Roxboro	4A & 4B	ISB
Edgecombe Genco - Battleboro	1	none
Edgecombe Genco - Battleboro	2	none
Westmoreland Partners - Roanoke Valley Energy Facility I	1	none
Westmoreland Partners - Roanoke Valley Energy Facility II	1	none

Proposed 15A NCAC 02D .2703.

ALR: Air Heater Leakage Reduction; CLR: Controllable Loss Reduction; FDF: Forced Draft Fan Variable Frequency Drive; CO: Combustion Optimization; ISB: Intelligent Soot Blowers; CRR: Condenser Rebundle, Retubes, and Rebuilds; IBD: Induced and/or Booster Draft Fan Variable Frequency Drive).

In short, DEQ failed to: (a) consider a larger universe of possible heat rate improvements; (b) provide any detailed rationale or documentation for potential measures that could be deployed but have been rejected, apparently on technical infeasibility grounds; (c) provide any technical support for the assumed heat rate improvement (in Btu/kWh net) from employing a specific strategy at a specific unit; (d) provide any support for the basis for unit capacity factors in future years such as 2019; (e) provide any supporting details for the costs of deploying particular heat rate improvement measures at particular units; and, lastly, (f) conduct any independent assessment of the assumptions noted above, among others, provided to DEQ by the owner/utilities.<sup>101</sup>

Before addressing the technical issues, it is important to note that the public record supporting the proposed rules is not transparent. Other than the Supporting Basis Document (“SBD”), which is available online, no relevant documents were provided until January 8, 2016, following a protracted delay by DEQ in response to our public records request. And, as

<sup>101</sup> It is interesting to note that Edgecombe Genco, LLC, in its own analysis, proposed a BSER measure (existing sootblower upgrades) that DEQ rejected on the grounds that it was not cost-effective. See discussion in SBD at p. B-177 through B-178. It is startling that DEQ would reject a measure that the utility itself deemed cost-effective at \$87/ton CO<sub>2</sub>—perhaps because DEQ would then have had to accept many other measures which would have been cost-effective at \$87/ton at the Duke units, as well.

discussed in detail above, we have yet to receive the full record. Based on the partial records we have received thus far, it is not clear how much confidential information was provided to DEQ. It appears, however, that DEQ staff received information from Duke Energy and other coal-fired EGU operators, held meetings, and issued proposed rules consistent with the data and assumptions provided to them by the utilities, with no independent verification or analyses. Critical assumptions do not appear to have been questioned or challenged by DEQ. And, as noted above with respect to Edgecombe Genco, DEQ in at least one instance weakened the BSER proposed by the operator itself.

**A. The proposed rule fails to consider possible heat rate improvement measures.**

DEQ's proposed rules artificially limit the full scope of measures that should have been considered for achieving heat rate improvements. As noted in the SBD, Duke provided DEQ with the following list of 17 heat rate improvement candidates:<sup>102</sup>

- Controllable Loss Reduction (Maintain Unit Efficiency)
- Sliding Pressure Operation
- Lower Flue Gas Desulfurization Efficiency (as SO<sub>2</sub> permit limits allow)
- Intelligent Sootblowers
- Air Heater Leakage Reduction
- Combustion Optimization - CCM / Excess Air / Neural Network
- Online Condenser Cleaning
- Induced and/or Booster Draft Fan Variable Frequency Drive
- Air Heater Exit Gas Temperature Reduction
- Flue Gas Desulfurization Auxiliary Load Reduction through Variable Frequency Drives
- Boiler Feed Pump Motor Driven Variable Frequency Drive
- Induced Draft Fan Replacement
- Forced Draft Fan Variable Frequency Drive
- Condenser Rebundle, Retubes, and Rebuilds
- Electrostatic Precipitator (Power management, T/R set upgrades)
- Turbine Upgrades (HI, IP, LP)
- Helper Cooling Tower

Similarly, Edgecombe provided a list of approximately 22 measures.<sup>103</sup> Westmoreland Partners, the operators of the Roanoke Valley Energy Facilities, provided 2 measures.<sup>104</sup> Strikingly, however, DEQ's proposed BSER measures, listed in the table above, include only some, and sometimes none, of these measures at each given unit.

Furthermore, there are additional measures, not listed above, that can improve heat rates. The Electric Power Research Institute, a utility industry think tank, has conducted numerous analyses of heat rate improvement measures. One such study conducted in 2009 and

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<sup>102</sup> SBD at B-11.

<sup>103</sup> *Id.* at B-176-B-177.

<sup>104</sup> *See id.* at B-166.

summarized in the report “Range and Applicability of Heat Rate Improvements,”<sup>105</sup> which is actually referenced in the SBD,<sup>106</sup> identified 32 capital project ideas that could improve heat rates covering a range of 0.1 percent to 2.5 percent.<sup>107</sup> Examples included turbine steam seal upgrades, turbine section replacements, intelligent sootblowing systems, automated boiler drains, coal drying systems, air heater baskets, and combustion optimization. While some of these measures are identified in Duke Energy’s list above, it appears that measures such as automated boiler drains and coal drying systems are not.

The 2009 study also identified 25 maintenance projects that could achieve heat rate improvements covering a range of 0.03 percent to 1.5 percent.<sup>108</sup> Examples included replacing feed pump turbine steam seals, repairing steam and water leaks, boiler chemical cleaning, repairing boiler air in-leakage, cleaning air preheater coils, repairing condensate pumps, and repairing flue gas desulfurization systems. Again, given the brief descriptions of the strategies considered by Duke and DEQ, it is not clear whether these improvement measures are included in the proposed rules.

In a 2010 study, also summarized in “Range and Applicability of Heat Rate Improvements,” the Electric Power Research Institute identified the following heat rate improvement projects by area:

<b>Boilers (10 projects)</b>	<b>Turbines and Generators (15 projects)</b>
Intelligent Sootblowing System (ISB) Economizer retrofit Water cannons Automate boiler drains On-site fuel drying Blowdown recovery tank Air heater seals Air heater baskets Heat rate/performance monitoring Combustion/optimization monitoring system	HP/IP/LP steam seal upgrade (3) HP/IP/LP steam path upgrade (3) HP/IP/LP turbine replacement (3) LP turbine last-stage buckets Exhaust hood steam guide modification Rewind generator Increase hydrogen purity Partial-arc admission Sliding pressure
<b>Condensers (8)</b>	<b>Fans and Motors (4)</b>
Run with one circulation pump when temperatures are favorable Condenser ball cleaning system Re-tube condensers Water box vacuum priming system Circulating water strainers Circulating water turbine Supplemental cooling towers Deep lake water intake	Fan variable frequency drive (VFD) Forced draft fan VFD Induced draft fan VFD High-efficiency motors/boiler feed pump drives
<b>Air Quality Control System (AQCS) Precipitators (2)</b>	<b>Balance of Plant (2)</b>
Variable power input Power supply upgrade	Upgrade air compressors Plant lighting upgrade

HP = High Pressure  
IP = Intermediate Pressure  
LP = Low Pressure

<sup>105</sup> Report Number 30020034 (last updated April 2014), available at [http://www.eenews.net/assets/2014/08/14/document\\_gw\\_01.pdf](http://www.eenews.net/assets/2014/08/14/document_gw_01.pdf).

<sup>106</sup> See SBD at B-9, FN2.

<sup>107</sup> Report Number 30020034 at p. 2-2.

<sup>108</sup> *Id.*

More than 490 “individual potential projects were identified and screened for feasibility.”<sup>109</sup> Of those projects, 174 were identified as “potentially feasible.”<sup>110</sup> The Electric Power Research Institute then identifies the following projects that should be given further consideration:

Automate Boiler Drains (12 units)
Air Heater Seals (8 units)
Station Air System (2 units)
Circulating Water Strainers (8 units)
Air Heater Baskets (4 units)
Condenser Ball Cleaning System (8 units)

It is evident from Duke Energy and DEQ’s limited list of projects, as well as the brief descriptions accompanying them as they are defined in the proposed rules, that they may not include a potentially large universe of projects, approaches, and strategies that can achieve heat rate improvements at coal-fired EGUs.

**B. DEQ failed to justify its rejection of certain heat rate improvement measures.**

From the limited set of heat rate improvement measures considered by DEQ in its development of the proposed rules, it appears that several measures were excluded based on supposed technical infeasibility. The SBD, for example, states that for Units 1 and 2 of Belews Creek, Duke Energy Carolinas “has determined that measures identified above as IDFR, CRR, FGDA, BFP and HCT are either technically infeasible or each have very negligible HRI [Heat Rate Improvement] opportunity.”<sup>111</sup> With no further explanation in the record whatsoever, these potential heat rate improvement measures were eliminated from further consideration. It is not clear what, if any, inquiries DEQ made to verify that this elimination was proper. Nor is it clear what the term “negligible HRI opportunity” means. The record supporting the proposed rules should contain complete technical justifications for all measures that have been rejected on technical infeasibility or “negligible HRI opportunity” grounds. Otherwise, as demonstrated here, the public has no ability to review the appropriateness of DEQ’s decision-making.

**C. DEQ failed to provide support for its cost-effectiveness analysis.**

Having begun its analysis with an already limited universe of potential heat rate improvements, and then further limiting the potential scope of measures with the unverified assumptions of technical infeasibility as noted above, DEQ then moved on to a cost-effectiveness analysis of the remaining measures. Only those measures that passed the assumed cost-effectiveness threshold were included in the proposed rules.

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<sup>109</sup> *Id.* at 4-3.

<sup>110</sup> *Id.*

<sup>111</sup> SBD at B-13.

1. *DEQ used an incorrect value for the cost-effectiveness threshold.*

In general, a cost-effectiveness threshold is the value of cost-effectiveness (typically noted as dollars per ton of pollutant reduced—in this case, \$/ton CO<sub>2</sub> reduced) above which controls are deemed not cost-effective and below which controls are deemed cost-effective. The level at which the cost-effectiveness threshold is set is important. The higher the threshold, the more controls—in this case heat rate improvement measures—are deemed cost-effective and therefore have to be implemented.

In developing the proposed rules, DEQ used a threshold of \$23/ton CO<sub>2</sub> reduced. DEQ chose this threshold in reliance on the preamble to the Clean Power Plan.<sup>112</sup> Yet the current national standard for the social cost of carbon—the amount of harm produced by each ton of carbon dioxide emissions—is currently \$36/ton, and even that estimate likely underestimates the total cost of carbon.<sup>113</sup> DEQ should consider all options below this \$36/ton level in performing the cost-benefit analysis. This higher threshold would have resulted in a greater number of heat rate improvement measures being included in the proposed BSER measures list.

2. *DEQ failed to provide support for the input values used in its cost-effectiveness analysis.*

The cost-effectiveness analysis for DEQ's proposed rules requires several inputs. Important among these inputs are: (a) the capital and operating costs for each option; (b) the capital charge rate; (c) the expected permanent heat rate improvement anticipated (in Btu/kWh net); and (d) the capacity factor of the unit in 2019 and future years. Other inputs include the price of coal, used to estimate the fuel savings that are credited toward the cost before calculating the cost-effectiveness.

Aside from the manner in which the future price of coal was estimated,<sup>114</sup> which is discussed in the record, there appears to be no support provided for: (a) the capital and operating costs, which were provided to DEQ by the utilities; (b) the capital charge rate of 14.3 percent used by DEQ—which is too high;<sup>115</sup> (c) the expected heat rate improvement for each option, which was provided by the utilities; and (d) the future capacity factor, which was also provided by the utilities. Thus, almost the entire cost-effectiveness analysis relies on unsupported

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<sup>112</sup> See, e.g., SBD at B-10.

<sup>113</sup> Howard Shelanski et al., *Estimating the Benefits from Carbon Dioxide Emissions Reductions*, The White House (July 2, 2015 2:00 PM), <https://www.whitehouse.gov/blog/2015/07/02/estimating-benefits-carbon-dioxide-emissions-reductions>

<sup>114</sup> For example, for Duke's Belews Creek units, DEQ used the actual coal delivered prices for 2014 and scaled them for 2019. See SBD at B-12.

<sup>115</sup> The capital charge rate is used to convert a capital cost to equivalent annualized costs—it requires an assumption of the interest rate and the life of the project. The 14.3 percent charge rate likely stems from the use of an interest rate of 7 percent and a life of 10 years. The interest rate of 7 percent is too high (and has been too high for the last several years since the recession). Using an interest rate of 3 percent, for example, along with the 10 year life would result in a charge rate of 11.7 percent. Using the 3 percent rate over a 15 year life, which is appropriate for many of the projects under consideration, would result in a charge rate of 8.4 percent. The lower the charge rate, the less the annualized cost and the lower the calculated cost-effectiveness for a measure, making it more likely that it would be deemed cost-effective.

assumptions which cannot be verified by the public.<sup>116</sup> Further, the record does not provide any indication that DEQ attempted to verify these important inputs.

### **Conclusion**

By ignoring the abundant achievements and opportunities in renewables and energy efficiency to date, and focusing solely on heat rate improvements at power plants, DEQ's plan is designed to achieve only a fraction of the required reductions under the Clean Power Plan. DEQ's woefully inadequate proposal violates state law and sets North Carolina on a course for rejection of the state plan and imposition of the yet-to-be finalized federal plan. DEQ's desire to enter into a protracted legal battle with the EPA is especially senseless in light of DEQ's own admission that North Carolina is on track to comply with the Clean Power Plan without taking any additional action beyond that which the state has already committed to. In addition, under DEQ's plan-to-fail, North Carolina would miss out on the significant customer savings, job opportunities, and health benefits provided by the Clean Power Plan. North Carolina also risks missing out on the benefits of the Clean Energy Incentive Program, which rewards states for early action on solar, wind, and low income energy efficiency. With this proposal, DEQ is ignoring the needs of North Carolinians and blatantly disregarding its primary job—to protect the environment and public health.

For all of these reasons, DEQ should abandon its plan to fail, and engage in a robust stakeholder process to develop a plan that takes advantage of the benefits that renewables and energy efficiency will bring to the people of North Carolina



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Myra Blake, Staff Attorney  
David Neal, Staff Attorney  
Nadia Luhr, Associate Attorney

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<sup>116</sup> This lack of transparency is further compounded by DEQ's inappropriate and inconsistent determinations that several inputs in the cost-effectiveness calculations are confidential. *See, e.g.*, redactions in the SBD for the Duke units at p. B-18 through B-25, B-38 through B-48, B-59 through B-76, B-94 through B-120, B-130 through B-133, and B-148 through B-161, in which capital cost, direct annual costs, and project life are redacted. However, for the Edgecombe units (p. B-177), the capital costs, annual costs, and project life are not redacted. For the Edgecombe units at B-177 and B-180, however, the future capacity factor is redacted while this parameter is not redacted for any of the Duke units. It is our opinion that none of the inputs supporting the cost-effectiveness calculations should have been redacted.

# **Attachment 1**



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July 31, 2015

Ms. Sheila C. Holman  
Director, Division of Air Quality  
NC Department of Environment and Natural Resources  
1641 Mail Service Center  
Raleigh, NC 27699-1641

**SUBJECT: Follow up to July 14, 2015 letter requesting heat rate information for Duke Energy's North Carolina coal-fired generating units**

Dear Ms. Holman:

Duke Energy received your request for heat rate information related to the pending final EPA Clean Power Plan regulation of existing coal-fired electric generating units (EGUs) under Section 111(d) of the Clean Air Act. Per your request, enclosed is baseline heat rate information and CO<sub>2</sub> emissions for each of Duke Energy's (Duke Energy Carolinas and Duke Energy Progress) coal-fired EGUs in North Carolina. In addition to this information, you requested future heat input, electricity generation, CO<sub>2</sub> emissions and emission rates, and net heat rate improvements, among other things, for each of Duke Energy's coal-fired EGUs. As outlined here, estimating future unit heat rate and emissions information is fraught with speculation and uncertainty, making the reliability of any such estimates questionable.

Over the last 10 years Duke Energy has embarked on an ambitious fleet modernization initiative that has resulted in the retirement of half of our coal-fired EGUs in North Carolina. The remaining fleet of coal-fired EGUs includes some of the most environmentally controlled and efficient units in the country (the Marshall, Cliffside, and Belews Creek generating stations are among the ten most efficient coal-fired stations in the United States). The current high efficiency of Duke Energy's North Carolina coal fleet means that further efficiency improvements may not be feasible, will be technically challenging and, if possible, likely very expensive.

With regard to estimating future year heat rates and CO<sub>2</sub> emissions, producing such estimates is problematic for the following reasons:

- The heat rate of coal-fired EGUs can be highly variable and influenced by many factors. Unit heat rates will vary at any given time based on process design, maintenance cycle, fuel quality, process and cooling water temperatures, and a myriad of other factors.

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- Many efforts to improve heat rate are, by their very nature, only temporary. Efficiency improvements gradually disappear over time as equipment degrades due to normal wear and tear. Therefore, many heat rate improvements would have to be reworked on an ongoing basis to regain lost efficiency.
- Improvements in the heat rate of coal-fired EGUs can be reduced or completely offset by changes in the way units are dispatched. Regardless of the form and content of any future North Carolina Clean Power Plan state implementation plan, the operation of Duke Energy's remaining coal-fired EGUs in North Carolina is changing in response to lower natural gas prices and growing investments in renewable energy. This trend is expected to continue as Duke moves toward a lower carbon future. Indeed, as Duke Energy has transitioned much of its generation from coal to natural gas, some coal units once operated as base load will operate more as cycling units, which will have a negative impact on heat rate.

Accurately predicting future operation of any single coal-fired EGU is technically challenging, and this task is made more difficult by the unpredictability of generation economics year-over-year and the implementation of future environmental regulations. The price of natural gas and the evolution of renewable energy technology, for example, will impact how we dispatch our generating fleet in the future, potentially impacting the heat rate of specific units. As NC develops a state plan to comply with the EPA standard, we believe the best approach will be to measure emissions on a system-wide basis (similar to Clean Smokestacks Act) as opposed to a unit-by-unit basis because of the variability and uncertainty outlined above.

In addition to the many technical challenges associated with estimating heat rate improvement, there are significant regulatory concerns as well. New Source Review (NSR) requirements discourage utilities from larger, more significant efficiency improvement projects. In fact, EPA has sued numerous utilities for precisely the types of projects utilities might consider under Building Block 1.

The transition of our generating fleet over the past decade has included retirement of less efficient coal-fired units, an increase in our reliance on natural gas, and increased adoption of utility-scale renewables. With these changes, Duke Energy has reduced its contribution to CO<sub>2</sub> emissions in North Carolina by greater than 20 percent compared to 2005 levels. Combining these efforts with potential retirements outlined in our most recent Integrated Resource Plan (2014), the recent retirement announcement of the coal-fired units in Asheville by 2020, construction of additional natural gas generation, and continued deployment of renewables demonstrate Duke Energy's leadership in moving towards a lower carbon future. It is important

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to mention that Duke did not achieve these accomplishments alone. The State of North Carolina has led by collaborative example in the past on important energy and environmental issues, including the Clean Smokestacks Act of 2002 and Senate Bill 3, which created the first renewable energy and energy efficiency portfolio standards in the Southeast, in 2007. We encourage North Carolina to continue this collaborative approach as it develops its state implementation plan for the Clean Power Plan.

A diverse mix of efficient, increasingly low emitting generation plays a critical role in delivering reliable, affordable electricity to the customers and communities we serve. As Duke Energy continues to modernize its fleet, we look forward to working with the State of North Carolina to identify reasonable opportunities to continue to contribute to a lower carbon future. To that end, we would be pleased to meet with you to discuss in more detail your July 14 request and our response.

Sincerely,



Mark McIntire

Cc: Commissioner Ed Finley, Chair, NC Utilities Commission

Chris Ayers, Executive Director, NC Utilities Commission Public Staff

Commissioner Jerry Carroll, Chair, NC Environmental Management Commission

Commissioner Charlie Carter, NC Environmental Management Commission

# **Attachment 2**



*Regulatory Brief*  
November 2015

## Clean Power Plan & Public Utility Commissions

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*As most industry observers are well aware, the Environmental Protection Agency (EPA) issued the final rule of the Clean Power Plan (CPP) earlier this summer. Last month, the Federal Register published the rule, initiating a period of new legal activity by states. The new requirements will have a dramatic impact on the nation's generation fleet and, by extension, utility and electricity markets. However, amidst these changes, the role, authority and disposition of the state public utility commissions is still evolving. In this summary, E9 Insight offers a few observations about the rule and implications for each state.*

### **The Clean Power Plan**

In August 2015, President Obama and the EPA released the Clean Power Plan—the first-ever set of national standards to address carbon pollution from power plants. The CPP aims to reduce carbon emissions from existing electric generating units by 32 percent below 2005 levels. Authority to implement this program arises under 111(d) of the Clean Air Act, which creates a partnership between the EPA and states: EPA establishes a state-specific goal; states choose how to meet that goal.

Consistent with that partnership, EPA established two ways to measure its goal: (1) a “rate-based” state goal measured in carbon dioxide per megawatt hour and (2) a “mass-based” state goal measured in total carbon dioxide emissions. States must choose one of those two measurements to be the basis for its compliance.

Regardless of which measurement is selected, states must meet two compliance deadlines: an interim target to be met over the period of 2022 to 2029 and a final target to be met by 2030. To meet those targets, states must develop and implement plans to ensure the power plants in their state—either individually, or in combination with other measures—achieve the required CO<sub>2</sub> emissions rates.

The development of state plans will be a multi-year process involving environmental organizations, ratepayer advocates, business interests and other stakeholders. In September 2016, each state is expected to either submit a final plan or request a two-year extension. Appropriate reasons for an extension might include a state's intent to engage in regional coordination or trading schemes, or to comply with its legislative or administrative schedules. If a state is granted an extension, it must submit its plan by 2018.

States also have the option of participating in the Clean Energy Incentive Program, which rewards early investments in renewable energy generation and demand-side energy efficiency measures during 2020 and 2021. If a state chooses to participate, the EPA will provide matching Emission Rate Credits up to an amount equal to 300 million short tons of carbon dioxide emissions. (Wind or solar projects will receive 1 credit for 1 MWh of generation, and demand-side energy efficiency projects implemented in low-income communities will receive 2 credits for 1 MWh of avoided generation.)

Over the next three years, each state will engage in a planning process that considers different plan designs and compliance pathways.

### **Anticipated Roles of the Public Utility Commissions**

While the Clean Power Plan designates the “Governor of a state as the authorized official for submitting the state plan to the EPA,” the Governor can designate that authority to another responsible official by notifying the EPA prior to the initial 2016 deadline. Regardless of who is responsible for submittal, multiple state entities will likely work together in designing a final plan. The state utility commissions have a number of possible roles:

*Rate-making:* As with other EPA rules, the state utility commissions will be responsible for approving rate increases associated with compliance costs.

*Advisory:* In addition to this rate-making function, the state utility commissions might also serve advisory roles tasked with determining what is feasible and cost-effective.

*Planning:* Commissions may even participate in the planning process by consulting with utilities about compliance paths and writing portions of the final plan.

*Supervision:* Finally, once a plan is approved, the state utility commissions might play a supervisory role by ensuring the emissions reduction credit market’s integrity, submitting corrective measures to make up for shortfall, and ensuring adherence to the plans’ components.

Further adding to the complexity of this planning process, a number of states are introducing bills affecting a state’s compliance options. Legislation introduced in 14 states would require the legislature’s approval of a state plan prior to its submission to the EPA. Three states are considering whether to require approval by the state public utility commission. Further, 19 states are considering legislation that would require the formation of a task force to study a plan’s impact on affordable power, reliably, and feasibility. Presumably, such a task force would involve significant involvement by the state utility commissions.

In all cases, we expect to see proceedings initiated at the state public utility commissions in the coming months and as part of each state’s deliberations.

### **Regional Approaches to Clean Power Plan Compliance**

The Clean Power Plan offers “flexible options for states and utilities to adopt multi-state compliance strategies.” The rule stresses the regional nature of the grid and argues that multi-state approaches “can lead to more efficient implementation, lower compliance costs for affected EGUs, and lower impacts on electricity ratepayers.” Studies from the SPP, MISO, and PJM all confirm that regional compliance will be more cost-effective than a state-by-state approach.

The rule points to the Regional Greenhouse Gas Initiative (RGGI) as a model for multi-state compliance pathways. Today, the RGGI trading program consists of nine states that share a regional carbon budget, which can be adjusted to accommodate the voluntary entry or exit of states. Each state maintains discretion to allocate emissions allowances, with resulting revenues funding energy efficiency programs, renewable energy projects, or contributing to the states’ general fund. States could create similar trading programs, or forgo a formal multi-state plan altogether but still allow EGUs to trade emission reduction credits (ERCs).

While some commentators have suggested that Congress would be required to approve each multi-state plan (as provided under the Compact Clause of the Constitution), Section 102(c) of the Clean Air Act expressly authorizes states to “negotiate and enter into agreements... for the prevention and

control of air pollution," so long as those compacts are not "binding or obligatory." However, absent the existence of a super-regulatory authority that can penalize or regulate across participating states, and absent a restriction on a state to withdraw from the compact, the Supreme Court has allowed cooperative undertakings without Congressional consent.

Therefore, states may craft their multi-state agreements to avoid the potential complications involved with receiving Congressional approval. When submitting implementation plans, states should describe trading programs and allowance allocations, although those details are not intended to create binding plan requirements that EPA or a citizens group could enforce. Nevertheless, a state may enforce its own respective laws to implement a program.

### **Carbon Trading**

Regardless of whether a state submits an individual or multi-state plan, the EPA believes "it is entirely feasible for states to establish standards of performance that incorporate emissions trading, and it is reasonable to expect that states will do so." Citing a long history of trading approaches being used to address acid rain, ozone, and particulate matter, EPA concludes "that it is reasonable to anticipate that a virtually nationwide emissions trading market for compliance will emerge."

However, unlike EPA's previous trading schemes, which included predetermined groups of states which were required to participate, the Clean Power Plan trading scheme is voluntary in nature and more vulnerable to state-level political forces. For example, utilities might forgo the emissions trading market, relying instead on commission-approved cost recovery for natural gas, solar and wind.

Regardless of how the trading scheme unfolds, it will likely create buyers and sellers of carbon credits. Some states will meet or exceed their 2030 targets simply after known coal plant retirements in the next 15 years and thus will have excess carbon credits to sell. Other states will still require major reductions even after known retirements and will be nudged into buying credits to reach their compliance goals.

*In the accompanying table, we suggest the anticipated relative carbon position for each state.*

### **Rate-Based or Mass-Based**

As state regulators begin crafting compliance plans, they face a threshold decision: whether to choose a rate- or mass-based approach. Most states that wish to take advantage of multi-state compliance options are expected to choose a mass-based approach. Mass-based approaches are generally viewed as preferable for trading because it is easier to quantify emissions reductions than under the rate-based approach. In fact, EPA implicitly promotes a mass-based approach in the final rule by recognizing that mass-based allowance trading "could be more readily applied than rate-based trading for achieving emissions reductions in ways that optimize affordability and electric system reliability."

A rate-based approach may be more suitable for Southern states that are adding new nuclear generation because the addition of carbon-free power would lower the pounds of carbon produced per megawatt-hour. But trading under a rate-based approach will be more complicated because states must first average their rates into a single rate for all connected states.

However, most states have not firmly committed to one approach or the other. Some states are still conducting their own modeling to understand each approach, and other states may be waiting for a critical mass of states to adopt a certain approach. Since states can only trade with other states that choose the same approach, states that commit too early may risk being isolated from the market.

*In the accompanying table, we suggest the anticipated method that will be selected by each state.*

## Legal Challenges

Twenty-four states, along with Murray Energy, are suing the EPA claiming the rule goes beyond the agency's authority. Two states (OK, ND) are pursuing independent legal challenges. Most of those opponents come from coal-heavy states, and all but three—Kentucky, Missouri, and North Carolina—have Republican attorneys general, suggesting the potential for partisan motivations. Eighteen other states plan to intervene on behalf of the EPA arguing that the rule is both legal and necessary to combat climate change.

The legal arguments focus on two major issues. The threshold issue is whether the EPA has authority under 111(d) of the Clean Air Act to issue the carbon regulations at all. The problem lies in the fact that two versions of section 111(d) were passed: one from the House and one from the Senate. Under the House language, EPA is barred from using section 111(d) to regulate an emission source that is already regulated under section 112. Since power plants are already regulated under section 112, the House interpretation would prevent EPA from issuing a duplicative rule under section 111(d). According to the Senate version, however, EPA is barred from issuing a second rule that controls the same pollutant that is already regulated in another section. Since EPA has not regulated greenhouse gasses previously, the Senate interpretation would allow the agency to regulate carbon emissions under section 111(d). Because the House and Senate version are in conflict, EPA's decision to follow the Senate interpretation would traditionally be given deference.

The second major issue revolves around whether the EPA overstepped its authority by allowing state implementation plans to include "outside the fence" measures, such as energy efficiency and renewable energy, to reach their reduction goals. But since the final rule eliminated the energy efficiency building block—by far the most vulnerable to court challenge—we expect this issue would be resolved in EPA's favor.

*This regulatory brief was prepared by E9 Insight, a research firm that tracks the activities of the state public utility commissions. E9 Insight publishes a monthly newsletter and maintains a database of 2,500 ongoing proceedings across the 50 states. For more information, please visit [www.e9insight.com](http://www.e9insight.com).*

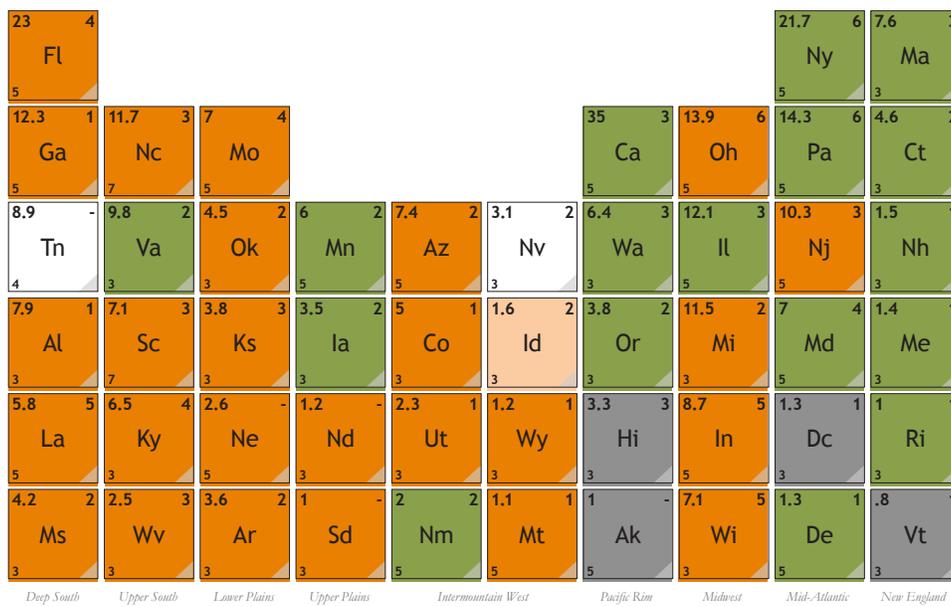
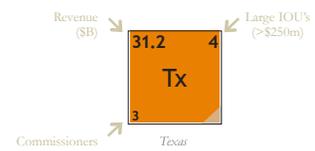
### Periodic Table of State Policy

The "Periodic Table of State Policy" organizes the states in 10 families with common market structures and regulatory characteristics. Within each family (column), larger states (based on retail revenue) are at the top, with smaller states at the bottom. Vertically integrated states are generally on the left side of the table, while restructured states are generally on the right.

The orientation of each state toward the Clean Power Plan is indicated below, revealing a notable aggregation of vertically-integrated states that have assumed adverse positions toward the Clean Power plan, which restructured states demonstrated more favorable positions toward the new rules.



Periodic Table of State Policy



E9 Insight has developed and regularly employed unique market segmentation and policy analysis tools to illustrate trends across state commissions. For a more detailed description, please see **Electricity Journal** (July 2015, Vol. 28, Issue 6) or contact [inquiries@e9insight.com](mailto:inquiries@e9insight.com).



The following table summarizes the expected agency responsible for Clean Air Act compliance, along with the current status of each state's "orientation", based on legal and legislative activity. We have also indicated preliminary expectations about the anticipated method of compliance for each state and relative carbon position.

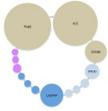
state	\$B	Agency	Orientation	Anticipated Method	Carbon Position	State Legislation	Legal Action
CA	\$37.4	Air Resources Board	Favorable	Mass	Seller		
TX	\$32.8	Commission on Environmental Quality	Adverse	Mass	Buyer	X	X
NY	\$22.8	Department of Environmental Conservation	Favorable	Mass	Seller		
FL	\$22.7	Department of Environmental Protection	Adverse	Mass	Buyer		X
PA	\$14.3	Department of Environmental Protection	Favorable	Mass	Buyer	X	
OH	\$13.8	Environmental Protection Agency	Adverse	Mass	Buyer		X
GA	\$12.6	Environmental Protection Division	Adverse	Rate	Buyer		X
NC	\$12.0	Department of Natural Resources	Adverse	Mass	Seller	X	X
IL	\$11.7	Environmental Protection Agency	Undecided	Mass	Seller	X	
MI	\$11.6	Department of Environmental Quality	Adverse	Mass	Seller		X
NJ	\$10.2	Department of Environmental Protection	Adverse	Mass	Buyer		X
VA	\$9.9	Department of Environmental Quality	Favorable	Mass	Seller	X	
IN	\$9.2	Department of Environmental Management	Adverse	Mass	Buyer	X	X
TN	\$8.9	Department of Environment and Conservation	Undecided	Rate	Seller	X	
MA	\$8.0	Department of Environmental Protection	Favorable	Mass	Seller		
AL	\$7.9	Department of Environmental Management	Adverse	Mass	Seller		X
AZ	\$7.7	Department of Environmental Quality	Adverse	Mass	Buyer	X	X
MO	\$7.5	Department of Natural Resources	Adverse	Mass	Buyer	X	X
WI	\$7.3	Department of Natural Resources	Adverse	Mass	Buyer		X
SC	\$7.3	Department of Health and Environmental Control	Adverse	Rate	Buyer	X	X
MD	\$7.2	Department of Environment	Favorable	Mass	Seller		
LA	\$6.9	Department of Environmental Quality	Adverse	Mass	Seller	X	X
WA	\$6.6	Department of Ecology	Favorable	Mass	Seller		
KY	\$6.5	Department of Energy and Environment	Adverse	Mass	Seller	X	X
MN	\$6.5	Pollution Control Agency	Favorable	Mass	Buyer	X	
CO	\$5.3	Department of Public Health and Environment	Adverse	Mass	Buyer	X	X
OK	\$4.7	Department of Environmental Quality	Adverse	Mass	Buyer	X	X
CT	\$4.7	Department of Energy and Environment	Favorable	Mass	Buyer		



state	\$B	Agency	Orientation	Anticipated Method	Carbon Position	State Legislation	Legal Action
<b>MS</b>	<b>\$4.4</b>	Department of Environmental Quality	Adverse	Mass	Buyer		×
<b>OR</b>	<b>\$4.0</b>	Department of Environmental Quality	Favorable	Mass	Seller		
<b>KS</b>	<b>\$3.9</b>	Department of Health and Environment	Adverse	Mass	Buyer	×	×
<b>IA</b>	<b>\$3.8</b>	Department of Natural Resources	Favorable	Mass	Seller		
<b>AR</b>	<b>\$3.7</b>	Department of Environmental Quality	Adverse	Mass	Buyer	×	×
<b>NV</b>	<b>\$3.2</b>	Department of Conservation and Natural Resources	Undecided	Mass	Buyer		
<b>HI</b>	<b>\$3.2</b>	Exempt	(exempt)	-	-		
<b>NE</b>	<b>\$2.7</b>	Department of Environmental Quality	Adverse	Mass	Buyer	×	×
<b>WV</b>	<b>\$2.5</b>	Department of Environmental Protection	Adverse	Mass	Buyer	×	×
<b>UT</b>	<b>\$2.5</b>	Department of Environmental Quality	Adverse	Mass	Buyer		×
<b>NM</b>	<b>\$2.1</b>	Environment Department	Favorable	Mass	Seller		
<b>ID</b>	<b>\$1.8</b>	Department of Environmental Quality	Adverse	Mass	Seller		
<b>NH</b>	<b>\$1.6</b>	Department of Environmental Services	Favorable	Mass	Seller		
<b>ME</b>	<b>\$1.4</b>	Department of Environmental Protection	Favorable	Mass	Seller		
<b>ND</b>	<b>\$1.3</b>	Department of Health	Adverse	Mass		×	×
<b>DC</b>	<b>\$1.3</b>	Exempt	(exempt)	-	-		
<b>WY</b>	<b>\$1.3</b>	Department of Environmental Quality	Adverse	Mass	Buyer	×	×
<b>DE</b>	<b>\$1.2</b>	Department of Natural Resources	Favorable	Mass	Seller		
<b>MT</b>	<b>\$1.2</b>	Department of Environmental Quality	Adverse	Mass	Buyer		×
<b>SD</b>	<b>\$1.1</b>	Department of Water and Natural Resources	Adverse	Mass	Seller		×
<b>RI</b>	<b>\$1.1</b>	Department of Environmental Management	Favorable	Mass	Seller		
<b>AK</b>	<b>\$1.0</b>	Exempt	(exempt)	-	-		
<b>VT</b>	<b>\$0.8</b>	Exempt	(exempt)	-	-		



The following summary provides state-specific observations of actions and statements regarding the Clean Power Plan and expectations regarding compliance. States are organized according to the size of the market (based on retail electricity revenue). Diagrams for each state offer a schematic depiction of the relative size of each market and the individual utility entities in each state. For more information, contact [inquiries@e9insight.com](mailto:inquiries@e9insight.com).



**\$37.4 California**

The California Air Resources Board is developing California’s compliance plan for this federal rule and consulting as appropriate with other state regulators, including the California Energy Commission, California Public Utilities Commission, and California’s air districts, among others. California supports multi-state collaboration to achieve its goals and has already begun discussions with other Western states about the potential for carbon trading.



**\$32.8 Texas**

The Texas Committee on Environmental Quality will be responsible for developing a compliance plan. However, there are a number of pending house and senate bills that may affect compliance options. One such bill, SB 1761, would require approval by the state legislature, Public Utility Commission, and FERC before submitting a plan to EPA. It would also require the Committee and the Public Utility Commission to develop a memorandum of understanding regarding duties, responsibilities, and functions.



**\$22.8 New York**

The Department of Environmental Conservation will submit the state’s final implementation plan to the EPA. As a RGGI participant, it is likely that other states will look to New York as an example of how to participate in regional trading schemes. Compliance should be relatively straightforward for New York as the state’s emissions reduction target under RGGI exceeds EPA’s target.



**\$22.7 Florida**

The Florida Department of Environmental Protection will be responsible for developing a compliance plan. Two bills have been introduced that would require the Department to submit its state plan for legislative approval before its submission to EPA, but both bills failed. While the state is challenging the rule in court, Florida Power & Light is one of the few electric companies that support the Clean Power Plan, largely due to the fact that it gets the majority of its electricity from natural gas.



**\$14.3 Pennsylvania**

The Department of Environmental Protection will be responsible for administering the compliance program, with the PUC ensuring there are no adverse impacts on reliability. HB 2354 was approved in 2014 and requires DEP to consider participation in a multi-state program and requires the legislature’s approval of a state plan, except under certain circumstances.



**\$13.8 Ohio**

The Ohio Environmental Protection Agency has been working closely with the Ohio PUC to collect input on how the rule will affect Ohio. As a heavily coal-dependent state, Ohio has been strongly opposed to the rule from the beginning, and is among a coalition of 24 states suing the EPA.



**\$12.6 Georgia**

The Environmental Protection Division is working closely with the Georgia Environmental Finance Authority and the PSC to share information and develop a flexible state plan that provides a mechanism for interstate trading in a cost-effective manner. The plan will likely involve revisions to the Georgia Rules for Air Quality Control. Although state regulators criticize the rule, the EPA significantly eased Georgia’s target in the final rule by allowing the state to count two under-construction nuclear reactors.

**\$12.0 North Carolina**



The North Carolina legislature may influence how the state designs its implementation plan. HB 571 requires the Department of Environment and Natural Resources to develop a state plan in consultation with the Environmental Management Commission and the Utilities Commission. It also would restrict state actions to cutting emissions by improving efficiency to coal-fired plants. Meanwhile, Duke Energy's integrated resource plan predicts a doubling of renewables, energy efficiency, and demand-side conservation by 2029.

**\$11.7 Illinois**



With half of its electricity coming from nuclear, Illinois is in a unique situation. The final rule allows only new or upgraded nuclear plants to count towards a state's emissions reductions, and Exelon has warned that it may close three struggling nuclear plants if they don't receive state subsidies to keep them operating. Illinois has a number of bills pending that would establish a long-term renewable resources procurement plan, encourage use of energy efficiency, and authorizes the Illinois EPA to develop a market-based program for compliance.

**\$11.6 Michigan**



Although Michigan is one of 24 states that filed a lawsuit challenging the EPA, it is on track to meet Clean Power Plan targets with its existing 10 percent renewable energy standard and 1-percent-per-year energy efficiency mandate. While the Attorney General is suing the EPA in an individual capacity, the Department of Environmental Quality announced that the state will submit a compliance strategy and not formally challenge the rules.

**\$10.2 New Jersey**



New Jersey has a long history of challenging the EPA's authority to regulate greenhouse gasses and it is now one of the 24 states that filed a lawsuit challenging the final rule. While the administration criticized the rule, the state's largest utility plans to promote energy efficiency for low income customers as an early tool to reduce emissions.

**\$9.9 Virginia**



The Department of Environmental Quality is leading the effort on how to best implement the rule. HB 1261 requires the Virginia Energy Plan to analyze the cost and benefits resulting from EPA's regulations. A bill that would have required legislative approval of a state plan before submission to EPA failed to pass in the House. But the Department must submit a report to the governor and legislature by November 2015.

**\$9.2 Indiana**



As one of the 24 states suing the EPA, Indiana plans to vigorously challenge the legality of the rule. The governor has said Indiana will refuse to comply unless EPA makes significant changes. There is pending legislation barring the Department of Environmental Management from preparing a state implementation plan until all legal challenges are fully resolved.

**\$8.9 Tennessee**



Unlike many of its neighbors, Tennessee has remained relatively quiet and has not joined the lawsuit against the EPA. Under SB 1325, the Department of Environment and Conservation must provide notice of the development of a state plan and solicit comments before developing an impact report. The state plan must be approved by the legislature.

**\$8.0 Massachusetts**



As a participant in RGGI, Massachusetts is well positioned to meet its clean power plan goals. It has the 10th lowest emissions rate in the country and is ranked fourth in amount of solar capacity installed last year.

**\$7.9 Alabama**



The Department of Environmental Management is forming at least one working group that will involve the state's utilities and other stakeholders. Although Alabama has joined the legal fight against the EPA, neither the Governor nor Legislature is preventing the agency from developing a state compliance plan. Meanwhile, Alabama Power is asking the PSC to add 500 MW of renewable energy to its grid.



**\$7.7 Arizona**

The Department of Environmental Quality is currently engaged in the third phase of its Clean Power Plan compliance. From now until the initial submittal is due, ADEQ will continue meeting with stakeholders and working with a technical group to develop a plan. SB 1007 also established a joint legislative review committee to review any state implementation plan and requires legislative approval before its submission to EPA.



**\$7.5 Missouri**

SB 142 requires the Department of Natural Resources to prepare a regulatory impact report and submit any final plan to the Governor, the Joint Committee on Government Accountability, the president pro tem of the Senate and the speaker of the House before submitting the plan to EPA.



**\$7.3 Wisconsin**

As one of the 24 states that filed a lawsuit challenging the rule, Wisconsin is strongly opposed to the rule. The governor pledged not to put forward a compliance plan unless EPA significantly changes its rule.



**\$7.3 South Carolina**

The Department of Health and Environmental Control has tasked the development of a state implementation plan to the South Carolina Energy Coalition, which plans to work collaboratively with the Department and stakeholders. Meanwhile, HB 3707 is pending piece of legislation that would prevent a state agency from preparing a state plan before all legal challenges have been resolved. It would also provide the PSC with a safety valve to reject a proposal if it would retire a unit before its lifetime if the unit is necessary to maintain reliability.



**\$7.2 Maryland**

As a participant in RGGI, Maryland is well positioned to meet its emissions target. It was already committed to reducing greenhouse gasses to 75 percent of 2006 levels by 2020.



**\$6.9 Louisiana**

In 2014, Louisiana passed SB 650, which authorizes the Department of Environmental Quality to establish performance standards for the regulation of carbon emissions from existing fossil fuel-fired EGUs and allows for alternative standards or compliance schedules than the federal rule. Cleco Corporation intends to work closely with the Department and the PSC to devise a compliance plan.



**\$6.6 Washington**

With an abundance of hydropower and planned retirement of all remaining coal-fired generation before 2020, Washington is well positioned to meet its target. The Governor plans to promulgate a carbon cap under the state's Clean Air Act, but this will likely be complementary to the Clean Power Plan, not as the sole means of complying with the rule.



**\$6.5 Kentucky**

In 2014, Kentucky passed HB 388, which authorizes the Department of Energy and Environment to establish performance standards for the regulation of carbon emissions from existing fossil fuel-fired EGUs. In 2015, Kentucky also established a Federal Environmental Regulation Impact Assessment Task Force to study the rule's potential effects.



**\$6.5 Minnesota**

With an aggressive RPS and significant opportunities for wind power, Minnesota is well positioned to comply with the rule. The Pollution Control Agency is reviewing the rule and assessing potential pathways for compliance. It anticipates that new state rules will be needed to implement a plan. Pending legislation would require the Commissioner of the Pollution Control Agency to receive legislative approval of a state plan before submission to EPA.

**\$5.3 Colorado**



While the Attorney General joined the coalition of 24 states that filed a lawsuit against the EPA, the Governor supports the final rule. The Department of Health and Environment will be developing a state implementation plan that will include opportunities for input from diverse stakeholders. SB 258 is a pending piece of legislation that would require both legislative approval and PUC approval of a state plan before submission to EPA.

**\$4.7 Oklahoma**



Both the Governor and Attorney General are strongly opposed to the rule. In April, the Governor vetoed a bill that would require the Department of Environmental Quality to submit the state plan to the attorney general. Instead, the Governor has issued an executive order barring the state from submitting an implementation plan.

**\$4.7 Connecticut**



As a RGGI participant, Connecticut is well positioned to meet its target. It has reduced carbon emissions by 34 percent from 1990 to 2012 and generated \$137 million for energy efficiency and renewable energy programs. The Department of Energy and Environmental Protection will be heading the effort to develop a compliance plan.

**\$4.4 Mississippi**



The Department of Environmental Quality will likely head the state's development of an implementation plan. Although the Governor has vowed to fight the rule, it did not join in the lawsuit against EPA with other states.

**\$4.0 Oregon**



As a leader in clean energy development, Oregon is well positioned to meet its emissions target and may be able to sell compliance credits to other states. The Department of Environmental Quality will work closely with the PUC, Department of Energy, and regional stakeholders to develop an implementation plan.

**\$3.9 Kansas**



HB 2233 requires the secretary of Health and Environment to develop a state plan in conjunction with the state Corporation Commission and requires input and review of the state legislature.

**\$3.8 Iowa**



With more than 28 percent of its electricity production coming from wind, Iowa is well positioned to meet its emissions target. The Department of Natural Resources is leading the development of a compliance plan and will be holding a round of stakeholder and working group meetings in the coming months.

**\$3.7 Arkansas**



SB 183 requires the Department of Environmental Quality to develop several impact reports and work in conjunction with the PSC and the Economic Development Commission to prepare a report on the regulation's impact on affordability and reliability. The legislature and governor must approve the state plan before submission to EPA.

**\$3.2 Nevada**



With planned coal plant retirements, renewable energy resources, and energy efficiency investments, Nevada is well positioned to meet its target. The Nevada Department of Conservation and Natural Resources is currently reviewing the rule.



**\$3.2 Hawaii**

While Hawaii has been supportive of the rule (and has joined a coalition of states), EPA has temporarily refrained from setting an emissions target for Hawaii due to a lack of power system data. The state is committed to generating 40 percent clean energy by 2030 and 100 percent by 2045.

**\$2.7 Nebraska**

Nebraska is part of a 24 state coalition that filed a lawsuit challenging the rule. Legislative Bill 469 requires the Department of Environmental Quality to submit an impact report and hold public meetings on the development of a state plan. The final plan must also be submitted to the legislature.

**\$2.5 West Virginia**

House Bill 2004 requires the Department of Environmental Protection to submit a report to the legislature examining the rule's impact on the state. If the Department finds that a state plan is feasible, it must obtain legislative approval before submission to EPA.

**\$2.5 Utah**

Utah is part of a 24 state coalition that filed a lawsuit challenging the rule. It has not decided whether it will submit a compliance plan. But the Department of Environmental Quality has coordinated numerous stakeholder meetings with interested parties to assess the rule.

**\$2.1 New Mexico**

The Environment Department Air Quality Bureau is reviewing the rule in order to conduct appropriate stakeholder outreach in the coming months. It is planning a citizen participation campaign that should give all interested parties an opportunity to communicate information and ideas.

**\$1.8 Idaho**

The Department of Environmental Quality is in the early stages of evaluating the final rule. It plans to work closely with the Office of Energy Resources, the PUC, and other interested stakeholders in developing a state plan.

**\$1.6 New Hampshire**

As a RGGI participant, New Hampshire is well positioned to meet its emissions target. The Department of Environmental Services and PUC filed joint comments and are working closely to review the final rule.

**\$1.4 Maine**

As a RGGI participant with one of the lowest emissions rates in the country, Maine is well positioned to meet its emissions target. But with 27 percent of its energy coming from biomass, Maine remains concerned because it is unclear how this resource will be counted towards compliance.

**\$1.3 North Dakota**

As one of the 24 states suing EPA, North Dakota is simultaneously fighting the rule and looking at compliance pathways. SB 2372 authorizes legislative management to conduct a study on the impacts and costs of EPA's regulations and present the study to the legislature.



**\$1.3 District of Columbia**

While it supports the rule (and has joined a coalition of states), the District of Columbia does not have goals to meet under the Clean Power Plan.

**\$1.3 Wyoming**

As a coal state, Wyoming was among a coalition of 24 states that are suing the EPA. However it still plans to submit a compliance plan to avoid the federal government making one for them. Legislation passed in 2014 authorizes the Attorney General to take action to stop the enforcement, administration or implementation of regulations, following approval by the governor.

**\$1.2 Delaware**

As a RGGI participant, Delaware is well positioned to meet its emissions target. Independent from the Clean Power Plan, Delaware plans to reduce carbon emissions 30 percent below 2008 levels by 2030 and has been actively shutting down coal-fired power plants in recent years.

**\$1.2 Montana**

Montana is simultaneously suing the EPA while moving forward with exploring compliance options. It has established a legislative subcommittee to review options and work with the state Department of Environmental Quality.

**\$1.1 South Dakota**

Similar to North Dakota, South Dakota will continue to challenge the legality of the rule while it prepares its implementation plan to comply. Although South Dakota has high penetrations of renewables, out-of-state purchases receive the credit, not the producer.

**\$1.1 Rhode Island**

As a RGGI participant that obtains nearly all its electricity from natural gas, Rhode Island is well positioned to meet its emissions targets. The Department of Environmental Management is in the early stages of developing a compliance plan.

**\$1.0 Alaska**

With limited transmission, Alaska was excluded from the EPA rule. But EPA reserved the right to regulate carbon in the future.

**\$0.8 Vermont**

Vermont does not have any power plants big enough to be regulated under the rule. However, Vermont has joined a coalition of states supporting the rule.

# **Attachment 3**

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# Alternate Scenarios for 111(d) Implementation in North Carolina

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Prepared for the Southern Environmental Law Center

November 26, 2014

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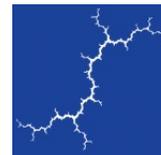
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# 1. EXECUTIVE SUMMARY

In order to comply with section 111(d) of the Clean Air Act, the U.S. Environmental Protection Agency (EPA) has proposed guidelines for reducing carbon dioxide (CO<sub>2</sub>) from existing fossil fuel-fired power plants. This document describes the methodology used by EPA to calculate a target rate for North Carolina under 111(d), as well as considerations regarding future 111(d) compliance strategies for the state. Ultimately, this report estimates that achieving compliance with 111(d) by following each building block as prescribed by the EPA will result in \$201 million in net benefits to North Carolina.

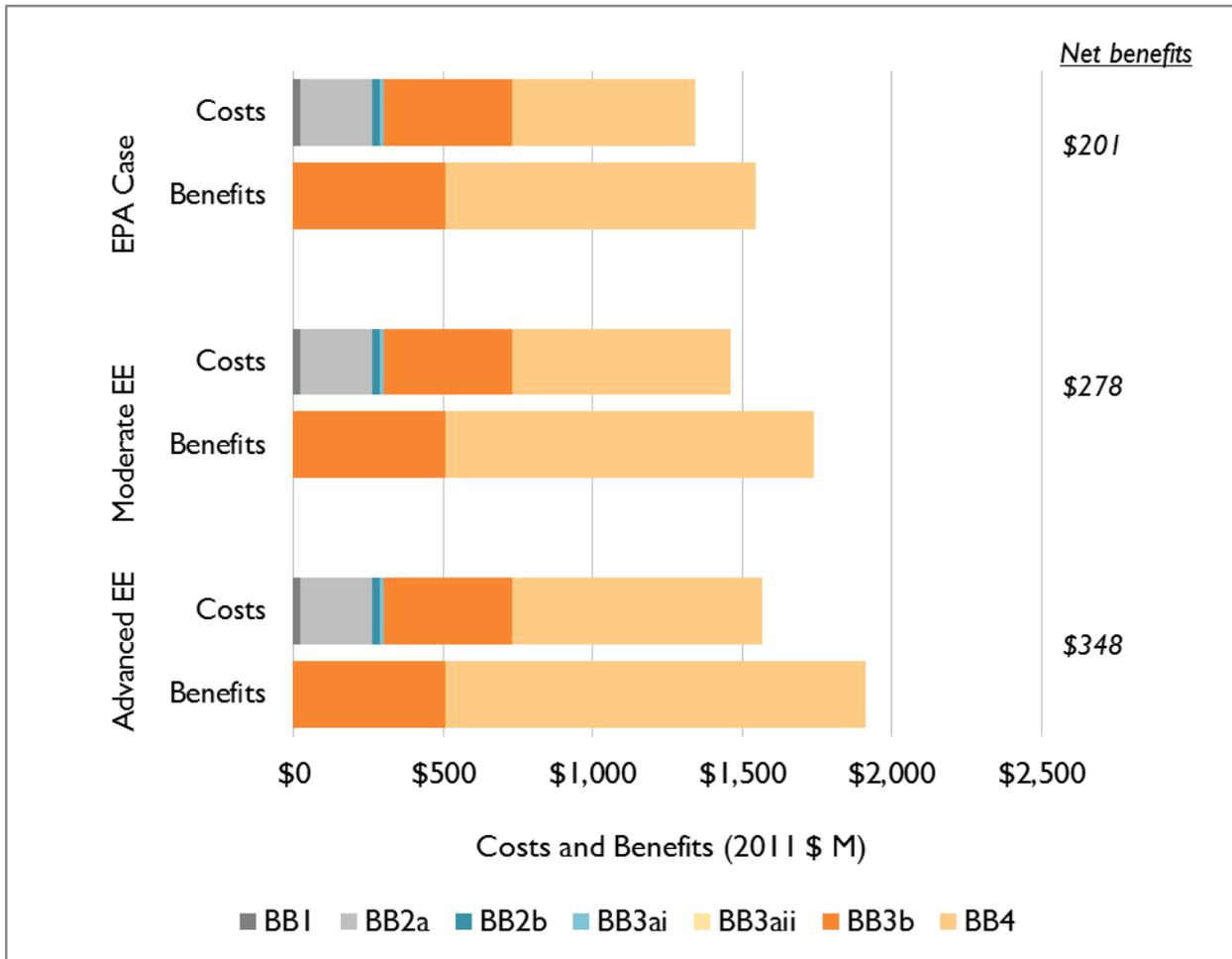
Synapse has developed a methodology to compare the generation, emissions, and net benefits of different strategies to comply with EPA's proposed 111(d) regulation, assuming a simplified mass-based translation. Figure ES 1 below reports the net benefits to North Carolina associated with EPA's scenario, along with two alternate scenarios.<sup>1</sup> The "Advanced EE" scenario evaluates EPA's building blocks plus the impacts of increasing North Carolina's energy efficiency savings target from 1.5 percent by 2025 to 2.0 percent by 2023, and changes the ramp rate of incremental efficiency savings from 0.2 percent per year in the EPA case to 0.25 percent per year. The "Moderate EE" scenario evaluates the impact of an energy efficiency savings trajectory in between the EPA and "Advanced EE" cases, with savings ramping by 0.25 percent per year to reach 1.75 percent annual incremental savings by 2023.

Figure ES 1 demonstrates that as energy efficiency programs are increased, net benefits also increase. As such, the net benefits to North Carolina of compliance for the Moderate and Advanced EE Cases are \$278 million and \$348 million, respectively, as compared to the \$201 million in net benefits that would result from complying using EPA's scenario. The assumptions, methodology, and more detailed results provided in this report are an essential context to these summary results.

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<sup>1</sup> In this report, as will be explained in greater detail below, Synapse assumes the costs associated with compliance with 111(d) to be those outlined by the EPA for all building blocks except 3b (renewables) and 4 (energy efficiency), for which Synapse developed original cost estimates. The benefits calculated in this report represent direct financial benefits to ratepayers that result from the use of cheaper energy resources. It does not, however, include other benefits, such as public health benefits. If all societal benefits were calculated, the net benefits associated with 111(d) compliance would grow.

Figure ES 1. 2030 costs and benefits from 111(d) building blocks



Note: In the figure above, the labels are as follows: BB1 is coal efficiency improvements, BB2a is redispatch to natural gas units, BB2b is redispatch to under construction gas units, BB3ai is at-risk nuclear, BB3aii is under-construction nuclear, BB3b is renewable energy, and BB4 is energy efficiency.

This first-cut analysis is preliminary. It relies on simplifying assumptions regarding the costs and emissions of displaced energy to arrive at indicative cost and emission impacts based on compliance according to EPA's building blocks, as well as under two alternate scenarios provided by SELC. The next steps for improving the accuracy and precision of these results would include electric-sector dispatch modeling and least-cost planning analysis.

## 2. THE IMPACT OF ALTERNATE ASSUMPTIONS FOR 111(d) COMPLIANCE ON NORTH CAROLINA'S COSTS AND EMISSIONS

In the following sections, we analyze the costs and emissions impacts of the EPA's assumptions for North Carolina's compliance target, in addition to two alternate scenarios. We define the alternate scenarios below. To make an "apples-to-apples" comparison between the alternate scenarios and the EPA's scenario, we designed a model using a mass-based approach.

For North Carolina, compliance with 111(d) requires either achieving a 111(d) emission rate of 992 lbs per MWh or lower in 2030, or achieving a "translated" equivalent mass-based target. In calculating target 111(d) emission rates, EPA considers the displacement of coal and steam generation by re-dispatched NGCC generation, but does not take into account the displacement of NGCC and other fossil generation by new nuclear and renewable generation and incremental energy efficiency. Because of the displacement effects of new generation and energy efficiency on fossil units, any state that complied exactly with the four building block measures as used by EPA for target setting would *overcomply* with its 111(d) emission rate, assuming no load growth.<sup>2</sup> This means that any state following its EPA building blocks will have a 111(d) emission rate that is lower than EPA's target; how much lower depends on how much of the displacement of fossil generation from new resources in Building Blocks 3 and 4 takes place in state versus out of state.

Our base case for this analysis (referred to as the "EPA Case") takes EPA's building block assumptions for North Carolina, adjusted for the fossil-fuel displacement necessary to keep the state's 2012 reconstituted generation (plus the assumed generation of the NGCCs under-construction in 2012) constant over time. When we apply this emissions displacement, EPA's 111(d) emission rate is fundamentally altered and comparisons of statewide rates are no longer meaningful. Instead, to examine the impact of different alternate compliance scenarios, we compare rough estimates of North Carolina's mass-based target—38.1 million metric tons of CO<sub>2</sub> in the EPA Case— given the assumption that all displacement occurs within state.<sup>3</sup> This analysis provides a high-level estimate of what emissions would be from 111(d) sources.

In keeping with EPA's methodology of looking at each state in isolation, the analysis described below assumes that all generation displacements occur in-state. We assume that new renewable generation and incremental energy efficiency displaces first coal generation, then oil/gas steam and other generation, then finally existing natural gas combined cycle generation. Electric-sector dispatch

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<sup>2</sup> The assumption of no load growth, while simplifying, is in line with how EPA calculated the rate based goal. In order to better understand how load growth may impact compliance with 111(d), see Synapse's Clean Power Plan Planning Tool, available at: <http://synapse-energy.com/tools/clean-power-plan-planning-tool-cp3t>

<sup>3</sup> Although the EPA recently released guidelines for translating the rate-based targets to mass-based targets, we compare scenarios to the emissions reduction that would be achieved by following all of the building blocks precisely, while assuming that renewables and energy efficiency displace fossil generation in-state.

modeling would show that generation is displaced based on what resource is on the margin in a given hour, which would presumably produce different results—in terms of both benefits and costs and emission reductions—than our analysis.<sup>4</sup>

## 2.1. Illustrative example of the Synapse methodology

Imagine a hypothetical state that in 2012 had 100 MWh of coal generation, 50 MWh of NGCC generation, and 10 MWh of generation from oil and gas steam units (see Table 1, column (a)).

**Table 1. Illustration of methodology for generation displacement**

	Generation (MWh)		
	2012 (a)	2020 – Building Blocks (b)	2020 – EPA Case with Displacement (c)
Coal	100	82	62
NGCC	50	70	70
O/G Steam	10	8	8
New Renewables	-	10	10
Energy Efficiency	-	10	10
<b>Total Fossil</b>	<b>160</b>	<b>160</b>	<b>140</b>
<b>Grand Total</b>	<b>160</b>	<b>180</b>	<b>160</b>
NGCC CF	50%	70%	70%

In 2012, this state’s NGCCs had capacity factors of 50 percent. Column (b) in Table 1 shows the effect of generation under EPA’s building blocks in 2020 without considering displacement from new resources. NGCC generation ramps up to a 70 percent capacity factor, adding 20 MWh of generation from NGCCs to the system and displacing 20 MWh of coal and oil/gas (O/G) steam generation. Also added in 2020 are 10 MWh of new renewables and 10 MWh of energy efficiency, increasing the generation considered for setting the state’s 111(d) emission rate target from 160 to 180 MWh.

In the *EPA Case with Displacement*, shown in column (c), these 20 MWh of combined renewable and energy efficiency displace 20 MWh of fossil generation, with coal generation being displaced first. Using this methodology, generation remains constant between 2012 and 2020 (except for the addition of generation from any NGCCs under construction in 2012). Emissions from each resource are then calculated using EPA’s stated emission rates.

<sup>4</sup> The marginal electric generating unit is the unit whose energy output would be reduced by 1 MW if the system load were to be reduced by 1 MW. The marginal emissions rate is the emissions rate associated with the 1 MW reduction. In a system observing economic dispatch, the marginal unit is the most expensive (i.e. highest variable costs including fuel) unit being operating at any given moment and the marginal emissions rate is the emissions rate of that same unit.

Note that this methodology is only possible for states that are able to procure all new renewable generation in-state or through bundled (i.e., delivered) REC purchases. For states where renewable generation is procured out-of-state through unbundled REC purchases, renewable generation will have no displacing effect on in-state fossil generation. Instead, the state will be awarded emission reduction credits associated with the REC resource's marginal emitter, commonly an NGCC. In this analysis, we assume North Carolina complies through bundled REC purchases.

## 2.2. Scenario development

In this analysis of North Carolina's compliance with the Clean Power Plan, SELC requested the analysis of two scenarios in addition to EPA's assumptions for the compliance target. The scenarios are as follows:

- **“Advanced EE”:** This scenario evaluates EPA's building blocks plus the impacts of increasing North Carolina's energy efficiency savings level from 1.5 percent by 2023 to about 2 percent by 2022 (see Figure 1).<sup>5</sup> The 2 percent savings level represents an aggressive, but attainable, savings level, developed based upon recent savings achievements in Vermont, Massachusetts, and Rhode Island.<sup>6</sup> We estimated cumulative energy savings with the EPA's Clean Power Plan GHG Abatement Scenario 1 EE Savings Tool.<sup>7</sup>
- **“Moderate EE”:** This scenario evaluates the impact of an EE savings trajectory in between the EPA and “Advanced EE” cases, with savings ramping by 0.25 percent per year to reach 1.75 percent annual incremental savings by 2023. Although this scenario calls for higher levels of efficiency than the EPA case, it is in line with what many states already target. Again, we estimated cumulative energy savings with the EPA's Clean Power Plan GHG Abatement Scenario 1 EE Savings Tool.

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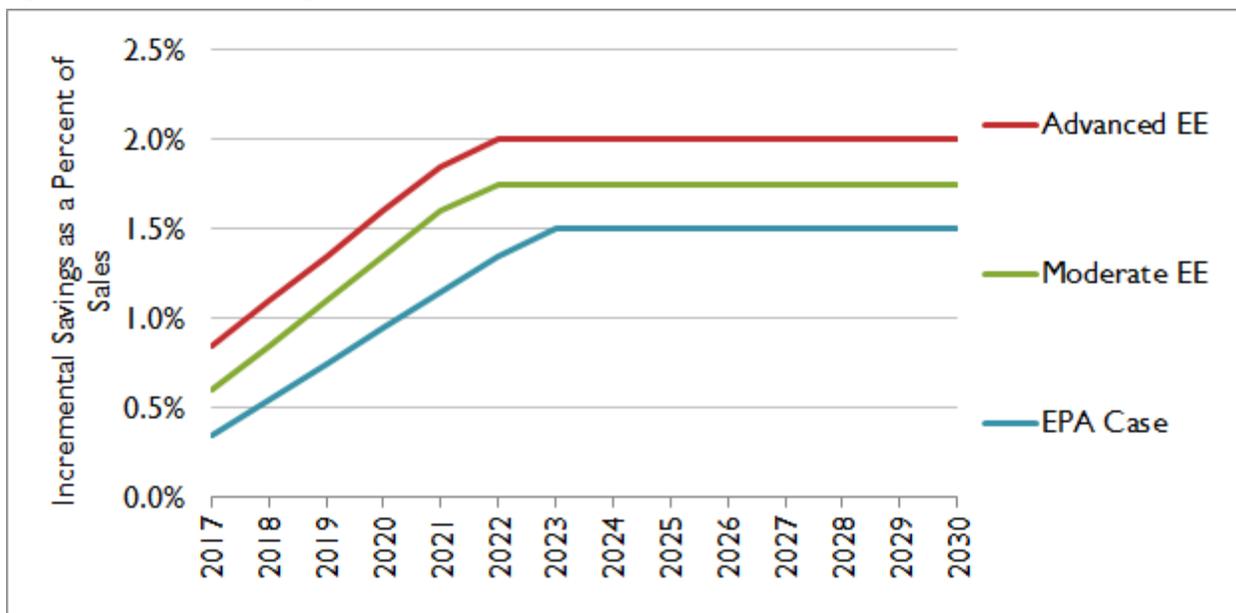
<sup>5</sup> Incremental savings as a percent of sales levels fluctuate year-to-year based on ACEEE's assumptions including baseline building codes, appliance standards, and consumer behavior.

<sup>6</sup> For achieved savings levels see: ACEEE. 2013. The 2013 State Energy Efficiency Scorecard, Appendix H, November 2013; EEAC Consultant. 2014. "2013 Plan-Year Reports, EECA Consultant, Initial Review." Available at: <http://www.ma-eeac.org/Presentations.html>; and: National Grid. 2014. 2013 Energy Efficiency Year-End Report, May 1, 2014.

<sup>7</sup> The EE Savings Tool is available at: <http://www2.epa.gov/carbon-pollution-standards/clean-power-plan-proposed-rule-technical-documents>.



Figure 1. Incremental savings as a percent of sales in the EPA Case and two modeled scenarios for North Carolina



In each scenario, there are two additional impacts on energy efficiency savings that are reflected in the trends as described above:

- Transmission and distribution losses:** The savings from energy efficiency as described above are calculated based on sales to customers. Using the assumption of an 8-percent transmission and distribution (T&D) loss factor, for every 100 MWh of electricity sales avoided from an energy efficiency program, 108 MWh is avoided from electricity generation. Correctly accounting for T&D losses effectively increases the generation and emission benefits of an energy efficiency program without increasing costs.
- Energy efficiency import derating:** Many states are net importers of electricity. This means that energy efficiency programs are only able to displace a portion of a state's in-state generation. In 2012, North Carolina imported 14 percent of its electricity. However, as a result of under-construction NGCC capacity in the state, in-state generation will account for 100 percent of sales in the future. As such, North Carolina receives full credit for the effect of energy efficiency programs on in-state generation is counted in 2020 and 2030.

### 2.3. Cost assumptions

Table 2 indicates the costs associated with each method of compliance, each of which is described in further detail in this section. Also noted is whether the cost as indicated is calculated net of electric system benefits. Net benefits to energy efficiency participants and society (for example, benefits of avoiding impacts of climate change) are not included in the costs below.

**Table 2. Cost of compliance with 111(d) by strategy**

	Cost of Avoiding one ton of CO <sub>2</sub> (2011 \$/MWh)	Cost net of electric system benefits?
Coal efficiency upgrades	\$3	Yes
Re-dispatch to NGCCs	\$14	Yes
Maintaining "at-risk" nuclear plants	\$6	Yes
Under-construction nuclear	\$0	No
Renewables (incremental REC portion)	\$48	No
Energy efficiency	\$33	No

### Coal efficiency upgrades

We use EPA's national average cost of lowering the emission rate of coal results: \$8 per metric ton of CO<sub>2</sub>.<sup>8</sup> Assuming a national average marginal unit emissions rate of 907 pounds per MWh, this compliance cost translates into a cost of \$3 per MWh.<sup>9</sup>

### Re-dispatch to NGCCs

We use EPA's national average cost of the price incentive necessary to re-dispatch from coal and steam generation to new and under-construction NGCCs: \$33 per metric ton of CO<sub>2</sub>.<sup>10</sup> Assuming a national average marginal unit emissions rate of 907 pounds per MWh, this compliance cost translates into a cost of \$14 per MWh.

### At-risk nuclear

We use EPA's national average cost of maintaining "at-risk" nuclear plants: \$6 per MWh.<sup>11</sup>

### Under-construction nuclear

We use EPA's national average cost for under-construction nuclear plants: \$0 per MWh.<sup>12</sup>

<sup>8</sup> 111(d) Greenhouse Gas Abatement TSD, p.2-39. Levelized capital costs less coal savings. Only 2020 cost of coal efficiency upgrades is provided, which is used for all years.

<sup>9</sup> The national average marginal unit emissions rate corresponds to the national average emissions rate for NGCCs

<sup>10</sup> 111(d) Greenhouse Gas Abatement TSD, p.3-26. Average cost to reach 70 percent capacity factor; state re-dispatch constraint; assumes "CO<sub>2</sub> charges on the variable cost of dispatch for existing coal, steam, IGCC, and O/G steam with emission rates greater than 1,100 lbs/MWh)." Only 2020-2029 cost is available; using for all years.

<sup>11</sup> 111(d) Greenhouse Gas Abatement TSD, p. 4-34. Only 2012 cost is available; using for all years.

<sup>12</sup> 111(d) Proposed Rule, p.215. "The EPA believes that since the decisions to construct these units were made prior to this proposal, it is reasonable to view the incremental cost associated with the CO<sub>2</sub> emission reductions available from completion of these units as zero for purposes of setting states' CO<sub>2</sub> reduction goals (although EPA acknowledges that the planning for those units likely included consideration of the possibility of future regulation of CO<sub>2</sub> emissions from EGUs)." Only 2012 cost is available; using for all years.

## Renewables

We assume, for the purposes of this analysis, that North Carolina's most cost-effective source of renewable generation is the purchase of out-of-state RECs bundled together with energy purchases. This is a rule-of-thumb assessment based on the following considerations (and not on electric dispatch modeling):

- North Carolina's renewable resource potential is more limited than in some other states.
- Several states in the Southeast have already begun to procure energy in this manner. For instance, Alabama is already pursuing wind projects in nearby Central Plains states: one operational project in Kansas, and another under development in Oklahoma.<sup>13</sup> Given these current projects, we expect that North Carolina could procure out-of-state energy through bundled RECs at a lower cost than developing resources in-state.
- Because greenhouse gases are global pollutants, the location of emission reductions is immaterial, making a market for emission reductions, or related financial instruments such as RECs, feasible.

We assume that North Carolina's REC purchases for 111(d) compliance would be “bundled” together with their associated MWh (that is, the renewable or emission reducing attributes of electricity generation would be purchased together with the energy needed to satisfy North Carolina's electric demand). This means that purchased RECs are assumed to displace both in-state emissions and in-state generation. Table 3 indicates how costs and benefits are attributed to each renewable compliance strategy.

**Table 3. Attribution of costs and benefits in various renewable compliance strategies**

Strategy	Policy Cost	Avoided Emissions Benefits	Avoided Generation Benefits	Avoided Costs
<b>Renewables built in-state</b>	Cost to build renewables in-state	In-state	In-state	In-state
<b>Bundled RECs</b>	Incremental cost of purchasing RECs plus cost of purchasing wholesale energy	Avoided emissions benefits transferred to purchasing state	Avoided generation benefits transferred to purchasing state	Avoided cost benefits follow avoided generation in purchasing state
<b>Unbundled RECs</b>	Incremental cost of purchasing RECs	Avoided emissions benefits transferred to purchasing state	Generation is avoided in the state where renewables are generated	Costs are avoided in the state where renewables are generated

<sup>13</sup> SouthernCross. “SouthernCross Project Overview.” Retrieved online 10/3/2014. Available at: <http://www.southerncrosstransmission.com/overview.html>; “PPA signed for wind power project in Kansas.” *Power Engineering Magazine Online*. October 2012. Available at: <http://www.power-eng.com/articles/2012/10/ppa-signed-for-wind-power-project-in-kansas.html>.

Based on these assumptions, North Carolina could purchase bundled RECs from nearby states and would be willing to pay up to the standard cost of purchased energy plus the in-state marginal cost of 111(d) compliance in dollars per ton. For this analysis, we estimate a cost of \$48 per MWh for bundled RECs in North Carolina based on the following components:

- **Cost of transmission projects:** Based on currently operational and under-development transmission projects from the Interior to the Southeast, in addition to a Black & Veatch report on transmission project costs, we estimated the unique cost of building transmission from Class 5 wind resources into North Carolina.<sup>14</sup> Given that transmission costs are primarily driven by the miles covered by a transmission line and the number of substations required, we estimated the distance from Class 5 wind resources to a large city in North Carolina with a similar spacing of substations as reported on a recently built line from Texas to Tennessee.<sup>15</sup> For North Carolina, we estimate the levelized cost of such a transmission project to be \$26 per MWh.
- **Cost of energy:** Our analysis assumes that the cost of energy will be similar to recent costs associated with purchasing power from a wind developer through a long-term power purchase agreement (PPA). In this case, we estimate the cost of a wind PPA to be \$22 per MWh.<sup>16</sup>

By adding the cost of a transmission project to the cost of energy, we are able to estimate the state-specific costs for a delivered REC.

### Energy efficiency

Synapse currently estimates energy efficiency program administrator costs of 3.3 cents per kWh in 2020 up to 3.5 cents per kWh in 2030, based on the same annual energy efficiency price escalation used by EPA.<sup>17</sup> Assuming an average marginal unit emissions rate of 907 pounds per MWh, this compliance cost translates into a cost of \$33 per MWh in 2020, rising to \$35 per MWh in 2030. This preliminary cost estimate is based on an in-progress Synapse literature review of recent cost of saved energy (COSE) estimates, standardized to use the same basic assumptions of discount rate, measure life time and dollar year.

Table 4 summarizes basic COSE modeling methodologies used in ten studies of electric-sector energy-efficiency costs published from 2009 through 2014. This table reports COSE values both in their original

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<sup>14</sup> Black & Veatch. "Capital costs for transmissions and substations." Prepared for WECC. October 2012. Available at: [https://www.wecc.biz/Reliability/BV\\_WECC\\_TransCostReport\\_Final.pdf](https://www.wecc.biz/Reliability/BV_WECC_TransCostReport_Final.pdf)

<sup>15</sup> Wind resources are divided into classes from 1 to 7 based on the speed and power at which the wind blows in a given area. While any wind above class 3 is typically developable, the most economic wind resources are in class 5 and above. For a better understanding of wind resource classification see: <http://rredc.nrel.gov/wind/pubs/atlas/tables/1-1T.html>

<sup>16</sup> Synapse market research.

<sup>17</sup> EPA Clean Power Plan Technical Support Document: GHG Abatement Measures, pg. 5-52.

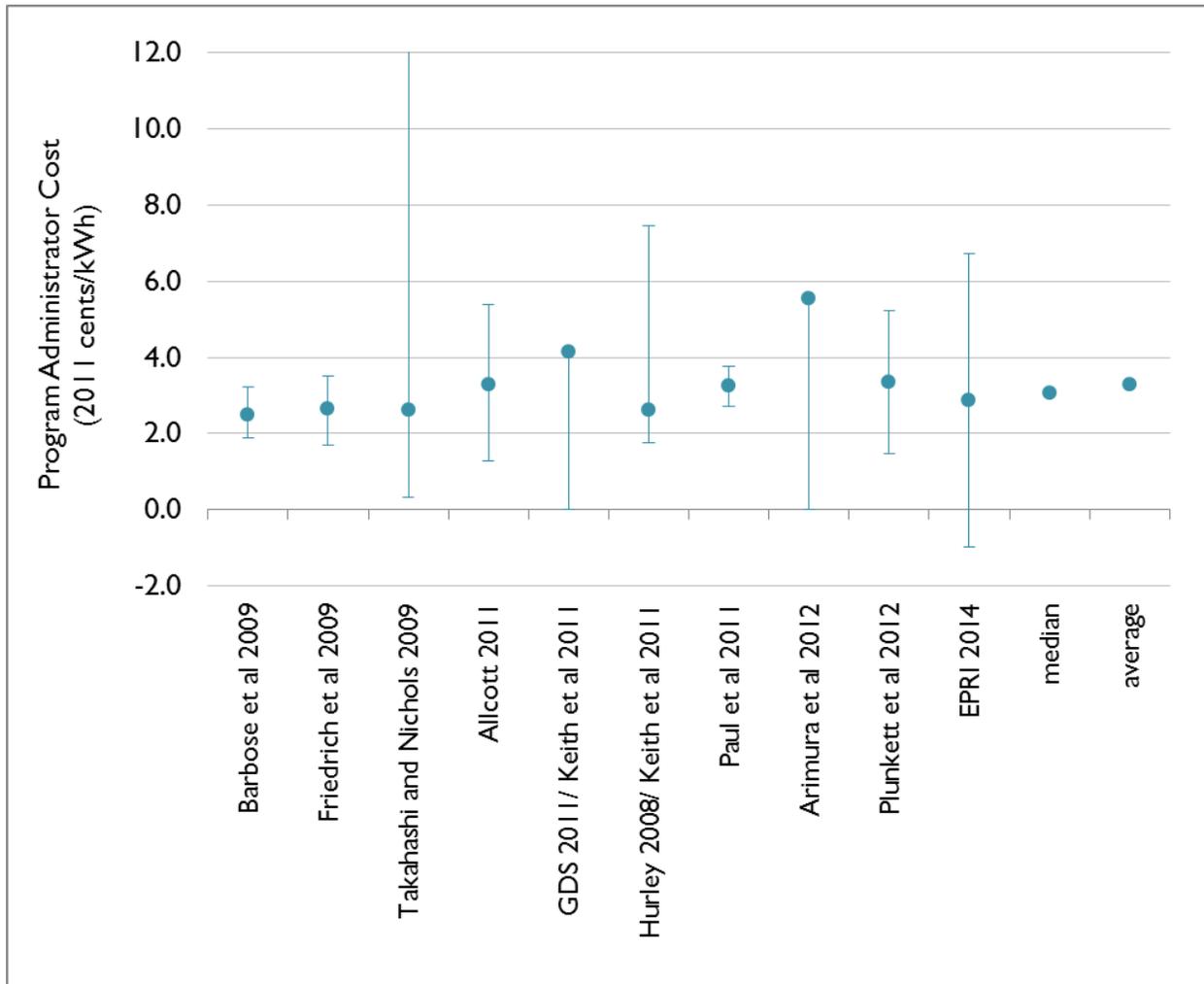
dollar years and in 2011 dollars, but does not otherwise adjust for the important differences in the underlying terms of the COSE studies.

Across these ten studies, program administrators' COSE values range from 2.5 to 5.6 cents per kWh of lifetime savings, with a median value of 3.1 cents per kWh and an average value of 3.3 cents per kWh when standardized to a 10.5 percent capital recovery factor (CRF) in 2011 dollars. (See Figure 2: the whiskers in this figure denote the range of program or measure COSE values evaluated in the studies.) Given the range of potential CRF values in this literature, we estimate a range of COSE values from 1.9 to 3.8 cents per kWh. The studies in the review include a variety of data sources and estimation techniques. Eight of their central values fall between 1.9 and 3.8 cents per kWh. The two studies with central values outside of this range are a study of a single, relatively small-scale program (GDS 2011/Keith et al. 2009) and a study using costs and savings from different data sources (Arimura et al. 2012). Both of these study characteristics have a tendency to bias results toward higher COSE values.

Table 4. Summary of recent energy efficiency studies showing central COSE value from each study

	Barbose et al. 2009	Friedrich et al. 2009	Takahashi and Nichols 2009	Allcott 2011	GDS 2011/ Keith et al. 2011
Data years	2005-2011	2001-2008	1976-2006	2008-2009	2001-2009
# of program years	11	50	239	17	9
Type of cost	program admin.	program admin.	program admin.	program admin.	total resource
Cost basis	first-year savings	lifetime savings	lifetime savings	lifetime savings	lifetime savings
<b>Central COSE (2011¢/kWh)</b>	<b>23.7</b>	<b>2.7</b>	<b>2.7</b>	<b>3.3</b>	<b>5.9</b>
Dollar year	2007	2007	2006	2011	2010
Central COSE (reported ¢-yr/kWh)	21.9	2.5	2.4	3.3	5.7
<b>CRF</b>		<b>11%</b>	<b>11%</b>		
Real discount rate	not reported	5%	4%	not reported	not reported
Measure lifetime	not reported	13-years	12-years	not reported	20-years
End-use sector	mixed	mixed	mixed	residential	mixed
Cost estimation data	utility data	utility data	utility data	utility household-level data	utility data
Cost estimation method	reported data range	reported data range	reported data range	experiment /econometric	reported data range
	Hurley 2008/ Keith et al. 2011	Paul et al. 2011	Arimura et al. 2012	Plunkett et al. 2012	EPRI 2014
Data years	2000-2007	n/a	1992-2006	1999-2010	1992-2006
# of program years	91	n/a	307	219	307
Type of cost	program admin.	program admin.	program admin.	program admin.	program admin.
Cost basis	lifetime savings	lifetime savings	lifetime savings	first-year savings	lifetime savings
<b>Central COSE (2011¢/kWh)</b>	<b>2.9</b>	<b>2.9</b>	<b>4.4</b>	<b>31.9</b>	<b>3.2</b>
Dollar year	2006	2013	2007	2011	2007
Central COSE (reported ¢-yr/kWh)	2.6	3.0	4.1	32.0	3.0
<b>CRF</b>	<b>11%</b>		<b>8%</b>		
Real discount rate	4%	not reported	3%	not reported	not reported
Measure lifetime	12-years	not reported	15-years	not reported	various
End-use sector	mixed	mixed	mixed	mixed	mixed
Cost estimation data	utility data	utility data/ EIA demand	utility data/ EIA demand	utility data reported to EIA	EPRI measure database
Cost estimation method	reported data range	measure cost analysis	econometric	econometric	econometric

Figure 2. Central COSE in each study at standardized 10.5 percent CRF with ten-study median and average



Note: Circles represent central values at the standardized 10.5 percent CRF. Whiskers show the range of program-year or measure data used within each study. Median and average are of central values across the studies. The high range of measure costs presented in Takahashi and Nichols (2009), 142.3 cents per kWh, is truncated in this figure.

### Displacement of existing fossil units

In each scenario, generation from existing coal, gas, oil and gas steam, and other fossil units is replaced with generation from energy efficiency and renewables. Coal units are displaced first, followed by oil and gas steam and other units, then followed by existing NGCCs. Under-construction NGCC units are displaced last. This methodology is consistent with the idea that the price mechanism driving re-dispatch to NGCCs in EPA Building Block 2 is still in effect, causing the non-natural gas units to be at the margin of the dispatch order.

The benefits of replacing existing generation are calculated by multiplying the displaced generation from each existing resource by its variable operating costs, including fuel. Operating and maintenance costs for existing units were derived from the Electricity Market Module used in the 2014 Annual Energy

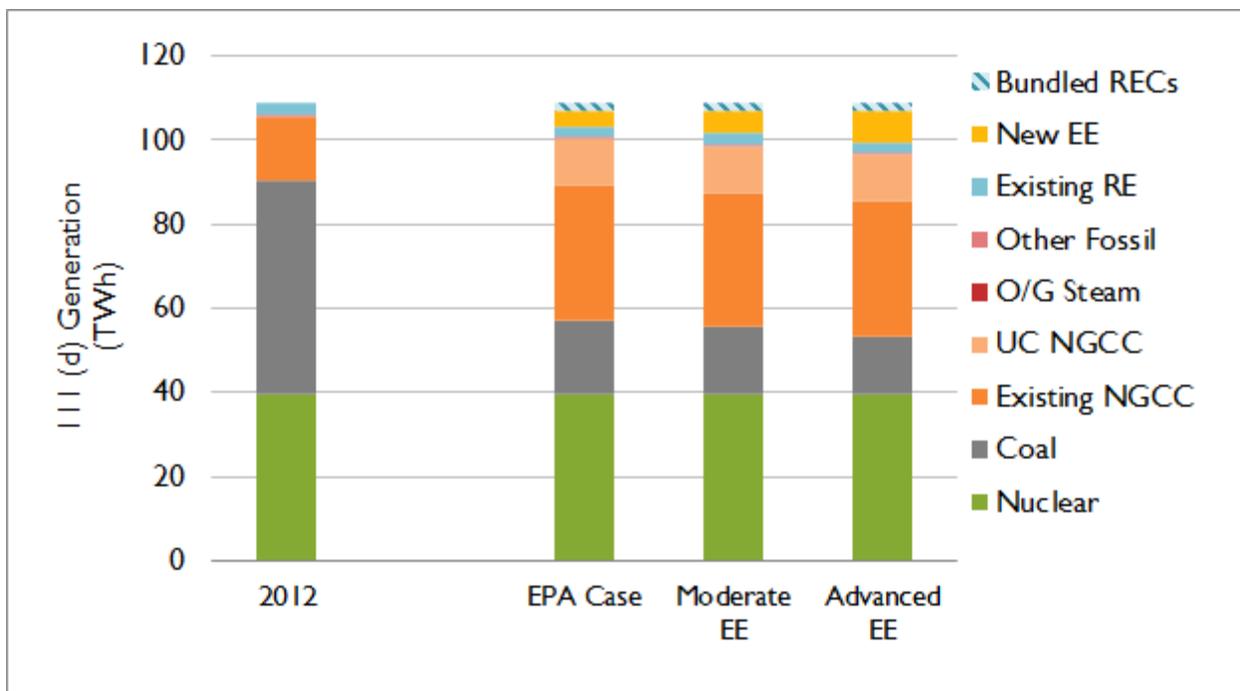
Outlook.<sup>18</sup> Fuel cost projections for existing units were calculated using the price of fuel delivered to electric power consumers in the South Atlantic region, as outlined in the 2014 Annual Energy Outlook.

## 2.4. Results of scenario analysis

The following first-cut analysis is preliminary. It relies on simplifying assumptions regarding the costs and emissions of displaced energy to estimate indicative cost and emission impacts based on compliance according to EPA's building blocks, as well as under two alternate scenario assumptions provided by the SELC. The next steps for improving the accuracy and precision of these results would include electric-sector dispatch modeling and least-cost planning analysis.

Under the methodology described above, energy efficiency and renewables units displace existing fossil generation. Figure 3, Figure 4, and Figure 5 illustrate the change in generation in each scenario in 2020, 2025, and 2030, as well as North Carolina's 2012 generation. Total generation (including energy efficiency and generation from out-of-state renewables) is held constant in each scenario.

Figure 3. 2020 generation in North Carolina's electric sector



<sup>18</sup> EIA. Electricity Market Module: Assumption to Annual Electricity Outlook 2014. Table 8.2, page 97.2. Available <http://www.eia.gov/forecasts/aeo/assumptions/pdf/electricity.pdf>.

Figure 4. 2025 generation in North Carolina’s electric sector

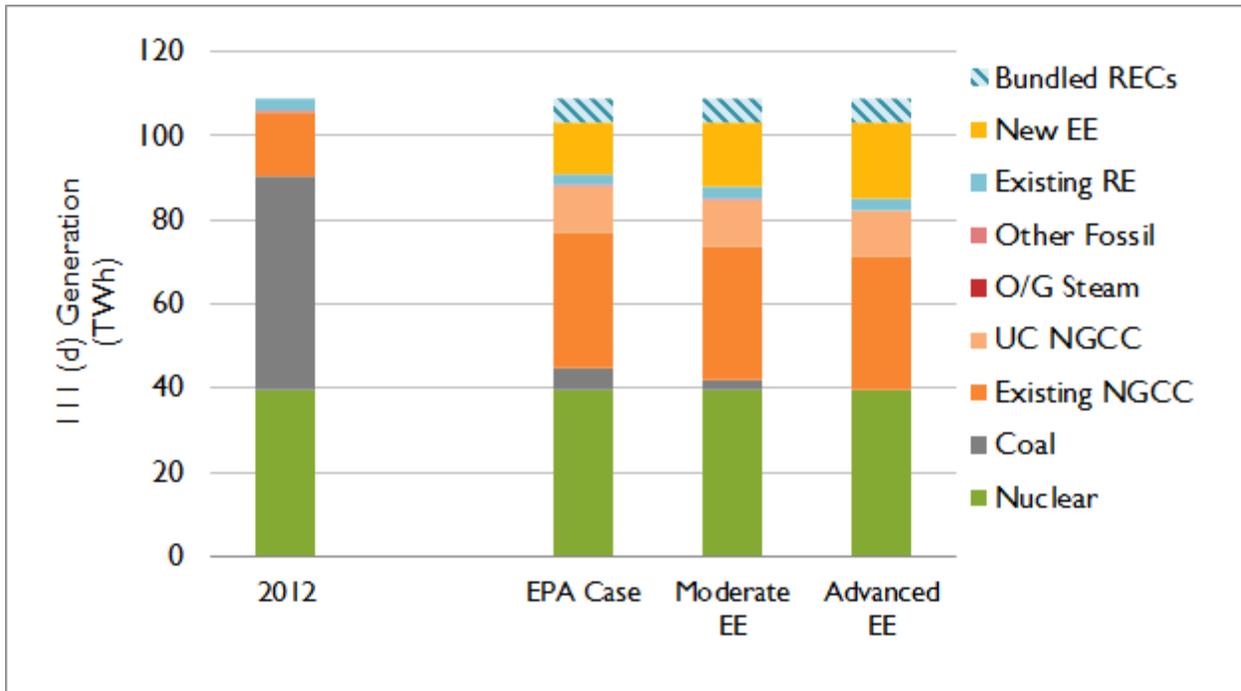
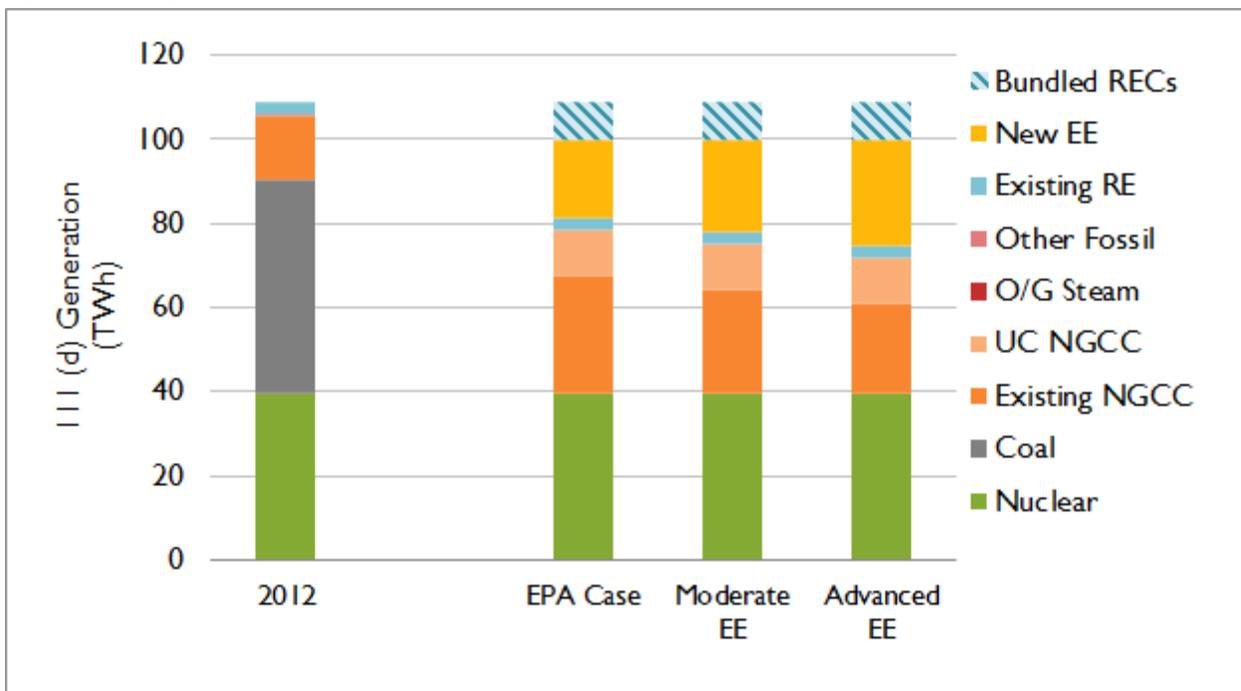


Figure 5. 2030 generation in North Carolina’s electric sector



Increasing energy efficiency in the Moderate EE scenario has the effect of displacing 1.7 TWh of fossil generation in 2020 as compared to the Base case, rising to 3.5 TWh in 2030 (see Table 5). As a result of higher energy efficiency targets, the Advanced EE scenario displaces 3.7 TWh of existing fossil generation in 2020, and 6.6 TWh in 2030. Even after the redispach to existing NGCCs and the

displacement as a result of new renewable energy purchases and incremental energy efficiency investments, not all of North Carolina's existing coal generation is displaced. By 2030, all the coal, O/G steam, and other fossil resources have been completely displaced in each scenario, causing all differences in fossil generation to occur within the existing NGCC category.

**Table 5. 2030 generation displacement by fossil type in each scenario, compared to the Base case**

Generation Displacement from Base Case (TWh)	Coal	Existing NGCC	Under Construction NGCC	O/G Steam	Other Fossil	Total
Moderate EE	0.0	3.5	0.0	0.0	0.0	3.5
Advanced EE	0.0	6.6	0.0	0.0	0.0	6.6

*Note: Although all three cases displace coal, the Moderate and Advanced EE cases do not displace any additional coal beyond what is displaced in the EPA case, as the EPA Base Case displaces all coal generation by 2030.*

Figure 6, Figure 7, and Figure 8 report CO<sub>2</sub> emissions from 111(d) sources in each scenario for 2020, 2025, and 2030, respectively, along with North Carolina's 2012 emissions. EPA Case emissions are 32 million metric tons in 2020 declining to 15 million metric tons in 2030. Both scenarios produce fewer emissions than the EPA Case in each year. In the Moderate EE and Advanced EE scenarios, emissions are reduced by 1.3 million metric tons and 2.6 million metric tons compared to the EPA case in 2030 (see Table 6). As with generation, by 2030, all the coal, O/G steam, and other fossil resources have been completely displaced in each scenario, causing all differences in emissions to occur within the NGCC category.

Figure 6. 2020 carbon dioxide emissions in North Carolina’s electric sector

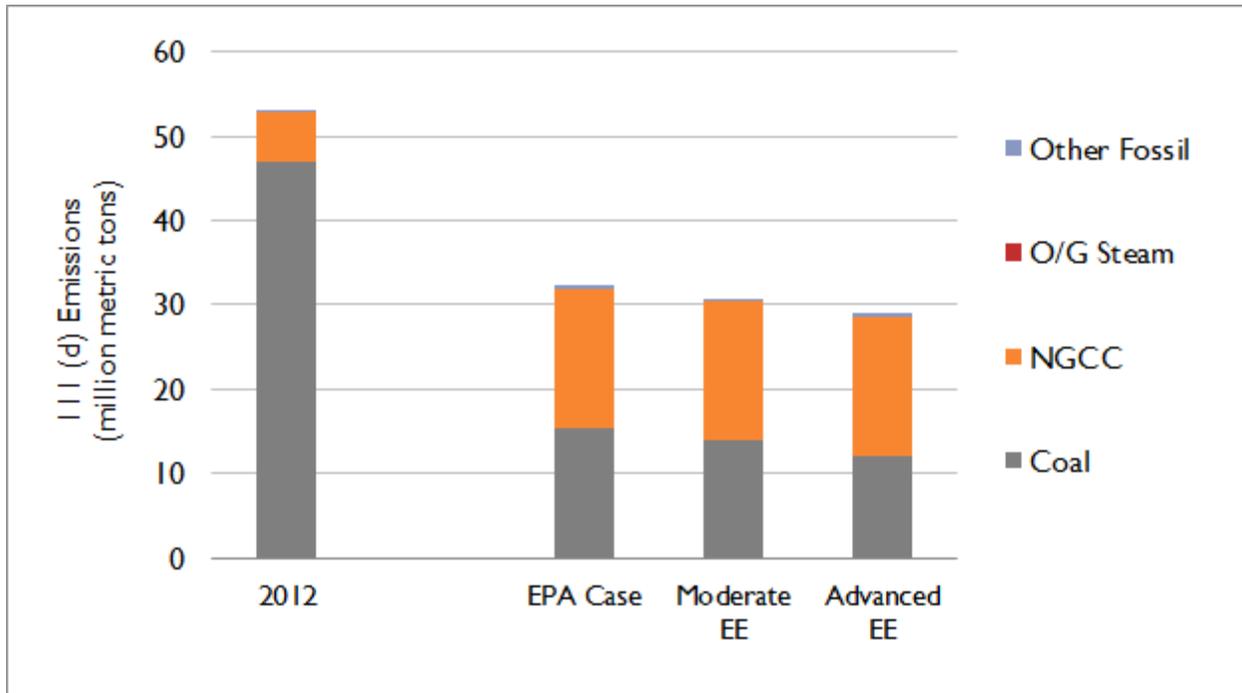


Figure 7. 2025 carbon dioxide emissions in North Carolina’s electric sector

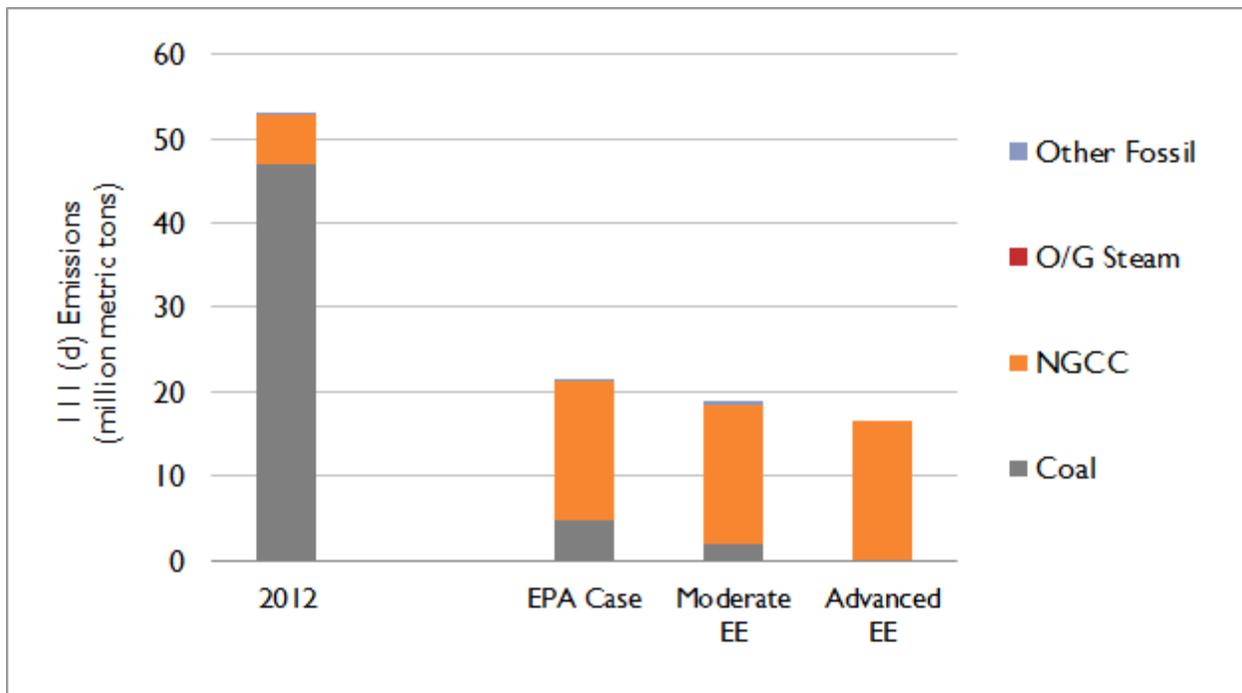


Figure 8. 2030 carbon dioxide emissions in North Carolina's electric sector

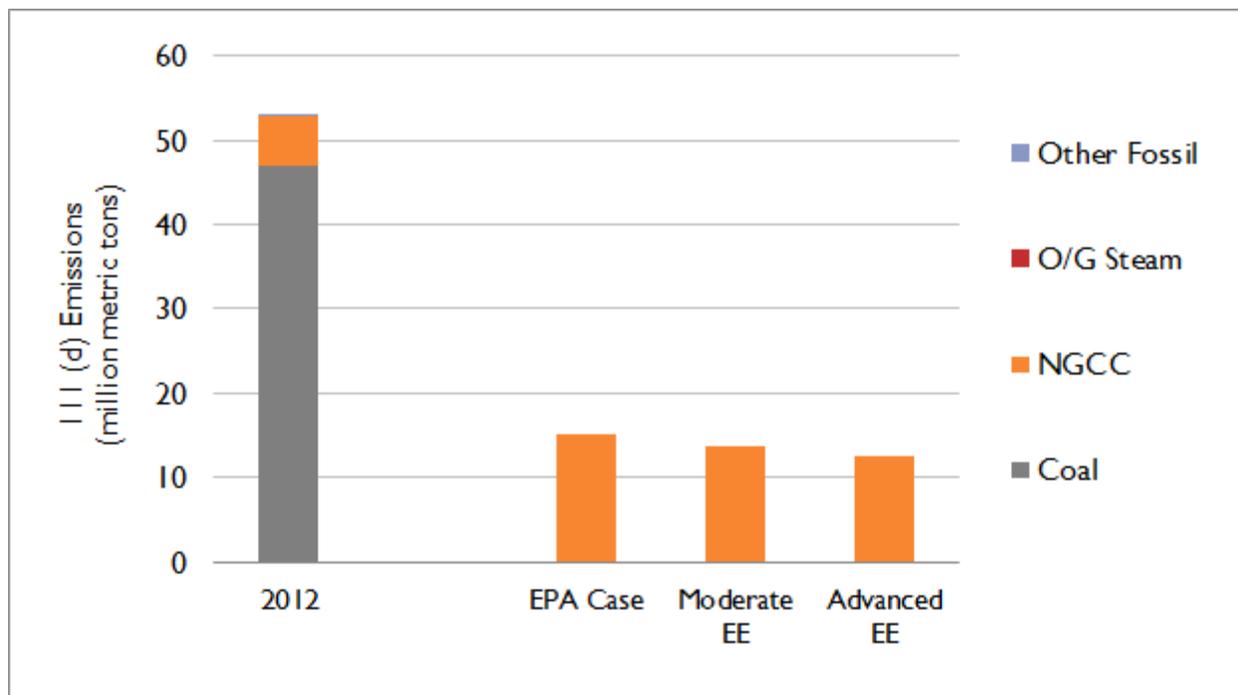
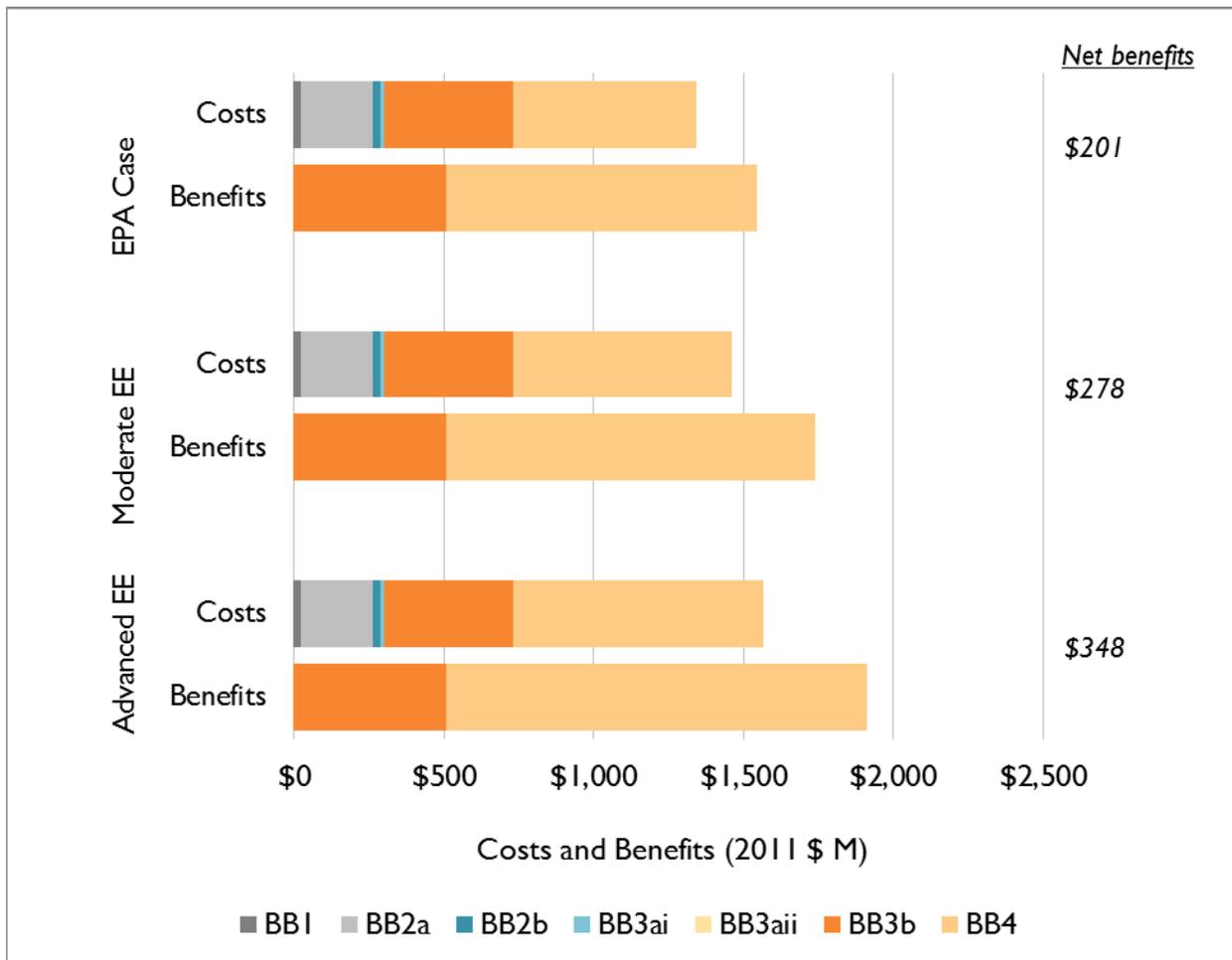


Table 6. 2030 emissions displacement by fossil type in each scenario, compared to the EPA Case

Emissions Displacement (million metric tons)	Coal	NGCC	O/G Steam	Other Fossil	Total
Moderate EE	0.0	1.3	0.0	0.0	1.3
Advanced EE	0.0	2.6	0.0	0.0	2.6

Figure 9 reports the estimated costs and benefits associated with each scenario for 2030, broken out by building block. In each scenario, costs for each building block are calculated based on the amount of displaced CO<sub>2</sub>, multiplied by that building block's assumed costs (see "cost assumptions" above): the cost of improving coal plant heat rates, the cost of re-dispatching natural gas, the cost of maintaining "at risk" nuclear generation, the cost of purchasing RECs to meet a renewables obligation, and the cost of implementing energy efficiency. Net benefits shown below are only net benefits to the electric system; they do not include costs and benefits to energy efficiency participants or societal benefits (e.g., benefits of avoiding climate change).

Figure 9. 2030 costs and benefits from 111(d) building blocks



Benefits in each scenario are calculated by multiplying the amount of generation avoided by energy efficiency or newly built plants by the sum of the associated variable operating costs and fuel costs of existing fossil plants (coal, other fossil facilities, and NGCCs) at which generation is displaced. Each scenario has both costs and benefits associated with it, which are summed together to determine the total net benefit of each scenario. For example, while the costs of adding additional energy efficiency in the Moderate EE and Advanced EE scenarios are greater than the costs of adding energy efficiency in the EPA Case, the benefits associated with the increased energy efficiency are greater in the Moderate EE and Advanced EE scenarios, resulting in greater net benefits.

Italicized numbers to the right of each pair of bars are the net costs and benefits for each scenario. In this calculation, using the EPA's assumed costs for compliance, Synapse's estimates for the cost of energy efficiency and bundled RECs, as well as Synapse's estimates for the regional cost of avoided energy for various resources, compliance with EPA's 111(d) target in the EPA Case has a net benefit of \$201 million. Under the assumptions used, energy efficiency, due to its ability to cheaply displace in-state generation, is the main driver of net benefits. In both the Moderate EE and Advanced EE Cases, increased benefits from displaced generation are enough to overcome increased costs of expanded

energy efficiency and REC purchases, resulting in net benefits of \$278 million and \$348 million, respectively.



## APPENDIX A: SCENARIO MODELING DATA

2 pages of detailed tables follow.



III(d) Generation Scenarios in North Carolina (TWh)										
2020										
	<i>Nuclear</i>	<i>Coal</i>	<i>Existing NGCC</i>	<i>UC NGCC</i>	<i>OIG Steam</i>	<i>Other Fossil</i>	<i>Existing RE</i>	<i>New EE</i>	<i>New Nuclear</i>	<i>Bundled RECs</i>
2012	40	51	15	0	0	0	3	0	0	0
EPA Case	40	18	32	11	0	0	3	4	0	2
Moderate EE	40	16	32	11	0	0	3	5	0	2
Advanced EE	40	14	32	11	0	0	3	7	0	2
2025										
	<i>Nuclear</i>	<i>Coal</i>	<i>Existing NGCC</i>	<i>UC NGCC</i>	<i>OIG Steam</i>	<i>Other Fossil</i>	<i>Existing RE</i>	<i>New EE</i>	<i>New Nuclear</i>	<i>Bundled RECs</i>
2012	40	51	15	0	0	0	3	0	0	0
EPA Case	40	5	32	11	0	0	3	12	0	6
Moderate EE	40	2	32	11	0	0	3	15	0	6
Advanced EE	40	0	32	11	0	0	3	18	0	6
2030										
	<i>Nuclear</i>	<i>Coal</i>	<i>Existing NGCC</i>	<i>UC NGCC</i>	<i>OIG Steam</i>	<i>Other Fossil</i>	<i>Existing RE</i>	<i>New EE</i>	<i>New Nuclear</i>	<i>Bundled RECs</i>
2012	40	51	15	0	0	0	3	0	0	0
EPA Case	40	0	28	11	0	0	3	18	0	9
Moderate EE	40	0	25	11	0	0	3	22	0	9
Advanced EE	40	0	22	11	0	0	3	25	0	9

III(d) Emissions Scenarios in North Carolina (million metric tons)					
2020					
	<i>Coal</i>	<i>NGCC</i>	<i>OIG Steam</i>	<i>Other Fossil</i>	<i>Other Fossil</i>
2012	47	6	0	0	0
EPA Case	15	17	0	0	0
Moderate EE	14	17	0	0	0
Advanced EE	12	17	0	0	0
2025					
	<i>Coal</i>	<i>NGCC</i>	<i>OIG Steam</i>	<i>Other Fossil</i>	<i>Other Fossil</i>
2012	47	6	0	0	0
EPA Case	5	17	0	0	0
Moderate EE	2	17	0	0	0
Advanced EE	0	16	0	0	0
2030					
	<i>Coal</i>	<i>NGCC</i>	<i>OIG Steam</i>	<i>Other Fossil</i>	<i>Other Fossil</i>
2012	47	6	0	0	0
EPA Case	0	15	0	0	0
Moderate EE	0	14	0	0	0
Advanced EE	0	13	0	0	0

Costs and Benefits for III(d) Compliance Scenarios in North Carolina (2011 \$ M)											
		2030	BB1	BB2a	BB2b	BB3ai	BB3aii	BB3b	BB4	Non-III(d)	Net
EPA Case	Costs		\$22	\$243	\$25	\$14	\$0	\$430	\$609	\$0	\$201
	Benefits						\$0	\$509	\$1,034	\$0	
Moderate EE	Costs		\$22	\$243	\$25	\$14	\$0	\$430	\$726	\$0	\$278
	Benefits						\$0	\$508	\$1,229	\$0	
Advanced EE	Costs		\$22	\$243	\$25	\$14	\$0	\$430	\$831	\$0	\$348
	Benefits						\$0	\$507	\$1,405	\$0	

# **Attachment 4**

# Cutting Electric Bills with the Clean Power Plan

EPA's Greenhouse Gas Reduction  
Policy Lowers Household Bills

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January 14, 2016

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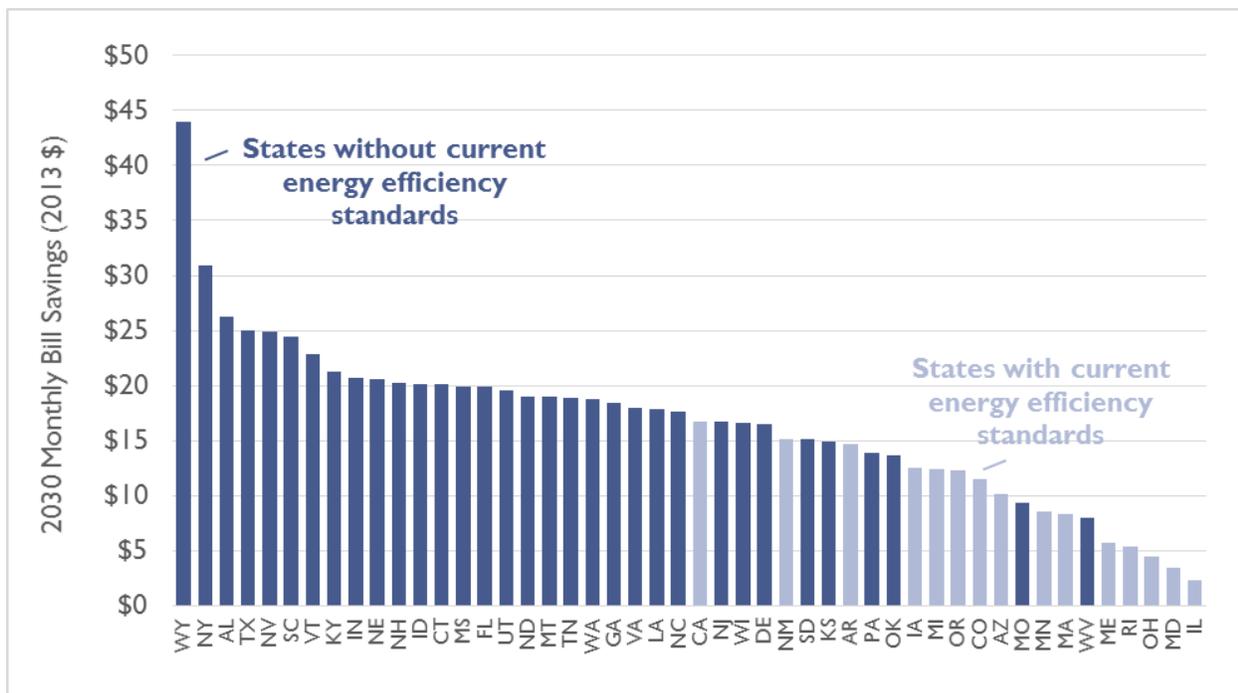
## EXECUTIVE SUMMARY

In October 2015, the Environmental Protection Agency finalized the Clean Power Plan. States are now free to begin implementation by developing compliance strategies with the new federal policy designed to reduce carbon emissions from power plants. Meanwhile, there has been ongoing public, legal, and legislative debate regarding the economic impacts of reducing carbon pollution from power plants, particularly with respect to customer electric bills.

Synapse Energy Economics, Inc. has undertaken an analysis to model the impacts on household electric bills of compliance with EPA's Clean Power Plan in the 48 continental U.S. states. Synapse examined the comparative cost associated with state implementation plans that maximize available energy efficiency strategies versus a future in which states are not Clean Power Plan-compliant. We found that if states comply with the Clean Power Plan through strategies that encourage cost-effective energy efficiency, households can expect to save an average of \$17 per month on their electric bills in 2030 compared to a reference case that does not comply with the rule.

Figure ES-1 illustrates the extent to which ratepayers in each state accrue bill savings in this scenario. Monthly savings range from a high of \$44 per month in Wyoming to a minimum of \$2 per month in Illinois.

**Figure ES-1. 2030 residential monthly bill savings with Clean Power Plan compliance**



The greatest bill savings take place in states that do not currently have requirements for future energy efficiency savings (as shown in Figure ES-1) and states with high levels of poverty, relative to the national average.

Synapse's analysis also compared monthly bills between this strong energy-efficiency scenario and a scenario in which Clean Power Plan compliance is achieved with far lower efficiency savings. We found that, on average, bills were \$21 per month lower in the scenario that employs strong investments in energy efficiency than in the scenario that achieves compliance through other strategies. By implementing cost-effective energy efficiency, states can both reduce carbon dioxide emissions and save all households money, including those in low-income communities.



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# 1. WHAT WILL EPA'S EMISSIONS PLAN COST CONSUMERS?

In October 2015, the U.S. Environmental Protection Agency (EPA) finalized its Clean Power Plan under Section 111(d) of the Clean Air Act. The Clean Power Plan aims to reduce annual emissions of carbon dioxide (CO<sub>2</sub>) from existing fossil fuel-fired power plants to approximately 32 percent below 2005 levels by 2030.<sup>1</sup> Achieving this level of emission reductions may require significant changes to the nation's electric system, but these changes need not come at an increased cost to consumers.

Synapse conducted an analysis of the impacts of Clean Power Plan compliance with intensive investment in renewables and energy efficiency on electric-sector emissions and costs. Our results are presented in the accompanying policy brief, *The Clean Power Plan: Green and Affordable*.<sup>2</sup> This background report to the brief focuses on state-specific modeling results and documents the assumptions and methodology of the analysis. For this study, Synapse modeled emission reductions under three scenarios of the future U.S. electric system:

- a business-as-usual “Not-CPP-Compliant” case,
- a “Synapse-CPP” approach to Clean Power Plan compliance that emphasizes cost-effective energy efficiency, and
- a “Low-EE-CPP” approach to Clean Power Plan compliance that emphasizes new renewables and expansion of existing natural gas combined-cycle generators.

The reference Not-CPP-Compliant case is a no-new-policy or business-as-usual scenario in which existing state renewable portfolio standards are met but not expanded. New load is met largely by expanding current gas- and coal-fired generating capacity, and the existing fleets of coal-fired and nuclear plants are retrofitted to continue operating.

Both policy cases, in contrast, are designed to meet the Clean Power Plan requirements between 2022 and 2032. In these scenarios, we assume that all states meet the mass-based CO<sub>2</sub> emission target covering both new and existing sources, and that California and states participating in the Regional Greenhouse Gas Initiative (RGGI)<sup>3</sup> meet their own more stringent emission caps. In each Clean Power

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<sup>1</sup> Previous Synapse reports on the implications of the proposed Clean Power Plan and best practices for planning for Consumer advocates include Knight, P., et al. 2015. *Bill Savings in a Clean Energy Future, Part 2*, available at: <http://synapse-energy.com/sites/default/files/Bill-Savings-Part-Two.pdf>; Jackson, S. et al. 2015. *Clean Power Plan Handbook*. Available at: <http://www.synapse-energy.com/sites/default/files/Clean-Power-Plan-Handbook.pdf>; and Wilson, R. et al. 2015. *Best Practices in Planning for Clean Power Plan Compliance*. Available at: <http://synapse-energy.com/sites/default/files/NASUCA-Best-Practices-Report-15-025.pdf>.

<sup>2</sup> The brief can be found at <http://www.synapse-energy.com/Cpp-Green-Affordable>.

<sup>3</sup> RGGI states are Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont.



Plan-compliant scenario, we assume two groups of states that each trade amongst themselves: RGGI states, and all other states.

High levels of energy efficiency and renewables take the place of fossil fuel generation in the compliant scenarios and, as a result, substantial emissions are avoided, as demonstrated in Synapse's recent report on air emissions displacement.<sup>4</sup> Synapse's analysis shows that average households save \$17 per month on 2030 electric bills when Clean Power Plan compliance is achieved with strong energy efficiency programs, as compared to the high-emissions Not-CPP-Compliant case.

## 2. THE CLEAN POWER PLAN SAVES MONEY

Our analysis found that when states employ the most cost-effective compliance approaches, the Clean Power Plan can lead to savings on electric consumers' bills.

### **Strong investments in energy efficiency save ratepayers \$17 per month in 2030**

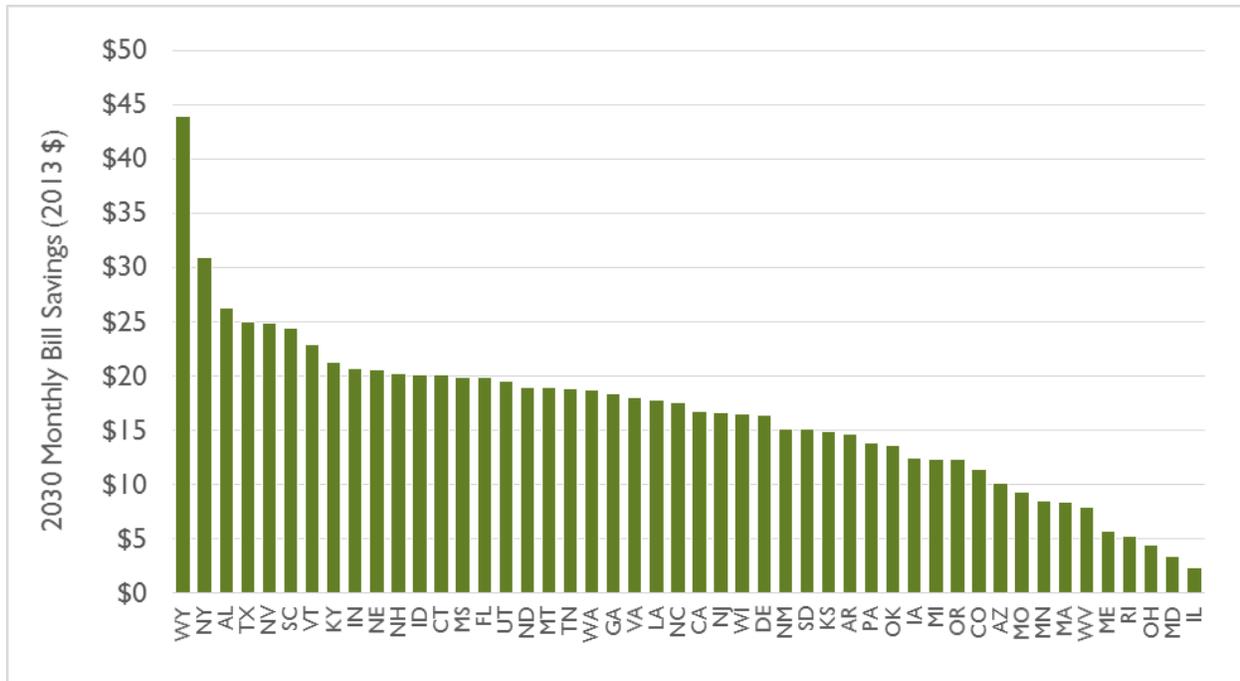
When states pursue CO<sub>2</sub> emission reduction strategies that yield strong energy efficiency savings, households can expect to see average electric bill savings of \$17 per month in 2030. Figure 1 shows the difference between 2030 monthly bills for each state in the Synapse-CPP case and the Not-CPP-Compliant case. In 2030, average monthly bill savings range from a high of \$44 per month in Wyoming to a minimum of \$2 per month in Illinois. The difference in bill savings among states depends on many factors, including energy efficiency requirements and the resources used to generate power now and in the future.

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<sup>4</sup> Biewald, B. et al. 2015. *Air Emissions Displacement by Energy Efficiency and Renewable Energy*. Available at: [http://www.synapse-energy.com/sites/default/files/Air-Emissions-Displacement-by-Energy-Efficiency-and-Renewable-Energy\\_0.pdf](http://www.synapse-energy.com/sites/default/files/Air-Emissions-Displacement-by-Energy-Efficiency-and-Renewable-Energy_0.pdf).



Figure 1. Difference between 2030 residential monthly bills in the Synapse-CPP and Not-CPP-Compliant cases

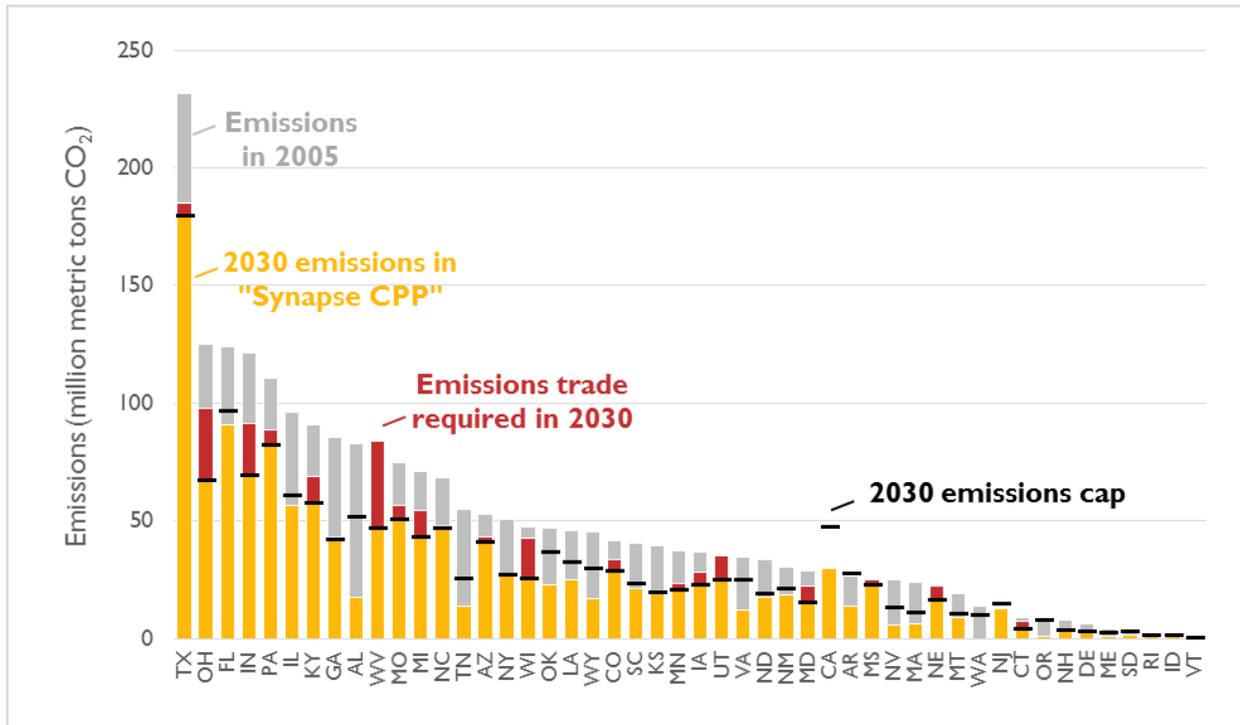


### Biggest emission reductions don't mean highest costs for consumers

Even the states that require the largest emission reductions do not have higher bills than they would without Clean Power Plan compliance. In fact, many of the states with the largest emission reductions in 2030 compared to 2005—such as Alabama, Florida, Tennessee, Texas, and Wyoming—are among those that save the most on their monthly electric bills. The lack of a direct connection between emission reductions and bill impacts is caused in part by CO<sub>2</sub> emission allowance trading. States can choose to either reduce electric emissions within their own boundaries or purchase emission reduction allowances from out of state—whichever is cheapest.

Twenty-one states use allowance trading in 2030 in order to achieve compliance (see Figure 2). This allowance requirement is balanced by “over-compliance” in the other 27 states. Market-based coordination of compliance across the country allows states to take a least-cost approach to reducing emissions.

Figure 2. CO<sub>2</sub> emissions (Clean Power Plan target and Synapse-CPP result) in 2030 compared to 2005



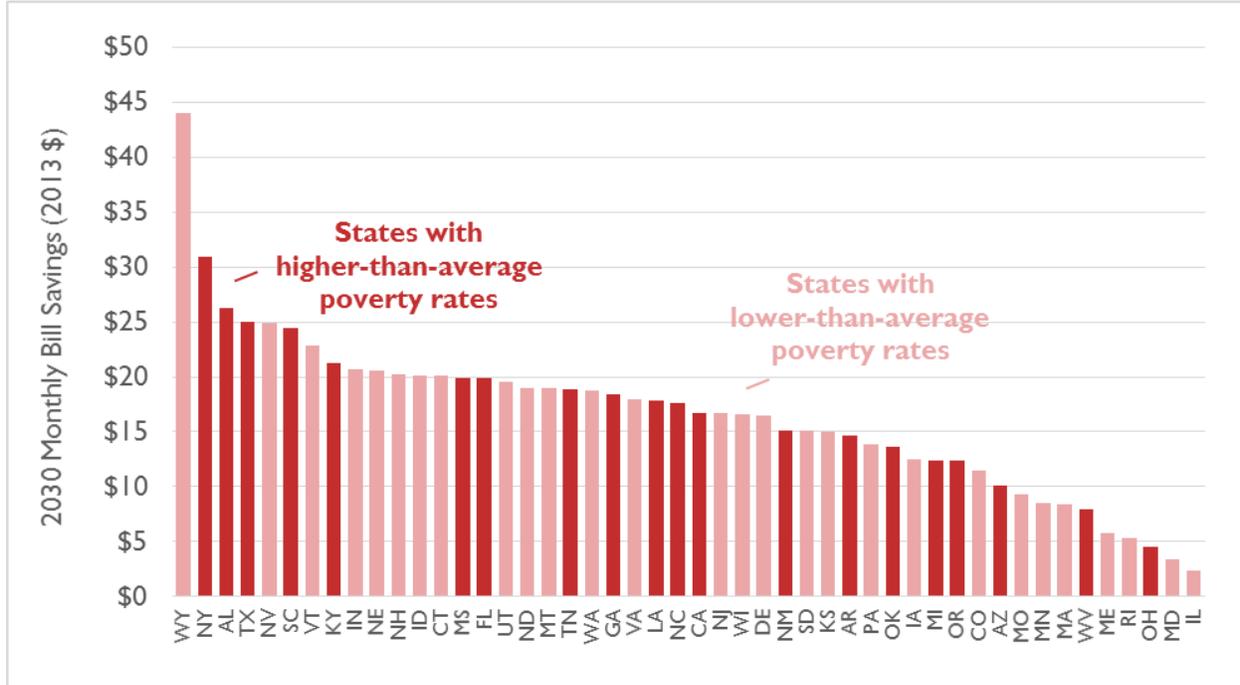
Note: Four states have 2030 emissions in excess of 2005 emissions by 5 percent or less. A fifth state, Idaho, sees emissions increase from 0.5 million metric tons to 1.1 million metric tons (less than one-tenth of 1 percent of nationwide emissions) as a result of an NGCC unit constructed in 2012.

### Largest bill savings found in states with higher poverty rates

Many of the states with the largest bill savings in this study also have higher-than-average rates of poverty.<sup>5</sup> Of the states with the eight highest monthly bill savings between the Synapse-CPP case and the Not-CPP-Compliant case, five have poverty rates in excess of the national rate. These five include Alabama and Kentucky, two of the five states with the highest poverty rates in the nation (see Figure 3).

<sup>5</sup> The poverty rates referred to in this study represent the percentage of a state's residents living below the federal poverty level. The 2014 American Community Survey estimated that, nationwide, 15.5 percent of Americans were living below the federal poverty level.

**Figure 3. 2030 residential monthly bill savings for households under the Synapse-CPP case compared to the Not-CPP-Compliant case; states with poverty rates above the national poverty rate are highlighted**



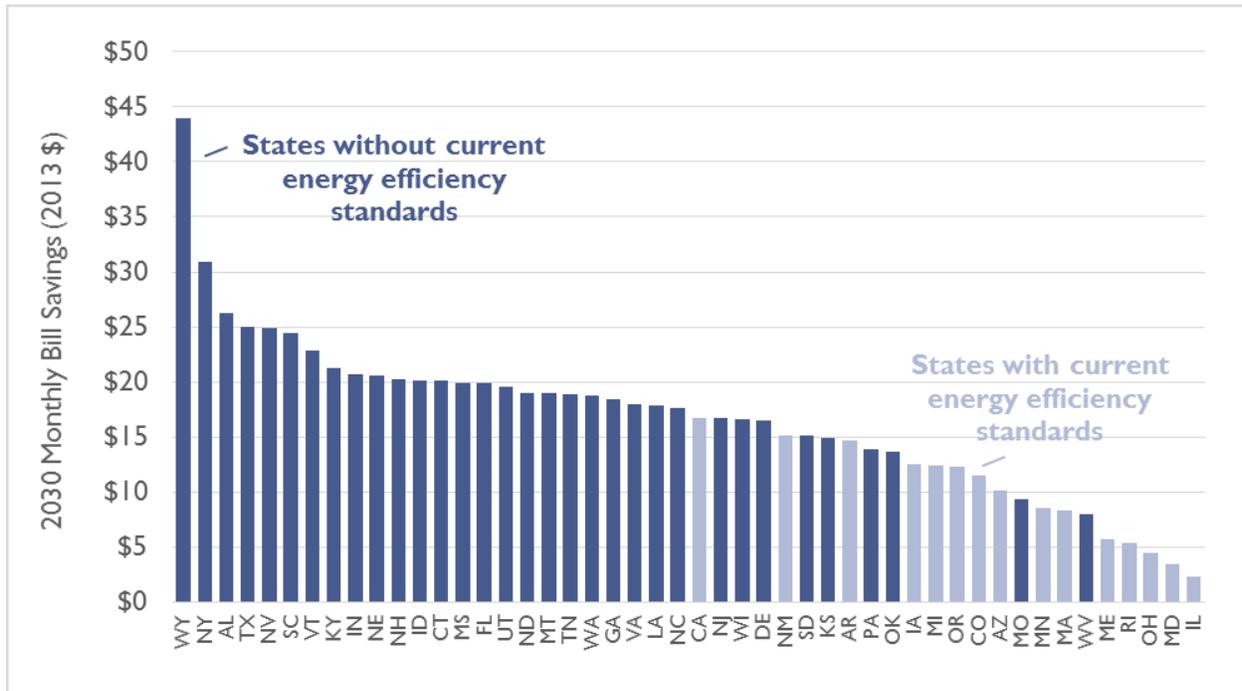
### Largest bill savings found in states with no energy efficiency requirements today

Most of the states expected to experience the greatest bill savings do not currently have policies requiring energy efficiency in place (see Figure 4).<sup>6</sup> Of the states with the 24 highest monthly bill savings, none have existing policies requiring future energy efficiency savings.<sup>7</sup> Conversely, of the states with the 10 smallest savings, all but two have energy efficiency standards requiring future incremental energy efficiency, even in a business-as-usual future. Regardless of their strategy for Clean Power Plan compliance, states without energy efficiency standards in place are leaving money on the table that could lower bills for residential consumers.

<sup>6</sup> Note that in many states where there are no policies requiring energy efficiency, utilities and third-party entities nonetheless install energy efficiency measures. See Appendix B and Appendix C for more information about inputs to the scenarios, including energy efficiency assumptions.

<sup>7</sup> In this analysis, we defined states with existing energy efficiency policies to be states with legislation currently requiring utilities in those states to meet a fraction of portion of future electricity demand through energy efficiency. States with anticipated voluntary energy efficiency savings or historical savings resulting from voluntary programs were assumed to not require energy efficiency in all future years.

Figure 4. Difference between 2030 residential monthly bills in the Synapse-CPP and Not-CPP-Compliant cases; states with energy efficiency standards currently in place highlighted

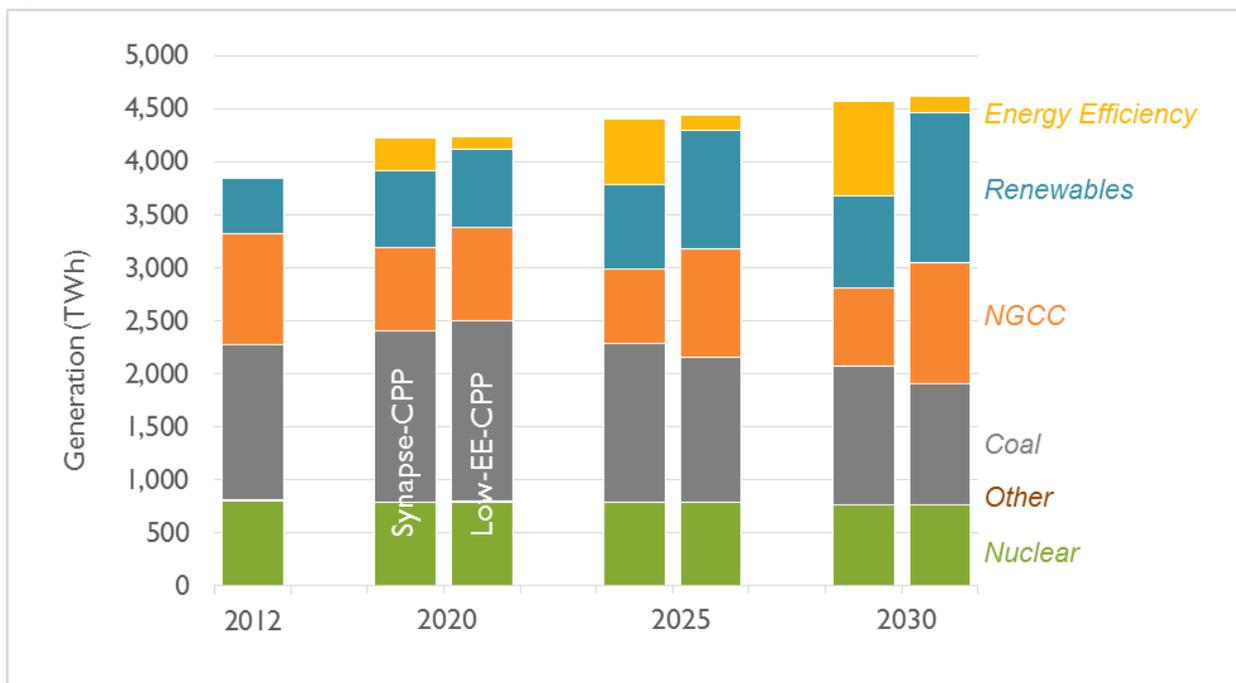


**Energy efficiency is the cheapest way to reduce CO<sub>2</sub> emissions**

Synapse tested the impact of energy efficiency on the cost of Clean Power Plan compliance by modeling a Low-EE-CPP case that achieves compliance with the rule while maintaining business-as-usual energy efficiency savings. As shown in Figure 5, the Low-EE-CPP case relies much more heavily on natural gas combined-cycle generation and renewables to achieve the same level of emission reductions.



Figure 5. Generation mix in the Synapse-CPP and Low-EE-CPP cases

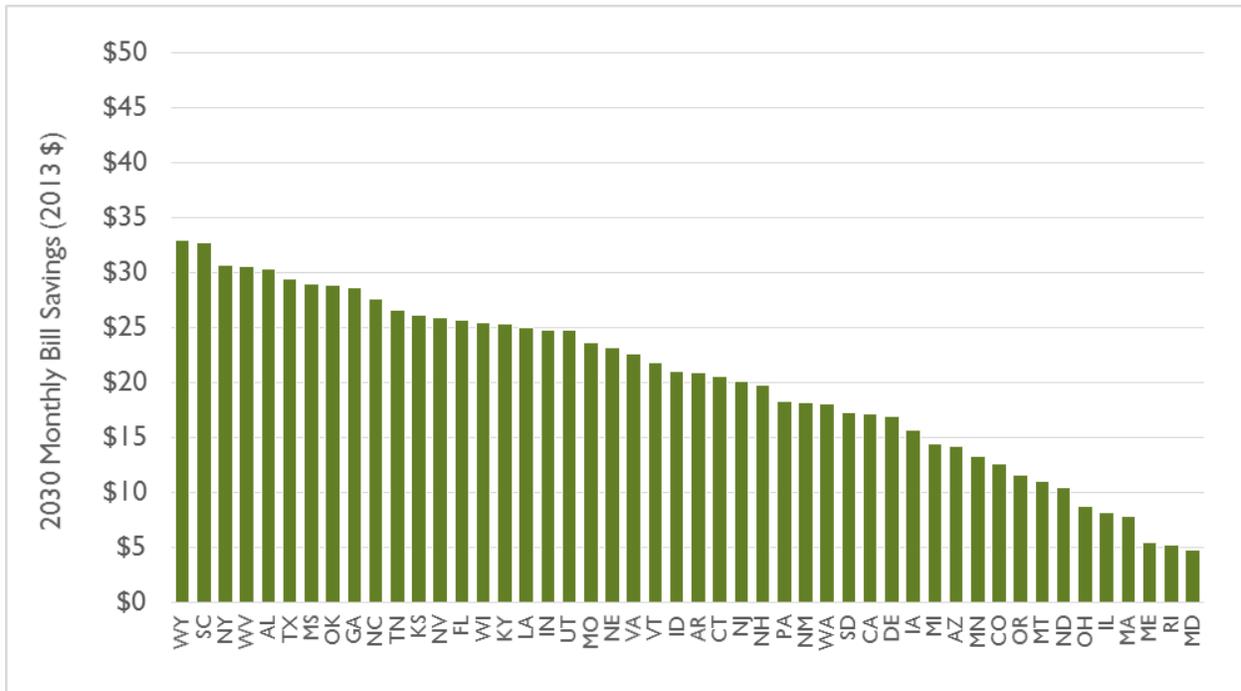


Note that in Figure 5, total “reconstituted” electricity services (inclusive of energy efficiency) are slightly lower in the Synapse-CPP case compared to the Low-EE-CPP case. This is a result of more demand-side energy efficiency reducing the need for supply-side generation, which, when transmitted to retail customers undergoes line losses.<sup>8</sup> Because energy efficiency avoids these losses, less overall electricity is needed to meet the same demand requirements.

Because energy efficiency is the lowest-cost electric resource, total system costs are 17 percent higher in the Low-EE-CPP case than in the Synapse-CPP case. As a result, average household electric bills are \$21 higher each month than they would be if emission reductions were achieved with more energy efficiency. Average savings by state range from \$33 to \$5 per month (see Figure 6).

<sup>8</sup> Our analysis assumes line losses of about 8 percent.

Figure 6. Difference between 2030 residential monthly bills in the Synapse-CPP and Low-EE-CPP cases



States that experience the largest bill savings from high levels of energy efficiency are states with high poverty rates (Figure 7) and states currently lacking an energy efficiency requirement (Figure 8).

Figure 7. 2030 residential monthly bill savings for households under the Synapse-CPP case compared to the Low-EE-CPP case; states with poverty rates above the national poverty rate are highlighted

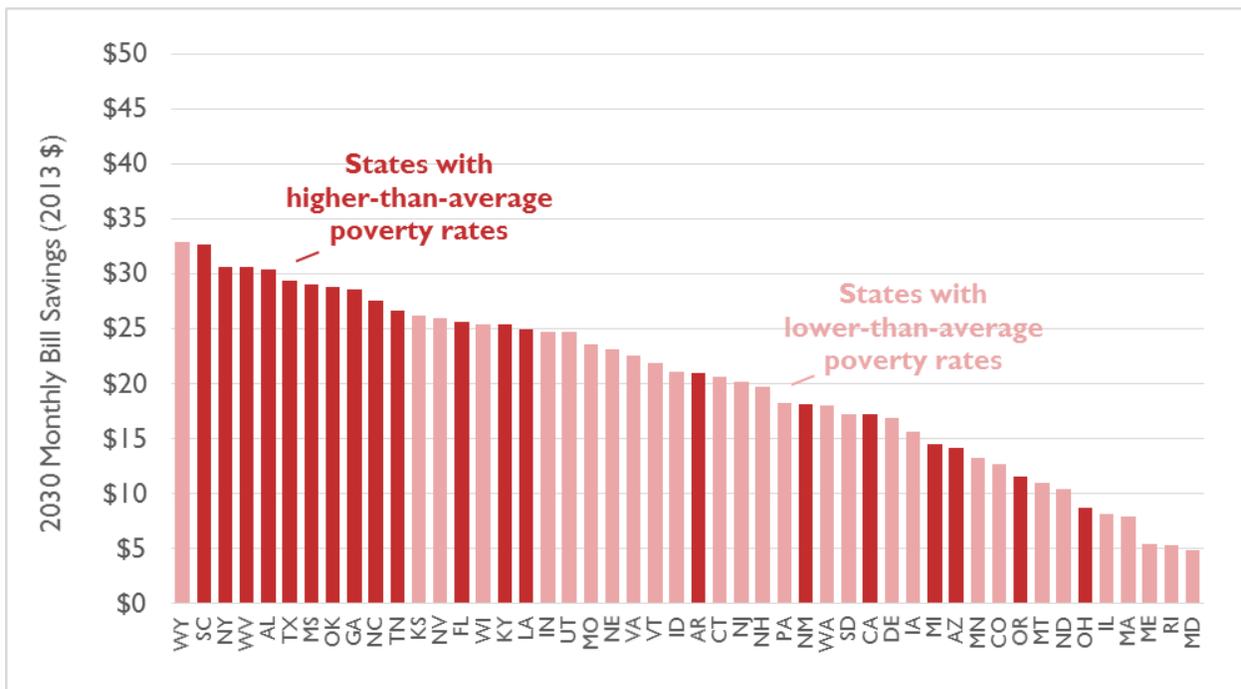
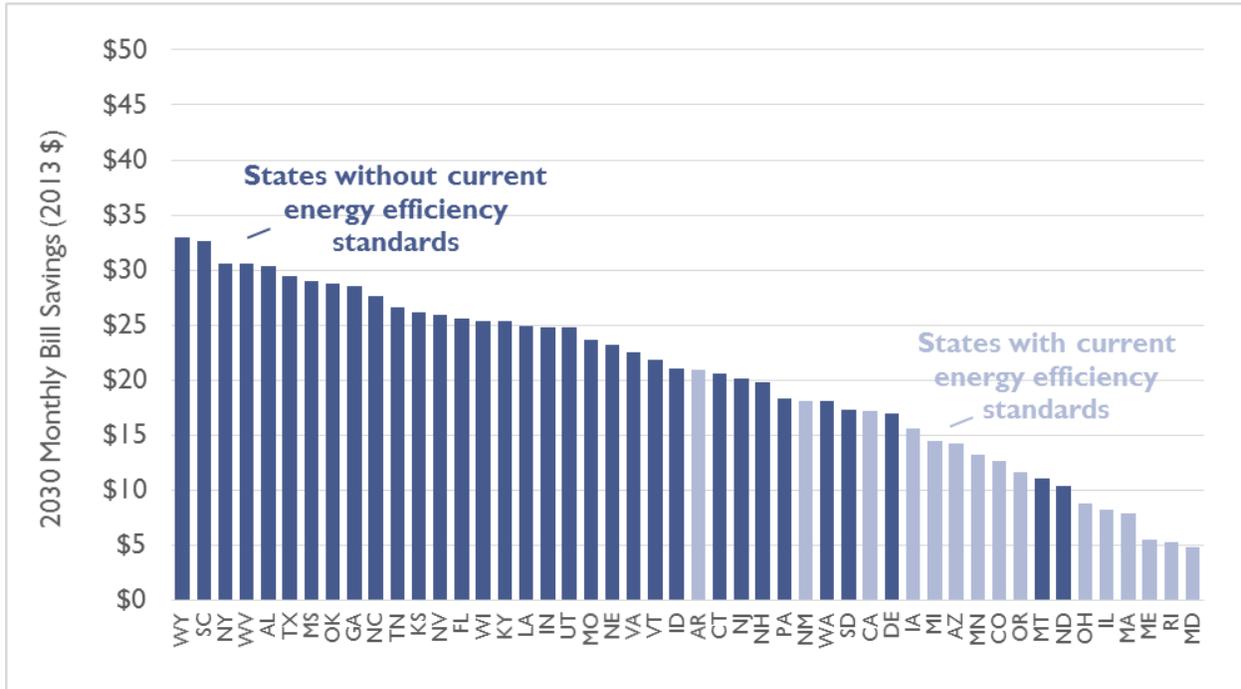


Figure 8. Difference between 2030 residential monthly bills in the Synapse-CPP and Low-EE-CPP cases; states with energy efficiency standards currently in place highlighted



## APPENDIX A: ELECTRIC SECTOR MODEL

For all three scenarios, we modeled capacity, generation, emissions, and costs for the electric sector in Synapse’s adapted version of the National Renewable Energy Laboratory’s (NREL) Regional Energy Deployment System (ReEDS) model. We then imported the data into Synapse’s Excel-based post-processing tool.<sup>9</sup>

### Electric sector ReEDs model

ReEDS is a long-term capacity expansion and dispatch model of the electric power system in the lower 48 states. Synapse’s in-house version of the ReEDS model has been adapted to allow for more detailed outputs by state and sector, and to permit differentiation of energy efficiency expectations by state.

We modeled compliance with the Clean Power Plan as achieving the state-level mass-based targets that include estimated emissions from new sources (the “new source complement”) on a biennial basis.<sup>10</sup> We assume that emission allowances are traded both within and across state borders among states in two separate groups: the nine states that are members of RGGI, and all other states modeled. The price of allowances is set endogenously within the model as a shadow price and range from \$2 per metric ton to \$22 per metric ton, depending on the year and scenario in question. For the RGGI states, Clean Power Plan emission caps are replaced with more stringent (lower) RGGI caps in both compliance scenarios.

### Temporal scope

The time period of this analysis is the years 2015-2032. ReEDS modeling is performed at two-year intervals starting in 2014.

### Geographic scope

In the ReEDS model, all states in the continental United States are represented. ReEDS divides the United States into 134 power control areas (PCAs) that are consistent with state boundaries and can be aggregated to model state impacts. Each PCA is modeled as having a single aggregated “unit” of each resource type, the size of which is equal to the sum of the capacities of the actual units in that territory. For this analysis, Synapse modeled the country as a whole to capture interactions between states.

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<sup>9</sup> This analysis uses the version ReEDS\_v2015.2(r28). More information on ReEDS is available at: <http://www.nrel.gov/analysis/reeds>.

<sup>10</sup> States may choose a variety of approaches to Clean Power Plan compliance. In all mass-based approaches, states must demonstrate that generation from existing units does not “leak” to new units. While approved methods for demonstrating this within an “existing-unit-only” approach have not yet been released, states may address this requirement by implementing the “new source complement” approach: that is, including new units under their mass-based cap.

## Post-processing and bills analysis

After completing the ReEDS analysis, we used Synapse's in-house ReEDS Postliminary Reporting Tool (RePRT) to analyze the compliance of states with both the Clean Power Plan and RGGI caps. We also used this tool to examine generation, capacity, sales, and system costs for each state in each scenario. Finally, ReEDS allows us to estimate the state-by-state bill impacts of both the reference case and the two policy cases. To do this, we relied on the following components, modeled in ReEDS at the PCA level:

- **Generation and transmission costs:** Derived from ReEDS and reported by PCA, these are the system costs associated with capital expenditures, fuel, operations and maintenance, and transmission for all resource types except energy efficiency. We reallocated these costs across all the PCAs in a single North American Electric Reliability Corporation (NERC) region in proportion to annual sales data to approximate the distribution of these costs across ratepayers.
- **Import/export costs and revenues:** Each PCA's net export or net import of electricity is estimated based on its generation and electric demand. These net imports (or exports) are multiplied by regional energy and capacity prices to estimate the cost of (or revenue from) supplying this additional electricity need. As with generation and transmission costs, we then reallocated the import/export costs and revenues across all the PCAs in a single NERC region to approximate their distribution across ratepayers.

Next, PCA-specific costs are aggregated by state and combined with the following cost components:

- **Environmental retrofit costs:** Estimated using the Synapse Coal Asset Valuation Tool (CAVT)<sup>11</sup> model, these include the costs to comply with environmental regulations addressing SO<sub>2</sub>, NO<sub>x</sub>, mercury, and particulate emissions, as well as cooling water, effluent, and coal ash control standards.
- **Pipeline costs:** Demand for natural gas in 2032 is compared against natural gas demand in 2014. For each PCA, we estimate new natural gas pipeline costs on the order of \$39 billion per quadrillion Btu.<sup>12</sup>
- **Energy efficiency program costs:** Program administrator costs, also known as utility costs, are calculated at the state level for each case.
- **Clean Power Plan compliance allowance costs and revenues:** Depending on the year, some states require trading in order to comply with the Clean Power Plan's mass-based targets (that is, targets based on tons of CO<sub>2</sub> emissions); they emit more CO<sub>2</sub> than the

<sup>11</sup> For more information, see also: Knight, P. and J. Daniel. 2015. *Forecasting Coal Unit Competitiveness – 2015 Update*. Synapse Energy Economics. Available at: <http://www.synapse-energy.com/sites/default/files/Forecasting-Coal-Unit-Competitiveness-14-021.pdf>. CAVT is available at <http://synapse-energy.com/tools/coal-asset-valuation-tool-cavt>.

<sup>12</sup> ICF International. March 2014. "North American Midstream Infrastructure through 2035: Capitalizing on Our Energy Abundance." Available at: <http://www.ingaa.org/file.aspx?id=21498>.



EPA-specified cap allows.<sup>13</sup> As a result, some states pay to purchase allowances, while other states receive revenue for their sale of these allowances. Because both policy cases model exact compliance with the Clean Power Plan in any given year, there are an equal number of allowances being sold as are being bought. In each year, we assume the price the allowances are traded at is equal to the shadow price of CO<sub>2</sub> as calculated by ReEDS. Note that because we treat RGGI and the rest of the United States as two separate trading regions, for each combination of policy case and year there are two separate prices: one applied to the RGGI states and the other applied to the rest of the country. In the Not-CPP-Compliant case, only RGGI states are assumed to comply with CO<sub>2</sub> caps.

State-specific costs were then divided by the kilowatt-hour sales in a given year and scenario to derive the cost of supply. Costs of supply in a given year are added to a fixed, per-consumer bill component to estimate each state's residential electric rate.<sup>14</sup> Electric rates were then multiplied by forecasted monthly residential usage in each year to estimate monthly bills. In each case, it is assumed that all residential customers are energy efficiency program participants. While it is true that the customers that experience the highest level of energy efficiency savings opt in to utility energy efficiency programs, since energy efficiency is also achieved through mandated lighting standards, building codes, and appliance standards, many consumers also benefit from energy efficiency whether they are aware of it or not. In the Synapse-CPP case, cumulative savings reach 21 percent by 2030.<sup>15</sup>

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<sup>13</sup> For a detailed discussion of trading in the Clean Power Plan, see recent Synapse blog posts at <http://synapse-energy.com/about-us/blog/tricks-trade-who-can-sell-emissions-credits-whom-clean-power-plan-part-1-2> and <http://synapse-energy.com/about-us/blog/tricks-trade-who-can-sell-emissions-credits-whom-clean-power-plan-part-2-2>.

<sup>14</sup> The fixed, per-consumer component is typically made up of historical capital costs that have already been incorporated into electricity rates. It is certainly possible that this component will decrease in the future as the plants in this fixed component are depreciated, or if, as older plants retire, ratepayers are no longer obligated to pay some portion of investments that are no longer used and useful. In this analysis, however, we assume that this bill component remains constant throughout the modeled period. The fixed, per-consumer component is calculated by subtracting the cost of supply rate calculated for 2012 from the statewide residential electric rate reported in the EIA Form 861 for 2012. Actual electric rates can vary widely by utility, even within a single state.

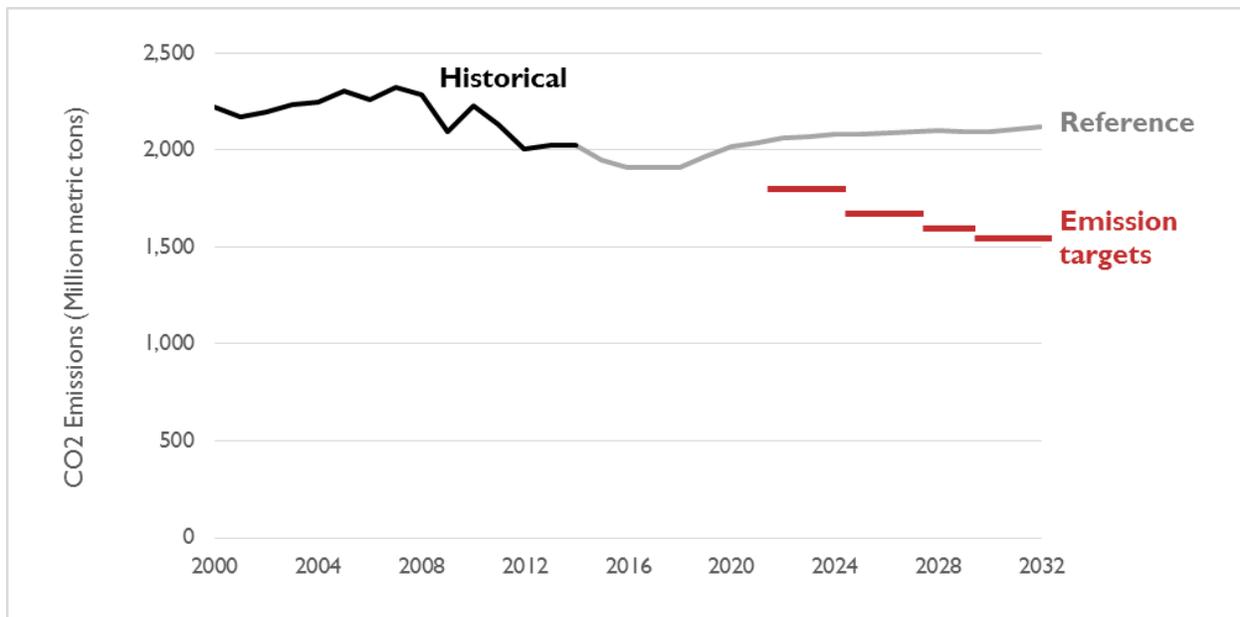
<sup>15</sup> This is consistent with the cumulative savings level achieved by “strong” participants in Massachusetts energy efficiency programs in 2013 through 2015. See Massachusetts Program Administrators, “2013-2015 Massachusetts Joint Statewide Three-Year Electric and Gas Energy Efficiency Plan.” November 2, 2012, see e.g., D.P.U. 12-107, Cape Light Compact, Exhibit 1.



## APPENDIX B: THE “NOT-CPP-COMPLIANT” CASE

The “Not-CPP-Compliant” case is a reference (or business-as-usual) case in which states comply with their Renewable Portfolio Standard and Energy Efficiency Resource Standard requirements, and states with emission caps not related to the Clean Power Plan (RGGI states and California) meet their required targets. Note that states’ RGGI emission caps are more stringent (lower) than their Clean Power Plan mass-based targets. For this reason, only the RGGI caps (and not the Clean Power Plan targets) apply to RGGI states and—to avoid emission leakage out of the RGGI region—we have restricted RGGI states to only trade allowances among themselves while all other states may trade throughout the non-RGGI region. In the Not-CPP-Compliant case, no additional actions are taken to achieve Clean Power Plan compliance. Figure 9 presents historical emissions and emissions under the Not-CPP-Compliant case, and compares these to Clean Power Plan mass-based targets with the new source complement and RGGI emission caps.

**Figure 9. Historical emissions, emissions under the Not-CPP-Compliant case, and Clean Power Plan mass-based targets with new-source complement and RGGI caps**



*Note: Both the Clean Power Plan targets and the RGGI emission budget are set in short tons of CO<sub>2</sub>. Throughout this report we present all emissions in metric tons.*

### Sales and energy efficiency

Annual retail electric sales by state are projected by applying regional growth rates from the Energy Information Administration’s Annual Energy Outlook (AEO) 2015 Reference case. From this we “back out” the AEO representation of ongoing savings—estimated at 0.29 percent of 2012 sales—from new

energy efficiency measures and replace it with more detailed forecasts.<sup>16</sup> In this scenario, we assume that the 15 states with “on-the-books” energy efficiency policies continue them through the study period. All other states do not achieve any incremental energy efficiency savings after 2014.

## Renewable energy

Twenty-six states have renewable portfolio standards that require utilities to procure a percentage of their retail electricity sales in qualified forms of renewable generation.<sup>17</sup> We assume that these targets are met through the study period. The share of renewables required and types of resources acceptable for classification as renewable vary from state to state.

## Natural gas prices

Projected natural gas prices were derived from the AEO 2015 Reference case. Note that ReEDS uses natural gas prices based on an endogenous supply-curve formulation, in which cost is a function of the quantity demanded, with underlying supply curves calibrated to AEO Reference case forecasts.

## Unit additions, retirements, and retrofits

In the Not-CPP-Compliant case, generating units currently known to be under construction were added to ReEDS based on whether those units appeared in the 2014 edition of the EIA 860 database of generators. All other unit additions are dynamic, based on supply curves of resource costs inherent to ReEDS.

In addition, the reference case features known unit retirements. Retirement data is based on the 2014 edition of EIA’s Form 860, supplemented by ongoing Synapse research. The reference case also features costs of control technologies projected to be required at coal generators that continue to operate through the study period. The costs of control technologies that will be installed at coal plants under existing federal environmental regulations other than the Clean Power Plan were estimated using Synapse’s CAVT model. These expected retrofits are limited to the years in which specific units have not yet been retired.

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<sup>16</sup> White, David, et al. 2013 Update. *State Energy Efficiency Embedded in Annual Energy Outlook Forecasts*. Available at: [http://synapse-energy.com/sites/default/files/SynapseReport.2013-11.0.EE-in-AEO-2013.12-094-Update\\_0.pdf](http://synapse-energy.com/sites/default/files/SynapseReport.2013-11.0.EE-in-AEO-2013.12-094-Update_0.pdf).

<sup>17</sup> In this analysis, we model states in the contiguous United States to have renewable portfolio standards only if current legislation exists requiring utilities to meet a certain portion of future electric sales through the purchase of renewable generation. States with voluntary renewable requirements were not assumed to build incremental renewable capacity unless it was economic for them to do so.



## APPENDIX C: CLEAN POWER PLAN COMPLIANT SCENARIOS

In addition to using ReEDS to model a Not-CPP-Compliant case, Synapse also modeled two “policy” cases, analyzing two different approaches to Clean Power Plan compliance. The first policy case, the “Synapse-CPP” case, analyzes a future in which strong energy efficiency is relied upon to meet Clean Power Plan compliance. This scenario assumes that all states begin to ramp up to the level of energy efficiency savings currently being attained in Massachusetts, with all states achieving annual incremental savings of 3 percent per year by 2029.<sup>18</sup>

The second policy case, the “Low-EE-CPP” case, examines a future in which energy efficiency is minimal, and instead other strategies, including renewables and redispatch from coal to natural gas combined-cycle generators, are used to meet emission reduction requirements.

Under both policy cases, we modeled nationwide compliance with the mass-based Clean Power Plan target, including new source complements. As in the Not-CPP-Compliant case, in both policy cases the RGGI states and California were modeled as complying with their more stringent emission caps and—to avoid emission leakage out of the RGGI region—we restricted RGGI states to only trade allowances among themselves while all other states may trade throughout the non-RGGI region.<sup>19</sup>

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<sup>18</sup> Massachusetts utilities have attained incremental first-year savings levels above 2.5 percent for 2013 through 2015, and have filed plans to achieve levels at or near 3 percent for 2016 through 2018. Many other states are currently achieving similarly high levels of energy efficiency savings levels, including Arizona, California, Rhode Island, and Vermont. Furthermore, while this analysis does assume that energy efficiency savings occur in the residential, commercial, and industrial sectors, the savings modeled in this report are not necessarily limited to coming from utility energy efficiency programs. Savings could come from other sources, such as state- or federal-level building codes or appliance standards, third-party vendors, or other sources.

<sup>19</sup> The RGGI states have not yet announced whether or not they will use RGGI as a vehicle for Clean Power Plan compliance, nor have they stated that they will disallow trading with states outside of RGGI. In this analysis, we assume RGGI policymakers act to maintain the stringency of the already-agreed-upon RGGI emissions caps. Note that ReEDS models the complex, multi-sector, California-specific emissions cap in a separate module; we have not revised NREL’s modeling of California, which includes units within the state having the ability to trade allowances across state lines.



January 15, 2016

BY EMAIL TRANSMISSION

Donald R. van der Vaart  
Secretary, North Carolina Department of Environmental Quality  
c/o Ms. Joelle Burleson  
Division of Air Quality  
North Carolina Department of Environmental Quality  
1641 Mail Service Center  
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Transmitted by e-mail to: [daq.publiccomments@ncdenr.gov](mailto:daq.publiccomments@ncdenr.gov)

**Reference: 111(d); Comments by The NC Conservation Network, Environmental Defense Fund, Cape Fear River Watch, Clean Air Carolina, Clean Water for North Carolina, Dan River Basin Association, Dogwood Alliance, Environment North Carolina, NC Coastal Federation, NC Council of Churches, NC Environmental Justice Network, NC Interfaith Power & Light, NC League of Conservation Voters, NC WARN, Physicians for Social Responsibility, Western NC Chapter, River Guardian Foundation, Sound Rivers, Winyah Rivers Foundation, Appalachian Voices, Sustain Charlotte to Standards of Performance for Carbon Dioxide (CO<sub>2</sub>) Emissions for Existing Electric Utility Generating Units (EGUs) Under Clean Air Act Section 111(d).**

Dear Secretary van der Vaart:

The North Carolina Conservation Network and the accompanying signatories to this letter have compiled the following comments to register their opposition to the North Carolina Department of Environmental Quality's draft rule to implement the rules promulgated pursuant to Clean Air Act Section 111(d) for Best System of Emission Reduction for Existing Electric Generating Units (hereinafter the "Draft Rule"). The Draft Rule, in its current form, would result in profoundly negative effects on the health of North Carolina's citizens, its economy and its environment. Moreover, the Draft Rule harms the power sector, other stakeholders, and citizens of North Carolina by wasting valuable resources in pursuit of unnecessary litigation.

The Clean Power Plan is sound policy. It builds on years of work, and a transition already underway in the power sector to implement a system-wide approach to carbon dioxide reductions from existing power plants. As such, North Carolina should be making every effort to conscientiously and carefully expedite full compliance with the rule.

We urge the Department of Environmental Quality (DEQ) to withdraw the Draft Rule and reinitiate a rulemaking process that is based on a robust stakeholder process. With respect to the components of a state plan, we further urge DEQ to include mechanisms for increasing renewable energy production and energy efficiency, identify measures to update and enhance the

utility grid to easily integrate renewable energy sources, petition for the state's inclusion in the Clean Energy Incentives Program (CEIP), consider options for the creation of a trading-ready plan design to allow North Carolina businesses access to compliance instruments outside the state, and consider the benefits of a mass-based approach to enable market mechanisms to achieve emission reductions at the least cost.

## **I. Climate Change Threatens North Carolina's Environment and Economy**

According to the United Nations, 14 of the last 15 years have been the hottest on record worldwide<sup>1</sup>, while preliminary data show that 2015 may be the hottest year on record<sup>2</sup>. If left unchecked, increasing global temperatures will unleash a disastrous chain of impacts on North Carolina's environment and economy. Sea level rise, increase in strength and frequency of hurricanes, droughts, food shortages, water shortages, heat waves and the spread of diseases are all happening and will continue to happen at greater frequency and increased severity the longer action is delayed.

United States Census Data show that seniors (those over 65) comprise almost 15 percent of North Carolina's population, while children (those under 18) comprise 23 percent<sup>3</sup>. Seniors and children are especially vulnerable to the effects of climate change<sup>4</sup>, meaning that in North Carolina nearly 40 percent of our population is especially susceptible to negative health effects associated with climate change.

Air pollution makes it difficult for those with asthma, allergies and other respiratory problems to breathe. In addition, concentrations of certain air pollutants associated with increased greenhouse gas emissions heightens the risk of lung cancer<sup>5</sup>. Heat waves affect the entire population, but are especially dangerous for those with cardiovascular disease and heart-related illnesses.

Extreme heat waves also create wildfires and contribute to droughts, which destroys crops, spreads mold, and encourages crop pests such as locusts<sup>6</sup>. Sea level rise contaminates our drinking water sources and negatively effects water quality, including increased instances, and spreading of, cholera, cryptosporidiosis, and harmful algal blooms<sup>7</sup>. Moreover, changes in precipitation patterns create breeding grounds for mosquitos, ticks, and rodents carrying with them malaria, Lyme disease, and leptospirosis<sup>8</sup>.

<sup>1</sup>Carrington, D. (2015, February 2). "14 of the 15 hottest years on record have occurred since 2000, UN says."

<sup>2</sup>Ocko, I. (2016, January 5). "Why we can't blame El Niño for the hottest year on record."

<sup>3</sup> U.S. Census Bureau: State and County QuickFacts. Data derived from Population Estimates, American Community Survey, Census of Population and Housing, State and County Housing Unit Estimates, County Business Patterns, Nonemployer Statistics, Economic Census, Survey of Business Owners, Building Permits Last Revised: Wednesday, 02-Dec-2015 10:00:22 EST

<sup>4</sup>Physicians for Social Responsibility at <http://www.psr.org/assets/pdfs/vulnerable-populations.pdf>.

<sup>5</sup>National Institute of Environmental Health Science:

[http://www.niehs.nih.gov/research/programs/geh/climatechange/health\\_impacts/cancer/index.cfm](http://www.niehs.nih.gov/research/programs/geh/climatechange/health_impacts/cancer/index.cfm).

<sup>6</sup>National Institute of Environmental Health Science:

[http://www.niehs.nih.gov/research/programs/geh/climatechange/health\\_impacts/foodborne\\_diseases/index.cfm](http://www.niehs.nih.gov/research/programs/geh/climatechange/health_impacts/foodborne_diseases/index.cfm).

<sup>7</sup> CDC National Center for Environmental Health: <http://www.cdc.gov/climateandhealth/effects/>.

<sup>8</sup>Githeko, A., Lindsay, S., Confalonieri, U., & Patz, J. (2000). Climate change and vector-borne diseases: a regional analysis. (1142, 1137).

In addition to the morbidity and mortality associated with extreme weather events, severe storms and extreme heat and cold pose catastrophic economic effects. For example, Super Storm Sandy and Hurricane Katrina killed at least 1,058 people and cost the US \$178 billion<sup>9</sup>. The 2002 drought cost North Carolina's agricultural industry almost \$400 million<sup>10</sup>. In fact, the cost of not acting on climate change could rise to as much as \$44 trillion before the next century<sup>11</sup>.

One of the most injurious effects of climate change for North Carolina will be accelerated sea level rise. Sea level rise causes flooding, contaminates drinking water, disrupts agriculture, threatens wildlife populations, and permanently alters our coastal ecosystem<sup>12</sup>. North Carolina's tourism and agricultural industry alone is a \$100 billion a year industry<sup>13</sup>. Together these industries employ hundreds of thousands of North Carolinians and support millions of North Carolina families. All of these vital industries face a severe threat as a result of the effects of climate change.

## II. The Clean Power Plan Presents an Economic Opportunity

Energy efficiency measures reduce carbon dioxide (CO<sub>2</sub>) emissions and energy consumption, save businesses and homeowners' money, all while creating jobs. This opportunity is particularly significant in low-income communities that spend a significant portion of their income on electricity bills to combat the cold of winter and heat of summer. There is a significant business opportunity under the Clean Power Plan for the energy efficiency industry alone.

It is clear that effective policies to create market opportunities for investments in renewable energy generation have propelled North Carolina to national prominence as a clean energy leader. North Carolina is now home to nearly 200 solar companies and the state ranks fourth in the nation in installed solar capacity<sup>14</sup>. Renewable energy is the energy of the future and the energy that drives economic growth.

According to Fortune Magazine, one out of every 78 new jobs created in the U.S. were created by the solar industry in the last year<sup>15</sup>. And, compared to fossil fuel-based jobs, twice as many Americans are employed in the solar industry than in the coal industry<sup>16</sup>. The Clean Power Plan offers North Carolina a significant opportunity to spur new investments in existing local businesses, create jobs, and grow the economy. That's precisely why 29 businesses in North Carolina – totaling more than \$24 billion in assets – sent a letter to Governor McCrory urging his support of the Clean Power Plan<sup>17</sup>.

<sup>9</sup> Gerken, J. (2013, February 12). Hurricane Sandy Was Second-Costliest In U.S. History, Report The Data Center: <http://www.datacenterresearch.org/data-resources/katrina/facts-for-impact/>.

<sup>10</sup> White House Press Release. May 6<sup>th</sup>, 2014 [https://www.whitehouse.gov/sites/default/files/docs/state-reports/NORTHCAROLINA\\_NCA\\_2014.pdf](https://www.whitehouse.gov/sites/default/files/docs/state-reports/NORTHCAROLINA_NCA_2014.pdf)

<sup>11</sup> Frangoul, A. (2015, August 18). Cost of not acting on climate change \$44 trillion: Citi.

<sup>12</sup> Harvey, C. (2015, February 17). Sea-level rise will cause more than flooding — these 5 other impacts of rising oceans are just as bad.

<sup>13</sup> NC Department of Agriculture and Consumer Services: <http://www.ncagr.gov/stats/general/overview.htm> NC Tourism: <https://www.nccommerce.com/tourism/about-us/annual-report>.

<sup>14</sup> Solar Energy Industries Association: <http://www.seia.org/state-solar-policy/north-carolina>.

<sup>15</sup> Korosec, K. (2015, January 16). In U.S., there are twice as many solar workers as coal miners.

<sup>16</sup> Korosec, K. (2015, January 16). In U.S., there are twice as many solar workers as coal miners.

<sup>17</sup> Ceres: <http://www.ceres.org/files/clean-power-plan-state-letters/north-carolina-cpp-letter>.

### III. NC DEQ's Draft Rule is Inadequate

Given the severe negative health, environmental and economic impacts of climate change – and the strong economic opportunities provided by the clean energy industry – we oppose the state's decision to submit a Draft Rule that does not seriously address climate change or encourage the clean energy industry.

First, the Draft Rule inadequately and insufficiently proposes only emission rate controls on fossil fuel-powered stationary electric generating units (EGU's). By taking this limited "inside-the-fenceline" approach, DEQ will prevent North Carolina from meeting its emission reduction targets, which are needed to protect the state's citizens' environment and economy. An inadequate and insufficient approach, as outlined in the Draft Rule, will expose North Carolina's citizens, environment and economy to undue harm.

Second, the Draft Rule entirely ignores the Clean Power Plan's requirement to engage in a robust stakeholder process prior to the development of a state plan. As the Environmental Management Commission and DEQ expressly stated when deciding to send the Draft Rule to public comment, the Draft Rule is nothing more than a pretext for a legal challenge to the Clean Power Plan.<sup>18</sup>

Third, it exposes North Carolina unnecessarily to pollution and risks associated with greenhouse gas emissions that will not be curbed as a result of its intentional noncompliance, risking irreversible and expensive environmental damage. The longer North Carolina waits to take action on climate change the more expensive and damaging it will be.

Fourth, the Draft Rule deprives North Carolina workers and companies of jobs and new business, because of the loss of a host of clean energy production opportunities that would be associated with a fully compliant rule. Unlike coal, the clean energy industry is a growth industry providing unbounded economic and job opportunities.

Finally, the current Draft Rule makes North Carolina susceptible to a prolonged review process, thereby wasting finite staff and budgetary resources to wrangle with EPA, and ultimately could deprive the state of its ability to develop and control its own emission reduction strategy.<sup>19</sup> This is not a wise use of taxpayer dollars.

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<sup>18</sup> North Carolina uses unique tactic against new EPA power rule, available at <http://bigstory.ap.org/article/343ad93212924f6c8cd9239c4ea64130/north-carolina-uses-unique-tactic-against-new-epa-power> (Dec. 25, 2015).

<sup>19</sup> The irony of the state's position rests on the fact that the state is on track to comply with the Clean Power Plan's state specific target of 1,136 pounds per megawatt hour (lbs/MWh) by 2030, as compared to a baseline rate of 1,673 lbs/Mwh, or, employing a mass-based target, 51.2 million tons of carbon dioxide, as compared to a baseline of 58.6 million tons of carbon dioxide. Note that the Draft Plan's approach would meet neither a rate-based nor mass-based target, and that increased investment in cleaner generation due to the execution of the Clean Smokestacks Act and the Renewable Energy and Energy Efficiency Portfolio Standard of 2007 have set North Carolina on a course to meet the rules' requirements without much difficulty.

Given the severity of climate change effects to our health, economy, and environment, and given the benefits of true implementation of the rule, North Carolina deserves a more serious response than the Draft Rule, which is inadequate and is certain to eventually be deemed as such by EPA. Moving forward with only building block one (actions within the fence line of an EGU) will not help North Carolina accomplish its CO<sub>2</sub> reduction requirements. This “plan to fail” wastes state resources and time, and if North Carolina declines to act responsibly, EPA has the duty to step in and ensure that critical protections are put in place. Instead, we seek timely state action to launch a robust stakeholder engagement process and to develop a state plan that employs the flexibility and effectiveness provided by full deployment of the Best System of Emission Reduction by EPA which can include deploying renewable energy and energy efficiency, which are cost-effective methods for reducing CO<sub>2</sub> emissions.

#### **IV. Recommendations to Ensure the Sufficiency of North Carolina’s State Clean Power Plan Rules**

In order to ensure an adequate and robust plan, we recommend that the EMC withdraw the Draft Rule and begin rulemaking anew. First, and PRIOR TO drafting a state plan, DEQ should act swiftly to undertake a legitimate stakeholder process – which is not merely good practice, but required by the Clean Power Plan rule. All interested parties must have a voice in shaping the state’s response plan. Next, and only after a robust dialogue takes place and all interested parties are able to provide their input, DEQ should draft a plan.

Allowing time for stakeholder input will benefit the state by providing it the time not only to undertake its own careful analysis, but to receive analysis and modeling information from the public. Many organizations have yet to complete their modeling and analyses of the rule and options for compliance; this is also the case for our state’s largest utility, Duke Energy. Without this critical information it is negligent to draft a plan. This process, however, should be undertaken carefully, yet expeditiously, in order for the state to submit a timely rule proposal and protect the options to participate in programs such as the CEIP. We urge DEQ and the EMC to draft a plan that:

1. Is PRECEDED by a robust stakeholder process;
2. Includes incentives for robust investment in renewable energy production, integration of that renewable energy into the electricity system, and energy efficiency measures;
3. Identifies measures such as voltage optimization to update and enhance the utility grid to reduce energy losses and enable data sharing that will make it possible to easily integrate renewable energy sources;
4. Includes the Clean Energy Incentives Program, which the state should incorporate into its rulemaking package if it completes the rulemaking development in a timely fashion, or, if more time is needed to prepare a comprehensive state plan, petition the EPA to protect North Carolina’s ability to participate in the CEIP in order to protect North Carolina’s ability to offer the program; and
5. Considers options for creating a trading-ready plan design to make it possible for North Carolina companies to access compliance instruments across the region and nationally, and consider whether a mass-based approach will better enable the state to take advantage of market mechanisms to reduce emissions.

We appreciate your time and careful consideration of these comments. For further information please contact Rachael Estes, Policy Analyst, NC Conservation Network, at [rachael@ncconservationnetwork.org](mailto:rachael@ncconservationnetwork.org).

Signed:



Executive Director,  
NC Conservation Network

*Rachael Estes,*  
Policy Analyst,  
NC Conservation Network

*Tanja Ujic,*  
Director, Southeast Clean Energy  
Environmental Defense Fund

Cape Fear River Watch  
Clean Air Carolina  
Clean Water for North Carolina  
Dan River Basin Association  
Dogwood Alliance  
Environment North Carolina  
NC Coastal Federation  
NC Council of Churches  
NC Environmental Justice Network  
NC Interfaith Power & Light  
NC League of Conservation Voters  
NC WARN  
Physicians for Social Responsibility, Western NC Chapter  
River Guardian Foundation  
Sound Rivers  
Winyah Rivers Foundation  
Appalachian Voices  
Sustain Charlotte

January 14, 2016

To: Governor McCrory  
CC: Joelle Burleson, Division of Air Quality

From the threat of rising sea levels to more frequent and severe droughts and floods, North Carolina has a lot to risk when it comes to global warming. We should be doing everything we can to tackle climate change, and that starts with the single largest contributor: carbon pollution. I support the Environmental Protection Agency's recently proposed limits on carbon pollution, known as the Clean Power Plan (CPP).

North Carolina has tremendous opportunity to curb harmful carbon emissions and expand clean energy sources like wind and solar. We are well positioned to meet the goals set forth in the Clean Power Plan if we build upon our solar success and wind potential. Not only is there no clean energy in DEQ's current proposal, but the administration is also setting the state up for failure by knowingly submitting a substandard plan.

I urge you and your administration to take this problem seriously, and put forth a plan that maximizes wind and solar energy for North Carolina.

Signed Names Attached.

## State Implementation Plan Public Comments

First Name	Last Name	Zip Code		Additional Comments	Date
Katherine	Nickels	28712	NC		11/19/15 11:35
Liz	Kazal	27601	NC		11/23/15 18:11
Beth	Stanberry	28802	NC		11/25/15 9:32
Steve	Lucas	78704	TX		11/25/15 9:32
Nancy	Laplaca	27705	NC	Please, be a leader and not a laggard. Protect the People, not Duke Energy and other large corporations that are polluting our air, water -- and our DEMOCRACY!	11/25/15 9:32
Martha	Girolami	27523	NC		11/25/15 9:32
Christy	Thompson	28792	NC		11/25/15 9:32
Edward	Brophy	28409	NC	Support sustainable energy	11/25/15 9:32
David	Bristol	28409	NC		11/25/15 9:32
Bonnie	Koshofer	12305	NY		11/25/15 9:32
Rachel	Fussell	28734	NC		11/25/15 9:33
Judy	Moran	32404	FL		11/25/15 9:33
Mary Ann	Gough	28804	NC		11/25/15 9:33
Judy	Harrelson	27344	NC		11/25/15 9:33
Sammy	Haygood	27527	NC		11/25/15 9:33
Christopher	Jones	37209	TN		11/25/15 9:34
Moira	Breen	27707	NC		11/25/15 9:34
Dane	Bowen	28227	NC	People know about global warming and that we need to act now. No more protecting big polluters.	11/25/15 9:34
Andrea	Burnham	27520	NC		11/25/15 9:34
Carolyn	Smith	27048	NC	The protection of our environment should come first!	11/25/15 9:34
Dustin	Houston	27511	NC		11/25/15 9:34
Bryna	Rapp	27516	NC		11/25/15 9:34
Emily	Mazure	27713	NC		11/25/15 9:34
Barbara	Kantola	49120	MI	Not acting on climate shows you don't care about the future generations, including your own family.	11/25/15 9:35
Zach	Nichols	27858	NC		11/25/15 9:35

## State Implementation Plan Public Comments

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Felicity	Gage	27960	NC	Please begin being more forward thinking with your actions on these crucial environmental issues that will affect generations to come.	11/25/15 9:35
Christi	Dillon	28117	NC		11/25/15 9:35
N.S.	Greenwood	27615	NC	Climate change is not a myth. You need to get real, stop the greed, and shape up.	11/25/15 9:35
Kay	Maddox	27208	NC		11/25/15 9:35
Deb	Brown	27624	NC		11/25/15 9:35
Lorenz	Steininger	22554	VA		11/25/15 9:35
Nathan	Reynolds	27519	NC	Make North Carolina a leader in this space!	11/25/15 9:36
Amy	Marschall	27603	NC	NC and the plantet need clean energy, solar and wind, in the Clean Power Plan.	11/25/15 9:36
Anna	Toth	28806	NC		11/25/15 9:36
Matt	Rawlins	28117	NC		11/25/15 9:36
Tom	Anderson	28762	NC	This is one issue we need to follow California's lead on. We're already 50 years late in taking action on this!!	11/25/15 9:36
Stephen	Kandall	27614	NC		11/25/15 9:36
Lee	Kuyper	27707	NC		11/25/15 9:36
Mary	Price	27713	NC		11/25/15 9:36
Daniela	Rossi	83210	ID		11/25/15 9:36
Dana V.	Little	28787	NC	Maybe you do not care about what is happening with climate change but I do and will remember it on election day!	11/25/15 9:37
Tim	Wadkins	20910	MD		11/25/15 9:37
Barbara	Al-Yousuf	61073	IL	I lived in NC for 13 yrs and I am sad the way pollution is overtaking this planet. Please do something to help.	11/25/15 9:37
Meryl	Pinque	04401	ME		11/25/15 9:37
Maureen	Hayes	27516	NC	Duke Energy is not taking advantage of its opportunity to move this state in a much more sustainable direction, and be on the forefront of where this country needs to go in terms of energy. Shame on you Governor McCrory if you don't insist Duke Energy do what's right for North Carolina and its citizens. Maureen Hayes	11/25/15 9:37
Mark	Hurmence	28428	NC		11/25/15 9:37
Neil	Freedman	27705	NC		11/25/15 9:38

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Rick	Savage	27511	NC		11/25/15 9:38
Adrienne	Gardner	27030	NC		11/25/15 9:38
Joanne	Heckel	27012	NC		11/25/15 9:38
Todd	O'Buckley	27704	NC		11/25/15 9:38
Elizabeth	Norman	27701	NC		11/25/15 9:38
Mary	Junkins	27519	NC		11/25/15 9:39
Linda	Orr	28734	NC		11/25/15 9:39
Sharon	Garlena	21703	MD	People over profit, clean, renewable, sustainable energy now!	11/25/15 9:39
Philip T	Johnson	27517	NC	I AM ACTUALLY SCARED TO DEATH AS I DON'T BELIEVE THE REPUBLICANS ARE INTELLIGENT ENOUGH TO UNDERSTAND WHAT CLIMATE CHANGE MEANS. THEIR PATHETIC MINDS ARE TOTALLY CLOGGED WITH DOLLAR BILL SIGNS.	11/25/15 9:39
Alison	Smitley	27610	NC		11/25/15 9:39
Aubrey	Navarro	28348	NC		11/25/15 9:40
Dave	Perrey	27713	NC	I really don't care if you believe in climate change or rising oceans, to exclude solar and other renewable energy in your energy plan is short-sighted. Keep the state at the fore front, not trailing behind.	11/25/15 9:40
Gavin	Dillard	28711	NC	Environment above all else! Without a livable environment, there IS no economy.	11/25/15 9:40
Misako	Toda	27514	NC		11/25/15 9:40
Danielle	Boulet	27278	NC		11/25/15 9:40
Elizabeth	Evans	27510	NC		11/25/15 9:41
Carol	Lee	28449	NC	Why do you oppose clean air and renewable energy?	11/25/15 9:41
Virginia	Travis	27278	NC	Gov. McCrory, does the fact that Google wants to buy a solar farm here not tell you something about the future of energy and its relationship to jobs? We need alternatives to the coal your favorite utility and former employer burns!	11/25/15 9:41
John	Watts	27312	NC		11/25/15 9:41
Stephen	Ryan	27972	NC		11/25/15 9:42
Benjamin	Wheeler	27712	NC		11/25/15 9:42
Rochelle	Gibney	28562	NC		11/25/15 9:42

## State Implementation Plan Public Comments

Linda	Rudick	28468	NC		11/25/15 9:43
Bill	Ross	27514	NC		11/25/15 9:43
Randy	Byers	27408	NC		11/25/15 9:43
Pope	McElvy	28804	NC		11/25/15 9:43
Michael P.	Ferguson	27516	NC	~we deserve a better governor than Patty...period...michael p.~	11/25/15 9:43
Martin	Greenhut	28753	NC		11/25/15 9:44
Vicki	Ryder	27707	NC	Gov. McCrory, you were elected to protect all of the people of North Carolina, not the for-profit energy industry. Will poisoned air and water be your legacy?	11/25/15 9:44
D Denise	Dianaty	27526	NC	<p>“As stewards of creation, what account will the Humanity be able to give of our Stewardship?” POEM: North Carolina Home Sweet Home An homage to the North Carolina I’ve always known Awake to a painted morning sky Filled w’scent of magnolia and Carolina pine Reveling in a sun-drenched landscape Of blossoming hydrangea and myrtle, crape With azalea blossoms and fragrant rose Wild jasmine and hyacinth perfume kiss th’nose. Climbing honeysuckle n’bumblebees ‘Neath sheltering oak and towering maple trees Mountain to coast steeped in mythic lore Where all ev’ry native roads lead to the shore From homes of native red earthy brick. A gentle, misty Southern wisdom flows thick Wreathes the Grandfather’s Mountain spaces Teaching unspoken lessons for the ages Life is not hurrying – but sav’ring In this place... this home ever unwavering God-kissed from misty mountain to roiling shore This North Carolina home sweet home we adore. D. Denise Dianaty © 01 November 2015</p>	11/25/15 9:44
James	Hardin	27607	NC		11/25/15 9:45
Jim	Amerault	27597	NC		11/25/15 9:46
Gay	Loesch	28227	NC	Let's make a big push for wind and solar power, renewable energy-limit carbon pollution, NOW! for our families of the future. Make decisions for quality life and tackle pollution and climate change.	11/25/15 9:46
Duane	Scaggs	27513	NC	Stop playing games. Global climate change is real and a real threat regardless of what is causing it. Yes, lower cost energy is good, but in a balanced manner. Solar and Wind are not the only answer, but they are part of the solution and she be a significant part of any plan.	11/25/15 9:46

## State Implementation Plan Public Comments

Lawrence	East	28540	NC		11/25/15 9:47
Ruth	Reynolds	27713	NC		11/25/15 9:47
Colby	Hall	27609	NC	We need to take effective action to protect our environment now, before we no longer have a choice and are unable to deal with the consequences.	11/25/15 9:47
Virginia	Wright-Frierson	28401	NC	Why are you destroying our beautiful state??	11/25/15 9:47
Douglas	Merrey	27312	NC		11/25/15 9:48
Armstrong	Pillow	27572	NC	Governor, As a professional not working for money these days, I want you to join the sustainable energy movement or get out of the way, with all due respect.	11/25/15 9:48
Tracy	Feldman	27713	NC		11/25/15 9:48
Janet	Maker	90024	CA		11/25/15 9:49
James	Corrigan	27560	NC		11/25/15 9:49
Pat	Colwell	28621	NC	We are blessed with wonderful sunshine in NC that costs us nothing. Why would we not harvest that to create energy that is totally sustainable and doesn't pollute? We have a 5.9 kw solar system which is connected to the grid via net-metering with Duke Energy. We borrowed money to put this in. Duke paid nothing for it. They pay us 8 cents for what we buy back at 11 cents. If that isn't profitable to them, there is a problem in their operation and not in the concept. Every building in NC should have solar panels on as they do in Europe. Duke needs to figure out an energy model which doesn't require centralized energy creation but rather can leverage distributed creation as well as distributed use. If they can't figure that out, they will not survive as that is what the 21st Century will ultimately need. Please stop helping them avoid this necessary step toward a healthier future for us, our children and our grandchildren. Thank you.	11/25/15 9:50
Michael	Hodges	48103	MI	Governor, we have got to stop raping our planet to fill the pockets of the big power companies. Let's get with the program here in NC and promote the use of clean energy. If implemented properly, I think clean energy can supplement current sources nicely. And when the grid finally goes down, North Carolina will be ready!	11/25/15 9:50
Donald	Harland	28715	NC		11/25/15 9:50

## State Implementation Plan Public Comments

Tasha	Pate	27701	NC	I support CPP 100% because I care about our future more than corporate profits.	11/25/15 9:50
Paul	Naylor	27707	NC		11/25/15 9:51
Brian	Paradise	32082	FL		11/25/15 9:51
Sandra	Westmoreland	27909	NC		11/25/15 9:52
Gea	Skeens	28806	NC	Gov. McCrory please think on a broader scale than just your bank account. It would be the only reason that someone would ignore all of the science data about climate change. You must be getting a huge payoff.	11/25/15 9:53
Cindy	Leach	27513	NC		11/25/15 9:54
Sherrri	McRoberts	28715	NC		11/25/15 9:55
Valarie	Davis	27895	NC		11/25/15 9:55
Janet	Maker	90024	CA		11/25/15 9:55
Donald	Barker	27949	NC		11/25/15 9:56
David	Pyle	28211	NC		11/25/15 9:56
Julia	Riddle	27408	NC	I am very disappointed in your choice not to support the President on global warming. I regret that I voted for you for governor and will not make that mistake twice.	11/25/15 9:57
Jw	Vogel	28205	NC		11/25/15 9:57
Lincoln	Hancock	27601	NC		11/25/15 9:57
doug	krause	58108	ND		11/25/15 9:57
Ronken	Lynton	27312	NC		11/25/15 9:58
Victoria	Roy	27278	NC		11/25/15 9:59
Smara	Voglesong	08055	NJ	Time to move away from dirty, devastating, greedy fossil fuels and take care of our planet. We must rely/back solar and wind power.	11/25/15 9:59
Ada	Khoury	28787	NC		11/25/15 9:59
Jim	Carillon	28730	NC	And don't punish those of us who drive electric powered vehicles with extra registration taxes.	11/25/15 9:59
Tom	Dancer	28765	NC		11/25/15 9:59
Barbara	Bailey	28801	NC		11/25/15 10:00

## State Implementation Plan Public Comments

Frannie	Goodrich	27704	NC	We have minimal time to address this very important issue. Do we want to rise to the occasion, or be lamented by our children for disregarding Science for temporary economic security??	11/25/15 10:00
Jennifer	Rogers	27707	NC	Please help work to preserve our beautiful state for generations to come.	11/25/15 10:00
Craig	Weaver	28607	NC		11/25/15 10:00
Barbara	Johnson	28101	NC	Please protect our state!	11/25/15 10:01
Joe	Bearden	27612	NC		11/25/15 10:01
Anthony	Madejczyk	27704	NC	I hear you can get future oceanfront property cheap -- in Goldsboro!	11/25/15 10:02
Karen	Balcom	27514	NC		11/25/15 10:02
Terri	Masiello	28687	NC	Prove to us you can lead this great state by embracing clean sustainable power.	11/25/15 10:02
Cathy	Nieman	28787	NC		11/25/15 10:02
Valerie	Hildebrand	44134	OH		11/25/15 10:03
Audrey	Muck	27012	NC	I'm signing on to this request because I want my children and grandchildren - and beyond - to enjoy clean air and water. I'm also very disappointed that the solar tax credits expired just as I was ready to invest in panels myself.	11/25/15 10:04
Kay	Duncan	28803	NC	Governor McCrory, now is the time to act to mitigate climate change and secure a future for us all.	11/25/15 10:04
Holly	Mills	27713	NC		11/25/15 10:05
Theresa	Wood	28787	NC	NC needs to step up and be a leader in renewable energy, not a footdragger. This issue is too important.	11/25/15 10:05
David	Rogers	27705	NC		11/25/15 10:05
Marc	Schoenberg	48336	MI		11/25/15 10:06
Charles	Itzkovitz	28804	NC		11/25/15 10:06
Patti	Sonnentag	27516	NC	I'm sure this is falling on deaf ears or you wouldn't be implementing this destructive policy for NC that you have chosen. But I will ask you once again to please be part of the solution instead part of the problem. You need to clean up NC air & water and reverse the damage you and Duke & others with this mind set are creating. Please start listening to what the people of this state are saying, it's what you were hired to do!!!	11/25/15 10:06

## State Implementation Plan Public Comments

Annie	Whitney	27705	NC	Dear Gov. McCrory, I think a balanced energy and climate change strategy is essential for our society to meet our serious energy and climate needs. We need abundant, reliable energy, but we also need clean air, water, and land. Fracking is such a messy technology and there seems to be no need for yet more dirty oil. Coal should just go. I would so much prefer more nuclear, wind, and solar. I think promoting these 3 combined would position North Carolina well to be a leader in safe, smart, and clean energy. Please expand the energy options in your administration's energy plan. Thank you - Karl Whitney	11/25/15 10:06
John	Cardarelli	27103	NC	I enjoy the Outer Banks a great deal. North Carolina does not need to do any exploratory oil drilling nor do we need to frack for gas. There is a glut of oil in the world right now. Instead, we need to develop and support new businesses which promote solar and wind power.	11/25/15 10:06
Patsy	Bullard	28023	NC		11/25/15 10:07
Marc	Schoenberg	48336	MI		11/25/15 10:07
David	Rogers	27705	NC		11/25/15 10:07
Saundra	Adair	28712	NC		11/25/15 10:08
Suzanne	Schenkel	28388	NC		11/25/15 10:08
Carol	Bentley	28205	NC	It is time to stop your "good ole boy" antics and do what is right for this state and ALL her citizens! CLEAN POWER!	11/25/15 10:10
Daniel	Graham	27517	NC	SCIENCE AND STEM !!	11/25/15 10:10
Karen	Boekschoten	28803	NC		11/25/15 10:11
Nadine	Duckworth	28681	NC		11/25/15 10:12
Michelle	Hayward	11201	NY		11/25/15 10:12
Joe	Perszyk	27539	NC		11/25/15 10:12

## State Implementation Plan Public Comments

				I moved to North Carolina 16 years ago, coming from California, my home state. While there is much I still miss, I don't miss the dirty air and water. I just don't. Traveling to North Carolina beaches, in particular, was a real revelation. The skies were blue, with pretty clouds - not yellow from oil drilling and pollution taking place offshore. When I drive through North Carolina mountains, the forests are not turning an orange brown from pollution. North Carolina is uniquely positioned geographically to take advantage of the best clean energy has to offer, and to preserve its considerable tourist industry. Protect your state, Governor McCrory. It is the best, most responsible thing you can do.	
Sonja	Stahlhut	27713	NC		11/25/15 10:12
Marc	Pendergast	27514	NC		11/25/15 10:13
Hayward	Anderson	28216	NC		11/25/15 10:14
				If you take the time to look on social media, you'll see that you are losing the support of those you depend on for re-election. Stop doing favors for your energy lobbyists and do what is right for NC and the people you work for!	
John	Baynon	27502	NC		11/25/15 10:15
Nadine	Duckworth	28681	NC		11/25/15 10:16
Robert	Austin	28589	NC		11/25/15 10:16
				Support solar, support wind, reduce our carbon footprint--for our children's sake!	
Kate	Torrey	27516	NC		11/25/15 10:16
Dale M.	Grimes	27519	NC		11/25/15 10:17
Jeff	Walker	28806	NC		11/25/15 10:18
Michael	Hamden	27516	NC		11/25/15 10:18
				Solar credits should also be put back into the budget. I don't understand why it was taken out. I voted republican last time. I'm hoping I can next time too. Thank you	
Keith	Easop	27587	NC		11/25/15 10:19
				Your loyalty to Duke Power is impressive. Greed and arrogance is now ruling NC.	
Theresa	Lauro	28105	NC		11/25/15 10:19
Phillip	Scaggs	27513	NC		11/25/15 10:20
Cliff	Greeson	27408	NC	FORWARD NOT backward!	11/25/15 10:21
Mary	Davis	27609	NC	Please don't let politics enter into this critical issue!	11/25/15 10:21
Alton	Tyre	27231	NC		11/25/15 10:22

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Chris	Willett	27516	NC		11/25/15 10:22
Shawn	O'Neill	27948	NC		11/25/15 10:23
Cornelia	Powell	28723	NC		11/25/15 10:23
Lawrence	Crowley	80027	CO		11/25/15 10:24
Barry	Anderson	27948	NC		11/25/15 10:25
Doris	Vannoy	28697	NC	Curb pollution that is endangering everyone's health too.	11/25/15 10:25
Jenny	Quist	27613	NC		11/25/15 10:25
Janet	Tice	27516	NC	Please don't let your actions and political games make our beautiful state one of the most backward in the country.	11/25/15 10:26
Sandra	Resner	27409	NC		11/25/15 10:27
April	Pauley Mink	28756	NC	Please stop this outright assault on your constituents health and the health and beauty of our great state. You don't have to always cater to the energy and corporate sectors. You have done so much damage to so much that was great about this wonderful state. We are tired of your tireless assault on the environment and our rights. This is one more nail in your attempt to be re-elected. You are losing votes on everything you do. April Mink Mill Spring NC 28756	11/25/15 10:27
Phyllis	Swank	27514	NC		11/25/15 10:28
Patricia	Winne	28043	NC		11/25/15 10:29
michael	wechter	28704	NC	You work for all of NC & not Duke Energy!	11/25/15 10:29
Pam	Alterman	27513	NC	We need to protect NC's environment NOW. So much of our Economy depends on tourism at our coast and mountains. We need renewable energy put in place to protect these great areas. Global warming must be addressed NOW. We need to support the Clean Power Plan with renewables. Thank You!	11/25/15 10:30
Lisa	Globke	27534	NC	Obviously you don't care about the environment. NC is behind the times in this matter. I applaud the places I visit that have solar power and wind power.	11/25/15 10:30
Tom	Clarke	27408	NC		11/25/15 10:30
Jasmina	Bricic	28504	NC		11/25/15 10:31
Margaret	Silvers	28756	NC		11/25/15 10:31
Robert	Belknap	27603	NC		11/25/15 10:32

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Susan	McClutchn	27713	NC	As a chemical engineer with nearly 20 years experience as in the environmental field, I beg you to stop the destructive path you're taking and go back to making our state a leader in renewable energy sources. Your plan needs to include an emphasis on wind and solar energy sources as well as leaving room to encourage other renewable sources in order to be sustainable. Please search your conscience and choose environmental policies that will improve our state and the health of the people who live here. So far your policies have undermined years of progress and are destroying our lovely state and the health of every person in it. You still have time to change course and be known as the governor who had the spine and wisdom to go against his party and do what was best for his state and constituents.	11/25/15 10:32
Colleen	Allen	27519	NC		11/25/15 10:32
Gayle	Ruedi	27517	NC	Time has run out for the environment. Do the right thing--just once.	11/25/15 10:33
Tony	Strickland	27539	NC		11/25/15 10:34
Julia	Simmons	28779	NC		11/25/15 10:35
j	angell	95672	CA		11/25/15 10:35
Eric	Greene	27829	NC		11/25/15 10:36
Jay	Hawekotte	27964	NC	Please do the right thing for the long term health and welfare of all people in NC. Thank you.	11/25/15 10:38
Glenn	Clingroth	27608	NC	Please, sponsor and support more alternative energy projects and support tax breaks for solar and wind projects as this is one of the best ways to support alternative energy projects.	11/25/15 10:39
Nancy	Silver	28804	NC	We are running out of time. If you care about the world your children and grandchildren will inhabit, you must move to clean, renewable energy. There will be a time when all the money in the world will not protect anyone.	11/25/15 10:41
Jack	Raker	28752	NC	Stop making it look like you will support anything for enough MONEY!!!	11/25/15 10:41
Dot	Harper	27420	NC		11/25/15 10:42
Pam	Dix	280301	NC		11/25/15 10:43
David	Andes	27244	NC	This is a moral issue. If we do not protect future generations,we have failed. Little else matters.	11/25/15 10:44
Peter	Kusek	28804	NC		11/25/15 10:44

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Chris	Drumright	37130	TN		11/25/15 10:45
Betty Lou	Chaika	27517	NC	It is crucial to fight global warming that we keep fossil fuels in the ground. So we need wind and solar.	11/25/15 10:45
Marcia	Sobel	27858	NC		11/25/15 10:45
Kyle	Dalton	27016	NC	Dear Governor McCrory, Our legacy as individuals,parents and policy makers is to be sure the decisions we make create a livable future for those that follow us.Please support clean energy with wind and solar for our state and for a future that is only the heart beat of a child away.	11/25/15 10:46
Christian	Smith	28504	NC	All NC politicians must work harder to protect our most valuable asset: a healthy, clean, and balanced environment.	11/25/15 10:46
Charlie	Nitsch	28205	NC		11/25/15 10:47
Bonnie	Westbrook	28461	NC	PLease support the Clean Power PLan in North Carolina, and prevent oil exploration and drilling off our beautiful coastline! Wind, solar, and power from the ocean currents are all feasible and support clean energy goals. Stand up and be a leader on Clean Energy!	11/25/15 10:50
Mary	Holt	27527	NC	I am the mother of two young girls. Every generation has a responsibility to leave the world better than we found it. Stand up to what is right and protect the environment. Good integrity is greater than the love of money and status.	11/25/15 10:51
Carson	Monteith	27609	NC		11/25/15 10:52
Neil	McWilliam	27516	NC		11/25/15 10:52
Selene	Russo	27713	NC		11/25/15 10:52
Arida	Emrys	28806	NC		11/25/15 10:52
Jean	Moxley	27401	NC	Please work to make our state a place that we can breath safely in. That has water that is protected.	11/25/15 10:52
Jen	Aubrey	27514	NC		11/25/15 10:53
Sarah	Davis	27615	NC		11/25/15 10:55
Jeff	Willoughby	28269	NC		11/25/15 10:57
Karla	Devine	90266	CA		11/25/15 10:58
Art	Smoker	28754	NC		11/25/15 11:00
Nancy	Acopine	28804	NC		11/25/15 11:01
Robert	Irvin	27704	NC		11/25/15 11:01

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Thomas	Holub	27614	NC	please act boldly on climate change to position NC as a leader in this area	11/25/15 11:03
Camilla	Torsander	54130	ot		11/25/15 11:03
Joseph	Phillips	27284	NC		11/25/15 11:04
Joan	Brannon	28692	NC	The global CO2 level just passed 400ppm. We are approaching a point of no return on climate change, an you are clinging to a non-renewable strategy which is beyond justification. It is beyond time to embark on some forward thinking on renewables.	11/25/15 11:06
Avril	Lomas	28782	NC	I guess that given the test re. Climate change ,YOU would be in the same wheelhouse as Ted Cruz!!	11/25/15 11:06
Jerry	Peavy	95926	CA		11/25/15 11:06
Johnnie	Midyette	27103	NC	Please do not destroy North Carolina. We need to preserve and make our state safer for all.	11/25/15 11:08
Daniel	Ater	28803	NC	Don't take environmental/climate issues backwards any!	11/25/15 11:08
J. Kent	Williams	27407	NC		11/25/15 11:09
Laurie	Leland	96734	HI		11/25/15 11:11
Joseph	Reardon	NC	NC		11/25/15 11:11
Steve	Adams	27292	NC	Your attitude is very selfish. You are supposed to care about our state and its people - not corporate welfare. Are you unaware that these are not the same thing?	11/25/15 11:11
Susan	Buccini	28409	NC	Environment FIRST! Without clean air, water and soil to survive, nothing else will matter.	11/25/15 11:12
Eric	Krohn	27401	NC		11/25/15 11:13
Joy	Stanistreet	28516	NC		11/25/15 11:13
Jan	Hinman	28571	NY		11/25/15 11:15
Ragubathee	Pather	28278	NC	Given our beautiful coastal area which we stand to loose with climate change, we should be leading the charge on combatting climate change. Shame on you for not doing so.	11/25/15 11:16
Kristen	Alspaugh	28209	NC	Please be responsible and help us support renewable energy for our future generations.	11/25/15 11:16
Jay	Newhard	27858	NC		11/25/15 11:17
Jacey	Wilson	27516	NC		11/25/15 11:17
Anthony	Capobianco	15102	PA		11/25/15 11:18

## State Implementation Plan Public Comments

Sally	Thomas	28209	NC	North Carolina cannot afford to be behind the norm on planning for the future -- we have too much at risk. Plus, it just doesn't make sense when we have viable alternatives that we are choosing not to pursue. Please do the right thing for my grandchildren and think of the future.	11/25/15 11:19
Lorine	Nemes	27587	NC		11/25/15 11:19
Mary	Gold	27407	NC	Many have worked so hard so make it a clean, healthy, vibrant place to live. Please continue this path -- not the path of greed and destruction.	11/25/15 11:20
Ray	Boling	27606	NC	As a former state employee of the Dept. Of Environment and Natural Resources, I am more than disappointed at the NC governmental response to the latest EPA Incentives for states to address climate change. My wife owns property along the NC coast. We need immediate help to deal with climate change to avoid the ultimate loss of real property here in NC. Please add renewable energy plans to the NC response to the requirements of the EPA PROGRAM. Ray Boling	11/25/15 11:20
rhonda	lawford	60474	IL		11/25/15 11:22
Donna	Newman	27606	NC	Please act with swiftness to get us away from oil, coal, and gas and moving toward a clean, green future! We need a good, usable plan to avoid the continued use of carbon as our energy source, not just cosmetic fixes for our aging CO2-intensive infrastructure. Prevent further coal ash spill disasters and clean up our waters and air. We demand a clean future!	11/25/15 11:23
John	Bradshaw	28212	NC		11/25/15 11:25
Tami	Palacky	22153	VA		11/25/15 11:28
Win	Southworth	28815	NC	Please do what is best for our citizens and the future of our renewable energy system, and thereby, our air & water qualities and health care costs.	11/25/15 11:28
mary	raymond	27502	NC		11/25/15 11:29
Melanie	Husfelt	27104	NC		11/25/15 11:32
Pat	Wang	28056	NC	So many people understand that global warming is real and caused by humans, that your denial of it makes it appear you have been bought by big energy. Please think of the people.	11/25/15 11:32
Wayne	Scott	27712	NC		11/25/15 11:35
Carolyn	Davis	28207	NC		11/25/15 11:36
Kevin	Bobal	27613	NC		11/25/15 11:38

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Patrick	Seegers	28173	NC	I have lived in North Carolina all my life and am raising a family here. I vote and they do to. Please do all you can to address climate change.	11/25/15 11:40
JANIE	NEELY	28787	NC	NC has a chance to be a leader in an important movement. Please support the Clean Power Plan.	11/25/15 11:40
Leo	Thibodeau	27513	NC		11/25/15 11:41
Chas	Griffin	27376	NC		11/25/15 11:42
Barbara	Cavalluzzi	27330	NC		11/25/15 11:42
Pam	Mclamb	27592	NC	I plead that you'll take this issue as seriously as it is. We must be able to use alternate & sustainable power sources.	11/25/15 11:43
Cama	Merritt	27104	NC	Boost the alternate energy sources in our state. Encourage more wind and solar.	11/25/15 11:44
Joanne	Torrence	23111	NC	Please vote NO to offshore drilling. Invest in our future with renewable energy. The gift that keeps on giving, doesn't pollute, run out, or jeopardize the livelihood of your patrons dependent on the oceans clean health.	11/25/15 11:46
John	Shearer	27514	NC		11/25/15 11:47
Liz	Field	01720	MA		11/25/15 11:47
Deborah	Kenyon	27502	NC		11/25/15 11:48
Mara	Wooten	27545	NC		11/25/15 11:49
Charlie	Wallin	28607	NC		11/25/15 11:50
Mercedes	Armillas	11216	NY		11/25/15 11:54
Janice	Bruni	27048	NC	Do you even read your mail?	11/25/15 11:54
Edward	Barnard	27603	NC	You have to date sided with special interests and industry representatives on every environmental issue - that in no way protects the NC. Public welfare nor is it what a governor is elected to do. Rather than accusing the media of bias against you, why don't you begin looking after the welfare of the people who elected you as their governor.	11/25/15 11:55
Rachel	Leek	28786	NC		11/25/15 11:55
Karen	Papalia	27614	NC		11/25/15 11:56
Gail	Simon	27407	NC		11/25/15 11:59
Robert	Garrett	45039	OH		11/25/15 12:00
William	Holcomb	28782	NC	A HEALTHY ECONOMY requires A CLEAN, HEALTHY ENVIRONMENT 4 Producers & Consumers.	11/25/15 12:00

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Philip	Davenport	27614	NC		11/25/15 12:00
Robert	Ortiz	94945	CA		11/25/15 12:00
Brenda	McCall	27243	NC		11/25/15 12:03
Robin	Keller	27511	NC		11/25/15 12:06
Kenneth	Anderson	27408	NC		11/25/15 12:07
Bob	Conroy	27705	NC		11/25/15 12:09
Tim	Rice	27707	NC	To deny the causes of Climate Change is to burrow your head in the sand. "Hoping" it will go away does a serious dis-service to our children. I hope you can see your way clear to do the right thing for the public, rather than the right thing for the Energy Companies.	11/25/15 12:09
Christopher	Beard	27103	NC		11/25/15 12:15
Emilia	Boccagna	88100	ot		11/25/15 12:15
John	Freeze	27205	NC	As a resident of NC, I urge you stop supporting fossil fuels, and instead, support the Clean Power Plan.	11/25/15 12:16
Gary	S Hmoock	27278	NC		11/25/15 12:17
Karen	Crowell	27312	NC	It's unthinkable that anyone would ignore the threat of climate change and continue to promote non-renewable sources of energy that pollute our environment and have a direct impact on the future of this planet. It's obvious that Duke Power's influence is contributing to this blatant denial of the risks we face. I suppose our only option is to elect someone who sincerely believes in what's good for the people of North Carolina, and acts accordingly.	11/25/15 12:18
Allison	Anselmo	28551	NC	Please protect our state and our tourism dollars, they are more important that you and your party being able to claim that the environment is not in danger from companies like Duke Power!	11/25/15 12:21
Karen	Shapiro	27614	NC		11/25/15 12:22
Chanda	Farley	28716	NC		11/25/15 12:23
Patricia	Myers	27612	NC		11/25/15 12:25
Anne Dickson	Fogleman	27514	NC		11/25/15 12:26
David	Piet	27312	NC	As a community and nation we need to wake up to the science on climate change and protect ourselves and future generations from further damage. Thank you, sir.	11/25/15 12:27

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Mina	Lloyd	27606	NC		11/25/15 12:28
Mindy	Oshrain	27705	NC		11/25/15 12:28
Martha	Spann	28605	NC		11/25/15 12:29
Madeleine	Hodges	27707	NC		11/25/15 12:30
Patricia	Poret	27514	NC		11/25/15 12:31
Hallie	Barnes	27587	NC		11/25/15 12:31
Cindy	Yates	28429	NC		11/25/15 12:32
Robert	Campell	27707	NC		11/25/15 12:32
Jeff	Hibbard	28778	NC		11/25/15 12:33
Jamie	Heath	27834	NC		11/25/15 12:35
James	Mulcare	99403	WA		11/25/15 12:36
Mf	Solomon	27707	NC		11/25/15 12:36
Joseph	Greaser	27526	NC		11/25/15 12:36
Bill	Groves	28734	NC		11/25/15 12:42
Thomas	Carson	27705	NC		11/25/15 12:42
jeff	hopkins	60046	IL		11/25/15 12:42
Kenneth	Marr	27523	NC		11/25/15 12:42
Mary	Goodkind	28803	NC	Please play a positive role in protecting all of North Carolina from the extremes of weather and rising sea levels.	11/25/15 12:42
Marilyn	Wendt	27615	NC	Please include solar and wind in your renewable energy program!	11/25/15 12:43
Karen	Lewis	28327	NC		11/25/15 12:44
Leigh	Hart	27514	NC		11/25/15 12:44
Pat	Bennett	28712	NC		11/25/15 12:48
Lynda	Durden	28338	NC		11/25/15 12:48
Paul	Nitsch	28274	NC		11/25/15 12:49
Frank	Lewis	28645	NC		11/25/15 12:50
Laura	Heise	27312	NC	We truly don't have time to shilly-shally on this. Every year we don't act forcefully for clean energy means more misery later on.	11/25/15 12:52
Nicholas	Borisow	27519	NC	The long term health of our community is not in energy that is "imported" from other states. Our self sustainability is key to North Carolina leading growth into the future. Thanks for voting in line with your constituency!	11/25/15 12:53

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Anna	Keyte	27707	NC	Please do something meaningful to combat climate change!	11/25/15 12:55
Earl	Huband	27705	NC	We owe it to our children and our children's children to do everything in our power to move away from oil and gas toward cleaner forms of energy.	11/25/15 12:56
Robin	Hall	28173	NC		11/25/15 12:57
Carl	Fisher	27312	NC		11/25/15 13:00
William	Kumpf	27510	NC	Governor McCrory, please understand that our statewide dependence on fossil fuels will compromise the ability of future generations to enjoy this wonderful place. We need to acknowledge climate change, and respond to it with renewable energy sources.	11/25/15 13:01
Kenna	Sommer	28806	NC		11/25/15 13:05
Kicab	Castaneda-Mendez	27517	NC		11/25/15 13:06
Bryant	Poole	28803	NC	At 67, I have lived a long time in NC and I hope to see it remain a beautiful State. You have destroyed education while funding other interests. We are producing more fuel than ever and NC can join in BUT with renewables like windmills at the coast. You will be remembered for what you do with the pristine state you inherited.	11/25/15 13:06
James	Arbogast	28105	NC	Quit supporting polluters! Protect the environment for our kids and grandkids. Wake up!	11/25/15 13:15
Etsuyo	Choi	27514	NC		11/25/15 13:16
Valerie	Young	27517	NC		11/25/15 13:19
Barbara	Cudmore	27516	NC	Please, protect our home the environment	11/25/15 13:21
Carol	Thompson	15129	PA		11/25/15 13:23
Vero	Brentjens	27932	NC		11/25/15 13:24
Irwin	Fridovich	27707	NC	The fact that CO2 absorbs in the infra red predicts that it will hinder the radiative cooling of this planet of ours. The rising average temperature, and the progressive melting of glaciers and ice caps was predictable and is now observable. To slow this and prevent catastrophe we need to decrease burning fossil fuels and use more solar, wind, and nuclear sources of energy.	11/25/15 13:24
David	Raulerson	28716	NC		11/25/15 13:24
James	Nutt	27608	NC	I support the Clean Power Plan.	11/25/15 13:25
Candace	L	27705	NC		11/25/15 13:27

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Randy	Tysinger	27350	NC	Solar and wind power are needed and to deny it is stupid. But as with all politics I guess you need to spend a few million dollars and form a committee to come to this conclusion for yourselves....	11/25/15 13:28
Bruce	Nawrocki	27613	NC		11/25/15 13:29
Scott	Tucker	27612	NC		11/25/15 13:30
Judy	Williams	28658	NC		11/25/15 13:30
Carol	Schmidt	28803	NC		11/25/15 13:32
John	Miskelly	21212	MD		11/25/15 13:32
Tamara	Stanley	28539	NC	I have lived my life in Swansboro, "Friendly City by the Sea." Our ocean and waterway's are a way of life for both job's and recreation. I have seen the changes on my kayak and fishing trip's and it's not good. Mainly I stay in a 3 mile area by my home up the river and at the end of every month I take a photo of all the trash I pull out. I do this surrounded by a huge chemical slick. This year low tide being as high as previous high tides has been the normal. We MUST protect our waterway's, not just for us but for the future and beauty of this great state.	11/25/15 13:35
Martie	Thompson Kingree	28717	NC		11/25/15 13:36
Laura	Cotterman	27278	NC	Climate Change is the challenge of our century--far more serious than threats from terrorism. Don't be behind the curve on this!	11/25/15 13:37
Karen	Bates	27516	NC	it is time to step up and for NC to reduce our carbon emission output. We are in a prime location to utilize sold and wind sources. Water resources on the coast.	11/25/15 13:38
John	Boylston	27707	NC		11/25/15 13:39
John	Thornberry	15931	PA	Protecting the environment protects the planet. We are all here to help make things better for us and future generations but there won't be any if we don't take care of the planet along with ourselves. I urge you to think about the kind of world you want your children, grandchildren, and descendants to live in. Thank you.	11/25/15 13:39
Melody	Wood	27410	NC	Please protect our state's natural resources by supporting renewable forms of energy like solar wind water.	11/25/15 13:39
elaine	schall	27408	NC	Protect the earth	11/25/15 13:40

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debra	donnely	28748	NC	Let North Carolina be a leader for the rest of the country in limited harmful pollution	11/25/15 13:41
Andrea	Winkler	27705	NC		11/25/15 13:43
Cheryl	Swofford	28752	NC		11/25/15 13:44
George	Phillips	27510	NC		11/25/15 13:45
Robert	Ziegler	28792	NC		11/25/15 13:47
Tim	Walker	27517	NC		11/25/15 13:47
Voncile	Ferguson	27410	NC		11/25/15 13:47
Kate	Ancaya	28803	NC		11/25/15 13:48
James	Wheeler	28170	NC	Alternative energy gives citizens the freedom of choice! Support the Clean Energy Plan.	11/25/15 13:53
Thomas	Trescone	98121	WA		11/25/15 13:59
Christine	Westfall	27701	NC		11/25/15 13:59
Erin	Quist	27609	NC		11/25/15 14:05
Chris	Rains	28173	NC	C'mon Governor, even if you don't believe in climate change, we still need strong alternate forms of energy. We can't continue to put all of our eggs in one basket.	11/25/15 14:08
Ryan	Draper	27514	NC		11/25/15 14:09
Robert	Furuya	27607	NC		11/25/15 14:11
Bonnie Lynn	MacKinnon	78626	TX		11/25/15 14:13
Flora	Pino García	00000	ot		11/25/15 14:15
Karen	Hodges	28205	NC	Addressing climate change should be one of state government's #1 priorities. We are falling behind and must realize the seriousness of this situation.	11/25/15 14:20
Evelyn	Coltman	28786	NC		11/25/15 14:24
Bartholomew	Barker	27278	NC		11/25/15 14:29
Ernst	Mecke	00150	ot	Well, should a politician make decisions on the basis of short run or long run considerations ...	11/25/15 14:31
Bruce	Donnell	87506	NM		11/25/15 14:33
Gretchen	Simpson	28753	NC		11/25/15 14:36
Cynthia	Slater	27403	NC		11/25/15 14:37

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FORREST	GREEN	28806	NC	We as North Carolinians want to have renewable energy as does our country overall. Please honor this - thanks	11/25/15 14:40
Sam	Cook	28805	NC	It is climate change that is one of the major factors destabilizing the middle east right now, as farmers displaced from their land, unable to survive because of climate change, are stressing an already unjust and unsustainable dictatorship. We cannot afford to be fools when it comes to climate change. Too much is riding on addressing it quickly and decisively. I realize that those who put you in office necessarily destroy the environment to maximize their profits, but sometimes you have to put common sense before cronyism.	11/25/15 14:40
Dale	Sheehan	28731	NC		11/25/15 14:42
Susan	Zimmer	28451	NC		11/25/15 14:44
Sharon	Osika-Michales	13152	NY	Emerald Isle will be one of the first on the list of lands that will no longer exist if the sea level rises. My whole family lives on either this Outer Bank or on the mainland shore area across the Intracoastal Waterway. Not just land will be lost--so will jobs, and the economic base for eastern NC counties' tourism and fishing industries. This is not small potatoes--it's big money. Why are you not protecting NC's eastern shoreline?	11/25/15 14:44
Jane	Church	27517	NC		11/25/15 14:52
Chey	Cary	28806	NC		11/25/15 14:52
Adrian	Smith	27559	NC		11/25/15 14:57
Caroll	Fowler	94541	CA		11/25/15 14:57
Kathryn	Davis	27312	NC	Stop and consider what you are doing and not doing. Please take a moment and consider the science of climate change. Please see the long-term financial benefits of acting now to address this issue. And put some solar and wind initiatives in the plan too.	11/25/15 14:58
cheryl	Johnson	28805	NC	Gov. McCrory, Please support wind and solar energy by setting a goal and timetable for implementing these energy sources.	11/25/15 14:59
Marie	Garlock	27701	NC	SERIOUSLY! You are tasked with a leader, not a destructor or corrupt liner of others and your own pockets.	11/25/15 14:59
Robert	Rosen	27713	NC		11/25/15 15:02
Van	Hallman	27265	NC		11/25/15 15:02

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John	Fleming	27513	NC	Governor McCrory, please do the right thing for the future of North Carolinians. We have to plan for the future and this is one area where we can be proactive to benefit future generations. Thank you.	11/25/15 15:02
Maureen	O'Neal	97223	OR		11/25/15 15:03
Christine	Crowley	28205	NC		11/25/15 15:03
Lisa	Neste	27265	NC		11/25/15 15:05
Eric	Schweitzer	27609	NC	North Carolina should be at the forefront of this important issue, not stonewalling the President's laudable efforts.	11/25/15 15:06
Barbara	Harvey	27511	NC	Pleas support the Clean Power Plan.	11/25/15 15:11
Jennifer	Clarke	27606	NC		11/25/15 15:13
Sam	Todd	28227	NC		11/25/15 15:13
Janis	Ramquist	27608	NC		11/25/15 15:14
Deja	Lizer	28806	NC		11/25/15 15:15
Matthew	Vorstermans	27560	NC		11/25/15 15:20
Alex	Goldstein	28270	NC		11/25/15 15:23
Dale	Weston	28540	NC	Sometimes it is best to do the right thing - - - not the right wing thing. If you are to effectively govern the state of NC for the overall welfare of both citizens and businesses, you will distance yourself from the loonier fringes you have been playing with.	11/25/15 15:26
John	Van Horn	64111	MO		11/25/15 15:29
Carole	Schreiber	28712	NC		11/25/15 15:32
Mary	Keenan	28786	NC		11/25/15 15:37
Jeanne	OBryan	28612	NC	Solar power and tax credits for clean solar energy are the way to go. Go clean energy!!!!	11/25/15 15:39
Lynn	Scattolini	27516	NC	Do you care about the environment your children and grandchildren will inherit? I do. Please reconsider and support a plan that includes clean energy sources.	11/25/15 15:40
Arthur	Firth	28146	NC		11/25/15 15:41
George	Neste	27265	NC		11/25/15 15:49
Mary	Nolan	28428	NC		11/25/15 15:58
Michael	Eisenberg	27613	NC		11/25/15 15:58

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Kate	Lamar	28709	NC		11/25/15 16:02
Anthony	Montapert	93004	CA		11/25/15 16:04
Gregory	Austin	28216	NC		11/25/15 16:06
David	Baker	27519	NC		11/25/15 16:08
Janet	Smith	27858	NC		11/25/15 16:09
Elisabeth	Curtis	27516	NC		11/25/15 16:14
Scott	Juslin	28562	NC		11/25/15 16:18
Doris	Marshall	28054	NC		11/25/15 16:24
John	Hill	00000	BC		11/25/15 16:28
Geraldine	Ring	12345	ot		11/25/15 16:30
Gregory	Hall	28787	NC	Stop acting like chicken little, respect the overwhelming scientific evidence and the consensus of the scientific community and do something to stop global warming now!!!	11/25/15 16:38
Ruth	Stambaugh	28711	NC		11/25/15 16:39
Elana	Kann	28806	NC	How can a Clean Power Plan be clean without clean sources like wind and solar generation?	11/25/15 16:45
Jerry and Barbara	Whitmire	28768	NC	Governor McCrory, Please include solar and wind power in your considerations. Thank you, Jerry & Bonnie Whitmire	11/25/15 16:48
Todd	Patton	27705	NC		11/25/15 16:51
James	Walsh	28680	NC		11/25/15 16:52
Brenda	Hayes	27278	NC	The threat is obvious and so are the solutions. I vote and am watching carefully.	11/25/15 16:59
Philip	Sannes	27605	NC		11/25/15 17:04
Susan	Attermeier	27278	NC	Our economy as well as the environment would benefit greatly from promotion of solar and wind power.	11/25/15 17:04
Bruce	Hlodnicki	46226	IN		11/25/15 17:07
Ellie	Mayer	277-3	NC	Really? You don't care about our precious earth?	11/25/15 17:08
Stephen	Boletchek	27502	NC		11/25/15 17:09
Betty	Pipes	27502	NC	Please save our beautiful state from pollution.	11/25/15 17:10
Thomas	Johnson	28605	NC	I think you have a small minded, greedy agenda.	11/25/15 17:16
Laurice	ferris	27517	NC		11/25/15 17:21

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Susan	Edelstein	27511	NC		11/25/15 17:23
Heide	Coppotelli	28718	NC		11/25/15 17:28
Joann	Cortez	28804	NC		11/25/15 17:31
Thomas	Oriel	27529	NC	Stop covering for Duke Energy!	11/25/15 17:47
V.	Wang	27519	NC		11/25/15 17:59
William	St. George	28403	NC		11/25/15 18:09
Sam	Brewer	27511	NC		11/25/15 18:10
Robert	Collins	28205	NC		11/25/15 18:20
Mary	White	27704	NC		11/25/15 18:23
William	Yingst	28467	NC		11/25/15 18:30
Darlene	Hamilton	27604	NC		11/25/15 18:30
Lisa	Pearson	28112	NC		11/25/15 18:38
Deborah	Smith	73112	OK		11/25/15 18:40
Dianne	Douglas	85042	AZ		11/25/15 18:42
Theresa	Waldspurger	21635	MD		11/25/15 18:42
Janet	Neihart	55016	MN		11/25/15 18:44
Ellen	Osborne	27313	NC		11/25/15 18:47
J.	Hilton	27526	NC		11/25/15 18:54
Janine	Tokarczyk	27302	NC		11/25/15 19:04
Steven	Linden	28792	NC		11/25/15 19:10
Rob	Rowe	27513	NC	We are already a leader in solar energy. Let's focus our attentions and jobs on clean energy and protect NC's environment and do what we can to reduce global warming.	11/25/15 19:17
Ericka	Patillo	27712	NC	renewable, clean energy sources exist. Why ignore them?	11/25/15 19:18
Linda	Wilkins	27509	NC	You need to clean up YOUR act and protect North Carolinians.	11/25/15 19:21
Henrietta	Jenrette	27613	NC		11/25/15 19:22
Michelle	Mitchell	28031	NC		11/25/15 19:28
Ted	Odell	28557	NC	It's time to move into the 20th Century	11/25/15 19:31
James	Schall	28801	NC		11/25/15 19:33
Barbara	Rabinowitz	27518	NC		11/25/15 19:39

## State Implementation Plan Public Comments

Erik	Butler	27516	NC	Mr. McCrory, Do you want to be a one term flash-in the-pan Govenor of North Carolina, or do you want to be a visionary? This is your chance. Make a meaningful move to reduce carbon emissions. Climate change is real. It's here. We're the cause and you have the power to help stop it. Will you use that power for the sake of humankind, or will you waste it? Your choice. Do the right thing. Dr. Erik Butler	11/25/15 19:42
Richard	Partridge	27301	NC		11/25/15 19:50
Kurt	Weaver	27613	NC		11/25/15 20:05
Ruth	Noble	28805	NC		11/25/15 20:13
Olivia	Singleton	27705	NC	In your heart of hearts you know that climate change is happening and every citizen and elected official must do his part. My beloved North Carolina is threatened just like every other piece of this beautiful planet. Please do the right thing and look to the near future by emphasizing wind and solar energy production. Drilling for oil and fracking are obsolete ways to meet our energy needs. So many people are choosing to migrate to this state because of our natural resources and clean, plentiful beauty. Let's show them that we are forward-thinking!	11/25/15 20:21
Lenore	Reeves	60448	IL		11/25/15 20:23
Martha	Atkins	27704	NC		11/25/15 20:31

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				<p>There are so many reasons why moving in the direction of clean energy and efficiency are great for our state and country. One in five children has asthma, made worse by the same air pollution that comes from carbon emitting fuels. Reducing our dependence on oil means less support for the oil rich nations, and the people who control the spigots. It also means less air and water pollution here at home. We have mountain tops being blown off in our neighboring states, with the debris of rock mixed with the chemicals from the explosives being poured into the headwaters of streams. That will continue until we develop alternatives. What kind of world do you want to leave for your kids? Decentralizing the grid means we are less vulnerable to the kinds of chain reactions that cause six states to have a power outage several years ago. A smart grid, powered by many individual sources of power, allows for better back up and flexibility. Battery technology for solar is developing very quickly. why would we want to shut our state off from being leaders in these technologies? Also, radically ramping up our efficiency will save money for a lot of people. We cut our heat bill in half by adding foam insulation to our house. Solar and wind power are already providing jobs for North Carolinians, and are a couple of the fastest growing industries in the energy fields. Why wouldn't you want to support that? Lastly, I am disgusted that you are cutting things like support for our schools and teachers, so you can waste our money on suing the federal government. It's time you listened to all the voters you represent, and not just the partisan ones who want to join you in undermining the president or anyone who disagrees with you.</p>	
Michelle	Belanger	27105	NC		11/25/15 20:33
Betsy	Webster	28125	NC	<p>Acting on climate issues is a moral responsibility for the citizens of the world. Please consider environmental issues in your administration</p>	11/25/15 20:39
Debbie	Walston	28105	NC	<p>We support solar and wind energy, we also vote.</p>	11/25/15 20:47
Joyce	B	27265	NC	<p>you can ignore us, but we vote.</p>	11/25/15 20:51
Amy	Marino	27519	NC		11/25/15 21:07
Nathan	Peterson	27893	NC		11/25/15 21:15
Ruth	Miller	27516	NC		11/25/15 21:17
Jonathan	Halperen	27608	NC		11/25/15 21:45

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Tammy	Barr	27105	NC		11/25/15 21:46
Randy	Bernard	28805	NC		11/25/15 21:58
Robert	Swett	28711	NC		11/25/15 22:11
Laurel	Covington	33548	FL		11/25/15 22:26
Caleb	Pusey	28806	NC		11/25/15 22:27
Johanna	Pierce	28806	NC	Thank you for helping ensure a bright future for our children by making clean energy a priority for NC.	11/25/15 22:30
John	Pasqua	92025	CA		11/25/15 22:43
Martha	Parry	28714	NC		11/25/15 22:48
Gwen	Straub	28761	NC	Stop protecting corporations and start protecting the Earth and the people that inhabit it!	11/25/15 22:55
Joanne	Nikides	27705	NC		11/25/15 22:56
Doug	Wingeier	28801	NC		11/25/15 22:56
Paula	Xiberras	70011	LA		11/25/15 22:56
Mark	Leischner	28675	NC		11/25/15 22:58
Steve	Roberts	28401	NC	Get with it!	11/25/15 23:01
Joy	Farlow	27408	NC		11/25/15 23:15
Terry	Dunn	27028	NC	Please respect God's Creation !!!	11/25/15 23:18
Frank	Moore	27519	NC		11/25/15 23:36
Amy	Hartzog	27055	NC		11/25/15 23:36
Anthony	So	27516	NC		11/25/15 23:52
Gary	Simpson	27312	NC		11/26/15 0:09
Donna	Dupree	28707	NC	As Governor you have a constitutional responsibility to provide for the welfare of NC citizens. You are not doing so by fighting against the Clean Power Plan. Voters will remember that in November 2016.	11/26/15 0:11
Kate	Ladd	27916	NC		11/26/15 0:16
Linda	Maynard	27502	NC	We do not have the right to destroy this precious earth.	11/26/15 0:22
Jackie	Posey	35672	AL		11/26/15 0:28
Martha	Spencer	28712	NC		11/26/15 1:14
Frank	Massey	27407	NC	Please pray and discern about all of your decisions and have the courage to govern for the "common good" of our state and it's citizens.	11/26/15 1:29

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Vickey	Baker	51537	IA		11/26/15 1:35
Paul	McDermott	90065	CA		11/26/15 1:51
Todd	Hack	91913	CA		11/26/15 1:58
Donna	Brooks	28212	NC		11/26/15 2:05
Jessica	Bundy	28301	NC		11/26/15 5:49
Munsie	Davis	27516	NC		11/26/15 6:43
Juan	Canet	28314	NC	Climate change is a reality and with ugly results coming.	11/26/15 6:46
Jerry	Vick	27889	NC		11/26/15 7:51
Evelyn	Craig	27510	NC		11/26/15 7:54
Sam	Dawson	27403	NC		11/26/15 8:14
Susan	Lathrop	28711	NC		11/26/15 8:32
Todd	Lee	28805	NC		11/26/15 8:36
Pat	Vescio	27513	NC		11/26/15 9:17
P	Wright	28692	NC		11/26/15 9:38
Doug	Bunn	27612	NC	Why are you so threatened by protecting the environment that we breathe in, swim in, drink? Wise up and protect the only place we have to live, Earth, before you and your rich scavengers of natural resources kill us all. Remember you and your family will be part of us all if the world, America, North Carolina become so polluted that life cannot be sustained here.	11/26/15 9:45
Joe	Fleming	27502	NC	Please support President Obama's plan to reduce our carbon footprint in NC.	11/26/15 10:18
Greg	Hohn	27516	NC		11/26/15 10:24
Mark	Simonsen	27713	NC	Our beautiful North Carolina can be forward thinking about progress and actually preserve our natural resources for future generations instead of pushing for constant growth. Growth does not necessarily equate with progress and success.	11/26/15 10:29
Antoinette	Foster	27608	NC		11/26/15 10:56
Bobby	Watson	27612	NC	Think about your children, and your grandchildren, not all your buddies at duke energy.	11/26/15 11:00
Sharon	Johnson	28791	NC		11/26/15 12:38

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Mike	Huff	27704	NC	Climate change is one of the most significant issues facing not just our country, but the world. If we have the opportunity to explore and develop forms of energy that do not produce carbon pollution we need to take advantage of that opportunity. I support the Clean Power Plan.	11/26/15 12:38
Brian & Judy	Poole	LD6 5EU	ot		11/26/15 13:33
Maud	van Tol	2986EV	ot		11/26/15 13:34
Esther	Garvett	33186	FL		11/26/15 13:59
Daniel	Case	27613	NC	The behavior of the republican party on the environment makes no sense to me, except as pandering to big industry donors. Do you no longer represent normal citizens at all? Is it all about protecting big companies from regulation? This kind of behavior makes me embarrassed to be a North Carolinian. Policies like these will determine how many people leave or die because of global warming. We all have to ask ourselves how many North Carolinians we are willing to see die so that the big polluters can keep their profit margins high.	11/26/15 14:14
Timothy	Farrow	27519	NC		11/26/15 14:15
Joellen	Brandmoyer	27516	NC	As a Republican expounding on jobs here in North Carolina, you should be promoting clean energy technologies! We have companies here that are innovating in the clean energy field, but they need support of our State. Otherwise, they or their valued employees move to States that support their work.	11/26/15 14:23
Jon	Doyle	27612	NC		11/26/15 14:45
Edward	Kenestrick	27704	NC	Think of the record you are leaving. You do not want your descendants to revile you, do you?	11/26/15 15:02
Kenneth	Marks	27502	NC		11/26/15 15:05
Joan	Byrd	28723	NC	Please don't let North Carolina drop the ball here! We need to support clean energy! Please ensure that our state looks to the future.	11/26/15 15:14
Ruchir	Vora	27516	NC		11/26/15 15:43
Ray	Boling	27606	NC		11/26/15 15:49
Jayne	Coley	28409	NC	Who is your concern, Governor, We the People or They, your friends????	11/26/15 16:09
Nancy	Mueller	27516	NC		11/26/15 17:11
Tom	Craig	28801	NC	Please come into the 21st Century!!!!	11/26/15 17:11

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Angela	Horan	27516	NC		11/26/15 18:27
Doug	Kass	27612	NC	Governor McCrory, please act responsibly toward curbing carbon pollution. What kind of world do you want to leave to your children and grandchildren?	11/26/15 19:58
Bepi	Pinner	27705	NC		11/26/15 20:52
Barry	Cheney	28601	NC	We can do this! NC can once again lead the nation toward a clean, green future. Please do what you know needs to be done, not what Duke Power wants.	11/26/15 20:53
Richard	Holloway	27517	NC		11/26/15 21:18
Jonathan	Sheline	27705	NC	I am a family physician, in practice in Durham for the past 25 years. My wife and I raised two children here, who are now 30 and 27. I am not a radical. Climate change is a very real problem which I think about every day. It is way past time government officials at all levels to WAKE UP and start doing the right thing. I vote. This should not be a partisan issue.	11/26/15 21:30
Pamela	Benbow	27278	NC	I want North Carolina to be a national and world leader in a new economy of clean, renewable energy. I want us to show others how to create the energy jobs of today and tomorrow in the exciting new fields of solar (boundless possibilities) and wind. We want to be a clean, mean machine for a clean and healthy planet--not some filthy old dinosaur that feeds in oil and gas, and drives our climate crisis to the edge, and rattles Shear on Harris nuclear power plant with earthquakes caused by fracking--just like the 700+ quakes so far this year by cracked state Oklahoma.	11/26/15 21:48
Susan	Gardener	27705	NC		11/26/15 21:49
Susan	Brown	28754	NC		11/27/15 2:53
Patricia	Bell	27520	NC		11/27/15 3:52
Toni	Defiglia	27403	NC		11/27/15 6:51
Joseph	Appleton	22821	VA		11/27/15 7:14
Michael	Haskell	04074	ME		11/27/15 7:18
Melina	Griffis	27519	NC		11/27/15 7:46
Joel	Marchesoni	28779	NC		11/27/15 8:25
Laura	Mitchell	28208	NC		11/27/15 8:58
Susie	Edwards	27513	NC		11/27/15 9:27

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Karen	Bates	27516	NC	Clean up your act and allow for a healthy future for our grandchildren and the Earth	11/27/15 10:02
Joseph	Harper	27410	NC		11/27/15 10:14
adja	catalano	28403	NC		11/27/15 10:40
Cindy	Thacker	27605	NC		11/27/15 10:45
Joyce	Pusel	27713	NC		11/27/15 11:25
Elizabeth	Celli	27516	NC		11/27/15 11:43
Stephen	Preston	28460	NC		11/27/15 12:24
Sandra	Arapoudis	85100	AL		11/27/15 15:51
David	Jamieson-Drake	27705	NC	Please take climate change seriously and promote clean, renewable energy!	11/27/15 16:49
John	Herron	28234	NC		11/27/15 16:52
Sharon	Whitmore	27572	NC	The Clean Power Plan is necessary for our survival.	11/27/15 17:50
Peter	Scott	46534	IN		11/27/15 17:54
Marilyn	Weakley	27546	NC		11/27/15 18:03
Ann	Eastabrooks	28901	NC		11/27/15 18:24
michelle	wright	27516	NC		11/27/15 18:30
Janet	Pecci	27606	NC		11/27/15 18:44
Rudolf	Zarzar	27215	NC		11/27/15 18:59
Janice	Phillips	27284	NC		11/27/15 19:56
Stephen	Sample	27704	NC		11/27/15 20:47
Robert	McEntire	27408	NC		11/27/15 20:55
Kaye	Fulcher	28226	NC		11/27/15 21:16
Welkin	Yang	27518	NC		11/27/15 21:17
James	Womble	27607	NC	save our state!	11/27/15 22:06
Tonia	Crumpton	27511	NC		11/27/15 22:30
Jeffrey	Rix	28801	NC		11/28/15 0:29
Charlotte	Speltz	27502	NC	As a person of faith, I cannot believe that you, the governor of this great state, would stand in the way of clean air solutions which will ensure that we leave our children a climate they can survive!	11/28/15 9:59
Elizabeth	Conroy	27705	NC		11/28/15 11:19

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Phil	Kaveler	28031	NC		11/28/15 11:22
Linda	Griffin	28906	NC	The governor only knows how to do what the stupid people want.	11/28/15 11:43
Louise	McCoy	27609	NC		11/28/15 11:45
Jeanne	Guilbault	27526	NC	We are very disappointed that a state like North Carolina, one of the most beautiful states in the nation, is being run so poorly. It is clear that our governor is standing by big business and does not care about the people of North Carolina.	11/28/15 13:20
George	Bartholomew	28607	NC		11/28/15 14:14
Sharon	Nicodemus	95821	CA		11/28/15 16:26
Mary	Stoudt	27948	NC		11/28/15 17:14
Ennis	Baker	27516	NC		11/29/15 9:21
Lee	Osborne	28110	NC		11/29/15 9:54
Sean	Damrel	27403	NC		11/29/15 12:56
Thomas	Lux	28676	NC		11/29/15 13:35
Deborah	Matsushima	27713	NC		11/29/15 15:06
Margaret	Hryniuk	27529	NC		11/29/15 18:31
John	Yoakum	27511	NC		11/29/15 18:32
Martin	Wilcox	27253	NC		11/29/15 18:53
William	Dawson	27616	NC		11/29/15 19:12
Amber	Tarter	27516	NC	We need to take real action on climate change.	11/29/15 20:09
Janis	Hammett	27403	NC		11/29/15 20:16
Caleb	Laieski	22305	VA		11/29/15 22:19
Caleb	Laieski	22305	VA		11/29/15 22:20
Rita	Mullis	28227	NC		11/29/15 23:06
Suneet	Srivastava	M4m2m8	ON		11/30/15 4:48
Kathy	Jooss	27516	NC	I'm teaching my kids about taking responsibility for their actions. To me, taking actions to mitigate climate change is the only responsible, adult thing to do. Please act NOW.	11/30/15 8:36
Pamela	Fogg	27519	NC		11/30/15 9:04

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Parrish	Ellis	28804	NC	I work in the clean energy economy and it is important to my family that the clean energy bill actually included support for the multiple renewable energy resource industries. If you really care about your grandchildren like all politicians espouse, then you'll stop your hypocrisy and start taking steps forward into the new clean energy economy.	11/30/15 9:26
Mary	Gray	28607	NC	This state already has clean energy and wind power. Are you going to deprive people of the FREEDOM OF CHOICE TO MAKE THEIR OWN DECISIONS TO FIGHT CLIMATE CHANGE. You have clearly abdicated all responsibility, shame, shame, shame on you.	11/30/15 12:28
Bob	Lincoln	27517	NC		11/30/15 12:59
Rosemary	Stark	28562	NC	Clean air is an issue that all of us need. When the air is clean, there are fewer respiratory illnesses, like asthma. I would hope all political parties would favor clean air for the public.	11/30/15 13:01
Julie	Tuttle	27517	NC		11/30/15 14:09
Frances	Huffman	27103	NC		11/30/15 21:09
Walter	Daniels	27707	NC	Governor McCrory, Not recognizing the threat from Global Warming is akin to believing the world is flat. I cringe at the thought of the entire Outer Banks becoming submerged while our Republican leadership fails to even recognize there is a real problem and fails to engage in long-term planning in this regard. Please don't succumb to the lowest common denominator and play politics with our planet earth and that portion we share in North Carolina.	12/1/15 7:32
Kat	Stevenson	27609	NC		12/1/15 9:42
John	Sauls	27607	NC	Stop working for Duke Power and start working for the people of NC	12/1/15 12:56
Brandy	Meadows	28405	NC		12/1/15 13:59
Harvey	Richmond	27513	NC	Stop burying your head in the sand, and start leading on the transition away from fossil fuels and towards renewable energy sources and energy efficiency programs.	12/1/15 14:23
Elizabeth	Cox	27713	NC		12/1/15 14:43
Jock	Simmons	28658	NC		12/1/15 15:04
John	Little	27609	NC		12/1/15 18:25

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Jean	Hodder	27517	NC	If you say your priority is to protect the people of NC, then you should support the EPA's Clean Power Plan.	12/1/15 20:58
Ronald	Clayton	27203	NC	Stop protecting the polluters. You are supposed to serve the people of North Carolina, and America - NOT special interests for your own benefit.	12/2/15 14:45
Betty	Alexander	27587	NC	Act responsibly by promoting clean energy sources in the interest of all NC citizens. It's the right thing to do.	12/2/15 21:14
Debra	Grady	28513	NC	As an educated leader of our state, I thought that you would be doing all that you can to protect us from the risks of global warming. Instead it seems that you are knowingly setting our state up for failure. It is really difficult to understand how you are willing to risk human lives for the sake of protecting big carbon polluters.	12/2/15 23:04
Shoshana	Serxner-Merchant	27607	NC	That includes rescinding his signature on the law that allows fracking in NC	12/3/15 0:17
Anthony	Snider	28403	NC		12/3/15 10:02
James	Thomas	27514	NC		12/3/15 10:02
Audrey	Brown	28205	NC		12/3/15 10:02
Janis	Karn	27605	NC		12/3/15 10:03
Diane	Clark	27235	NC		12/3/15 10:03
Selena	Lauterer	28607	NC		12/3/15 10:04
Ryan	Ward	28403	NC		12/3/15 10:04
Norma D	Burns	27208	NC	North Carolina used to be one of the most advanced and progressive states in the South. Good leadership made it so. This is your opportunity to lead in a way that future generations will remember.	12/3/15 10:04
Kris	Ledford	27707	NC		12/3/15 10:04
Judi	Trecartin	34691	FL		12/3/15 10:05
Elizabeth	McClure	28806	NC	Having clean air to breathe and fresh water to drink trumps all other issues.	12/3/15 10:05
Richard	Ashton	28374	NC		12/3/15 10:06
Helen	Harbett	27715	NC	With 97% of scientists stating that global warming is real, please recognize this and do something about it. Thank you for all you do.	12/3/15 10:06
peter	birckhead	27510	NC		12/3/15 10:06
Judy	Harrelson	27344	NC		12/3/15 10:06
William	Bethune	27278	NC		12/3/15 10:06

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Michael	Sileno	27408	NC		12/3/15 10:07
Richard	Pritts	28744	NC	As an architect who incorporates sustainable design elements into my project I am trying to do my part along with my clients to help mitigate global warming. The governor and the NC legislature need to be focusing on clean energy alternatives in lieu of perpetuating the use of fossil fuels.	12/3/15 10:07
Peter	Valenti	28374	NC	We must be more proactive in preserving our natural resources for our children and grandchildren!	12/3/15 10:07
Barbara	Good	28803	NC		12/3/15 10:07
Michael	Schapira	27613	NC	Gov. - Please help our climate - while it is just expensive....	12/3/15 10:07
Adam	Molvin	27601	NC	unfortunately, trying to mention any sort of earth-saving, progressive leaning idea to a republican is waste of time	12/3/15 10:07
Alan	Cormack	27519	NC		12/3/15 10:08
William	Alexander	28786	NC	Climate change is real. Get with the program or get out of government. We are tired of your dragging your feet on an issue that is of great importance to all of us. If you do not have enough sense to believe in science that is your problem...don't make it our's.	12/3/15 10:08
Barbara	Smith	27607	NC		12/3/15 10:08
Jean Ann	Wheelock	28801	NC		12/3/15 10:09
Albert	Carter	27514	NC	I was in Alaska last year, where global warming is way ahead of North Carolina, but we will, sadly, follow that lead.	12/3/15 10:09
Daphne	Stam	27560	NC		12/3/15 10:09
Edward	Lewy	27312	NC		12/3/15 10:10
Francine	Toor	28078	NC		12/3/15 10:11
JC	Honeycutt	27944	NC	Coastal NC, where I live, is the perfect environment for both wind and solar power. It's hard to see any logical reason why our governor and state government won't acknowledge this and take advantage of our natural resources for clean power.	12/3/15 10:11
Kimberly	Sparrow	27312	NC		12/3/15 10:12
Colonel	Meyer	34286	FL		12/3/15 10:12

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Wayne	Counts	27519	NC	I understand your hesitation to go against Duke Energy and take a stand for the future of clean power in our state. But for the benefit of all it would be best to encourage clean energy production in North Carolina. I think you could encourage Duke Energy to begin an earnest effort towards clean energy production. The resistance seems to be the initial costs but the production of clean power would be cheaper to produce and benefit the environment in short order. With the environmental disasters this year with coal ash pits it is clear we should encourage the elimination of coal power plants as soon as possible.	12/3/15 10:12
Kent	Swenson	28734	NC		12/3/15 10:12
Dana	Thalheimer	27513	NC	The best way to save energy is to no need it in the first place, and buildings consume something like 40% of energy consumed in the US, so let's implement a plan to make all new construction in NC carbon neutral by 2025.	12/3/15 10:12
James	Smith	27615	NC	Diminuating the worldwide research knowledge contributed by thousands of scientists -- none of whom wish to end up wrong -- is simply foolish. Why are you willing to make important long-term decisions based on non-scientific information? Accredited peer review on a grand scale says climate change needs to be addressed. This is not a game, Mr. McCrory. To use one of your party's favorite phrases, "It's time to listen to the adults in the room." We need more than empty legislation with a nice name and no action. Stop burning coal.	12/3/15 10:12
Sam	Cook	28805	NC	This would be good business for Duke Power. Why are you blocking it?	12/3/15 10:13
Charles	Froelich	28806	NC		12/3/15 10:13
Adora	Nsonwu	27407	NC		12/3/15 10:13
David	Sachter	28701	NC	For the sake of our children, and all who dwell on this earth!	12/3/15 10:13
Madeline	Coven	27539	NC		12/3/15 10:13
susan	estes	27409	NC	LET'S KEEP CAROLINA as ENVIRONMENTALLY CLEAN as possible with your help...we deserve this a North Carolinians.	12/3/15 10:14
janet	forman	10011	NY		12/3/15 10:14
Sally	Aycock	27410	NC	We beg you to do the right thing for N.C. by curbing carbon emissions for the future health of our citizens.	12/3/15 10:14

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ALICE	GREENE	27106	NC		12/3/15 10:14
nancy	coffey	28605	NC		12/3/15 10:14
Krissa	Johnson-Sotomayor	27513	NC		12/3/15 10:15
randy	marrs	28804	NC		12/3/15 10:16
Linda	Ricks	28516	NC		12/3/15 10:17
Judith	Hoag	27410	NC	With your anti-environment policies you are jeopardizing the future of our planet and the health of our children. There is no excuse for your blatant disregard of the environmentalist's point of view. There is a reasonable balance. Sincerely, Judith Hoag	12/3/15 10:17
Lindsay	Ayliffe	28805	NC	Will you lead our beautiful state into a clean future or will you be forever known as the last governor who could have, but didn't. It takes courage to change. You still have some time, but not much. We're counting on you.	12/3/15 10:17
Jennifer	Miller	21221	MD		12/3/15 10:17
Nicole	Maschke	44102	OH		12/3/15 10:17
Dorothy	Butler	27705	NC	I will be watching at the Nov election how you decide about our environmnet	12/3/15 10:18
Daniel	Ater	28803	NC	The time is now!	12/3/15 10:19
Lee	Kirby	27603	NC	This is one place to put the best interests of all of the people of the state ahead of any particular narrow economic interests.	12/3/15 10:19
Jane	Volland	27707	NC		12/3/15 10:20
Shannon	Dancy	27278	NC		12/3/15 10:20
Judith and John	Pilutti	27613	NC		12/3/15 10:20
Katie	Paulson				12/3/15 10:21
Patty	Collins	27249	NC		12/3/15 10:21
Ramamurthy	Rengasamy	27519	NC		12/3/15 10:21
Amy	Bonchonsky	27511	NC	look Pat sometimes you have to bite the bullet. We are long past the time to be sticking our heads in the sand and pretending that climate change is not real and our choices are expediting the rise of temperatures. Leadership isn't about pandering and kicking the can down the road. DO THE RIGHT THING!	12/3/15 10:22
ilana	dubester	27312	NC		12/3/15 10:22
Aaron	Deyton	28714	NC		12/3/15 10:23

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Steven	McCraw	28806	NC		12/3/15 10:23
William	Blackley	28621	NC	Burning fossil fuel or biomass creates toxic air pollution that damages humans. For this alone, the NC Plan for energy should be heavy on solar, wind and potentially hydrogen forms of creating electricity rather on coal, gas, woody biomass or garbage, etc. The Governor's plan does not include clean energy. Why are we ignoring the proven safe forms of energy that create no toxic emissions or waste dumps?	12/3/15 10:24
Jan	Gillespie	27713	NC		12/3/15 10:24
Sally	Stuckey	28715	NC		12/3/15 10:26
Amy	Fletcher	27278	NC	Wake up! Do the right thing for your glisten and theirs!!!	12/3/15 10:26
Matthew	Rubino	27695	NC		12/3/15 10:26
Patricia	Engelke	27612	NC		12/3/15 10:27
mike	zukoski	28801	NC		12/3/15 10:27
Sharon	Osika-Michales	13152	NY		12/3/15 10:27
Brandy	Lewis	28803	NC		12/3/15 10:27
Jack	Hicks	27514	NC		12/3/15 10:27
Lesley	North	27516	NC		12/3/15 10:28
Mark	Antliff	27516	NC		12/3/15 10:28
Christa	Jones	27103	NC	NC is uniquely situated for maximizing on wind and solar energy. This is a no-brainer!	12/3/15 10:28
Johnny	Rice	28739	NC		12/3/15 10:28
Dominic	Ruiz-Esparza	27605	NC		12/3/15 10:29
Laura	Porter	27517	NC		12/3/15 10:30
Deborah	Moody	28601	NC		12/3/15 10:30
William	Robertson	27609	NC	It's just the right thing to do. I want to be a part of the generation remembered for caring and trying and not the one that failed to act.	12/3/15 10:30
Sharon	Garlena	21703	MD	It's past time to act on climate and support clean energy. Protect people and our planet NOT corporations.	12/3/15 10:31
Kathy	Kaufman	27516	NC		12/3/15 10:32
Harrison	Curtid	28562	NC		12/3/15 10:33

## State Implementation Plan Public Comments

June	Spencer-Francis	28405	NC	Governor McCrory, I live just 10 minutes from Wrightsville Beach and have lived on the coast my entire life. My husband and I enjoy the clean waters and clean fishing. Please reconsider and move toward better means of clean energy. Thank you.	12/3/15 10:35
Tracy	Himes	28025	NC	This is a chance to redeem yourself a little bit from all the good legislation that you reversed on clean air initiatives! We in the Charlotte area are counting on you Pat!	12/3/15 10:35
David	Kirsh	27707	NC		12/3/15 10:35
Elaine	Lite	28804	NC		12/3/15 10:35
Michael	James	27705	NC		12/3/15 10:37
Linda	Kissinger	27516	NC	Governor, I believe this will be an important campaign issue and one that you should take seriously and support, if you want to be re-elected.	12/3/15 10:37
Linda	Griffin	28906	NC		12/3/15 10:38
Anne	Shamp	28443	NC	I live at the coast. I'm not on a barrier island. So, I will probably be able to live out my life in my home. But, that is not the case for my grandchildren. I hope you have equal respect for our grandchildren as you do Duke Energy. Please pay attention.	12/3/15 10:40
Betsy	Malpass	26517	NC	North Carolina used to be a leader in clean green energy solutions. Get us back on track FAST!	12/3/15 10:40
Carolyn	Buckner	27516	NC		12/3/15 10:40
Dulce	Rodriguez-Wester	27896	NC	It is about time that you respect the North Carolinians and forget taking care of your wallet and friend' personal interest. Stop destroying NC	12/3/15 10:41
cindy	Castevens	27103	NC	Please support CPP--YOU can be a true leader by having compassion for future generations.	12/3/15 10:42
Elizabeth	Guthrie	14580	NY		12/3/15 10:42
Kathy	Underhill	27514	NC		12/3/15 10:42
Charles	Squires	28222	NC		12/3/15 10:42
Patricia	Dutile	27705	NC		12/3/15 10:42
william	dickerson	28805	NC	The value of a healthy environment for the health and well being of future generations is the number one priority!	12/3/15 10:43
Joan	Jobsis	27519	NC		12/3/15 10:44
Dolores	Calley	27511	NC	Show that you are smart enough to support a long term solution.	12/3/15 10:45

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Steve	Maggi	27502	NC		12/3/15 10:45
Marie	LaPetina	27514	NC		12/3/15 10:45
sandra	beard	28411	NC		12/3/15 10:46
Tony	Strickland	27539	NC		12/3/15 10:46
John	Wallace	28443	NC	Let's hope the governor isn't still working for Duke Progress Energy.	12/3/15 10:47
Elizabeth	Cox	27713	NC		12/3/15 10:47
Jeff	Saginaw	27603	NC		12/3/15 10:47
Jack	Penrod	27502	NC		12/3/15 10:49
Millicent	Troupe	27513	NC		12/3/15 10:49
Susan and John	Teague	78734	TX	We are paying attention and we hope you will work to stop the Carbon Pollution and build on a clean power plan for the future. Our Texas leaders do not speak for us and talking to them is like talking to a wall. Clean air and water knows no boundary and nothing can be sustained without it. Please do the right thing and give our children hope and a healthy legacy for the future.	12/3/15 10:49
Albert	Hetzell	28906	NC		12/3/15 10:50
Sarah	Roholt	27604	NC		12/3/15 10:50
BB	Oehm	27545	NC		12/3/15 10:52
Angela	Giddings	27510	NC		12/3/15 10:52
Martha	Edwards	27587	NC	NC should curb carbon emissions and expand clean energy through it's solar and wind potentials	12/3/15 10:53
Dot	Sulock	28804	NC	renewables create local jobs and are good for the NC economy	12/3/15 10:54
Thea	Surrey	32901	FL		12/3/15 10:54
Robert	Sauer	28801	NC		12/3/15 10:55
Tom	Winstead	27606	NC		12/3/15 10:55
Leigh	Saunders	04122	ot		12/3/15 10:55
Karen	Freeman	27609	NC	Let NC be a leader in doing the right thing for our state, our country and our planet.	12/3/15 10:55
Mary Hughes	Brookhart	27510	NC		12/3/15 10:55
Benjamin	Salemi	27705	NC		12/3/15 10:56
Janet	Maker	90024	CA		12/3/15 10:57

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Harrison	Marshall	27511	NC		12/3/15 10:58
Theresa	Rosenberg	27607	NC		12/3/15 10:58
Elizabeth	Riddle	27377	NC		12/3/15 10:58
don	smith	28348	NC		12/3/15 11:00
Dianne	Douglas	85042	AZ		12/3/15 11:00
Scott	Tucker	28037	NC		12/3/15 11:01
Stephanie	Benson	27358	NC		12/3/15 11:03
Craig	Fedor	27408	NC		12/3/15 11:04
Donna	Hunt	27954	NC		12/3/15 11:04
Marta	Momeyer	27502	NC	Stop putting your head in the sand on climate change! Start using alternate power sources like solar. Think about future generations and what our legacy is going to be.	12/3/15 11:05
Laura	Whyte	27514	NC	Coal is fading -- get with the program of renewables!	12/3/15 11:06
Lawrence	Kessler	28451	NC		12/3/15 11:06
Fang	Cai	27705	NC		12/3/15 11:07
Joel	Fuller	28409	NC	Stop polluting our state and our planet. How you and your Republican friends ignore the issues of climate change is an act of terror on all of humanity. theMermaids'Song2047 will begin to expose your dirty little secrets in 2016.	12/3/15 11:07
Robert	Dietz	27511	NC		12/3/15 11:09
James	Kantor	27612	NC		12/3/15 11:09
Maureen	Smith	28277	NC		12/3/15 11:09
Vanessa	Smith	27603	NC		12/3/15 11:10
Jim	McGlenn	28803	NC		12/3/15 11:11
Wendie	Schneider	28465	NC	We MUST do our part for the sake of our children.	12/3/15 11:12
B. Mark	Schmerling	28773	NC	Fossil and nuclear industry big shots and their products are evil. Renewable energy is good. The choice is obvious. We choose renewable energy, and we choose to get Pat McCrory out of public office.	12/3/15 11:13
Marcia	Harris-Owens	28203	NC		12/3/15 11:13
Juli	Hennessee	28655	NC		12/3/15 11:14

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Katherine	Catlett	27410	NC		12/3/15 11:18
Leonard	Mole	27511	NC		12/3/15 11:18
George	Tolleson	28803	NC		12/3/15 11:19
Chandra	Rambo	28570	NC		12/3/15 11:20
Sandra Phillips	Yaggy	27312	NC	Stop listening to your corporate lobbyists!	12/3/15 11:20
Nina	Allen	27612	NC		12/3/15 11:20
Deborah	Swanson	28730	NC		12/3/15 11:21
david	belcher	v9a1t3	BC		12/3/15 11:21
Karen	Arbogast	28105	NC	We need to look at environmental impacts, not just respond to big business.	12/3/15 11:22
David	Booth	27705	NC		12/3/15 11:22
Alice	Wieting	27215	NC		12/3/15 11:23
Jayne	Boyer	27707	NC		12/3/15 11:25
Elizabeth	Caslin	27615	NC		12/3/15 11:25
Eileen	Schneider	27511	NC	Do what's right and stop talking about 'what your've done! They don't match!	12/3/15 11:25
Gary	Newman	27312	NC	A healthy economy comes from a healthy constituency. Help me vote for you by being more protective of our environment. Thank you.	12/3/15 11:27
Allison	Delavan	28730	NC		12/3/15 11:28
Rebecca	MacNair-Semands	28205	NC		12/3/15 11:28
lisa	bible	28804	NC		12/3/15 11:28
Rusty	Dixon	28205	NC		12/3/15 11:29
Kenneth	Ashe	28753	NC		12/3/15 11:29
Nikki	Del Castillo	27379	NC		12/3/15 11:31
Rob	Seltzer	90265	CA		12/3/15 11:31
Betsy	Rountree	27591	NC	You need to do the right thing for our state and ALL the people. Really tired of your agenda. Nothing positive for the average person. And, why are you even going to run for re-election. You have done nothing right as far as I am concerned and this issue takes the cake. You need to just finish these next few months and get yourself back to Charlotte.	12/3/15 11:31
Constance	Engle	28739	NC		12/3/15 11:32

Ann	Green	28715	NC		12/3/15 11:33
Miriam	Angress	27707	NC		12/3/15 11:36
Kendal	Brown	27516	NC		12/3/15 11:39
Sue	Payne	28791	NC		12/3/15 11:39
Sandra	Koritz	27406	NC	This is the only planet we have to live on, act responsibly act in climate change now	12/3/15 11:40
David	Bruckenstein	27517	NC	Dear Governor McCrory, it sounds simple when put this way but, act like your children live here. What do you want their future to be, rather than what makes good short term economic sense, is the question you should be asking. Lobbyists don't care about your kids, but you do. Thanks.	12/3/15 11:41
Michael	McConney	28469	NC		12/3/15 11:41
Cheryl	Mitchell-Olds	27705	NC		12/3/15 11:43
Marie	Hailey	27604	NC		12/3/15 11:44
Alina	Pittman	28215	NC		12/3/15 11:44
Keith	Allen	27231	NC	Your claim that you are/were "not a lobbyist" for Duke Energy is increasingly suspect, as you side with Duke in policies which both suppress and seek to monopolize renewable sources of energy. You are a corporate shill, through and through. The public deserves far better.	12/3/15 11:47
Patricia	Myers	27612	NC		12/3/15 11:47
Colleen	Sheahon	28607	NC		12/3/15 11:52
Richard	Strowd	27516	NC		12/3/15 11:52
Michael	Gellar	28205	NC		12/3/15 11:54
Jeff	Lawrence	27519	NC	Not only that, but I also think we should have a more business-friendly environment for generating alternate energy in this state	12/3/15 11:54
Pamela	Dykstra	28036	NC		12/3/15 11:56
Doyle	Graham	27705	NC		12/3/15 11:57
Andrew	Henderson	66207	KS		12/3/15 11:58
Nelson	Baker	43719	OH		12/3/15 11:59
Joyce	Brown	27516	NC		12/3/15 11:59
Dick	Bilsborrow	27707	NC	this is an important issue, should be non-partisan too	12/3/15 12:00

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Darley	Adare	28207	NC		12/3/15 12:04
Cory	Kloehn	27560	NC		12/3/15 12:09
Donald	Barnhart	27526	NC		12/3/15 12:11
Scott	Hertel	28791	NC	Longer we wait, the worse it will get. Do something now!	12/3/15 12:11
Edward	Mezynski	27312	NC		12/3/15 12:13
Carol	Mohr	27312	NC		12/3/15 12:15
Angela	Benestad	27513	NC		12/3/15 12:18
Gary	Matthews	27511	NC		12/3/15 12:18
Elizabeth	Guy	27705	NC		12/3/15 12:18
Robert	Love	27314	NC		12/3/15 12:19
Peter	Crean	27516	NC		12/3/15 12:24
Vickie	Penninger	27608	NC		12/3/15 12:29
Dale	Mc Keel	27707	NC		12/3/15 12:29
Emily	Earle	27012	NC		12/3/15 12:31
Meri	Zaumsei	28804	NC	Not only is coal emission harmful but the harvesting of coal is damaging to ALL life in the vicinity. Let's do the right thing for everyone.	12/3/15 12:32
Deb	Rosengrant	28712	NC		12/3/15 12:33
Elisabeth	Curtis	27516	NC		12/3/15 12:33
Philip	Walker	28734	NC		12/3/15 12:35
Claudia	Thuring	28078	NC		12/3/15 12:39
Charles	Webb	27510	NC		12/3/15 12:40
Astrid, Theo, Jonathan, Julius	Keup	35469	ot		12/3/15 12:42
M Jane	Stoffer	28805	NC		12/3/15 12:45
Linda	Smathers	28806	NC		12/3/15 12:47
Ashley	Snell	27312	NC		12/3/15 12:51
James	Cogswell	28711	NC		12/3/15 12:53
Michael G	Angstreich	28315	NC		12/3/15 12:54
Barb	Stenross	27510	NC		12/3/15 12:54
Sherry	Jenkins	28312	NC		12/3/15 12:55
Michele	Hutchins	27265	NC		12/3/15 12:57

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Kaaren	Stoner	28785	NC		12/3/15 12:57
Tucker	Bailey	27009	NC	The people of North Carolina want clean energy from wind and solar, not dirty coal or gas.	12/3/15 12:58
Gary	Clontz	28721	NC	Oil and coal are the past. Time for solar and wind alternatives.	12/3/15 12:59
George	McManus	27326	NC		12/3/15 13:00
Cavett	French	27701	NC		12/3/15 13:02
Fred	Stanback	28144	NC		12/3/15 13:03
Nancy	Cartwright	27705	NC	Please!!!	12/3/15 13:05
Rebecca	Reid	28739	NC		12/3/15 13:06
Rebecca	Carter	27053	NC		12/3/15 13:07
noel	parenti	27106	NC		12/3/15 13:07
Philip	Buchanan	27517	NC		12/3/15 13:08
Philip	Buchanan	27517	NC		12/3/15 13:08
Catherine	Marie	27607	NC		12/3/15 13:09
Jay	Peters	27707	NC	Curbing coal emissions is a good start. We should add more stringent vehicle inspections on older automobiles and trucks as well.	12/3/15 13:09
Stephen	DeAugustines	28746	NC		12/3/15 13:12
Rob	Moore	27455	NC		12/3/15 13:14
Pat	Belk	28031	NC	Take a stand and support CPP.	12/3/15 13:21
Richard	Koerber	28801	NC	Get with it, we have grandchildren to think of !!	12/3/15 13:23
Tom	Emmel	27606	NC		12/3/15 13:27
Carol	Flath	27701	NC		12/3/15 13:29
Harry	Taylor	28211	NC		12/3/15 13:29
Cliff	Norris	27341	NC		12/3/15 13:31
Dori	Cole	60189	IL		12/3/15 13:31
Scott	Stone	28150	NC		12/3/15 13:32
Kerry	Bullock-Ozkan	27510	NC		12/3/15 13:37

## State Implementation Plan Public Comments

Stephen	Blake	27012	NC	Your corrupt crony capitalist administration represents the interests of executives and shareholders of the Duke Energy monopoly at the expense of NC taxpayers & ratepayers.	12/3/15 13:39
Joe	Jacob	27312	NC	There was a time when leaders believed the world was flat. They ignored facts. It is time to recognize climate change is for real and you don't want history to judge you as ignorant to the facts.	12/3/15 13:40
alysa	delgado	27516	NC		12/3/15 13:44
Nancy	Hill	28412	NC		12/3/15 13:46
Lloyd	Schmeidler	27701	NC		12/3/15 13:47
Neil	Infante	27278	NC		12/3/15 13:48
Jessica	Browning	28803	NC		12/3/15 13:49
Annette	Racer	28730	NC		12/3/15 13:55
David	Gilbert	27514	NC		12/3/15 13:55
Renee	Coles	NC	NC		12/3/15 13:57
Thomas	Cannon	28711	NC	It is time that NC stops looking like a subsidiary of Duke Power. We used to be seen as an environment friendly state and we have lost that distinction. But it is not to look good that we must support carbon free power. It is for our lives.	12/3/15 13:58
Craig	Friday	28205	NC		12/3/15 14:01
catherine	nelon	28782	NC		12/3/15 14:06
Janna	Davis	28806	NC		12/3/15 14:08
Elisabeth	Bechmann	03100	ot		12/3/15 14:08
Christine	Roeffen	66978	ot		12/3/15 14:10
Charles	Pettee	27516	NC	As the father of two boys, one of whom suffers from asthma, and life-long NC native, I wonder how long the Outer Banks will be above sea level, and I also wonder how long our mountains can withstand all the air and water quality attacks that your administration and DENR promote so regularly. Maybe you can consider not only the need for NC to prepare for the inevitable reality of a future dependent upon clean energy, but also the need to protect our tourism industry by doing our part to curb toxic emissions NOW.	12/3/15 14:23
Denise	Larson	27312	NC		12/3/15 14:26

## State Implementation Plan Public Comments

Carole	Larivee	28785	NC		12/3/15 14:27
Margaret	Morris	28732	NC		12/3/15 14:31
Peg	Gjertsen	27607	NC		12/3/15 14:35
				Governor McCory, as a Christian I think you would the following interesting, I found it while doing devotions this morning. "It would be ludicrous to suggest that a man, having sinned against God, could then have it within his power to forgive his own sin." I think that statement also applies to polluters. It would be ludicrous to suggest that a polluter have polluted would have it within themselves to monitor and report on their pollution. It is not within their power. How does that make any logical sense. We talk about leaving a country for our children, I think we need to ensure that there is a country worth leaving. Regards, Deborah Wagner	
Deborah	Wagner	28778	NC		12/3/15 14:38
Willard	Cottrell	28714	NC	Are you stupid or do you act stupid as our governor?	12/3/15 14:38
Michael	Koch	28215	NC		12/3/15 14:46
Renee	Hayes	27370	NC		12/3/15 14:49
Steve	Hickle	27604	NC		12/3/15 14:51
Michael	Moore	28607	NC		12/3/15 14:52
Nancy	O	19711	DE		12/3/15 14:59
Ana	Baxley	27576	NC		12/3/15 15:00
Sean	Anglin	27608	NC		12/3/15 15:04
Susan	Allen	27612	NC	Start doing the job you were allegedly elected to do and that's protect and work for the PEOPLE of this state instead of BIG MONEY!	12/3/15 15:05
Sean	Anglin	27608	NC		12/3/15 15:05
James	Pearce	27713	NC	Global warming is real and we have to act now and act responsibly!	12/3/15 15:06
Miller	Graves	28803	NC	WE ARE NOT GOING TO LET UP!!! GET WITH THE PROGRAM GOVERNOR!!	12/3/15 15:10
Lesley	Barker	27408	NC	We have to have clean energy to mitigate climate change. I am horrified that your administration has their heads in the sand!	12/3/15 15:12
Holly	Arrowood	27514	NC	Investing in clean energy now will help ensure our state's prosperity for decades! North Carolina should be doing everything possible to lead the country in clean energy development.	12/3/15 15:13
Kristina	Heiks	28607	NC		12/3/15 15:15

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William	Nichols	28734	NC	You work for US now, not Duke Power! As a disabled vet I DEMAND you carry out OUR wishes!	12/3/15 15:15
A.D.	Revels	27858	NC		12/3/15 15:22
Doug	Currivan	27502	NC		12/3/15 15:23
Tom	Adkisson	27103	NC	Let's be a leader in mitigating climate change, not a slave to fossil fuel companies. DO THE RIGHT THING!! IT IS OUR MORAL OBLIGATION TO OUR KIDS!!	12/3/15 15:35
Melissa	Griffin	27539	NC		12/3/15 15:37
Dan	Stancil	27609	NC	We owe it to our children to leave the world a better place than we found it. Economics will take care of itself, but the environment needs our help.	12/3/15 15:38
larry	edington	49047	MI	we are running out of time to act on this please act now	12/3/15 15:42
Arnold	McEntire	28762	NC	Get your aim correct, Governor!	12/3/15 15:45
Peggy	Wilson	27523	NC		12/3/15 15:46
Martha	Whitfield	28207	NC		12/3/15 15:47
Victor	Lowell	27614	NC	This is not about Politics it's about the survival of our planet!!	12/3/15 15:48
Anita	Mcleod	27707	NC	Let us protect our health and the future of children. This is a no-brainer and creates jobs for wind and solar clean energy!!	12/3/15 15:57
Jill	Green	27320	NC		12/3/15 16:04
Melissa	Sherman	27608	NC	Gov. McCrory, We can no longer ignore the effects of global warming. Please support wind and solar energy potential in NC. Sincerely, Melissa Sherman	12/3/15 16:05
Ann	Wood	27604	NC	Help in stopping the trashing of the earth	12/3/15 16:14
Barton	Armstrong	27609	NC	There really is nothing more important than clean air, clean water and clean technologies. Please agree and behave accordingly. Thank you	12/3/15 16:16
Allyn	Howlett	27041	NC	I use geothermal heating and cooling and drive a Prius hybrid. I look forward to a solar future! There is no reason why every home in the state cannot so the same! Please provide the incentives our citizens need!	12/3/15 16:24
Brian	Burns	28730	NC		12/3/15 16:24
Heather	Chait	28270	NC		12/3/15 16:29
Rebecca	Felton	28461	NC		12/3/15 16:30
Sharon	Gillespie	78703	TX		12/3/15 16:31
robert	luke	95603	CA		12/3/15 16:42
Donna	Lovick	27501	NC		12/3/15 16:47

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Gretchen	KLEIN	27233	NC	ARE YOU LISTENING TO OUR STATE, OR ONLY DUKE ENERGY.	12/3/15 16:48
Barb	Stenross	27510	NC		12/3/15 16:56
Mary	Keenan	28786	NC	Why can't you hear us?	12/3/15 17:04
James	Dicke	27609	NC		12/3/15 17:07
Linda	Knowles	27592	NC		12/3/15 17:19
M.	Klein	27836	NC	We have just installed Solar on our new home in Raleigh and are dismayed you do not have the foresight to support such renewable energy strategies as well as curbing harmful carbon emissions.	12/3/15 17:21
Margie	Stewart	27707	NC		12/3/15 17:21
Dale	Hopp	28104	NC		12/3/15 17:25
Jeff	Moore	27511	NC		12/3/15 17:26
Debbie	Collins	28670	NC		12/3/15 17:29
Geoff	Dunkak	27713	NC		12/3/15 17:30
Brenda	McCall	27243	NC		12/3/15 17:43
Jack	Coble	27403	NC	What an embarrassment you and your admin has been to the nation.	12/3/15 17:49
Carol-Ann	Greenslade	27312	NC		12/3/15 17:51
Jan	Hinman	28571	NY		12/3/15 18:12
Susan	Warren	28806	NC		12/3/15 18:25
Sue	Patterson	28405	NC		12/3/15 18:26
Betsy	Webster	28125	NC	Our responsibility is for future generations not ourselves	12/3/15 18:37
Judy	Martinez	27510	NC		12/3/15 18:41
Leonard	Thorne	27513	NC	Solar and wind are the new energy sources. Let NC lead the way.	12/3/15 18:53
Janet	Robinson	33433	FL		12/3/15 19:13
Judith	Weigner	28739	NC		12/3/15 19:36
Francis	Pflug	27519	NC		12/3/15 19:39
virginia	clute	27527	NC		12/3/15 19:46

## State Implementation Plan Public Comments

David	Cook	28001	NC	Pat, I was an undergraduate at one of our state's fine universities about the time Art Pope was born. We studied ecology and environmental issues then, and it was clear already at that time that the Human race was in serious danger of poisoning itself unless we did something about it quickly. Well, we didn't, and now its up to you and your colleagues to take firm action in a last-ditch effort to keep the planet viable for us. And you are doing wrong. Pull yourself together, Pat, and take the right action TODAY.	12/3/15 19:50
Ed	Stavish	28743	NC	Clean power is the only way forward for North Carolina	12/3/15 19:53
JANIE	NEELY	28787	NC	Please maximize wind and solar energy for N.C., and limit carbon pollution.	12/3/15 20:01
Lydia	Garvey	73601	OK		12/3/15 20:02
David	Allen	28786	NC		12/3/15 20:16
John	Millen	28714	NC	Let's use more solar and wind.	12/3/15 20:27
Chrystele	Burns	28312	NC		12/3/15 20:37
Robert	Paine	27712	NC	This is not a political issue. This is a quality of life issue for all of us citizens of this state.	12/3/15 20:44
James	Lovejoy	27518	NC	Lets replace coal with natural gas and nuclear energy.	12/3/15 20:45
Greg	Sells	78741	TX		12/3/15 20:46
Walter L	Davis Jr	28128	NC	We must protect our Grand children's future.	12/3/15 21:03
Sandra	Hillerstrom	28740	NC		12/3/15 21:13
Danielle	Brestel	27712	NC		12/3/15 21:39
Charlotte	Englehart	27608	NC		12/3/15 21:44
David	Shearer	28783	NC	If there is no one left to make all this money and no one left to spend all this money why would we want to go down this road??	12/3/15 21:45
Mac	Hulslander	27607	NC		12/3/15 21:47
Dennis	Welch	27519	NC	Governor McGrory: Regarding the realities of global warming and severe climate change, you and the GOP are on the wrong side of history.	12/3/15 21:49
Michelle	Lee	28226	NC		12/3/15 22:00
Andrew	Meyer	27612	NC	North Carolina is known by its beauty. Don't ruin it by your poor policies and failure to act.	12/3/15 22:03
Pamela	Sheridan	08098	NJ		12/3/15 22:05

## State Implementation Plan Public Comments

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Andre	Mckoy	27516	NC	We continually bite the hand that feeds... The eventual consequences will be something we cannot reverse. We all know this and refuse to take serious action. There is no better time than now, before it's too late. Peace 1 Love	12/3/15 22:11
Connie	Bishop	28655	NC		12/3/15 22:19
Thayer	Jordan	27278	NC		12/3/15 22:19
Julia	Myers	27615	NC		12/3/15 22:31
Esther	Murphy	28411	NC	If you say the word "ENVIRONMENT", will your head explode?	12/3/15 22:35
Esther	Murphy	28411	NC	Are you some other life form which exists without healthy ecology?	12/3/15 22:41
Brenda	Tenerelli	28787	NC		12/3/15 22:58
Howard	Tyas Jr. Rev. Dr.	28205	NC		12/3/15 23:06
Larry	Hannon	28270	NC		12/3/15 23:10
Melissa	Hastings	28570	NC		12/3/15 23:14
Peter	van Dorsten	27615	NC		12/3/15 23:15
Frank	Lorch	28203	NC		12/3/15 23:20
Frank	Zachary	27012	NC		12/3/15 23:33
Joe	Phillips	27235	NC		12/4/15 0:02
Michael	Carney	08078	NJ		12/4/15 0:03
Colleen	Farley	27408	NC	Dear Governor McCrory, Please do the right thing for North Carolina and the future residents of this state as well as our current citizens. You know the right thing to do is reduce carbon pollution, expand solar and wind energy initiatives and prohibit off-shore drilling. You know this is not a partisan issue. Best regards, Colleen Farley Greensboro, NC	12/4/15 0:05
Cathy	Harless	27265	NC	Governor McCrory, You are some sorry governor. I'm glad I didn't vote for you! You are slowly ruining the state of North Carolina!!!	12/4/15 0:21
Christina	Hugenschmidt	27104	NC	Air pollution increases risks for a host of medical conditions and increases medical costs. It kills the beautiful trees in our mountains that attract tourist dollars.	12/4/15 0:32
Kathleen	Bonfoey	27301	NC		12/4/15 0:42
Linda	Maynard	27502	NC	We sould respect this earth , NOT kill it!	12/4/15 3:03
William	Phillips	27330	NC		12/4/15 3:05

## State Implementation Plan Public Comments

Karen	Mallam	27344	NC		12/4/15 4:09
Nora	Davidson	98311	WA		12/4/15 4:53
shirley	mills	dy4 9au	ot		12/4/15 5:56
Pat	Gottlieb	27701	NC		12/4/15 6:02
M	Dillon	33133	FL		12/4/15 6:03
M	Dillon	33133	FL		12/4/15 6:04
Hart	Squire	28787	NC		12/4/15 8:09
Kathy	Jooss	27516	NC		12/4/15 8:14
Dorothy	Lee	28748	NC		12/4/15 8:15
Fielding	Wilson	27527	NC		12/4/15 8:32
Sandy	Forrest	28654	NC	McCory has been horrible for our state and the nation, as he has done everything he possibly could to cater to energy co. rather than protecting our environment.	12/4/15 8:33
Anne	Hansley	28791	NC	Completely ridiculous that NC would not include wind power in an energy move forward plan for this great state. No votes for this kind of bad judgement or self serving policies.	12/4/15 8:41
Rita	Burns- Wooten	28613	NC	PLEASE ensure the health and safety of all North Carolinians!!! The air we breathe, the water we drink, and the food we eat---THAT is ALL our cells have to WORK WITH to remain healthy, heal, repair tissue damage, etc. WHY do you think SO MANY of our citizens have CANCER??? I am an RN with 36 years experience.	12/4/15 8:50
Ronald	Runyan	27513	NC	Stop Fracking in NC!	12/4/15 9:01
Rachel	CAMPbell	28226	NC		12/4/15 9:44
Suzanne	Fox	27707	NC		12/4/15 9:46
Catherine	Moorehead	28711	NC		12/4/15 9:48
Mary	Kirschhoch	28374	NC	We've got your number Mr McCrory.....do the morally responsible thing regarding the environment.	12/4/15 9:51
Tanya	Taylor	27572	NC		12/4/15 10:20
Catherine	Starkweather	27713	NC		12/4/15 10:34
Sarah	Charles	27265	NC		12/4/15 10:40

## State Implementation Plan Public Comments

Jason	Chappell	27707	NC		12/4/15 10:43
Jill	Ray	28025	NC		12/4/15 11:01
Nancy	King	28570	NC		12/4/15 12:00
Madeleine	Pabis	27704	NC		12/4/15 12:04
Michael	Watson	28601	NC	Besides adding jobs to the economy and saving the environment, clean energy saves money and lives. Act now to meet the goals.	12/4/15 12:11
Wynne	Queen	28043	NC		12/4/15 12:53
Leslie	Rojohn	28779	NC		12/4/15 13:05
Edward	Link	27513	NC		12/4/15 13:16
Joseph	Harper	27410	NC		12/4/15 14:11
Lisa	Gunther	28677	NC	Please don't let your political affiliation destroy the planet for future generations.	12/4/15 14:36
Robert	Heston	27103	NC	All that money you're saving and making for your rich buddies by pumping more carbon in the air will do them no good when the methane rises from the Arctic and kills everything....	12/4/15 15:16
Lauren	Bonardi	28401	NC		12/4/15 15:55
Anne	Whitefield	27705	NC	listen to our leaders in Paris, please!	12/4/15 16:25
Barbara	Terry	27312	NC		12/4/15 16:54
Renee	McCann	28412	NC		12/4/15 17:25
Larry	Hannon	28270	NC		12/4/15 17:43
Larry	Hannon	28270	NC		12/4/15 18:02
dan	hiltz	60548	IL		12/4/15 19:31
Tracy	Stevenson	27609	NC	We have an OBLIGATION to protect the environment for future generations. As an elected official, you are responsible for ensuring this critical issue gets prioritization and resourcing given how relevant it is to your constituency. We need a plan....now. Please exercise your granted authority with conscience and responsibility.	12/4/15 19:40
Chris	Holochak	27608	NC		12/4/15 19:40
Sheryl	Harmon	27513	NC		12/4/15 19:57

## State Implementation Plan Public Comments

Yvonne	Moody	28461	NC	It is so important to cut way down on carbon pollution! In the 16 years I have lived in NC, I notice a definite increase in the tide levels in the marsh behind my house. More of that will seriously impact so many people living on the coast.	12/4/15 20:04
Ted	Storck	27606	NC		12/4/15 20:47
James	Lee	258314	NC		12/4/15 21:14
Metin	Aydemir	27713	NC		12/4/15 21:38
Jon	Van Horn	27510	NC		12/4/15 21:58
Pauline	Williams	27511	NC	North Carolina needs to step up to this problem. It is time to think long- range instead of going for short-term money grabs.	12/4/15 22:36
Nick	Hood	27012	NC		12/4/15 22:53
Mark	March	27106	NC		12/4/15 23:06
Craig	Bailey	28139	NC		12/5/15 0:55
Mary Anne	Combs	28752	NC	Why do you do this? Do you not understand science? You are supposed to be our intelligent leader and help us move in a safe direction. Do you understand solar and wind power? Why do you support polluting energy sources? Do they give money to you? I doesn't make sense.	12/5/15 1:25
Edward	Jagusiak	07751	NJ		12/5/15 3:33
Ricky	Dowdal	28681	NC	Governor McCrory ,is not a governor of the citizens of our state, but his loyalty is to big business and lobbies. He could care less about our state and protecting our natural resources as they are a hindrance to the lobbies and big business and will even throw our fellow citizens under the bus to make a buck for himself and job security when the citizens throw him and his cronies out of office.	12/5/15 6:34
Victoria	Childers	27302	NC		12/5/15 8:18
Charles	Pettee	27516	NC		12/5/15 9:10
Steve	Rundle	28217	NC		12/5/15 9:16
Richard	Thomas	28768	NC	It is irresponsible NOT to act on climate change to protect our environment.	12/5/15 11:04
Robert	Grew	27609	NC		12/5/15 11:15
Joseph	Wells	27606	NC		12/5/15 12:40
William	McMullin	48071	MI		12/5/15 17:40

## State Implementation Plan Public Comments

Jose	de arteaga	20020	DC		12/5/15 17:47
Wendy	Stevens	28214	NC		12/5/15 20:55
Kimberly	Wiley	14612	NY		12/6/15 1:42
Joseph	Hoess	46574	IN		12/6/15 2:15
Jennifer	Halenbeck	28716	NC		12/6/15 2:20
James	Carroll	28705	NC		12/6/15 9:32
Richard	Haas	28451	NC		12/6/15 10:14
Brian	Burns	28730	NC		12/6/15 10:21
C. Warren	Pope	28803	NC		12/6/15 10:44
Joseph	Harper	27410	NC		12/6/15 13:15
Peter	Funk	27021	NC		12/6/15 13:44
jan	hansen	28115	NC		12/6/15 16:38
Elizabeth	Thanasouk	28540	NC		12/7/15 3:21
Vickie	Penninger	27608	NC		12/7/15 6:18
Julia	Young	27312	NC		12/7/15 8:55
Jocelyn	Browning	24060	VA		12/7/15 9:25
Phillip	Howard	27408	NC	Please consider the constituents that work, breathe, drink water in our state	12/7/15 10:43
Laurie	Lamoreaux	27516	NC		12/7/15 11:45
Jon	Doyle	27612	NC	If there is a state plan get some PR on it. If not then I think we need to have a plan that mirror takes into Federal policy but considers local politics. Now is the time to act...not in another administration.	12/7/15 18:59
Barbara	wilson	27048	NC	Spend at least as much on solar, wind and other alternative energy.	12/7/15 19:27
Bruce	Clarke	37684	TN	Get on the right side of history, before you become an irrelevant dinosaur	12/8/15 1:35
Larry	Olivier	37327	TN		12/8/15 9:29
Dianne	Douglas	85042	AZ		12/8/15 12:17
Barbara	Sloss	28805	NC	I believe in solar. I bought panels for my roof top.	12/8/15 13:38
Paige	Humphreys	28579	NC		12/9/15 10:07
Hal	Trufan	28226	NC		12/9/15 10:15
Jenny	Lellinger	28712	NC		12/9/15 13:32
Lynn	Kohn	27707	NC	North Carolina should take the lead and support the switch to renewable energy as well as the president's Clean Power Plan. Thank you.	12/9/15 19:29

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Caleb	Laieski	22305	VA		12/10/15 0:58
Louise	Perini	27703	NC		12/10/15 23:42
Chris	Washington	10019	NY		12/10/15 23:58
Kimberly	Wiley	14612	NY		12/11/15 2:15
Peter	Reynolds	27703	NC		12/11/15 2:59
Joseph	Nolan	28806	NC	Gov. McCrory, I emphatically support your braver in standing up for moral issues. I appreciate the fact that you are standing up for children in our public schools. But protecting the environment is ALSO a moral issue. "God put the man into the garden to DRESS IT AND TO KEEP IT"	12/11/15 16:56
Chris	Washington	10019	NY		12/11/15 18:06
Wynne	Queen	28043	NC		12/12/15 13:25
Judy	White	27407	NC	You will have a legacy of being most corrupt bought and paid for republican tea party in the history of North Carolina.	12/12/15 16:30
Susan	Hendrickson	27407	NC	You need to make some changes, or we will!	12/14/15 9:57
Heath	Moody	28801	NC	Stop catering to corporate polluters & lobbyists and start representing the conscience people of NC & real science. You'll ether be known as a leader who helped reduce our climate impact or a leader who blocked efforts & sided w/ the profits of Duke Energy & polluters who put profits in front of people & the environment. Be on the right side of history. Act now on climate change!	12/14/15 10:13
Herman	Hailey	27288	NC	Please rise above the stupidity of denial.	12/14/15 13:22
Alice Ann	Williamson	Wilmington	NC	A clean energy plan is essential.	12/14/15 14:01
Tony	Church	28601	NC		12/14/15 14:29
Judy	Thomson	27713	NC		12/14/15 14:35
Marion	Kreh	28429	NC		12/14/15 15:23
Donna	Etheridge	27607	NC		12/14/15 16:51
Ramie	Thorstad	28748	NC		12/14/15 22:39
Ruth	Held	27203	NC		12/15/15 8:24
Eliza	Farren	27510	NC		12/15/15 16:40
Nick	Hood	27012	NC		12/15/15 17:21
Jacob	Johnson	33547	FL		12/17/15 10:02

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linda	coley	28210	NC		12/17/15 10:09
Brad	Smith	27403	NC	Please do the right thing for future generations. We don't want to become as bad as Beijing.	12/17/15 10:12
Joel	Neuwirth	28374	NC		12/17/15 10:13
Ron	Coleman	27215	NC	Think about the average person for a change, instead of money.	12/17/15 10:26
John	Rider	27520	NC		12/17/15 11:01
Nicole	Glass	27613	NC	Please help North Carolina become the forerunner, leading the US, in cleaner environmental policies. Do not allow big business to create a profit and risk the asset of our climate. Invest in cleaner environment for our futures.	12/17/15 11:21
Joseph	Harper	27410	NC		12/17/15 11:29
Mike	Hanes	27511	NC		12/17/15 13:39
Lyle	Snider	27701	NC	Gov. Mcrory appears Much more interested in serving Duke Energy than protecting North Carolinians from exposure to Duke energy's toxic coal ash dumps!	12/17/15 14:11
MaryAnn	Scandurra	27298	NC		12/17/15 22:30
Robert	Brown	28412	NC		12/17/15 22:31
Kristy	Lapidus	28739	NC		12/18/15 1:22
Andrea	Watson	28645	NC		12/18/15 8:16
Scott	Dean	28805	NC	Pretend to care about your constituents, not just your corporate masters.	12/18/15 9:24
Ralph	Dobson	28562	NC	NC should be a leader in energy efficiency with all the educated people in the state.	12/18/15 10:07
Nick	Barnett	27516	NC		12/18/15 11:26
Bill	Wallenbeck	27607	NC	Reality check please!	12/18/15 18:15
Jennifer	Rust	28540	NC		12/19/15 7:54
Patricia	Hofland	27604	NC		12/19/15 13:09
david	kindred	27403	NC		12/19/15 23:02
Susan	Brown	28754	NC	Please pay attention to the scientists and your constituents. Adopt the Clean Power Plan now.	12/22/15 0:14

## State Implementation Plan Public Comments

Rita	Burns-Wooten	28613	NC	North Carolina NEEDS CLEAN ENERGY NOW!!! DO NOT let DIRTY COAL ruin our state!!! NOR the horrible effects of FRACKING!!! I have been an RN for over 36 YEARS---and am all about HEALTH AND WELLNESS for our residents!!! KEEP yourself informed about THE TRUTH!!! We are COUNTING ON YOU!!! Rita	12/22/15 19:57
Terrie	Brintle	27030	NC		1/5/16 17:20
Freddie	Williams	01504	ot		1/10/16 15:17
Tom	Teagle	27514	NC		1/11/16 8:56
Dan	Schnitzer	27712	NC		1/11/16 8:56
Andrew	Keener	28401	NC		1/11/16 8:56
Jessica	Janecki	27701	NC	Sea level rise due to climate change would devastate NC. Please take global climate change seriously by combating carbon pollution and supporting the Clean Power Plan.	1/11/16 8:56
Larry	Mason	27514	NC		1/11/16 8:56
Frank	Gottbrath	28451	NC		1/11/16 8:57
Anna	Costello	27705	NC		1/11/16 8:57
Mike	Lalumondier	28730	NC		1/11/16 8:57
Bruce	Cox	28712	NC	A livable future depends on leadership and plans and decisions based on broadly supported ideas and science.	1/11/16 8:57
Camila	Correia	27560	NC		1/11/16 8:57
Matt	Rawlins	28117	NC		1/11/16 8:57
Tom	Riggins	28411	NC	Please do the right thing and protect our environment !!	1/11/16 8:57
Jennifer	Zirbel	27606	NC		1/11/16 8:57
Joshua	Watts	28110	NC	I have traveled the us and nothing rivals my home state of North Carolina. I have had the privilege of living in this great state my entire life and urge you to consider the repercussions of this act.	1/11/16 8:58
Sue	McKinney	27705	NC	We must take steps to protect our climate for our grandchildren's children and grandchildren. The threats posed by potential war are nothing compared to the disasters suffered by unnecessary climate changes caused by humans. Please protect our planet.	1/11/16 8:58
Sue	Wilson	28805	NC		1/11/16 8:58
Yuriy	Furer	27617	NC		1/11/16 8:58

## State Implementation Plan Public Comments

Charles	Warren	28465	NC		1/11/16 8:59
James	Taylor	27519	NC		1/11/16 8:59
Mark	Callaway	27511	NC	Do this for the people of N.C. , NOT your political backers that paid for your election.	1/11/16 8:59
Sara	Wasiuddin	27703	NC		1/11/16 8:59
Kathleen	Eberlin	27012	NC		1/11/16 9:00
Judy	Harrelson	27344	NC		1/11/16 9:00
Richard	Anderson	28539	NC		1/11/16 9:00
Nancey	Enell	27312	NC	I want clean air! We elected you to do what we want for our state. Based on your promises. Please be true to your word and be an honorable man and take care of us and our children by letting us have clean air. Solar Energy is a great way to help us! Thank You	1/11/16 9:00
Linda	Brezin	27514	NC		1/11/16 9:00
Misako	Toda	27514	NC		1/11/16 9:01
Ed	Cortright	28805	NC		1/11/16 9:01
Beth	Henry	28205	NC		1/11/16 9:02
Lauren	Munach	27312	NC		1/11/16 9:02
Wanda	Brown	27011	NC		1/11/16 9:02
Chris	Chiarenza	28173	NC		1/11/16 9:02
Paul	Cook	27858	NC		1/11/16 9:02
Boyd	Holliday	28745	NC	Dear Governor McCrory, I know you are deep down a Governor with the best interests of North Carolina in mind, so I believe you will listen to the citizens when they plead with you to take the right path on energy and sustainability. Thank you.	1/11/16 9:04
Helen	Voris	28712	NC	This is a chance for our state to become real leaders in the promotion and use of planet-sustaining energy sources of the future--and the future must start NOW! Time to stop dragging our feet and turning our faces backwards into a history that is--and will be--no more!	1/11/16 9:04
Loch	Saslow	27408	NC		1/11/16 9:04
Kathryn	Mitra	28203	NC		1/11/16 9:04
Russell	Harwood	27705	NC	Stop wasting my tax dollars on inane efforts to obstruct meaningful change.	1/11/16 9:05

## State Implementation Plan Public Comments

Dawn	Ronco	27612	NC	The string of actions coming out of the Governor's office certainly indicates a reverse trend toward less environmental protection and more protection for polluters.	1/11/16 9:05
Carol	Young	27713	NC		1/11/16 9:06
Karen	Frisch	27516	NC		1/11/16 9:07
Ginny	Lentz	28787	NC	PLEASE WAKE UP, GOVERNOR. DON'T SACRIFICE OUR STATE FOR THE CORPORATE DOLLAR.	1/11/16 9:07
Paula	Morgan	33019	FL	All states must get on board as this is life treating!	1/11/16 9:07
Sylvie	Auger	G8Y 6S9	QC		1/11/16 9:07
Raymond	Simm	27306	NC		1/11/16 9:08
D Bouton	Baldrige	28403	NC	We must be a leader all the way to fossil fu	1/11/16 9:09
Kathy	Eden	27516	NC		1/11/16 9:10
Diane	Burns	27403	NC		1/11/16 9:10
Ann T.	Erb	28401	NC	Put politics aside and do the right thing for all the people of North Carolina.	1/11/16 9:11
Jeanne	Garner	28584	NC		1/11/16 9:11
Eliza	Farren	27705	NC		1/11/16 9:11
Amanda	Tencza	27607	NC	It is our responsibility as Americans and as humans to care for our planet because we have the knowledge and ability to do so. Limiting carbon pollution is essential and changes must be made. Please listen thoughtfully and act logically.	1/11/16 9:11
Helen	Buiskool	27510	NC		1/11/16 9:11
Leigh	Boylston	27608	NC		1/11/16 9:12
Dale	Mettam	27522	NC		1/11/16 9:12
Fard	Elkasmi	27312	NC		1/11/16 9:13
Jason	Buckey	28213	NC		1/11/16 9:13
Gail	Lieblang	27587	NC		1/11/16 9:13
Marion	Horn	27712	NC		1/11/16 9:14
Robert	Goetz	27312	NC	Let's make a positive impact on NC and the world with some progressive measures that favor everyone, not just big business. It's time to act.	1/11/16 9:14
Arthur	Hoats	27518	NC		1/11/16 9:15

## State Implementation Plan Public Comments

Larissa	Bowman	28730	NC	I want my state to be a leader in clean technology and clean power, NOT a heels-dug-in detractor from genuine progress!!! Please re-think your stance on NC's Clean Power Plan.	1/11/16 9:16
Barbara	Tedrow	28445	NC		1/11/16 9:16
Susan	Moschos	27516	NC		1/11/16 9:16
Debbie	Tunnell	27312	NC	Really, you need to stop working against the efforts to be a good steward of the environment when we, as the residents have asked you to represent us. Come on now. You are sworn to protect not harm.	1/11/16 9:16
Suzanna	Kirby	28215	NC		1/11/16 9:16
Teresa	Baker	27522	NC		1/11/16 9:17
Joe	Farrington	27707	NC		1/11/16 9:17
Walter	Zeman	28806	NC	As a business owner in this state, support for cleaner energy goes across political lines among the electorate. Please support cleaner energy! Thank you	1/11/16 9:17
Judy	Grove	28902	NC		1/11/16 9:18
Kathleen	Gardner	27107	NC		1/11/16 9:18
Shel	Anderson	27701	NC	Given the Governor's focus on developing business in the state, I fail to understand why renewables are not included.	1/11/16 9:20
Hannah	Whichard	28516	NC		1/11/16 9:20
Manuel	Garcia	27101	NC		1/11/16 9:21
Vickie	Lepore	28779	NC	With all of the additional taxes you'll be receiving from residents with pensions from other states, clean energy source investments would assure us that NC administration is making healthy proposals for the welfare of its citizens.	1/11/16 9:22
Marilyn	Hartman	27705	NC		1/11/16 9:23
Ethelyn	Hegele	27511	NC	Please do all you can to make N.C. green and clean. Support the EPA's Clean Power Plan!!! More solar and wind energy, PLEASE!	1/11/16 9:23
Edward	Meredith	28806	NC		1/11/16 9:23
Bruna	Correia	27560	NC		1/11/16 9:25
Kathleen	Flanagan	28207	NC		1/11/16 9:25
Alden	Hanson	27587	NC	I care deeply about North Carolina's environment.....and I VOTE !!!	1/11/16 9:25
Erica	Grantmyre	28461	NC		1/11/16 9:26

## State Implementation Plan Public Comments

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Bert	Bowe	27312	NC	Lastly, I don't want North Carolina to be on the wrong side of history just to keep supporting dirty energy. The future is clean power, which also creates many high-quality jobs.	1/11/16 9:27
Jodie	Herman	27949	NC	Clean Power is the answer to North Carolina's future.	1/11/16 9:27
Joseph	Pesicek	27606	NC		1/11/16 9:28
Brenda	McCall	27243	NC		1/11/16 9:30
Emily	Ankeney	28803	NC		1/11/16 9:30
Jennifer	Baldwin	27539	NC		1/11/16 9:30
Julie	Brown	27403	NC		1/11/16 9:30
Claudia	Kaplan	27713	NC		1/11/16 9:31
Asher	Smith	27513	NC		1/11/16 9:31
Nancy	Stoddard	27612	NC	Global warming and carbon pollution need to be taken seriously. Take a look at pictures of Los Angeles and San Francisco 35 years ago and notice the smog over the city. Take a look at pictures of those cities today and you will see proof of what fighting carbon pollution has done. Our North Carolina cities are not covered by smog, but this is a worldwide problem that needs to be addressed by every state and national.	1/11/16 9:31
Joe	Staggers	27607	NC	You and your administration have ignored too many inconvenient problems as you have Duked the entire environment.	1/11/16 9:32
Sherry	Gaddy	28135	NC		1/11/16 9:32
Jane	Hankins	27514	NC	I support progressive energy policy.	1/11/16 9:33
Eric	Siebert	28425	NC		1/11/16 9:33
Anne	Beaman	27545	NC	We must take an aggressive stand to renewable energy sources and crack down on corporate pollution offender. The United States are the "bad teenagers" on this planet and need learn from our European cousins who have been using their land for over 1000 years and have learned a thing or two. We've been taking our land for granted for over 200 yrs.	1/11/16 9:35
Robert	Cooper	28390	NC		1/11/16 9:35
Catherine	Blue	27701	NC	We need to do something NOW!	1/11/16 9:36
Elizabeth	Outlaw	27231	NC	Please remember the ones who will come after us, and give them a change to breath clean air, drink clean water and have a healthy and full life.	1/11/16 9:36

## State Implementation Plan Public Comments

				Dear Governor, I really don't know any of the details in our State's proposed energy plan. I don't follow politics and I don't WANT to follow politics. I voted for you because you appeared to me to be someone who would do their best to do right, as you saw the right. I think that's all any citizen can expect from someone they elect to represent them. I'm writing this now..something very much out of character for me...simply to let you know that I think the right thing on this issue of energy is to make some provision for renewables...some provision to encourage their development and use...a part of any North Carolina energy plan. You may see it differently, but I wanted to let you know what my view is. Thank you and good luck to you. --Andrew Ribner	1/11/16 9:37
Andrew	Ribner	27516	NC		
Patricia	Leighten	27516	NC		1/11/16 9:37
Ann	Bromberg	27312	NC	Being responsible for a better quality in our environment will add to our quality of life and health. Be responsible.	1/11/16 9:37
Carla	Skuce	27606	NC		1/11/16 9:38
Akheia	Bowie	27616	NC		1/11/16 9:39
Trevor	Lewis	28704	NC		1/11/16 9:39
Amy	Armaw	28815	NC		1/11/16 9:42
Kathy	Jooss	27516	NC		1/11/16 9:43
Susan	Kern	27302	NC		1/11/16 9:43
Arthur	Hill	27705	NC		1/11/16 9:44
Bree	Kalb	27510	NC		1/11/16 9:44
David	Troutman	28401	NC		1/11/16 9:45
Molly	Meinhardt	28711	NC		1/11/16 9:45
Janet	Wrestler	27502	NC		1/11/16 9:46
Roger	Butler	27312	NC		1/11/16 9:47
Charles	Petee	27516	NC	I am a native of western NC, and the father of two young men, one of whom suffers from asthma, like so many of his contemporaries...	1/11/16 9:48
Pat	Moore	28207	NC	People, not profit	1/11/16 9:49
Dw	Daniel	27525	NC	The EPA and haven't always been of the same mind and it may already be too late, but that doesn't relieve us of the responsibility to at least TRY to slow down global warming. Thank you... Wade	1/11/16 9:49

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Sherrell	Cuthbertson	28801	NC		1/11/16 9:50
Claire	Marsh	28725	NC		1/11/16 9:50
Ninian	Beall	27713	NC		1/11/16 9:50
Ann	c	27534	NC		1/11/16 9:50
Karen	Budd	28711	NC	We need to make changes to protect and heal our environment.	1/11/16 9:51
Alan	Barnosky	27704	NC		1/11/16 9:51
Rome	Fontaine	27502	NC	Governor get you head out of the sand and act responsibly to protect the environment. Your grandchildren will thank you for it.	1/11/16 9:55
Thomas	Jones	27545	NC	Governor, let's get this done!	1/11/16 9:55
DANIEL	ATER	28803	NC	We can't wait!	1/11/16 9:56
Sarah	Montgomery	27503	NC		1/11/16 9:56
Bill	Miller	27705	NC		1/11/16 9:57
Kathleen	Maloy	27103	NC		1/11/16 9:57
Margie	Mearns	27612	NC		1/11/16 9:57
Mary	Boone	76013	TX		1/11/16 9:57
Kieta	Osteen-Cochrane	28801	NC		1/11/16 9:57
Kimberly	Morris	27516	NC		1/11/16 9:58
Sam	Holcombe	27403	NC		1/11/16 9:58
Susan	Purcell	27510	NC		1/11/16 9:58
Avery	Hill	27455	NC		1/11/16 10:00
Larry	Smith-Black	28906	NC	This world was not a gift from our parents. It a loan from our children. We are responsible for its condition when the time comes to pay it forward.	1/11/16 10:01
Mary	Walker	27603	NC		1/11/16 10:01
Michelle	Anderson	43205	OH		1/11/16 10:02
Helen	Harbett	27715	NC		1/11/16 10:02
Scott A.	Weir	27704	NC	Failure to acknowledge the existence, nature, and causes of global warming can only be the result of willful ignorance: To pick and choose which long-settled conclusions of scientific inquiry without the knowledge to challenge them on their own terms is the height of arrogance and foolishness.	1/11/16 10:03
Preya	Shivdasani	27516	NC	Be environmentally responsible	1/11/16 10:04

Mary	Murchison	28203	NC	I urge you to support the EPA's limits on carbon pollution. Risking NC's clean air and the health of it citizens, particularly our future generations, is not only callous, it's bad policy.	1/11/16 10:04
Josie	McNeil	27712	NC		1/11/16 10:05
James	Corrigan	27560	NC		1/11/16 10:05
Terry	Vance	27517	NC		1/11/16 10:05
Autumn	Croft	28655	NC		1/11/16 10:05
Robert	Broad	27514	NC		1/11/16 10:07
Meghan	Prior	27106	NC		1/11/16 10:07
David	Osborne	27403	NC		1/11/16 10:11
Kathy	Nance	28139	NC		1/11/16 10:11
Wendy	Jacobs	27712	NC		1/11/16 10:12
Mark	Miller	27502	NC		1/11/16 10:14
Michael	Matthews	27587	NC		1/11/16 10:14
James	McNeil	28079	NC		1/11/16 10:14
William	Greene	27516	NC		1/11/16 10:15
Mark and Lauren	Hartman	27615	NC		1/11/16 10:16
Frank	Traganos	27312	NY		1/11/16 10:16
Richard	Babson	28420	NC		1/11/16 10:17
August	Jenkins	27712	NC		1/11/16 10:18
Kathy	MgGhinnis	27516	NC		1/11/16 10:18
Owen	O'Neill	28412	NC	Remember that you work for the people and not Duke Energy.	1/11/16 10:25
Michelle	Bentley	28713	NC		1/11/16 10:26

## State Implementation Plan Public Comments

Ann	Kieffer	28806	NC	As a resident of North Carolina for the last 46 years, I urge you to participate in submitting a NC Clean Power Plan that meets or surpasses federal carbon pollution standards. North Carolina stands poised to be a national leader in the transition from energy produced by fossil fuels to solar and wind energy. Our state is already a leader in solar energy, and our coastal waters offer the best potential for wind power production along the US Atlantic coastline. The economic implications for these energy assets stand ready to pave the way for transitioning toward a clean energy future in NC. Following the United Nations Climate Talks in Paris, I strongly believe our country and its states have a moral imperative to reduce our carbon emissions. I am encouraging you to be a strong leader in the transition from fossil fuel produced energy to clean alternative energy sources by submitting a Clean Energy Plan for North Carolina that meets or surpasses federal carbon pollution standards for power plants in the US.	1/11/16 10:29
Jo Anne	Anderson	28465	NC		1/11/16 10:30
Gay	Bulterman	27605	NC		1/11/16 10:31
Jude	Swanson	27103	NC	It's time we start to realize that long term preservation of our planet is more important than short term economic gains	1/11/16 10:31
Carol	Sloan	27278	NC		1/11/16 10:34
Scott	Lovett	28214	NC		1/11/16 10:34
Karen	Cutright	28804	NC		1/11/16 10:36
Yung	Hung	27706	NC		1/11/16 10:38
Charles	Weant	28403	NC	we are the care-takers for the next generation-we must always keep that in mind as we make decisions regarding our environmental future.	1/11/16 10:38
Rosemary	Rawlins	27959	NC		1/11/16 10:39
Margi	Erickson	28401	NC		1/11/16 10:39
Susan	Andreatta	27262	NC	We are doing our part by adding solar energy to our home. Will you do your part??	1/11/16 10:40
Claire	Secrist	27705	NC		1/11/16 10:41
Jane	Carter	28803	NC		1/11/16 10:44
Andy	Siaville	27539	NC		1/11/16 10:45

## State Implementation Plan Public Comments

John	Manuel	27707	NC	Let's promote our own natural resources, including sunlight and wind, to provide jobs, protect the environment, and add to energy independence of North Carolinians.	1/11/16 10:45
Lewis	Patrie	28803	NC	Don't all of us share concern for those we hope will exist beyond our lifetimes?	1/11/16 10:46
Eileen	Hoyt	27312	NC	PLEASE listen to the citizens!	1/11/16 10:48
Barry	Smith	28144	NC		1/11/16 10:49
Gloria	Fields	27106	NC		1/11/16 10:50
Christine	Westfeldt	28730	NC	It appears that we can no longer deny the effects of carbon pollution on our environment, here in North Carolina and globally. I am most deeply concerned about our children and grandchildren and the many interdependent animal species that need certain weather conditions to thrive and even just survive. Please act with a vision for our future.	1/11/16 10:50
Jeff	Alguire	27705	NC		1/11/16 10:54
Mireille	Sanchez	27518	NC		1/11/16 10:55
Mary	Boatwright	27705	NC		1/11/16 10:56
Ann	Rierson	27403	NC		1/11/16 10:57
Bonnell	Walker	28337	NC		1/11/16 10:58
Robert	McGahey	28714	NC	Follow your conscience, not the political winds and your paymasters.	1/11/16 10:59
Virginia	Martin	28215	NC		1/11/16 10:59
Claiborne	Clark	27707	NC	No fracking, no offshore drilling, no filth. Does NC deserve less?	1/11/16 11:00
Brent	Roberts	26614	NC	Can't believe this is even a question this day and age!	1/11/16 11:00
Janis	Phillips	28405	NC		1/11/16 11:02
Jeanne	van Gemert	27517	NC		1/11/16 11:05
Susan	Stinson	27401	NC		1/11/16 11:05
Mark	Edwards	27858	NC		1/11/16 11:06
Brian	Gannon	27519	NC		1/11/16 11:07
Sacha	Porges	27712	NC	For our future, our children's and grandchildren's future, we must do all we can to slow Global Warming - before it is too late!	1/11/16 11:07
Bill	Rinehart	27516	NC		1/11/16 11:10

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Christina	Vonthronsohnhaus	28801	NC		1/11/16 11:11
Joseph	Causey	28480	NC	Stop with all the coal ash spills and covering for duke progress because you worked there before. It's obvious that you are looking out for them as a company and not the people of NC! Don't drill in our oceans, let's use wind energy technology. It's 2016 get it together!!	1/11/16 11:11
Janet	Maker	90024	CA		1/11/16 11:11
Philip	Singer	27514	NC		1/11/16 11:12
Rachael	Wooten	27608	NC		1/11/16 11:13
Rebecca	Carina	27607	NC	On this and other issues, we are asking you to be the authentic statesman we believe you can be.	1/11/16 11:13
Ann	Bailey	27514	NC	please put renewable energy ahead of the short term fixes of coal/oil/gas	1/11/16 11:13
Barbi	Howe	27609	NC	We need to act now to stop any further damage to our planet .	1/11/16 11:16
Carol	Henderson	27704	ND	How can we lose by having cleaner air?	1/11/16 11:17
Susan	Moore	27707	NC		1/11/16 11:23
Richard	Perlungher	27534	NC		1/11/16 11:27
Maxine	Dalton	28743	NC		1/11/16 11:27
Mirinda	Kossoff	27312	NC		1/11/16 11:28
Becky	Morris	28146	NC		1/11/16 11:29
R Lynn	Coleman	27518	NC		1/11/16 11:34
MaryJane	Copeland	27312	NC	RENEWABLE ENERGY NOW.	1/11/16 11:36
L.M.	Lonon	28607	NC	Switch to wind and solar! Duke Power doesn't deserve any more huge profits!!!	1/11/16 11:37
Joseph	Harper	27410	NC		1/11/16 11:38
Nancy	Reid	27410	NC	Climate change is too great a risk to ignore. Please support the Clean Power Plan.	1/11/16 11:39
Mark	Iwinski	27712	NC	Thank you for extending the solar tax incentive for this coming year despite legislative desires to end it. Now please set the tone for the future and commit to a clean energy future for North Carolina.	1/11/16 11:40
Sieglinde	Anderson	28730	NC		1/11/16 11:42
Fred	Lampe	27514	NC	We must transition off of using fossil fuel sources for energy production. The future of the planet depends on this.	1/11/16 11:46

Virginia	Del Toro-Ramirez	27705	NC		1/11/16 11:47
O.C.	Edwards	28787	NC		1/11/16 11:48
John	Callahan	28607	NC	Please start thinking of our children and grandchildren's future. The Republican philosophy of supporting fossil fuels is not the best for our long term future. John Callahan Geology Prof Emeritus ASU	1/11/16 11:48
Renee	Locks	94941	CA		1/11/16 11:48
Sharon	Osika-Michales	13152	NY		1/11/16 11:52
Tina	Kaminis	27377	NC	It is vitally important that we include alternative forms of generating power into our overall energy plan.	1/11/16 11:53
Barbara	Terry	27312	NC		1/11/16 11:54
Ryan	Boudreaux	27587	NC		1/11/16 11:57
Robbie	Gregory	28270	NC	Governor McCrory this issue is not or rather should not be political it is all of our air and water that we can all agree want as untainted as possible therefore the voters are watching and listening to your actions on this important issue. Perhaps NC's most important resource and attraction and you've chosen to use it as a political football. Pat I know your mother taught you better now go show it.	1/11/16 12:01
Cris	Benrimo	27513	NC	Please support YOUR environment and YOUR constituents. Just say "No" to short-term profits and do the right thing. Thank you for listening.	1/11/16 12:06
Nancy	Rocamora	27707	NC	We must be good stewards of this planet, not just for for our own sakes, but for the sake of our children's children.	1/11/16 12:07
Deb	Peckitt	27281	NC		1/11/16 12:08
Alex	Goldstein	28270	NC		1/11/16 12:08
Cassandra	Hillman	27571	NC		1/11/16 12:14
Gustavo	Sandoval	94403	CA		1/11/16 12:16
Judy	Fore	28711	NC		1/11/16 12:19
Cynthia	Weeks	28570	NC		1/11/16 12:23
Valerie	Owen	27612	NC		1/11/16 12:24
Janice C	Rosier	27605	NC		1/11/16 12:27
Samantha	Schipman	28227	NC		1/11/16 12:29

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Martin	Sledge	27408	NC	You must start acting to save the environment It's part of your job to help protect NC residents and their children	1/11/16 12:33
Abby	Carey	27959	NC		1/11/16 12:35
Melva	Brown	27519	NC		1/11/16 12:35
Mary	Longstreth	28801	NC		1/11/16 12:37
Marina	Kaminis	27410	NC	I'm sure you are aware that strong action must be taken to provide alternate forms of energy to protect our beautiful state. We need to let the country know that we're standing with them for positive change.	1/11/16 12:43
Barbara	Hodik	28731	NC	Protecting businesses seems to be your major concern as Governor, but that's short sighted and if major steps aren't taken to strengthen rather than weaken environmental protection and healing, the businesses' short term profits will pale as costs connected to the ruined environment wipe out any ill-conceived short term gains.	1/11/16 12:43
Tim	Mc Gloin	27707	NC	NC should take the lead in alternatives to fossil fuels, not obstruct them.	1/11/16 12:44
Deborah	Townsend	28701	NC		1/11/16 12:47
Michael F	Adams	28217	NC		1/11/16 12:47
Anne	Welsh	28711	NC		1/11/16 12:49
Susan	Pope	27949	NC		1/11/16 12:52
Robert	Stackman	28711	NC		1/11/16 12:57
Anne	Swindell	28557	NC	Wind and solar power just make sense!!!	1/11/16 12:58
Margaret	Beck	48236	MI		1/11/16 13:00
Steven	Weaver	28226	NC		1/11/16 13:02
Christine	Chaplik	27298	NC	We want solar and wind not contaminating fossil fuels!	1/11/16 13:07
judith	hazelton	05201	VT		1/11/16 13:08
Eliane	Urbanowicz	27518	NC	Keep NC pristine as possible while still friendly to humans.	1/11/16 13:14
Carole	Schaefer	28806	NC		1/11/16 13:14
Joe	Spina	27519	NC		1/11/16 13:19
Kim	Adams	28782	NC		1/11/16 13:21
John	McDonald	07105	NJ		1/11/16 13:23
Adria	Vazqetelles	28104	NC		1/11/16 13:26
Richard	Jordan	28754	NC		1/11/16 13:26

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Rebecca	Hedlund	27705	NC		1/11/16 13:26
A. G.	Benson	28315	NC	great grandchildren?	1/11/16 13:28
Sean	Damrel	27403	NC		1/11/16 13:29
W	Gregory	28768	NC		1/11/16 13:30
noel	parenti	27106	NC		1/11/16 13:33
Johanna	Grimes	27517	NC		1/11/16 13:39
Lynn	Stickel	28327	NC		1/11/16 13:41
Mary	Sayler	28226	NC		1/11/16 13:48
Nell	Whitlock	27615	NC		1/11/16 13:49
Patricia	Nielsen	28412	NC		1/11/16 13:51
Naomi	Lundahl	27514	NC		1/11/16 13:54
Jim	Moore	28037	NC	Gov. you need to face reality and address climate change issues	1/11/16 13:55
Frank	Grice	28745	NC		1/11/16 13:58
R. Ross	Holloway	27510	NC		1/11/16 14:00
Marty	Landa	86351	AZ		1/11/16 14:01
Satish	Kumar	27519	NC	Need clean energy	1/11/16 14:01
Cavell	Brownie	27607	NC		1/11/16 14:03
David	Siar	27410	NC		1/11/16 14:05
Ed	King	27312	NC		1/11/16 14:13
Carol	Cumbie	28787	NC	Please support this effort. Carbon pollution should not be seen as a political issue; think of it as a health problem and an economic problem. NC needs to work for a bright future for all citizens - the CPP is a good place to start.	1/11/16 14:20
Jason	Miller	28411	NC		1/11/16 14:25
Hedwig	Andres	27516	NC	Save nature for our grandchildren	1/11/16 14:27
Jean lone	Linker	27517	NC	Please listen to what the people want - this is our only planet!! Some long-term, unselfish thinking is order. Thank you!!	1/11/16 14:31
Melissa	PEDEN	27608	NC	THIS IS THE FUTURE FOR ALL OF US, AS WELL AS THE EARTH!	1/11/16 14:42
larry	edington	49047	MI	clean up your act	1/11/16 15:00
Caroline	Dyar	27510	NC		1/11/16 15:03
Pam	Timmons	27516	NC		1/11/16 15:21
Geri	Ingram	28711	NC		1/11/16 15:23

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Michele	Skeele	28739	NC		1/11/16 15:25
Victoria	Shea	27312	NC		1/11/16 15:32
Chris	Rains	28173	NC		1/11/16 15:34
PATTI	MONTELLA	28607	NC		1/11/16 15:35
Bryna	Pizzo	63128	MO		1/11/16 15:36
Nancy	McMurray	27712	NC	Solar and wind power should be encouraged by the NC State Government by giving the industry an opportunity for growth equal to that afforded other energy sources.	1/11/16 15:38
Neil	Infante	27278	NC		1/11/16 15:55
Emily	Nicholson	27516	NC		1/11/16 15:58
Mary	Edwards	28160	NC		1/11/16 16:00
John	Emerson	27701	NC		1/11/16 16:01
Chris	Medina	27377	NC	We need solar in NC and what we don't need is Duke Power controlling the price of solar power in NC.	1/11/16 16:01
Eleanor	Underdown	28645	NC		1/11/16 16:08
Aaron	Johnson	27410	NC		1/11/16 16:11
Paula	Jay	27523	NC		1/11/16 16:19
William	Fore	28711	NC		1/11/16 16:19
Bill	West	27310	NC	Am I worried? Last year we sold our wonderful Wrightsville Beach home because we fear that you and the legislature do not have the political courage to reduce carbon pollution. Please, prove us wrong!	1/11/16 16:30
Carolyn	Pilgrim	28785	NC		1/11/16 16:41
Ellen	Lyle	28804	NC		1/11/16 16:42
edwina	labonte	27925	NC		1/11/16 16:48
John	Wagner	27312	NC		1/11/16 16:49
Traci	Hamilton	28210	NC		1/11/16 16:58
Todd	Shapley-Quinn	27516	NC	Let's keep NC one of the most beautiful states in the nation, no toxic zones like Gary, Indiana.	1/11/16 17:07
Suzan	Williams	48103	MI		1/11/16 17:11
Dennis	Lamour	27511	NC		1/11/16 17:18
Judy	Allen	28586	NC		1/11/16 17:27

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Jesse	MacKenzie	27101	NC		1/11/16 17:33
mary	lee	28315	NC		1/11/16 17:43
jennie	holt	28211	NC		1/11/16 17:48
Jan	Ross	28778	NC		1/11/16 17:49
Cullen	Zimmerman	27516	NC		1/11/16 17:53
Steve	A	28052	NC		1/11/16 17:58
Leah	Schaefer	28401	NC		1/11/16 17:58
Justin	Mebane	28411	NC		1/11/16 18:10
Susan	Brody	28110	NC		1/11/16 18:28
Helena	Day	28103	NC		1/11/16 18:28
Teresa	Thornsley	27511	NC		1/11/16 18:59
Ivette	Griffin	27606	NC		1/11/16 19:07
Mary Ann	Hamm	27503	NC		1/11/16 19:10
Kelly	Shoffeitt	27587	NC		1/11/16 19:34
Heather	Gunn	28749	NC	The McCrory Administration has become a National Embarrassment. By refusing to participate & being outright hostile to the EPA's Clean Power Plan, Pat Mc Crory is actively hurting ALL North Carolina & US Citizens & is unfit to be Governor of this State. We need a Governor who actually represents the majority of our citizens Will to protect our Air, Water, Food & Natural Resources...not one who actively exploits & promotes pollution of Our Commons. We Cannot Wait for removal of Pat McCrory by Election...He has caused too much harm to Our Citizens. IMPEACH RAT McCRORY NOW!	1/11/16 19:35
Heather	Gunn	28749	NC	The McCrory Administration has become a National Embarrassment. By refusing to participate & being outright hostile to the EPA's Clean Power Plan, Pat Mc Crory is actively hurting ALL North Carolina & US Citizens & is unfit to be Governor of this State. We need a Governor who actually represents the majority of our citizens Will to protect our Air, Water, Food & Natural Resources...not one who actively exploits & promotes pollution of Our Commons. We Cannot Wait for removal of Pat McCrory by Election...He has caused too much harm to Our Citizens. IMPEACH RAT McCRORY NOW!	1/11/16 19:35

## State Implementation Plan Public Comments

Heather	Gunn	28749	NC	The McCrory Administration has become a National Embarrassment. By refusing to participate & being outright hostile to the EPA's Clean Power Plan, Pat Mc Crory is actively hurting ALL North Carolina & US Citizens & is unfit to be Governor of this State. We need a Governor who actually represents the majority of our citizens Will to protect our Air, Water, Food & Natural Resources...not one who actively exploits & promotes pollution of Our Commons. We Cannot Wait for removal of Pat McCrory by Election...He has caused too much harm to Our Citizens. IMPEACH RAT McCRORY NOW!	1/11/16 19:35
Heather	Gunn	28749	NC	The McCrory Administration has become a National Embarrassment. By refusing to participate & being outright hostile to the EPA's Clean Power Plan, Pat Mc Crory is actively hurting ALL North Carolina & US Citizens & is unfit to be Governor of this State. We need a Governor who actually represents the majority of our citizens Will to protect our Air, Water, Food & Natural Resources...not one who actively exploits & promotes pollution of Our Commons. We Cannot Wait for removal of Pat McCrory by Election...He has caused too much harm to Our Citizens. IMPEACH RAT McCRORY NOW!	1/11/16 19:35
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Martin	Hollowell	27932	NC		1/11/16 19:36
Rabbi Jonathan	Freirich	28270	NC		1/11/16 19:38
Christine	Ganis	28387	NC	We are very disappointed to see the incentives go away regarding solar and energy efficient appliances. We will continue to monitor what you do, not just what you say.	1/11/16 19:46
David & Carol	Shelton	28020	NC	This has been a long time coming. It should have been a priority many years ago. Better late than never.	1/11/16 19:59
William	Gillespie	27511	NC		1/11/16 19:59

## State Implementation Plan Public Comments

Patricia	Nazzaro	41091	KY		1/11/16 20:03
Katherine	Bale	27330	NC	We MUST lead the nation and use solar, wind and other power alternatives to carbon fuels.	1/11/16 20:06
Susan	Kilzer	27517	NC		1/11/16 20:29
Catherine	Edalgo	28215	NC	Since not all North Carolinians accept the reality of climate change, consider this: Duke Energy has gobbled up 500 West Va. mountain tops - and counting for coal. Each mountain top destroyed brought unthinkable devastation - loss of habitat, un-fixable erosion nightmares, lives of nearby poor rural folk ruined, living creeks deadened by endless mud and debris. (And Appalachia is one of the most bio-diverse places in the world.) This destruction is no theory, it has already happened and continues right now. How unconscionable for us North Carolinians to continue to heedlessly shred our beautiful planet to power our homes, computers, offices, and more, when alternatives to coal do exist!	1/11/16 20:29
Lisa	Woolman	27517	NC	My family has an electric car and just spent \$60,000 on solar panels. We have proven our commitment to the future of our state. I hope you can stand with us.	1/11/16 20:33
Jiangrui	Lu	27516	NC		1/11/16 20:36
Mehmet	Bozkurt	27518	NC		1/11/16 20:40
Richard	Greene	28211	NC	Maybe you are a denier of global warming. If you change your mind, please fight for a carbon tax, fight for alternative energy, like solar and wind. Fight for legislation that encourages renewable energy development, even though Duke and Exxon are dug in.	1/11/16 20:43
Teresa	West	27312	NC	Dear Governor McCrory, The time to act on climate change is now! Our family did our part and invested in a 20 panel rooftop solar system I October 2014. I'm counting on you to do your part for our children, grandchildren (I have 3) and future generations. Thank you for your service. Sincerely, Teresa West Pittsboro Nc	1/11/16 20:47
Joanne	Loktu	27609	NC	Fracking is a terrible idea. Clean energy is the way to go!	1/11/16 21:02
pamela	woods	28731	NC		1/11/16 21:18
Alexandria	Huber	27514	NC	Do the right thing	1/11/16 21:18
Jenna	Gallagher	28806	NC	We need to be thinking long term.	1/11/16 21:19

## State Implementation Plan Public Comments

111(d)

michael	wade	27510	NC		1/11/16 21:22
Ellen	Gutfleisch	53089	WI		1/11/16 21:34
Angela	Fetrat	28734	NC		1/11/16 21:44
Sharon	Garbutt	90027	CA		1/11/16 21:58
RICHARD	CURRY	28373	NC		1/11/16 22:18
Linda	May	27502	NC	This panet is in serious troube. Do you really not care?	1/11/16 22:39
Betty	Thomas	27704	NC	We must act quickly to avert climate change. This is a Major threat to the world as we now know it. It is our responsibility to leave the world a better place for the next generations.	1/11/16 22:42
Kevin	Bobal	27613	NC		1/11/16 23:19
Shannon	Grimes	27604	NC		1/11/16 23:55
Brandylyn	Lemen	27705	NC		1/11/16 23:59
Justin	Hurley	27616	NC	Please think about your children, grandchildren and NC residents instead of partisan politics.	1/12/16 0:00
Joanna	Clancy	28409	NC		1/12/16 0:17
John	Gilmore	27513	NC	Do the right thing for NC, not for Duke Power, for once.	1/12/16 0:40
Johnn	Powell	28804	NC	Great things will come from being the State in the forefront of the aiternte	1/12/16 1:03
Johnn	Powell	28804	NC		1/12/16 1:03
Nancy	Byrum	27107	NC		1/12/16 2:37
Patrick	Jean	28613	NC		1/12/16 3:04
Annie	Wei	04870	ot		1/12/16 4:51
Meredith	Green	28205	NC	We need this and it's the right thing to do. Sustainable economic prosperity can't happen without a healthy environment, so please make progressive climate policy a priority. Thank you, Meredith Green	1/12/16 6:34
Judith	Porter	28659	NC		1/12/16 6:44
Donna	Edwards	27608	NC		1/12/16 6:54
Harley	Miller	27340	NC		1/12/16 8:47
Joanna	Degraw	28594	NC	Governor McCorry Climate isn't just good for our enviroment, its our responsibility. Please do the right thing to protect us against global warming. Please represent the people and not greed!	1/12/16 9:11
Pertti	Veijalainen	22500	ot		1/12/16 9:36

## State Implementation Plan Public Comments

111(d)

George	Nelson	27704	NC		1/12/16 9:36
Stacey	Lawless	27278	NC		1/12/16 9:39
Emma	Bogdan	27613	NC		1/12/16 9:57
Cathy	Shoemaker	27514	NC	Our great state deserves better than this subpar plan. Wind and solar options must also be included.	1/12/16 9:58
Vicky	Patton	27705	NC		1/12/16 10:02
Kelder	Monar	28779	NC	A true conservative aims to conserve the natural world around him, in addition to his cultural heritage.	1/12/16 10:09
Kenneth	Daniel	27707	NC		1/12/16 10:27
Madeline	Baker	27253	NC		1/12/16 10:36
Lauren	Powell	28806	NC		1/12/16 10:41
Lissa	Pierson	27808	NC		1/12/16 10:51
Ben	Barnard	27403	NC		1/12/16 13:03
Becky	Brookshire	28753	NC		1/12/16 13:52
Andrew	Pettifor	27514	NC		1/12/16 14:45
Alison	Clay Smith	27517	NC		1/12/16 15:09
Jody	Guokas	28806	NC		1/12/16 15:10
Bob	Griffin	28449	NC		1/12/16 15:14
Anette	Stauske	21035	MD		1/12/16 15:20
Deb	Carr	27523	NC		1/12/16 16:00
Ann	Prince	27516	NC		1/12/16 16:41
evelyn	carter	28803	NC		1/12/16 17:07
Marilyn	Brown	28105	NC		1/12/16 17:07
Sam	Hess	28805	NC		1/12/16 17:27
Christopher	Marlow	27617	NC		1/12/16 18:15
Jon	Doyle	27612	NC		1/12/16 19:50
Donna	Wheeler	28731	NC		1/12/16 20:17
Kimberly	Lillig	27612	NC		1/12/16 21:39
pat	still	27610	NC		1/12/16 22:23
C. Warren	Pope	28803	NC		1/12/16 23:11

## State Implementation Plan Public Comments

111(d)

ellen	buck	27502	NC	Mental Health, the environment, health care, medicaid ALL need funding and your support. STOP handing subsidies to your corporate friends and support the NC people.	1/13/16 0:05
James	Smith	27615	NC		1/13/16 6:54
Linda	Wesse	28105	NC		1/13/16 10:56
Kathleen	Kilmer	28906	NC		1/13/16 13:47
Caleb	Laieski	22305	VA		1/13/16 16:29
Alaina	Norzagaray	27513	NC	I think that by investing in sustainable practices, not only the energy sector but also the entire state will benefit economically.	1/13/16 16:49
Geri	Ingram	28711	NC		1/13/16 19:54
Margaret	Cash	27712	NC	Let's don't wait 'Til it's tooooo late	1/13/16 20:26
Cathy	Nieman	28787	NC		1/13/16 20:52
Harry	Petrequin	28711	NC		1/13/16 21:37
Nancie	Phillips	28209	NC		1/13/16 21:37
Robyn	Edwards	27525	NC	Oklahoma had 70 earthquakes in one week. One week. Oklahoma experienced 585 magnitude 3+ earthquakes in 2014 compared to 109 events recorded in 2013. How can you be so blind, so greedy? At this point, it doesn't even need science to back it up, just common sense & an ability to reason logically. By the time your grandchildren are grown, I predict they will be ashamed to be associated with your history governing this state & how you will become infamously known as the man who brought daily earthquakes to NC. It will be forever synonymous with your name.	1/14/16 9:37
John	Gray	28806	NC		1/14/16 10:44
Ruth	Baker	27514	NC	I do so wish you would move boldly into the 21st century instead of trying to recreate the past. Act instead of react.	1/14/16 11:27

Table V.3: List of Commenters That Sent Comments by U.S. Mail

<u>NAME</u>	<u>REPRESENTING</u>	<u>PAGE</u>
Nadia Luhr	Southern Environmental Law Center	V-347
Ann Prince		V-361
Jane Watson		V-362
August Preschle		V-365
Deborah Ginsberg		V-367

## SOUTHERN ENVIRONMENTAL LAW CENTER

Telephone 919-967-1450

601 WEST ROSEMARY STREET, SUITE 220  
CHAPEL HILL, NC 27516-2356

Facsimile 919-929-9421

December 16, 2015

VIA E-MAIL AND U.S. MAIL

Joelle Burluson  
Rules Branch Supervisor  
Division of Air Quality  
NC Department of Environmental Quality  
1641 Mail Service Center  
Raleigh, NC 27699  
*joelle.burluson@ncdenr.gov*

**Re: Extension to submit comments on the proposed “Standards of Performance for Existing Electric Utility Generating Units under Clean Air Act Section 111(d)”**

Dear Ms. Burluson:

The Southern Environmental Law Center (“SELC”) hereby respectfully requests a 30-day extension to submit comments on the proposed rules “Standards of Performance for Existing Electric Utility Generating Units under Clean Air Act Section 111(d),” proposed for adoption at 15A NCAC 02D .2700 to .2705. As you are aware, the North Carolina Environmental Management Commission (“EMC”) has noticed the above-referenced rules for public comment and has established a deadline of January 15, 2015 for written comments. In light of delay by the North Carolina Department of Environmental Quality (“NCDEQ”) in responding to our public records request, as described in more detail below, SELC will be unable to submit meaningful comments by that date. Accordingly, we request that our comments be accepted and deemed timely submitted if they are received by February 15, 2016.

We believe the requested extension is warranted for the following reasons:

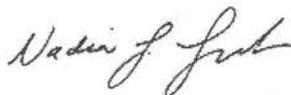
- SELC submitted a public records request to NCDEQ on November 11, 2015 requesting records related to NCDEQ’s development of the proposed rules referenced above. Our request was submitted promptly after the EMC voted to send the rules to public comment—in fact, it was submitted two days prior to our receipt of your November 13, 2015 email transmitting the public notice to air quality stakeholders.
- The proposed rules are complex and implicate matters important to North Carolina citizens, and the records we have requested are essential to thorough, meaningful and substantive comments on the proposed rules. Moreover, the proposed rules are purportedly intended to comply with the federal Clean Power Plan rule (“CPP”)

promulgated by the U.S. Environmental Protection Agency, which specifically requires robust public participation in state processes that implement the CPP.

- As of the date of this letter, we have 30 days to prepare our comments on the proposed rules, yet have not received any records in response to our request. Based on emails exchanged with the Public Information Officer at NCDEQ, Jamie Kritzer, it is our understanding that the records will not be produced until late December. If the records are not produced until Mr. Kritzer's anticipated production date, SELC's ability to understand the basis for DEQ's proposed rules and formulate informed comments will be severely hampered. An extension of the comment period is therefore necessary to ensure adequate opportunity to review the records as we prepare our comments.

Thank you for your consideration of this request.

Sincerely,



Nadia Luhr  
Associate Attorney

Attachments: 11-11-2015 Public Records Request  
12-07-2015 Email to Kritzer re: extension

cc (via email): Charles Carter, EMC  
Jamie Kritzer, Public Information Officer, NCDEQ

# **ATTACHMENT A**

**11-11-2015 Public Records Request to NCDEQ**

## SOUTHERN ENVIRONMENTAL LAW CENTER

Telephone 919-967-1450

601 WEST ROSEMARY STREET, SUITE 220  
CHAPEL HILL, NC 27516-2356

Facsimile 919-929-9421

November 11, 2015

VIA E-MAIL AND U.S. MAIL

Jamie Kritzer  
Public Information Officer  
North Carolina Department of Environmental Quality  
217 West Jones Street  
Raleigh, NC 27603  
[jamie.kritzer@ncdenr.gov](mailto:jamie.kritzer@ncdenr.gov)

**Re: Public Records Request – Clean Power Plan**

Dear Mr. Kritzer:

Pursuant to North Carolina public records law, N.C. GEN. STAT. §§ 132-1 to 132-10, the Southern Environmental Law Center (“SELC”) respectfully requests to inspect all records in the possession or control of the North Carolina Department of Environmental Quality (“NCDEQ”) related to the federal Clean Power Plan and NCDEQ’s development of the draft rule “Standards of Performance for Existing Electric Utility Generating Units under Clean Air Act Section 111(d),” proposed for adoption at 15A NCAC 02D .2700 to .2705, from June 18, 2014 to the present.

This request shall include:

1. all documents and data that NCDEQ relied upon in developing the draft rule referenced above, including, but not limited to, documents and data that NCDEQ received from Duke Energy and other outside entities;
2. all internal NCDEQ communications concerning the federal Clean Power Plan and the draft rule referenced above; and
3. all external communications concerning the federal Clean Power Plan and the draft rule referenced above, including, but not limited to, communications with North Carolina agencies, boards and commissions, the North Carolina Governor’s office, Duke Energy, other stakeholders and members of the public.

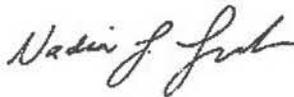
As used in this letter, the term “public records” or “documents” includes all written, printed, recorded, or electronic materials, communications, correspondence, memoranda, notations, copies, diagrams, charts, tables, spreadsheets, formulas, directives, observations, impressions, drafts, contracts, letters, messages, e-mails, deleted e-mails, text messages, and mail in the possession, custody, or control of NCDEQ. N.C. GEN. STAT. § 132-1. Please provide access to any electronic records, including electronic mail, in their native file format. This request excludes all records publicly available on the NCDEQ website.

We request the opportunity to inspect, examine, and copy all public records identified above. SELC will copy the records itself, and will bring its own copying and/or scanning device to use during our inspection.

Public records must be provided to a requestor "as promptly as possible" upon payment of any fees, which shall not exceed the actual cost of reproducing the public record. N.C. GEN. STAT. §§ 132-1, 132-6, 132-6.2. If you withhold any responsive information or documents, please provide an index describing each item withheld and explaining the statutory exception that you believe applies to justify withholding each document, in sufficient detail to allow us and/or a court to evaluate the application. In the event of deletions or redactions, we request that a reason be stated for each denial or partial denial of access.

Thank you in advance for your cooperation. We are available to inspect documents prior to any duplication and are willing to discuss other ways to facilitate the production of the requested public records. For example, we are willing to work with NCDEQ to narrow the list of record custodians and search terms responsive to our request. Please do not hesitate to contact me at 919-967-1450 or [nluhr@selcnc.org](mailto:nluhr@selcnc.org) to arrange for inspection, copying, and electronic transmission of the requested documents.

Sincerely,



Nadia L. Luhr  
Associate Attorney

# **ATTACHMENT B**

**12-07-2015 Email to Kritzer re: extension**

**From:** Nadia Luhr  
**To:** "Kritzer, Jamie"  
**Subject:** RE: Public Records Request - Clean Power Plan  
**Date:** Monday, December 07, 2015 4:01:00 PM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)

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Hi Jamie,

Thanks for the update. Given the upcoming January 15th deadline for comments on the proposed rule, we need to receive the documents as soon as possible. Please let me know if it will be possible to receive the documents this week. If not, we'll need to request an extension of the comment deadline to ensure that we'll have adequate opportunity to review the documents as we prepare our comments.

Thanks,

Nadia

--

**Nadia L. Luhr**

Associate Attorney  
Southern Environmental Law Center  
601 West Rosemary Street, Suite 220  
Chapel Hill, NC 27516

T: 919-967-1450 | F: 919-929-9421 | Email: [nluhr@selcnc.org](mailto:nluhr@selcnc.org)

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**From:** Kritzer, Jamie [mailto:[jamie.kritzer@ncdenr.gov](mailto:jamie.kritzer@ncdenr.gov)]  
**Sent:** Monday, December 07, 2015 3:10 PM  
**To:** Nadia Luhr  
**Cc:** Kritzer, Jamie  
**Subject:** RE: Public Records Request - Clean Power Plan

Nadia,

Sorry for the delayed response. I've been on leave since Thanksgiving.

I just checked with staff in the Division of Air Quality and the General Counsel's Office. The short answer is this: staff in DAQ who have been identified as possibly having records relevant to your request are pulling those together and placing them in a folder, where our General Counsel's Office can review them for privileged information. Once the records have been vetted, the General Counsel's Office will place the public records on a hard drive and we will alert you so SELC can come by and make copies for free.

I'm told the records should be ready for your review in about 2-3 weeks.

Jamie Kritzer  
Public information officer  
N.C. Department of Environmental Quality

919 707 8602 office  
919 218 5935 mobile  
[Jamie.Kritzer@ncdenr.gov](mailto:Jamie.Kritzer@ncdenr.gov)

217 West Jones Street  
1601 Mail Service Center  
Raleigh, NC 27699



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**From:** Nadia Luhr [<mailto:nadialuhr@selcnc.org>]  
**Sent:** Monday, December 07, 2015 2:17 PM  
**To:** Kritzer, Jamie <[jamie.kritzer@ncdenr.gov](mailto:jamie.kritzer@ncdenr.gov)>  
**Subject:** RE: Public Records Request - Clean Power Plan

Hi Jamie,

I hope you had a great weekend. I wanted to check in for a status update on our Public Records Request related to the Clean Power Plan.

Thank you,

Nadia

---

**From:** Nadia Luhr  
**Sent:** Wednesday, December 02, 2015 10:20 AM  
**To:** 'Kritzer, Jamie'  
**Subject:** RE: Public Records Request - Clean Power Plan

Hi Jamie,

I wanted to check in to see if you have an expected date for completion of the Public Records Request. Please let me know if there's anything we can do to help facilitate production.

Thanks, and I hope you had a great Thanksgiving holiday,

Nadia

--

**Nadia L. Luhr**

Associate Attorney  
Southern Environmental Law Center  
601 West Rosemary Street, Suite 220  
Chapel Hill, NC 27516

T: 919-967-1450 | F: 919-929-9421 | Email: [nluhr@selcnc.org](mailto:nluhr@selcnc.org)

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**From:** Kritzer, Jamie [<mailto:jamie.kritzer@ncdenr.gov>]  
**Sent:** Wednesday, November 18, 2015 10:39 AM  
**To:** Nadia Luhr  
**Subject:** RE: Public Records Request - Clean Power Plan

Nadia,  
Thank you. I'll let you know how things are progressing.

Jamie Kritzer  
Public information officer  
N.C. Department of Environmental Quality

919 707-8602 office  
919 218-5935 mobile  
[Jamie.Kritzer@ncdenr.gov](mailto:Jamie.Kritzer@ncdenr.gov)

217 West Jones Street  
1601 Mail Service Center  
Raleigh, NC 27699



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**From:** Nadia Luhr [<mailto:nadialuhr@selcnc.org>]  
**Sent:** Wednesday, November 18, 2015 10:37 AM

**To:** Kritzer, Jamie <[jamie.kritzer@ncdenr.gov](mailto:jamie.kritzer@ncdenr.gov)>  
**Subject:** RE: Public Records Request - Clean Power Plan

Absolutely - the date range is between June 18, 2014 and the date of the request, November 11, 2015.

Thank you,

Nadia

---

**Nadia L. Luhr**

Associate Attorney  
Southern Environmental Law Center  
601 West Rosemary Street, Suite 220  
Chapel Hill, NC 27516

T: 919-967-1450 | F: 919-929-9421 | Email: [nluhr@selcnc.org](mailto:nluhr@selcnc.org)

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**From:** Kritzer, Jamie [<mailto:jamie.kritzer@ncdenr.gov>]  
**Sent:** Wednesday, November 18, 2015 10:30 AM  
**To:** Nadia Luhr  
**Subject:** RE: Public Records Request - Clean Power Plan

Nadia,

Sorry for the delay in my response. I've forwarded your request on to all the staff we can think of who might have records responsive to your request. Can you provide me with the specific dates you would like us to search?

Thank you.

Jamie Kritzer  
Public information officer  
N.C. Department of Environmental Quality

919 707-8602 office  
919 218-5935 mobile  
[Jamie.Kritzer@ncdenr.gov](mailto:Jamie.Kritzer@ncdenr.gov)

217 West Jones Street  
1601 Mail Service Center  
Raleigh, NC 27699



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**From:** Nadia Luhr [mailto:[nadialuhr@selcnc.org](mailto:nadialuhr@selcnc.org)]  
**Sent:** Thursday, November 12, 2015 11:57 AM  
**To:** Kritzer, Jamie <[jamie.kritzer@ncdenr.gov](mailto:jamie.kritzer@ncdenr.gov)>  
**Subject:** RE: Public Records Request - Clean Power Plan

Hi Mr. Kritzer,

Thank you for your response!

In response to your second email, we do not currently have any similar requests with other staff in DEQ.

In response to your first question below, would it be possible for you to provide a list of individuals who may have custody of relevant records? We're happy to help narrow the list if possible.

With respect to timing, we would request a response by December 2nd. We're available to copy the records in person if that helps facilitate production of the requested records.

Thank you, and please don't hesitate to contact me with any additional questions.

Nadia

**Nadia L. Luhr**

Associate Attorney  
Southern Environmental Law Center  
601 West Rosemary Street, Suite 220  
Chapel Hill, NC 27516

T: 919-967-1450 | F: 919-929-9421 | Email: [nluhr@selcnc.org](mailto:nluhr@selcnc.org)

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**From:** Kritzer, Jamie [mailto:jamie.kritzer@ncdenr.gov]  
**Sent:** Thursday, November 12, 2015 10:27 AM  
**To:** Nadia Luhr  
**Cc:** Kritzer, Jamie  
**Subject:** RE: Public Records Request - Clean Power Plan

Nadia,

Sorry for the delay in responding to your public records request. I was out of the office yesterday during the Veteran's Day holiday.

I have a few requests that will help me better fulfill your request.

- First, if possible, can you provide me with specific names of people whose records you would like to inspect?
- Also, do you have a timeline for your request?

When I've heard from you, I will start working getting the appropriate documents ready for your review.

Thank you.

Jamie Kritzer  
Public information officer  
N.C. Department of Environmental Quality

919 707-8602 office  
919 218-5935 mobile  
[Jamie.Kritzer@ncdenr.gov](mailto:Jamie.Kritzer@ncdenr.gov)

217 West Jones Street  
1601 Mail Service Center  
Raleigh, NC 27699



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**From:** Nadia Luhr [mailto:nadialuhr@selcnc.org]  
**Sent:** Wednesday, November 11, 2015 1:36 PM  
**To:** Kritzer, Jamie <[jamie.kritzer@ncdenr.gov](mailto:jamie.kritzer@ncdenr.gov)>  
**Subject:** Public Records Request - Clean Power Plan

Dear Mr. Kritzer,

Please find attached a public records request concerning the federal Clean Power Plan and NCDEQ's development of the draft rule "Standards of Performance for Existing Electric Utility Generating Units under Clean Air Act Section 111(d)."

Thank you,

Nadia Luhr

--  
**Nadia L. Luhr**

Associate Attorney  
Southern Environmental Law Center  
601 West Rosemary Street, Suite 220  
Chapel Hill, NC 27516

T: 919-967-1450 | F: 919-929-9421 | Email: [nluhr@selcnc.org](mailto:nluhr@selcnc.org)

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December 22, 2015

Ann Prince  
9808 Leslie Drive  
Chapel Hill, NC 27516

Ms. Joelle Bureson  
Division of Air Quality  
1641 Mail Service Center  
Raleigh, North Carolina 27699-1641

Pertaining To: 111(d) Draft Rule

Dear Ms. Bureson and Staff of the Division of Air Quality and the Environmental Management Commission:

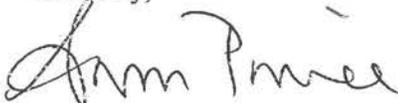
I am writing to request that, in revising the state's Clean Power Plan, you make renewable energy, including wind and solar, an essential and strong component of the plan. Having attended the recent CPP hearing in Raleigh, I was impressed with the range and scope of speakers, from teenagers to people in their 70s or 80s, from those protecting public health to those endorsing green and clean energy, from those wanting to protect our seashores from inundation and our forests from cycles of frequent fire and drought to those who believe that knowledgeable stewardship of the environment is a spiritual obligation. Yes, there were some voices in opposition to renewable energy, those who feared wind energy because it is unsightly or noisy, or those who believe climate science is a hoax. And those who fear renewable energy will need to have their fears addressed. But 90+% of the attendees believe climate change is real and that the Clean Power Plans developed by the states are one of our last collective opportunities to prevent catastrophic global warming. This is the voice of North Carolina and it does represent the future of our children and our children's children. It needs to be heeded.

As a former state government employee and a casualty of drastic and ill-planned budget cuts, I recognize that you all, as state employees must labor under considerable constraint to truly represent sound scientific reasoning and deliberation. But any revisions of the Clean Power Plan MUST represent the BEST science. As a former biologist with state government, I know what global warming portends for the state's natural areas: more drought/forest fire and invasive species in our uplands and more saltwater inundation in our coastal communities, including complete loss of some of our state parks, wildlife refuges, and national estuarine research reserves

While it is beneficial to make existing power plants as clean and efficient as possible, it is equally essential to fully invest in green energy and to provide incentives for citizens to develop and utilize these resources. Why turn away from a proven growth industry like solar or wind? It is not economically justifiable to do so, much less environmentally. Fracking is divisive in all ways...it fractures human communities and human health, it fragments natural areas, it is water-consumptive when we are water-limited, and it potentially disrupts geological stability. Why make this a keystone feature of our energy policy in North Carolina? Natural gas is a finite resource and one which comes at great cost.

I sympathize with you all as state government employees at this crucial and trying stage of North Carolina's energy policy development. But I urge you to NOT turn away from the challenge, to NOT accept anything less than producing the BEST Clean Power Plan necessary for North Carolina's future.

Sincerely,



Ann Prince

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**JANE C. WATSON, J.D., LL.M.**

---

ATTORNEY AT LAW  
514 Daniels Street #250  
Raleigh, NC 27605  
(919) 559.3371

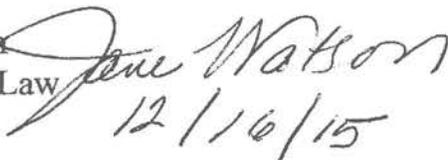
Joelie Burleson  
Division of Air Quality  
1641 Mail Service Center  
Raleigh, NC, 27699-1647

RE: CLEAN POWER ORAL TESTIMONY SUBMITTED IN WRITTEN FORM

I had to leave the hearing on December 16, 2015 before my number was called, and hence, I hereby submit it in writing.

Please provide it to all who play a role in North Carolina's submission of a plan, including those who are involved in the filing of lawsuits to obstruct submission of such plans as have been requested by the federal government via EPA.

Jane Watson  
Attorney at Law

  
12/16/15

MY NAME IS JANE WATSON, AND I'M HERE TO URGE YOU TO DO THE RIGHT THINGS – TO FIND THE PERSONAL COURAGE, BRAVERY OF HEART, AND STRENGTH OF CHARACTER TO DO THE RIGHT THINGS REGARDING THE STATE'S SUBMISSION OF ITS "CLEAN POWER PLAN".

IN 2016, WHAT THE "CLEAN POWER PLAN" ASKS OF NC IS NOT NEARLY AS COMPLEX AS BEING ASKED HOW TO PUT A MAN ON THE MOON IN 1961!

NC'S CAPITAL SITS IN A REGION ABUNDANT, NOT ONLY WITH POLITICIANS WHO COME HERE FROM ALL CORNERS OF THE STATE, BUT WITH HIGHLY EXPERIENCED AND EDUCATED BEINGS AND HI-TECH BRAINIACS, MANY OF WHOM ARE HERE TONIGHT . {I HOPE ALL OF YOU ARE AS IN AWE OF THAT FACT AS I HAVE BEEN AS A LISTENER, TONIGHT. AND, I MIGHT ADD THAT I THINK WE SHOULD BE AS PROUD OF, AND GIVE AS MUCH SWAY AND DISPLAY TO , OUR "GEEKS" AS WE DO OUR "JOCKS" IN NC.}

HENCE, WERE NC TO SUBMIT A PROPOSED PLAN BENEATH ITS PROWESS, (AS MANY OF US THINK THE PRESENT ONE IS), IT WOULD BE A **SHAMEFUL** EMBARRASSMENT IN THE PRESENT . . . AND QUITE POSSIBLY A CATASTROPHIC EMBARRASSMENT IN THE TOMORROW.

I WOULD HOPE THAT THIS STATE WOULD RECOGNIZE THAT THESE YOUNG LIONS OF TODAY WERE/ARE BABES OF 911 AND HAVE SPENT A DECADE OF THEIR YOUNG LIVES IN THE SHADOWS OF WAR. LET US, NORTH CAROLINIANS, BE A PART OF A PLAN OF ACTION THAT CATAPULTS THEIR FUTURES TO CLEAN AIR AND SPACE (SAFE WATERS AND PRODUCTIVE SOIL) AS WERE OURS, THE BABES OF PEARL HARBOR AND WWII.

YES, I'M *THAT* VINTAGE . . . AND I WANT TO PUT A LITTLE INSTITUTIONAL MEMORY AND HISTORICAL PERSPECTIVE ON THIS TASK WHICH IS PUT BEFORE YOU.

**45 YEARS AGO**, I WAS THE CHAIR OF THE Environment Coalition of Metropolitan Indianapolis WHICH GREW OUT OF A CONFERENCE OF THE LWV FOUNDATION, INVOLVING INDUSTRY, COMMERCE, LABOR, HEALTH, AND NON-GOVERNMENTAL ORGANIZATIONS. OUR FOCUS AND OUR LOBBYING WAS FOR THE SETTING OF AIR (AND WATER) QUALITY STANDARDS. . . EPA'S FIRST HEAD WOULD ALSO BE NAMED (RUCKELSHAUS ALSO OF IN).

AS TODAY, SO THEN, THE FEDERAL GOVERNMENT TOOK THE LEAD, WAS A RICH SOURCE OF KNOWLEDGE AND INFORMATION, AND ASKED THE STATES TO SET STANDARDS. LIKEWISE, TODAY, AS THEN, THE POWER-GENERATION INDUSTRY WAS THE MOST POWERFUL . . . AND INTRANSIGENT . . . SECTOR. . . RESISTING, AT NEARLY EVERY TURN, THE IMPLEMENTATION OF THEN-AVAILABLE -- AND EVEN 30-YEAR OLD -- TECHNOLOGIES TO LIMIT EMISSIONS OF CARBON AND SULPHUROUS COMPOUNDS.

HERE WE ARE, 45 YEARS LATER, HAVING ESSENTIALLY THE SAME ARGUMENTS, STILL "STUDYING", STILL REFRAMING THE LANGUAGE OF PUBLIC CONVERSATION (E.G, "ACID RAIN"), TO AVOID REAL, POSITIVE ACTION.

THIS IS NOT A QUESTION OF ROCKET- SCIENCE – THIS IS A QUESTION OF POLITICAL WILL -- THE WILL TO ACCELERATE THE TECHNOLOGIES THAT WILL GIVE US TRULY CLEAN ENERGY, GOOD PUBLIC HEALTH, AND SPREAD GREAT WEALTH.

SO, I CALL ON YOU TO ACT IN COLLABORATION WITH STAKEHOLDERS AND SIMILARLY-SITUATED, PROGRESSIVE STATES TO TAKE THOSE *STATESMAN-LIKE* ACTIONS THAT ARE NECESSARY TO PRESERVE AND PROTECT THIS BEAUTIFUL AND ABUNDANT EARTH WE CALL "THE OLD NORTH STATE" IN "THE NEW SOUTH", ONE OF THE FIRST AND PROUDEST OF THE UNITED STATES OF AMERICA.

BE COURAGEOUS IN DOING ALL YOU CAN, WITH WHAT YOU HAVE, WHERE YOU ARE, AND

BE STALWART IN DOING WHAT IS RIGHT FOR THE COUNTRY RATHER THAN WHAT IS ASKED OF YOU FOR PERSONAL, POLITICAL, OR CORPORATE GAIN.

THANK YOU FOR YOUR LISTENING.

  
JANE WATSON, RALEIGH NC

Gus Preschle  
7711 Lasater Road  
Clemmons, NC 27012  
January 5, 2016

Ms. Joelle Burleson  
Division of Air quality  
1641 Mail Service Center  
Raleigh, North Carolina 27699-1641  
Re: 111(d) Draft rule of the Clean Air Act

I am a residential electric customer in Forsyth and Iredell Counties. And by way of full disclosure, I also am a Duke Energy shareholder. I also have many family members in North Carolina who are very concerned about our energy future. And I have grandchildren who are not old enough to speak for themselves and their energy and environmental future. So, I want to emphasize the importance of a key element of the "all of the above" strategy- that of offshore wind energy. The technology has been proven in Europe over the past 2 decades and is just starting to be developed on the East Coast. If North Carolina is smart and aggressive, we can tap a clean, reliable, affordable energy resource. It will generate new businesses for our ports and manufacturing industry, and high paying jobs for our citizens; all without serious negative environmental impacts. The Governor, EMC, DEQ and our electric companies must work aggressively with the Bureau of Ocean Energy Management to make it happen quickly. This should be part of North Carolina's Clean Power Plan.

Europe and Asia are already enjoying affordable, reliable and clean off-shore wind energy generation on a grand scale. In 2014, Europe connected 408 offshore wind turbines in nine wind farms and one demonstration project with a combined capacity totaling 1,483 MW. In the first six months of 2015, Europe connected 584 offshore wind turbines, with a combined capacity totaling 2.3 GW, approximately the generating capacity of the massive Belews Creek Power plant. Almost 3,000 offshore turbines are now installed and grid connected in 74 wind farms in 11 European countries. The offshore projects currently under construction will increase installed capacity to 10.9 GW. I refer you to the European Offshore Wind Energy Association report for more details.

China already has 660 MW installed and they want to dominate the manufacturing market. In January of this year, China announced a national offshore wind development plan for 44 projects totaling 10.53GW in capacity.

I am sure you already know that North Carolina has the greatest potential for offshore wind power along the eastern seaboard. We have sustained winds, a shallow continental shelf, good ports for support work, and according to BOEM's EIS hundreds of square miles free of major environmental impacts on fish, coral, birds and bats, and views. Yet states from Maine to Virginia will probably have wind turbines in production years ahead of us, unless you act now and decisively. Sure, the first 10 turbine would be expensive, the 100<sup>th</sup> turbine would have everyone wondering why we didn't start sooner, and the 500th turbine would have people, including shareholders like me, dancing in the streets at night under low cost electric lighting, free of those expensive law suits over air, water and other pollution like coal ash.

(over)

This dramatic cost drop is what we have experienced with solar energy and it is what we will see with wind energy if high goals and requirements are set now.

The challenge falls to you bring North Carolina into the 21<sup>st</sup> century. This is not new technology. The advantages and risks are known. Now what we need is a forward thinking Clean Power Plan to bring it here. We have the intelligence, creativity, drive, and public interest to be world leaders. Let's take on that challenge and show that we still have what it takes to be the best at bringing clean, reliable and affordable offshore wind energy to the people and industry in this, the state with the best offshore wind potential on the east coast.

Sincerely,

A handwritten signature in cursive script that reads "August Preschle".

August Preschle

CC: Ms. Lynn Good, Duke Energy

Deborah Ginsberg  
522 Finley Street  
Durham, NC 27705

November 16, 2015

Joelle Burleson  
NC Division of Air Quality  
1641 Mail Service Center  
Raleigh, NC 27699-1641

Dear Mr. Burleson:

I support the Environmental Protection Agency's recently proposed limits on carbon pollution, known as the Clean Power Plan (CPP). As childhood asthma rates continue to rise in North Carolina and the effects and threat of climate change continue to increase, we should be working towards reducing our carbon emissions.

I am very disappointed that Governor McCrory and your agency are purposefully setting North Carolina up to fail with the federal requirements under the CPP. By championing a plan that is "designed to fail," the Department of Environmental Quality is denying North Carolina the opportunity to create a plan that works best for North Carolina, our community, our energy mix, and instead allowing bureaucrats in Washington to determine what is best for our state. Nothing about this makes sense.

Clean air is good for our families, our environment and for North Carolina's economy. Please do the right thing and protect our clean air.

Sincerely,

  
Deborah Ginsberg

Table V.4: List of Commenters at Charlotte Hearing

<u>NAME</u>	<u>REPRESENTING</u>	<u>PAGE</u>
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Sally Kneidel		V-386
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Jan Comer		V-401
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<u>NAME</u>	<u>REPRESENTING</u>	<u>PAGE</u>
Rich Greene	Citizen's Climate Lobby	
Jeff Botz		V-405

**Clean Power Plan Hearing - Charlotte, December 16, 2015**  
**Statement from Steve Copulsky**

I'm Steve Copulsky, a Charlotte resident, and Chair of the North Carolina Chapter of the Sierra Club.

Does anyone on this panel know how much of Germany's electricity comes from renewable energy?

Germany receives over 25% of its electricity from renewable energy. On their best day this past summer, they reached a new high by obtaining 78% from renewables. They recognize the importance of solar and wind power. They know that renewable energy will ultimately lower their energy costs while reducing their health costs from air pollution. Are they better than us? Are we willing to let Germany and other countries take the lead over us by powering their economy with clean affordable renewable energy? Why are we fighting in North Carolina to simply maintain our renewable energy goal of reaching just 12.5%, five years from now?

Does anyone on the panel know how much of the energy that the Apple Company uses at its data centers is renewable energy? The answer is 100%. Are companies like Apple, Walmart and Google turning to renewable energy simply because they're big believers in a cleaner environment? They know that renewable energy will lower their costs.

Why is our Governor afraid to let North Carolina be competitive? Why is he against a Clean Power Plan that will significantly reduce carbon emissions, fight climate change and give us a healthier environment? This is our opportunity to do the right thing for our state. Please support a Clean Power Plan for North Carolina based on renewable energy and energy efficiency.

Thank you.

Steve Copulsky  
6614 Lynn Ave.  
Charlotte, NC 28226  
704-543-7493  
scopulsky@mindspring.com

# The Climate Change Threat to the Charlotte

Speaker: E. Winters Mabry, M.D.

Position: Former Mecklenburg County Health Director  
(2004 - 2013)

## 1. Problem

The current state of poor air quality and evolving "climate change" effects poses a "clear and present danger" to the health and safety of the Charlotte community. Without sustained, coordinated, multi-level efforts to reduce toxic carbon emissions, the Charlotte area environment will continue to deteriorate to unhealthy and unsafe levels.

- Charlotte ranks high among major cities in air quality problems.
  - #8 in the 25 most ozone polluted cities in an EPA study between 2005 and 2010
- Charlotte has the 3rd fastest population growth in the nation currently.
  - we have a future with more vehicles
  - we have a road system with limited capacity

## 2. Health Concerns related to Climate Change

Climate change is a threat to human health, and security and our children are uniquely vuln to these threats. The potential effects of climate on child health include:

- physical and psychological sequelae of weather disa
- increased heat stress with outdoor sports and ex
- increased incidence of asthma and allergy re
- altered disease patterns of some climate-sensitive infections
- food, water, and nutrient insecurity in vulne regions

## 3. Charlotte Community Health Issues

- School Health demands have increased
  - Mecklenburg County Health Department has the number of school health nurses (60 to to meet the needs of school age children w chronic respiratory and allergic conditions, and high pollen counts aggravate their medic problems
- Health disparities
  - minority and low income groups suffer high rates of respiratory and cardiac disease w makes them vulnerable to extreme weather w

#### 4. Call to Action

It is a fundamental responsibility of all members of a caring community to provide a safe and secure environment for our families to live, work, and recreate. We need to make a better life for our children and grandchildren. To improve our environment we must do the following:

- Fully implement a genuine Clean Power Plan, part of a comprehensive carbon emission reduction strategy.
- Encourage and empower NC citizens to participate in the plans and actions to provide better quality and a safer environment for generations to come.



**Statement from Max Stone, Dogwood Alliance, December 16, 2015  
DEQ Public Hearing on the NC SIP for the Clean Power Plan**

My name is Max Stone and I'm a recent graduate from UNC Asheville. During my time there, I was fortunate enough to receive an education that placed a great emphasis on our relationship with our surrounding ecosystem. Through this educational experience I, along with many of my peers, have come to realize how vital it is to protect our environment further degradation. I am here representing Dogwood Alliance, a nonprofit organization that advocates for protection of forests in the Southern US. We represent over 50,000 people with over 6,000 in NC. We are also part of a strong alliance of organizations in the region that represent hundreds of thousands of individuals. I am here because North Carolina has a unique opportunity to determine our state's clean energy future and if we squander that opportunity, the federal government will step in and determine that future instead.

I support a strong and just state Clean Power Plan. I respectfully request the consideration of my comments on the draft rules to comply with Section 111 (d) of the Clean Air Act:

- First, renewable energy and energy efficiency should be a core part of the state's Clean Power Plan. North Carolina is well positioned to meet the goals set forth in the Clean Power Plan if we build upon our zero-emission renewable energy successes (i.e. wind, solar).
- Second, the state plan must include documentation that the agency has conducted community outreach and community involvement, including engagement with vulnerable communities. In doing so, North Carolina should reach out to NC communities impacted by dangerous pollution caused by woody biomass facilities.
- Finally, if we don't create a state plan that adequately adheres to the rules set out by EPA, the Federal Plan will surely be implemented. Not only does this take away an opportunity for NC to protect its communities and businesses, it also open the door for forest-derived biomass to be burned. Dogwood Alliance is one of many groups, representing tens of millions of individuals, that have called on the EPA to exclude bioenergy from forests.

North Carolina forests are a place where we hike, hunt, fish, camp, and enjoy the outdoors. They protect us from massive storms and prevent flooding. The federal implementation plan from the EPA proposes burning these very forests to achieve CO2 emission reductions when, in reality, burning forests for fuel can be up to 2x as CO2 intense as coal. The largest utility for our state, Duke Energy, has even rejected biomass as a viable alternative form of energy.

We respectfully urge DEQ to create a Clean Power Plan that includes clean zero-emission energy, energy-efficiency, and input from low-income communities. If we do so, we can exert state autonomy, craft a clean energy future for ourselves, employ North Carolinians in the clean energy economy, protect businesses and families, save our forests, and help mitigate the worst effects of climate change.

## **Comments for the Charlotte Clean Power Plan Public Hearing**

North Carolina needs the best Clean Power Plan of all the states. North Carolina does not need an fantasy economy fueled by petrol dollars. North Carolina does not need to waste time and money taking the EPA to court.

An effective Clean Power Plan is essential in maintaining North Carolina's environmental quality of life, creating a robust economy, and to promote social justice.

We need a clean power plan that will regulate carbon dioxide emissions just as we regulate mercury, arsenic, and particulates.

The release of carbon dioxide contributed to climate change and that is recognized by the scientific community. Folks who will be most effected by climate change will be the folks least able to live with the effects of climate change.

The true cast of coal is measured in mountain top removal, coal ash ponds, respiratory illnesses, and contaminated drinking water. Once again, the folks most likely to be effected are those who will be least able to deal with the consequences.

Technology has closed the door on coal as a power generating fuel and opened the door to renewable energy production and the robust economy that they will bring. They will bring not just jobs, but careers and economic benefits to folks who need them most.

Please do not let the Clean Power Plan become merely a political or ideological issue. Here is an opportunity to make North Carolina first in the state in clean energy production and a better life for all North Carolinians.

Henry Fansler  
919 Williams Road  
Lewisville, NC 27023  
[hbjfansler@windstream.net](mailto:hbjfansler@windstream.net)  
Home: 336-946-2786  
Mobile: 336-473-0283

Environmental Management Commission  
State of North Carolina

### Clean Power Plan Hearing Testimony

Thank you for the opportunity to critique the North Carolina DEQ plan for addressing the USEPA's Clean Power Plan requirements. My concerns are expressed as the father of Kamariah and Kyler both North Carolina children. I also speak as a former two time DEQ Secretary appointee to the North Carolina Environmental Stewardship Advisory Committee run out of DEQ.

First, I want to compliment the work of DEQ, as the North Carolina plan is a good piece of work in terms of using proven technologies for the purpose of reducing carbons generated by the fossil fuel technologies of the past. However my concerns follow:

First, the current Plan falls short in that it does nothing to position the people of North Carolina and Duke Energy as the recognized world leaders in the cleaner cheaper modern energy generation marketplace. For the Government of North Carolina to intentionally avoid the cue from the United States of America to incentivize and or promote clean fuel alternatives, the people of North Carolina will miss this prime opportunity for both the State and Duke Energy to be positioned as the World's leading champions of clean fuel alternatives in service to the people.

Duke Energy has the resources, the technology and the marketplace to be the undeniable world leader establishing best practices and earning best in class status in clean energy generating while earning vast profits for it's shareholders, providing clean energy alternatives for the children of today and also for generations to come.

The People of North Carolina do not want our Clean Energy Program effort exclusively focused on cleaning up old fashioned dirty fossil fuel energy generation when, we the people, have the opportunity to lead forward with cleaner cheaper energy alternatives. Cleaner is cheaper, cleaner is more healthy and cleaner is undeniably the future of energy generation. The people of North Carolina need our energy generation to be forward thinking and not clinging on to the paradigms of the past.

Second, the people of North Carolina are not interested in DEQ legalistic gamesmanship challenging the authority of the United States of America's Clean Power Plan. We, the people say...Let some other state spend their people's tax dollars to fight the clean power plan and let's use North Carolina's people money to move us forward together towards a cleaner, cheaper and more efficient energy future.

The people of North Carolina find that it is paramount for our fiscal resources be used to establish our beautiful state as the world's leader in cleaner cheaper energy generation. The decisions of today...your legacy.... will either make this happen for our children or bind us to continued addictions to old fossil fuel technologies. This is your legacy.

In conclusion, John F. Kennedy said it best June 28<sup>th</sup> 1963 when he said, "The supreme reality of our time is our indivisibility as children of God and the common vulnerability of this planet."

Respectfully,

Brian Kasher  
613 Ashgrove Lane  
Charlotte, NC 28270

Good evening.

My name is LaNesha Wright.

I am the Program Manager at Prosperity Unlimited. Prosperity Unlimited is a nonprofit Community Development Corporation serving Cabarrus and Rowan counties since 1995. Our mission is to offer individuals the opportunity to realize their dreams by learning the skills necessary for home ownership, financial management and wealth creation.

I am here this evening to ask you to make significant improvements to the current NC Clean Power Plan so that it will better serve the communities where we live and work.

In the performance of our mission, we regularly help families facing financial hardship. A constant challenge these families face is the cost of their electric bills. In our experience, high electric bills represent a threat to the financial stability and well-being of low and moderate income families in Cabarrus and Rowan Counties. We also recognize that for the homeowners we work with, a lack of meaningful Energy Efficiency and Home Weatherization programs makes it very hard for low and moderate income homeowners to lower electric costs through Energy Efficiency. We need better Energy Efficiency programs that truly meet the needs of low income homeowners.

We need a strong clean power plan that will utilize renewable energy resources such as wind and solar so that we can avoid the construction of costly new power plants; and we need aggressive Energy Efficiency programs that provide significant opportunities for low income homeowners to improve their properties. Through energy efficiency we can lower demand for electricity and thereby lower the amount of electricity that we need to produce.

The current plan simply does not do enough to serve our communities, and I urge you to revise the plan so that it incorporates aggressive adoption of renewable energy and energy efficiency programs.

Thank you for the opportunity to speak to you today.

LaNesha Wright  
Prosperity Unlimited  
(704) 933-7405 (phone #)  
lwright@prosperitycdc.org

Richard Fireman, Campaign Director, [firepeople@main.nc.us](mailto:firepeople@main.nc.us) (828) 206-8877



The government in this Democracy was established to protect and promote the general welfare of the people, yet the North Carolina Department of Environmental Quality and state government currently plans to try to halt the necessary and inevitable transition from dirty to clean energy. This is a fool's strategy as the law, investment capital, and technological momentum are already in place to drive the renewable revolution forward.

North Carolina has been a leader in the global energy transformation. From the Clean Smokestacks Act and Renewable Energy Portfolio to the Renewable Energy Tax Credits, North Carolina has led the South in this progress. Thousands of new jobs have been created and the health of our people has been protected.

In the Western region, Duke Energy has started to pivot away from the traditional, centralized fossil fuel-based model into one that includes Demand Side Management, Energy Efficiency, Renewable Energy, Storage, and Combined Heat and Power. This distributed energy approach is a great first step by the company and represents deeper shifts in their planning for the future. Duke is now partnering with the City of Asheville and other WNC stakeholders in a collaborative process to reduce demand in our region by 25 MW per year. In discussions with Duke executives, we have heard numerous

Comment. [§1]: Unclear. I imagine this refers to batteries, but is there another way to say this?

**Richard Fireman, Campaign Director, [firepeople@main.nc.us](mailto:firepeople@main.nc.us) (828) 206-8877**

times that the company has made a decision NOT to fight the Clean Power Plan and is furthermore shifting its policies and planning to organize around the Plan's clean energy goals/strategies.

Comment [E2]: No, same whether goals or strategies is more accurate here.

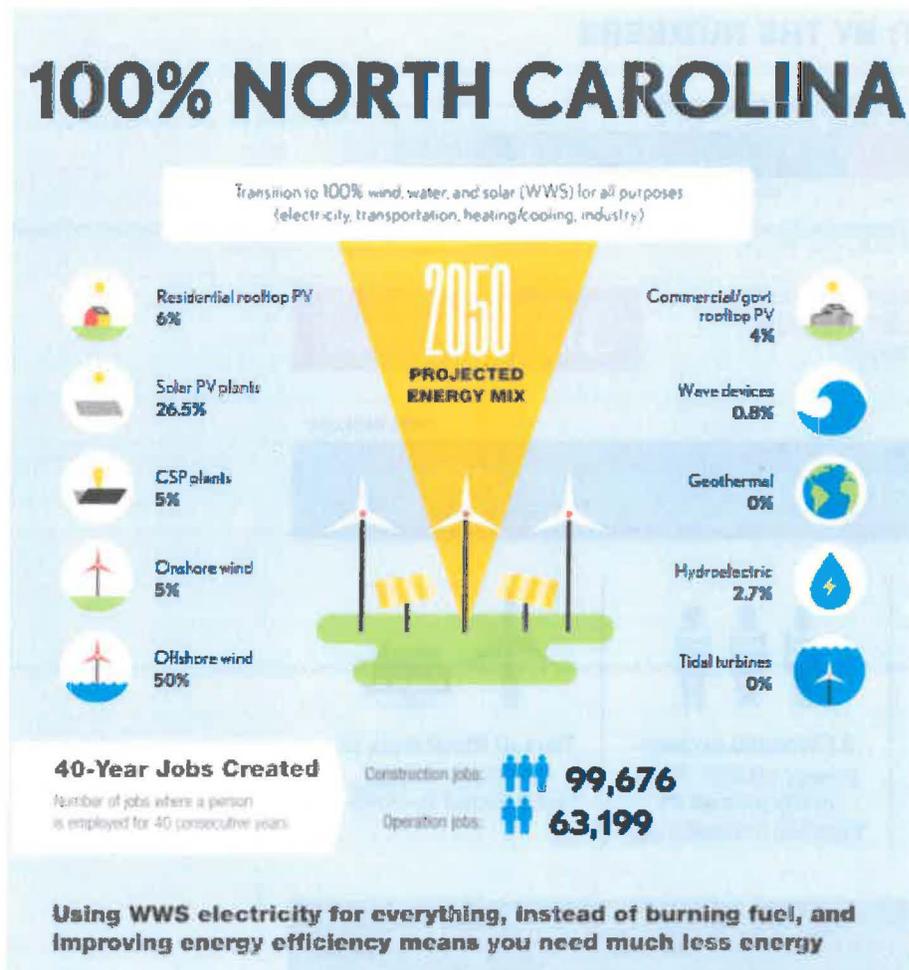
If the State continues on its obstructionist path, our neighbors in South Carolina, Virginia, Tennessee and Georgia will take competitive economic advantage and attract 21<sup>st</sup> Century, technologically sophisticated companies while North Carolina will be stuck in a losing court battle. The health of our citizens and the health of our economy will suffer.

So it now seems foolishly paradoxical for the State to submit a plan that is clearly obstructionist to the full implementation of the Clean Power Plan and **undermines** the organizing principles that are now being implemented within Duke Energy. This is a landmark moment!! This is the moment when entities that have traditionally been at odds with each other are now in alignment. When the environmental community and Duke Energy can share common goals it is a Landmark moment. It is time for the State to go back to the drawing board and submit a plan that will be progressive and actually support the spirit of the Clean Power Plan.

Democracy can work when the will of the citizens can align and support the desire for Duke Energy to do the right thing and shift its business model so it can become a profitable 21<sup>st</sup> century utility that supports an economically and ecologically sustainable future!

Richard Fireman, Campaign Director, [firepeople@main.nc.us](mailto:firepeople@main.nc.us) (828) 206-8877

Marc Jacobson, et al, *100% Clean and Renewable Wind, Water, and Sunlight (WWS) All-Sector Energy Roadmaps for 139 Countries of the World, August 2015, Atmosphere/Energy Program, Dept. of Civil and Env. Engineering, Stanford University*



Annual energy, health and climate cost savings per year, 2050 = \$6623

[www.allianceforenergydemocracy.org](http://www.allianceforenergydemocracy.org)

Richard Fireman, Campaign Director, [firepeople@main.nc.us](mailto:firepeople@main.nc.us) (828) 206-8877

# The U.S. Clean Power Plan

## 2030 IMPACT: BY THE NUMBERS



\*2005 BASELINE

## ECONOMIC STRENGTHS

**\$155 billion** in consumer savings between 2020-2030

**\$1** invested in clean energy creates **3x** as many jobs as \$1 invested in fossil fuels

**Tens of thousands** of renewable energy jobs added by 2040

## HEALTH BENEFITS

UP TO **\$54 BILLION** in public health and climate benefits

UP TO **90,000** childhood asthma attacks prevented

UP TO **3,600** premature deaths avoided in 2030 due to cleaner air

Comments on the North Carolina Clean Power Plan

December 16, 2015

I am Roger Diedrich from Huntersville and I will identify myself as almost a grandfather for the first time. I expect this to be realized in a few weeks, and that new status is relevant because I don't want that child to be presented with a world that deteriorates before her young eyes. And that is what will happen if the rest of the world acts like North Carolina with their current half-baked plan. There is so much more that is possible than your proposal calls for, it's embarrassing. Efficiency, solar and wind all are highly competitive technologies and if the Governor had a positive attitude they could be taken well beyond what the EPA standard calls for. He needs to believe in good old fashioned American ingenuity.

Some critics of EPA standards have suggested that clean energy will drive up the cost of electricity, but I emphatically disagree. I spent 25 years as an analyst at the U.S Department of Energy (Energy Information Administration) and costs were a critical part of our considerations. Clean energy costs were trending down 10 years ago, and have accelerated dramatically since. Add to that the savings of health costs, another concern of citizens of all stripes. If one was interested in maintaining healthy air and water for our families, and had the option of clean energy or dirty energy, which should one choose? You would think even a politician could figure that out.

Furthermore, dirty energy currently enjoys an unfair advantage on costs because of generous subsidies that have been built up over the years. There is no rational reason to continue subsidizing the production of mature energy sources such as coal, oil and gas. A report last year (excerpts attached) documented annual US subsidies of \$5.1 billion for oil and gas exploration, and \$26 million for coal exploration. Part of a proper Clean Power Plan would be to eliminate all fossil fuel subsidies.

I urge the EMC and the Governor to drop their proposed shell of a plan, and make room for an open discussion aimed at preparing a meaningful Clean Power Plan for North Carolina. Withdraw from participation in the frivolous lawsuit against the EPA standards. Let's be positive about what our state can do to protect the planet.

Roger Diedrich

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# The fossil fuel bailout:

## G20 subsidies for oil, gas and coal exploration

Elizabeth Bast, Shakuntala Makhijani, Sam Pickard and Shelagh Whitley

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### United States

The US is in the midst of an oil and gas production boom, driven by fracking and horizontal drilling technologies that have enabled the exploitation of vast shale reserves. As a result, the US is now the world's largest producer of both oil and gas, ahead of Saudi Arabia and Russia (Smith, 2014). This rapid rise in oil and gas extraction has offset the decline in US coal mining over the past several years.

The US Federal Government provides \$5.1 billion each year in national subsidies for exploration, mostly through tax deductions for exploration expenditures and drilling and investment costs (OMB, 2014). Although President Obama has pledged to eliminate fossil fuel subsidies, his attempts to repeal some of the most egregious tax breaks in every annual budget proposal submitted since he took office have been rejected by Congress. The Obama Administration also champions the current oil and gas boom as the centerpiece of its 'All of the Above' energy strategy, which has been the major driver of the increase in fossil fuel subsidy values.

From 2010 to 2013, the US Government provided an annual average of \$1.4 billion in overseas public finance for fossil fuel exploration projects through the US Export-Import Bank (ExIm) and, to a much smaller extent, the Overseas Private Investment Corporation (OPIC) (ExIm, 2014; OPIC, 2014). OPIC has implemented standards to reduce the GHG emissions of its project portfolio, resulting in far fewer fossil fuel projects compared to ExIm. ExIm financed \$5.5 billion in fossil fuel exploration projects over the four-year period, compared to \$54 million from OPIC. The current Congressional challenge to the Obama Administration's ban on overseas coal financing by the US government, and to the OPIC GHG cap could undermine the limited progress that has been made to date on tackling public finance of fossil fuel exploration. The US also contributed an annual average of \$121 million to fossil fuel exploration projects from 2010 to 2013 through its shares in the World Bank Group, European Bank for Reconstruction and Development and Asian Development

Bank, which range from 10.1% to 22.8% depending on the institution.

While details on subsidy amounts received by individual companies are considered confidential tax information in the US, the most active companies driving the US oil and gas expansion are likely to be benefitting the most from exploration subsidies. Large, MNCs play a central role in the US oil and gas industry. Exxon Mobil, ConocoPhillips (no longer an integrated company since it spun off its refining arm, Phillips 66, in 2012), Chevron and BP are all among the top 10 oil and gas producers, as well as reserves holders. MNCs have also led exploration spending in the US. Since 2009, Shell has consistently spent by far the most of any company on US exploration activities. Statoil, ConocoPhillips, BP and Chevron are other MNCs leading exploration spending in the country (Rystad Energy, 2014).

Although often more limited in their global reach and with lesser name recognition, independent companies play a huge role in US oil and gas exploration. Chesapeake, Anadarko and Devon Energy are three of the five largest oil and gas reserves holders in the US. Independent companies are also among the most active in increasing their reserves through exploration activities. Five of the top 10 companies in terms of US exploration spending are independents: Pioneer Natural Resources, Newfield Exploration, Marathon Oil, Continental Resources and Anadarko (Rystad, 2014). The partial depletion allowance, which is one of the major US subsidies analysed in this report – valued at \$900 million in 2013 – is available only to independent companies and allows them make tax deductions for large investment expenses such as exploration expenditures.

Although the US coal industry is in decline, there are still four major coal companies that account for over half of the country's coal production: Peabody Energy, Arch Coal, Alpha Natural Resources and Cloud Peak Energy (U.S. EIA, 2012). These coal mining companies are likely the largest beneficiaries of the 'expensing of exploration and development costs' subsidy specifically for coal, valued at \$26 million in 2013.

There is growing evidence that the world will not be able to avoid the worst impacts of climate change if countries continue to rely on fossil fuels for their energy needs. In particular, it is clear that we can only use a small percentage of proven fossil fuel reserves if global warming is to be held to 2°C. There are also strong indications that exploration for oil, gas and coal is getting more expensive, challenging, and linked to higher emissions, for declining returns.

The scale at which G20 countries are subsidising the search for more oil, gas and coal – through national subsidies, investment by state-owned enterprises and public finance for exploration – is not consistent with agreed goals on the removal of fossil fuel subsidies or with agreed climate goals, and is increasingly uneconomic.

Assuming that appropriate regulatory action is taken to limit climate change while protecting the poorest people, fossil fuel exploration projects now and into the future are not good financial investments. Current and future exploration projects will lose money as new resources must remain unused, jeopardising broader development goals by investing scarce resources in the development of assets that will end up 'stranded'. Recognising that current government support for exploration for oil, gas, and coal:

- uses public resources in a way that hampers, rather than promotes, development for the world's poorest populations
- is encouraging increasingly risky and uneconomic exploration activities by fossil fuel companies
- commits the world to exceeding safe climate limits;
- puts countries and companies at financial risk of stranded assets in a carbon-constrained world; this report recommends the following:

An immediate end to government support for fossil fuel exploration, including:

- amending government budgets and tax codes to ensure that budget and tax expenditures do not support fossil fuel exploration
- identifying and ending direct government expenditures to state-owned enterprises for fossil fuel exploration,
- ending bilateral finance to fossil fuel exploration, and
- encouraging multilateral institutions to end finance for fossil fuel exploration.

The adoption of a strict timeline for the phase-out of remaining fossil fuel subsidies for production and consumption, with country-specified measurable outcomes. Introducing greater transparency in budget reporting so that citizens and legislative bodies are aware of real spending on fossil fuel subsidies, including:

- increasing transparency through a publicly disclosed, consistent reporting scheme for all national subsidies for fossil fuels
- improving the transparency of reporting on investment in and finance for fossil fuels by state-owned enterprises and majority publicly-owned financial institutions
- working within international institutions and processes, such as the OECD and the UNFCCC, to ensure that any existing incentives for fossil fuel production are eliminated and that no new incentives are established, and
- establishing or identifying an international body to facilitate and support the reform of fossil fuel subsidies.
- Transfer subsidies from exploration and other fossil fuel subsidies to support for the transition to low-carbon development and universal energy access.

As this report shows, governments around the world continue to subsidise and finance efforts to *find ever more* oil, gas and coal – fuelling dangerous climate change with taxpayer dollars. Exploration subsidies bolster the fossil fuel industry, supporting the activities of oil, gas and coal companies that are both unsustainable and uneconomic.

Despite broad agreement that fossil fuel subsidies are a problem, they have proven politically difficult to eliminate. Governments must be held accountable for the exploration subsidies highlighted in this report and the clear opportunities for reform. The G20 must lead by taking swift and decisive action to end public support to fossil fuel exploration.

Phasing out such subsidies is a critical and necessary step to limit the impacts of climate change. Removing public support for fossil fuels would rebalance our energy systems, forcing the industry to operate on a more level playing field. Ending these subsidies will also free up scarce government resources for development needs and social goods.

I would like to request that our State Dept of Environmental Quality heed the call from the world's pre-eminent climate scientists regarding the urgent need to stop pouring carbon dioxide and other greenhouse gases into the earth's atmosphere, and to do everything in their power to reduce and eliminate carbon emissions from fossil fuel burning in our state as rapidly as possible using all available measures including improving efficiency at coal-burning power plants, shifting power generation from coal to natural gas, and most importantly expanding renewable energy alternatives, with the ultimate goal of phasing out fossil fuel power sources and transitioning to 100% renewable energy. I also request that DEQ stop playing political games and engaging in turf battles with the EPA, and instead to take seriously their responsibility to develop a comprehensive plan to achieve the carbon reduction targets that the EPA has set for our state.

DEQ Secretary Donald Van der Vaart has asked (rhetorically of course) "do you want Washington D.C. or North Carolina to control energy generation in our state?" My answer is that if the state DEQ does not intend to take responsibility for carbon emissions generated within its borders, then I want the federal EPA to do it for them. Climate change is an international problem, and it can only be addressed if each country, and locality acts responsibly. If my neighbor's children were irresponsibly riding their bicycles through my vegetable garden, yes, I would want their parents to step in and take control of them to stop the damage.

Sally Kneidel  
424 Bertonkey Ave / CLT NC 28211

My dad, like myself, was a native North Carolinian. He used to always tell me NC was a great state, the best place in the world to live. I've spent my whole life trying to figure out why he would say that, wishing I could believe it. But I can't, not yet.

NC is not a particularly safe or secure place to live, unless you're in the top 1% or a corporate executive or a government official. If you're none of those things, you can be sure that the state is not looking out for *you*. I mention that because it's relevant. The McCrory administration's Clean Power Plan is yet another example of that. It's a plan to take care of the corporations and government regulators who benefit from business-as-usual in the energy sector.

While NC stalls and continues to ignore the urgency of climate change, the world moves closer to climate chaos. Heatwaves, droughts, flooding, the collapse of food systems and ecological systems, with much worse to come.

I want NC to propose a plan for the future and for ordinary people, not for today's executives and their cronies. I want a plan that shuts down coal, minimizes or eliminates natural gas, and goes straight to renewables and energy efficiency. The EPA's Clean Power Plan has incentives that make it beneficial for us to do more energy efficiency, which would be cheaper than any method of *making* energy. We should be doing more energy efficiency on *low-income housing*, which is often poorly insulated and drafty. North Carolina's Clean Power Plan should include solar panels on low-income housing and on *public housing* which often has few trees around it. The cost of solar panels has dropped 80% in the last 5 years.

I want to see a plan that includes all of NC's people, including those with the fewest resources, those who will suffer most as our climate continues to destabilize, and includes those who already suffer from our prolonged and damaging reliance on fossil fuels.

One thing that would make me proud of this state is a progressive Clean Power Plan, a plan designed to protect us and our world and save us from climate disaster. I know my dad would be proud of that too. And someday, my baby grandson will be, if not proud, then grateful.

Calvin Cupini

My name is Calvin Cupini I am here to save the millennials and the next generation. I moved here five years ago to study the environmental science at UNC Charlotte where I am now. A field that is still a little new to have its own degree but it is a good disciplinarian so that's why I chose to seek it out. I'd like to criticize however the EW and the utilities community. I feel their short sightedness in challenging the EPA at this time rather than going with the simpler option is wrong. In 2007 both the commission and the department laded the passage of the North Carolina renewables energy standard portfolio which in 2007 was a way of enticing investor owned utilities to increase their portfolio to 12.5% renewable by 2021. Now although the environmental groups who have spoken already would have liked a lot more from that there were a lot of great efforts that came from that piece of legislation. Coincidentally the exact same year Duke Energy popped up with its wing called Duke Renewables. Overall investing about \$3 billion in portfolio increases and since then 4.72% of dividends have been yielded to their investors and since 2009 their stock prices have doubled. I checked today and Duke's website still brags about the jobs they have created with the construction of solar plants and wind farms. They brag about the profits they have from such investments. They brag about their investments going toward taxes and it's the same ability they would provide for future generations. Our existing plan would fall under the EPA's existing plan of special renewables which would provide economic incentive programs for states to get a head start on some of the programs that need to be completed by 2021 given that we have already started those ahead of time. In 2007 without encroachment or enforcement by the EPA. I suggest we follow the plan and beef up our progress. That being said I'd like to quote something I found out in uptown Charlotte on a nice sculpture. "We did not inherit this land from our ancestor we borrow it from our children".

Joel Olsen

My name is Joel Olsen. I am the CEO of O2EMC. We are an independent power producer working in solar in North Carolina. I grew up here in Charlotte, graduated from Myers Park, and went to UNC Chapel Hill. I spent 16 years abroad first in Japan and then in Europe. First in Japan I saw clean energy start to emerge as a necessity on an island nation that had no other resources. Then in Europe I saw it emerge as a business opportunity. And I waited a long time to see North Carolina my home state adopt legislation that would allow the private sector to invest in the market so as a business I am very focused on transaction cost. A lot of those cost come from legal cost, closing a deal or fighting a law suit. So when I look at the clean power plan I look at the numbers and in NC today we sell about 125,000 gw hours of electricity to our state. Now 40% of that is generated by nuclear and that is clean. 60% is left that means 75,000 gw are generated by fossil fuels. Now if we have to reduce the emissions of those fossil fuel plants that means we only have to reduce 30% of 75,000 gwh which is almost 23,000 gwh. That's it. Now look at what is in place today. A gentleman here mentioned the renewable energy requirement set in place by bipartisan legislation in 2007 that would get us to about 16000 gwh worth of clean electricity. So of the 23,000 homes we are covering just by legislation already in place. If we look at the conversion we had of our coal plant to natural gas we about 3gwatt of our coal fleet converted to natural gas already since 2005. Which will add about another 7,000 gwh and that's if we do nothing. 16000 plus 17000gwh of clean electricity that would replace the electricity generated by our fossil fuel fleet. So by doing nothing else and allowing businesses as usual we will exceed the clean power plan requirement. So if we just look at and try to fight block one which your department has said will reduce emissions by 4 % we can meet the requirement. It's kind of silly when we are already doing it. We are already over complying, Utilities are on board. We have businesses like my own that is generating jobs, we're generating private investment, and we're putting investors into the utility sector that just wasn't there before. Why? Is this to increase the transaction cost that government has? Those transactions cost and legal costs have to be borne by our tax payers. So why don't we just look at what we are already doing and proceed as we are and save that taxpayer money and just comply we don't have to do anything different. Just Comply. Thank You

Nancy Allison

There's a lot of pulpits I can't see over the top of here but I'm doing ok. On this one I'm Nancy Allison I pastor Holy Covenant United Church of Christ. I want to tell you the Christmas story in a slightly different way today. When our angel appears to a teenager named Mary telling her she is to have a son named Jesus God breaks in where God is least expected and the angel reassures her and tells her to not be afraid. Then an angel appears to the marginalized shepherds. You have those below who make minimum wage worker and again the angel breaks in and says God says do not be afraid .Yes after Jesus's birth when an angel appears to Joseph ,Mary's fiancé in a dream. God breaks in and the angel skips the reassuring phrase and says " Be afraid ,flee Bethlehem today ,take your child and wife and run .Herod seeks to kill your son and when Herod ,ruler of the region ,hears of the Magi ,those foreigners from the likes of the leaders of Syria, or Afghanistan or India that have ignored his command to return and tell him of the holy child's birth. He flies into a rage and terrorizes the families of Bethlehem by killing every infant in the land. Herod is afraid and Herod seeks to instill fear that terrible work the work of fear and intimidation is the most ignored part of this Christmas story. But it is there for a reason. The opportunity gap between the wealthy and the poor , between the black and the white is something to preach against and death by asthma is the dirty air legacy of today's ruling Herod's .In an effort to strike fear the oil companies are running tv ads telling Charlatans their energy cost will rise unless coal and natural gas are protected .The fossil fuel industry is afraid and they seek to instill fear that engages the minority populations and tends to their needs for those are the ones most impacted by our policies. We need to continue to build the clean energy sector .We need policies that support renewable energy development and we need to work with our low income population to mitigate any financial impart. Every time we allow fear to dictate our behavior we live we like Herod wound the innocent. Who do you know that's trapped in fear? It is my hope and prayer that this Christmas Story you will allow the light of Christ to lead you into a future with renewable unending hopefulness and away from fear based law suits that waste time, energy and money. Hear the words of the angels. Find the courage to do the right thing for our earth and all of God's creation. Do not be afraid.

Tate Rust

Good Evening and Thanks for the opportunity to speak with you. I'm a native of North Carolina .I'm native to Charlotte .I work in the renewable energy field clean energy field. I represent water furnace internal a geothermal company. I also was a contractor installing geothermal for 22 years and I've seen the industry change. So you are maybe thinking that I'm going to talk about renewables and I am but for a different reason. When I saw the article today in the paper .When I read a little but more about what's going on here. I was frustrated .I have watched over 22 years and especially the last seven years renewable energy grow and become substantial. It has an infrastructure in North Carolina .It works .We have a part of this plan you decided not to ever address and that's energy efficiency. Geothermal is directly related to that and there are other alternatives for that. But my concern is are we using our resources the best way? We have over the last 7 years incentivized renewables. They have grown .People have been educating contractors. Investors have put money into this field .we have an educated work force. We have the ability to effect through demanding side's energy conservation now than ever before. My concern is there you see that may have touched renewables that you now close your eyes and you your mind to it. When it very well maybe the best potion. And when it comes to energy efficiency it is. So what I ask you to do is consider that and make sure that you are using North Carolina resources and all the resources of those HHC contractors those drillers, solar investors, the work force out there that we have and do use them to the best of their ability and we can meet some of the standards. So thanks again for your time and we really do want to push the fact that there are other alternatives.

Ken Kneidel

I'm a recently retired Mecklenburg County High School Biology Teacher .Since I've retired I've enjoyed using my free time being active and coming out to speak on environmental issues that affect the state. I'm trained, if you can call it that, as an ecologist from UNC way back in 1982. So I guess you could sum up my career as decades in academics when I talked the talk. Now a few years into retirement I'm trying to do the much more meaningful art of walking the walk. In fact I literally just did that as I along with other concerned citizens just marched from park to visibly demonstrate our support for the climate justice. As we marched we chanted. My favorite chant goes like this , Will you tell me what democracy looks like and the response, this is what democracy looks like .Tell me what democracy looks like this is what democracy looks like. I'm always invigorated in the crowd when we do that because it's true because this is what we do what democracy looks like but it's the second part of this chant that tell me what hypocrisy looks like. Then we answer, this is what hypocrisy looks like yes right here. North Carolina's response to the clean power plan. This is what hypocrisy looks like. The compliance plan that we're evading today is nothing but hypocritical. How can the state say that it has the best interest of North Carolina at heart when it endorses a plan that only addresses coal initiative and turns its back on renewable resources .It embarrasses me as a North Carolinian when I look around and see my state bow to the pressure fossil fuel industry and put their interest first above those of its citizens. It makes me worry for our health, our environment and our wildlife, our economy and especially for the unfair burden it places on the low income people of low income areas in the state. I ask the state to quit stalling and fall back and take the 3 blocks serious consideration.

I want to see urgency in phasing out coal. I don't want to see us walk into the next decade depending on natural gas and I do want to see us do everything we can to undo the fossil fuel based monopoly energy production in this state that is blocking our movement toward a clean sustainable future. When I see homes across the state with roof tops solar then I will know that the people have been listening too. Curb the hypocritical talk, walk the walk stay with roof top solar. This is what democracy looks like. This compliance plan and the coal fracking off shore drilling that it implicitly endorses is exactly what hypocrisy looks like.

Beth Henry

My name is Beth Henry. I'm a retired lawyer here in Charlotte and since I've retired I've been spending most of my time working on climate issues. I really am worried about what the future holds for my children and grandchildren. I have been until the last 2 years living in eastern North Carolina with my younger sister. She has cerebral palsy and epilepsy. She has worked all her life with these 2 things and then she came down with MS and has had several bad falls. So I have been sleeping on the couch in public housing for the last 2 years. I have gotten a very up close look at one of the low income communities that is mentioned in the clean power plan because my sister lives in low income based housing and all the folks there are disabled or elderly and I just think it's a shame that our state would waste money on lawyers and I used to be a lawyer so I know what a waste it is to fight the clean power plan when we could take that money and go into these communities where people need help so much and replace all the light bulbs. That alone would save a lot of electricity so I just want and I understand what you are saying about the initial plan but I really want to encourage ya'll to think about promoting energy efficiency. Since under the EPA we could double credit for prioritizing energy efficiency in lower income communities and as Sally said efficiency is so much cheaper than any method of generating electricity. Let's go with the cheapest thing. I also worry about people like my sister with cost of solar producing companies like Apple, Google, Facebook, Walmart these companies will defect from the grid and other people will be left having to pay the cost of the power plants as the rich companies and rich people are able to leave the grid as solar gets better. So I really think that low income people are facing a very dire situation as more people are able to defect from the grid but low income people cannot. So really just want to end with a plea. You named many employees that are here tonight. I just want to say our government is broken. The politicians are sponsored by big money and big corporations but I still think most people that work in the government are trying to do worthwhile work and help us. I really just want to save the world is-burning we need to do something and ask you all to have faith and courage and do whatever you can to make a difference for the better. Thank You

Brian Magi

My name is Brian Magi. Thank you for your time by the way. I am a professor at UNC Charlotte. I do climate research. One of the aspects of climate research I study is climate cycle and so part of the clean power plan is to address the earth's climate so that humans have on the climate cycle. So what I'd like to say tonight is humans have had a great –the EPA federal plan is well founded is looking to the future .So I'm going to keep my comments brief. Keeping within the three minutes and the thing I would like to emphasize about the clean power plan is it is to look to the future and the clean power plants that have been put forth by our EPA as an investment in the future as an investment in the climate that is stable as an investment in the public health system that is supported by a climate that will mitigate the carbon emissions that will disturb the future. So what I'd like to say is we're going to invest in the future if we look at all 3 of the building blocks and I encourage our state to move forward and be a leader rather than an inhibitor of investments in our future. Thank you very much

Eliza Lubach

Greetings. The North Carolina Clean Power Plan is less than the bare minimum of what the EPA asked of DEQ. It is appalling that an obstruction to climate change is due to part by toxic power plants and the carbon dioxide pollution they cause would be attempted by these political maneuverings. We don't have time to play games. This plan is a test of endurance. If we prevail and be objected by EPA and bypassing the opportunity to include input from local stake holders. Let's not waste taxpayer money on these silly idea logical fights. Let's stick to the facts that coal is on its way out and renewables are the way of the future. The businesses are speaking of the innovation and corporations are moving here to take advantage of it. Besides rejecting this opportunity to lead the nation in solar. DEQ is not ever sufficient to meet the carbon dioxide reductions required. The plan only reaches 0.4% of the required reduction and that's based on DEQ calculations. That is a complete failure to ever make a difference. I recommend that more be done to reduce emissions which make it imperative to stop using coal and natural gas and to implement efficient renewable energy. I work for Appalachian Voices an organization that is committed to protecting the land and air and water in the Appalachian region. Advancing our vision for a clean energy future. For about a year I have been working rural North Carolina to help the folks out there understand more about energy efficiency while also increasing our access to energy efficiency. Up in the mountains over a third of the homes are over 30 years old and many are in great need of energy efficiency up grades. There's great potential for a lot of impact out there where the poverty level is averaged higher than the rest of the state and there are less resources for assistance. I ask that the DEQ take this region into consideration when drafting a new plan and that will address all 3 colors that the EPA has required. Thank You

Gautam Desie

My name is Gautam Desie and I just came here for the march and I decided to speak. My wife came here to Chapel Hill to do her residency. We settled in Charlotte. So I did my studies. I bring all these different aspects for having lived in North Carolina all these years. I have also traveled a fair bit but I am originally from India. I will now speak about doing the right thing, climate change, low income people and doing all the good stuff because if you are thinking of all those things we would not be stuck with the windows dressing and so on. What strikes me is attitude change since I have been a North Carolina .I was told North Carolina was the most progressive state of the southern states with established education institution, Research Triangle Park and Charlotte from civil rights to I am wondering since when we stop going ahead of the curve and not learned the lesson of dealing with the tobacco industry and how we handled that so why are we doing the same with coal when a country like India is going to public transportation, the trains that now go to the other side of the country. Roof tops coming up .they are curtailing transportation emissions. So instead of North Carolina trying to be competitive with a lot of money investing companies and giving them tax incentives. So why do we not go ahead of the curve and be competitive in the market going toward renewable energy. Otherwise we will just continue to fight the legal battles give tax incentives to big companies trying win them from other states like Alabama, South Carolina. We have won those battles so I think what I want to target much more is the attitude change I have seen in North Carolina since I have been here 25 years and appeal to their business sense. If that was uppermost in the mind of policy makers then we would not be making this plan. Thank You

Lauren Gayre

Hello my name is Lauren Gayre. I am an environmental Science student at UNC Charlotte. Basically regardless of what you believe about climate change or how much money you have we all breathe the same air. And the fossil fuels we are burning today are releasing toxins into the air that will be held there for 100 years. So that being said for the sake of future generations we need to reduce the amount of greenhouse gases we are releasing into the atmosphere. And making burning coal power plants more efficient will not accomplish this. So whatever plan we implement has to be heavily influenced by clean renewable energy sources or we will never reach our goal .Thank you.

Rodney Sadler.

Good Evening. It says in the book of Psalms that the world is the Lord's and all that are in it. This is it for He has founded it upon the seas and established it upon the floods. As I look at this passage the first thing to stand out to me is this planet is not ours. It belongs to God. What we do with our planet it matters to God. God cares about our planet on which we live. This is not our planet but it is our home. We have no other and we must care for it and its people. The choices that we make about how we produce energy whether carbon based or green have an impact on people, the quality of their lives, their health and whether they live or die. I'm a Hebrew Bible professor and one of the first things that you have is Genesis is where we came from. Meaning we are related to God. God is our father and the earth is our mother and we must have a healthy earth if we are to survive what we do in North Carolina will have life and death implications. This is our home as those that are empowered make decisions and those who are poor are disproportionately impacted by the carbon emissions produced by our power grid. I was surprised to learn 75% to 80% of black Americans live within 35 miles of a coal fired plant and have a much higher rate of lung issues than other communities because of it. Those who are also disproportionately impacted by the system as it is poor and minorities are those who are otherwise left out are those who could most benefit from green power jobs. Green power grids renewable energy. By restricting the pursuit of a green power grid we are perpetuating their impoverishes and perpetuating their poverty. The creation of green power jobs and a green power grid could revitalize our whole state's economy. And though we know our governor has stood in the way of jobs before refusing assistance that could provide 100,000 people jobs means 43,000 jobs have left North Carolina shouldn't we care about the jobs people have in our economy. I was surprised to say we have many reasons to comply with the President's clean power plan but I would say it's not enough in North Carolina. We are not the ones who follow the lead of others but we are the ones who lead can do more than comply. We should lead our nation and set the standard for a new power grid and a new economy and a new way of eradicating power. You say we can be a model of a new way forward if we follow the clean power plan protect our home, its people and God's Planet. Then we might be able to say we have lived up to the premise of our faith as Christians, Muslims and Jew is that the earth is the Lord's and the fullness thereof. The earth and all that live in it. AMEN

Kevin Shinalt

I am Kevin Shinalt. I am from Pilot Mt. North Carolina. I am representing myself, my 22 year old graduating from NC State, my daughter who is a nurse in Winston Salem, my mother and Mother in law who are both on Social Security and a fixed income and I'm representing the mother of everybody in this room that are on fixed incomes. I want to say that instead of focusing on ways to relieve economic stress on the poor and other valuable communities like I've heard mentioned here tonight, the bureaucrats that's in Washington, the EPA and the state are thinking thoughts like that of the Barak Obama administration and his far reaching environmental pipe dream. That it's causing problems just like Obama care, it wasn't going to be taxed and now here we are taxed to death because of it. Also anything that goes up in our power bill is a tax. We have good energy. We have good jobs except up in the mountains. A lot of this whoever science I have heard here from professors it's not all gain. And I appreciate the folks that came with activities to march before they all spoke and took turns with their talking points, but electricity bills for residential taxpayers will increase by \$325 by year 2030 and for industrial rate payers by \$52000 per year. How does that help jobs and help senior citizens on fixed incomes. The state's economy will lose 32000 jobs and these are real facts not just pipe dreams. So leaders look at the Bev Perdue solar farms out west the western part of the state has not worked. When you create something that will make it in the market place on its own we don't have to subsidize it. And all Subsidies need to stop. Okay. How many of you folks up here are already on fixed incomes that didn't leave right after you people. Well your power bill is gonna go up. The Obama Administration they're the EPA is trying to do by regulations what it could not do by legislation. This will make a few wealthy environmentalist happy while senior citizens on fixed incomes will suffer. When electricity prices increase then seniors on fixed incomes often have to choose between food, medicine and keeping the heat on during freezing winters. Senior citizens will be disproportionately affected because 70% live on fixed incomes. Duke Power will charge us 40% more and who will pay for it. Not the stock holders. The individual tax payer. Thank you. I appreciate Governor McCrory's group here in North Carolina and 25 other states are fighting this.

John Calhoun

I'm John Calhoun. I'm from Winston Salem. I'm a lifelong North Carolinian and I have been encouraged in the past by the progress that we have made some ways in clean air and developing cleaner energy with exercising positive leadership in that area to developing the first renewable energy portfolio in the southeast to providing incentives for solar energy development. As a result our state is in a strong position to meet the requirements of the clean power plan by continuing those efforts. Yet surprisingly the plan that has been proposed misses the mark by omitting the crucial role for efficient and clean energy efforts and meeting EPA's goals. Also surprisingly there was no announced stake holder process. It's a welcomed opportunity in the stake holder process to express their views in a strong North Carolina plan. I think the question today is, Is North Carolina willing to step up and be a positive participant in climate change. We need a strong clean power plan and that is the first step toward meeting that goal is doing our part to meet community needs. Being meeting or exceeding the EPA goals in North Carolina to prevent us from losing our dependency on coal from mountain top removal and helping our clean industry continue to create jobs and we know that the cheapest and best nonpolluting fuel is one that isn't burned and so we should do much more to develop energy efficiency into the clean power plan by participating in the clean energy incentives program. If North Carolina chooses to participate there's a great potential to produce energy and reduce the financial burdens of energy bills for the low income persons. Reduce carbon emissions by making houses more energy efficient. The Clean Power Plan are crucial for North Carolina for our coast but also success for our farmer's stable seasonal changes. We're proud of our locals growing sustainable produce farms and farmers markets. So we need to do all we can to protect future generations when they look back and see that we showed leadership not running from the challenge of climate change. We know that we have the technology so let's just do the right thing and have a strong clean power plan that meets and exceeds the EPA. Thank You

Rex Foster

I'm Rex Foster and basically I've lived here all my life and I'm representing my wife and I'm representing my family that are universal all across the state mountains and we're all struggling to make ends meet. Cost are rising taxes going up and this clean air plan will increase taxes and the cost of electricity plus increase the cost on the manufacturer of goods. That means a double whammy on the consumer. The consumer can't make it now or just barely, then we turn around increase taxes on manufactured goods that makes it harder. That needs to be considered in this pipe dream. Do the right thing. We just need to continue the fight. That's all.

Jan Comer

Sorry I fell asleep. Merry Christmas. I'm Jan Comer I'm a widow. My husband was in the Navy and in December 2008. December 15, ten days before Christmas. I'm also a daughter. My mama is still living. She's on social security. I'm a widow on social security. I also have a son and a grandson. I'm here to talk about the cost on this thing is outrageous. Now if we want to talk about just business government or whatever. We are not a number. I don't know whether you look at us male and female. Mom and Dad, grandma, grandpa some one's daughter. That's what we're talking about here. Just got this in. this thing went up by 90 bucks .There's no way us on social security are gonna be able to pay these things. I budget about \$140 at the most every month on Duke Energy. Duke Energy alone and when it goes up it gets tough. I have sat months with tears in my eyes not knowing whether I'm gonna be able to eat or stay warm or anything. So this you got to consider the cost on this thing. Duke Energy needs to lower their cost and continue to lower their cost not keep increasing their cost. They are out of their mind and they don't have a heart for us. I don't know where their heart and minds are-This thing came in the mail last year. Lend a hand warm a heart. You know last year they were threatening on cutting the electricity off if we didn't pay it by a certain time. And yet they were still putting these lend a hand warm a heart thing in there and they did cut one of my neighbors off. He had his whole family home at the time and they cold heartedly cut their electricity off. And I told them you can come down here. You can cook and you can stay warm. Whatever you need until you can get that paid we'll help you pay it. So I wrote on them and said look your customers come first place. Not everybody else. So there that's what I got to talk about. They need to lower their cost not increase it. Protect our fossil fuel. Thank you, thank you very much. Merry Christmas

Steve Rundall

I'm Steve Rundall. I'm a member of the NAACP and we've heard a lot of facts and figures here tonight but I think what this really comes down to is the impact on people. We have people on fixed incomes. We have people on low income. We have people from the community of color here tonight and what we see is really those in low income, those in communities of color who cannot afford to move where the impacts of climate change occur and who are the closest and bear the brunt of living downwind from coal fired plants, living next to coal ash ponds and living next to the degradation that our current fossil fuel reliance is bringing to these communities. So when I see that the Clean Power Plan come along and it offers some relief to these communities and some relief to these folks living in those conditions and relieving the disproportion brunt of the impact of fossil fuels. You know that you offer some hope when you taking on Clean Power Plan. They basically is saying to these communities we want to keep things at the status quo when you are bearing the brunt you're stuck and you can't move. You've got to stay and suffer the asthma, the emphysema and sickness. So I would really encourage you all to really not consider putting forward a Clean Power Plan that doesn't meet the basic requirements and will likely have the federal government step in is really going to silence those in the communities who have a voice on how the state moves forward on renewables and they should have a voice in pushing for renewables because if you're on fixed incomes can you put solar panels on your roof? Can you lock in a percentage of your electricity rate for the next 25 years? And they can't cut it off. You won't be totally energy independent but quite literally if you're on fixed income. If you are in a community of color and you weatherize your house get it in good condition. Get solar on your house. It takes you off the increasing tier that we just see year after year where Duke Power for the last half dozen years has raised rates 4 to 5 times. So what I would encourage is revising this plan, going back to the table, coming up with something that will really benefit communities. Low income communities, people of color and really make North Carolina a progressive state. Thank You

Britten Cleveland

Hi my name is Britten Cleveland and I represent myself as a concerned citizen and I'm a member of the North Carolina Sierra Club. Dear Members of the Management Commission. The public now has spoken but one thing it doesn't represent to me is good government. It does represent both a sad truth and a missed opportunity. The elected officials in Raleigh care more about lining their own pockets and the pockets of their campaign donors rather than doing what's right. Doing what's necessary to protect our communities. This plan is a disgrace and is a gross negligence of good government and it is clearly but not very cleverly that out of state fossil fuel and Duke Energy squeeze every bit of profit sparing no regard for the people and the communities that are being constantly left behind and suffer the most. The burning of coal and natural gas as a concerned citizen is interesting to watch and I won't stand by and let it happen. It is worth noting that the study being used by the Dept of Environmental Quality to justify their strategies to undermine the Clean Power Plan was being pushed by the likes of the American Coalition for the Clean Coal burning, coal and petro chemical manufacturing and the mining association among others. To no surprise it grossly exaggerate the cost estimate. While completely ignoring the fact it will rise into the billions. The plan represents a missed opportunity to address problems. We must do more to reduce carbon emissions to zero. Thanks to the leadership of our predecessors we have been reducing emissions thanks to The Clean Smoke Stacks Act for renewable energy and an efficient energy portfolio and the soon to be expired solar tax credits. This plan intentionally fails to meet the current plan of carbon monoxide reduction required by EPA for the sole purpose of strategy. Wasting my tax dollars on a legal strategy that is pretty likely to fail. Valuable time is also being wasted. Time that could be spent engaging stakeholders to find solutions that work for everyone including our standing and existing policies that we already know that works. We are well positioned to meet the goals in the Clean Power Plan that are feasible, correctable and using common sense. Another common sense solution is that the McCrory administration keeps choosing to ignore the clean energy incentives program that will literally help communities with the trifecta of real tangible benefits because we earn double credits for the program and low income communities that will help the same communities paying the highest amount on their utility bills by helping them save money. Diminishing the need to buy more expensive power plants. The governor and his dept. of Environmental Quality are putting people in fear with the most costly option to address the Clean Power Plan and they are fueling an intensive and time consuming lawsuit instead of doing what is right for North Carolina .We expect our leaders to act in our best interest and that is not what is happening now. We need a Clean Power Plan that represents an honest effort for the state.  
Thank You

Jonathan Hudson

Hi how are you. My name is Jonathan and I'm a student at UNC Charlotte. And I learned a lot tonight but I just want to run through this two pages that I jotted down here in the audience. I did some research this morning and I was a little bit confused about what your power is as a commission. What I gather tonight first of all I hear two energies saying we are already in compliance and that we should not do anything different. What that indicates to me is that the solar industry is quite confident it can save 400 billion years of clean fuel and frankly we're gonna look pretty stupid if we don't support them in every way possible. Now the preacher lady tells us we shouldn't be afraid but I'm pretty concerned we're at 400 parts per billion of CO2 in the atmosphere. Scientist are saying that we need to keep it at least below 350. Now we have had drastic impacts. I'm talking 300tons of methane, acidification, droughts, flood, and we are adding 5 billion tons annually as a country .And we are also responsible for a large portion of those emissions. Hawaii is at 95% of renewable energy. This summer North Carolina is at 2% and frankly that's pathetic. And a recent study covering land mass the size of Spain could power the entire planet. Now we also know North Carolina has the best unused resources on the east coast. So let's quit dragging our feet let's put forward a strong clean power plan and the question is now much damage do you want to be responsible for. You know the 24 state law suit is dead in the water. The first challenge was rebutted. 15 states have pledged to fight it in court and they have strong science on their side. It's pretty much like a shutout. We lost the game last week 38-0. Carolina destroyed Atlanta. You know that's what the climate change is doing. That's what these lawyers are going to be using in court. So you know now what it comes down to is that we need to protect the public health. This is your responsibility to protect and represent the public. This is your opportunity to prove you deserve your leadership roles and to take them seriously. Look if you go on the website they have you can implement clean Power Plan and you can immitate states that have taken aggressive approach. You read examples of people who have installed systems and over the lifetime cost of the building they are saving money. You're not a loser when you install update our codes to where they should b. We'll be saving much more money. They have map that shows Vermont and they have the most current building codes for the public and residential and it's much easier to make those energy efficiency changes early than late. So we need to go ahead and be aggressive about this. We can also use our imagination. We can have electric trains, electric buses, solar schools, tourism money from clean fisheries. We can have fewer missed school days from asthma. We can attract new businesses that care about the quality of life not just the profit margin and you know what else corporate utilities are going to squeeze every penny out of consumers because their shareholders are greedy. They have an obligation to pay their shareholders. Pay their executives and pay as much as possible regardless of the energy source. So the real question is whether the commission has the ethical strength to protect future generations and the global eco system.

Jeff Botz

I live in Morrisville. I appreciate the opportunity to come down and talk. I was not intending to speak but and I doubt I can add anything to the comments that have already been made by the very qualified speakers that have gone before. I think to not recognize that the environment is in a state of degradation is out right stupidity and to not move for the best interest for health and welfare of the people of North Carolina is not fulfilling the oaths of office of the people that are theoretically there in Raleigh to do that job. A couple of weeks ago there was a bill that went through the house. It was H75. McCrory signed it on a Friday night late so he could probably avoid having to speak about it. It was an omnibus bill but in the middle of it there was a bunch of ecology, environmentally related issues. One of them was the roll back of the rule that trucks could not sit and idle for more than 5 minutes. Now this is a regulation that was put through a couple of years ago or whenever and they rolled it back. They actually went to the effort to roll it back so trucks could actually sit around and spew their noxious toxins into the air just like in the 50's and 60's companies would let all their toxins go into streams and pollute the streams. We're just polluting the air stream now and it's not as apparent to us because we look out and we don't see the sky as being brown. But if you take off in an airplane from Charlotte Douglas Airport you'll see that brownness as you go up and the air is of poor quality. I don't have to add so much but there are the people that know lot more. But I am going to say this Governor McCrory stated on Nov 17 in the Charlotte Newspaper that he was on record about wanting to ban more Syrians from coming into the state it is my duty, or my primary duty as governor to look out for the safety of my people. The people of this state. And I was shocked to hear that after he had rolled back the various environmental things in that rule. It is just the same thing. Who is the beneficiary of this plan? Duke Energy. Wow it's kind of strange that Duke Energy benefits since he was their lap dog since he was on their payroll 27 years and it's disgusting to see him selling out the position of governor of this state. A position of moral authority and serving his old master Duke and I know nobody else has said that tonight and I'm sorry if I upbraided the office of the governor.

Table V.5: List of Commenters at Raleigh Hearing

<u>NAME</u>	<u>REPRESENTING</u>	<u>PAGE</u>
Rachel Estes	North Carolina Conservation Network	V-408
David Swartz	Duke Law	V-409
Walte Emery		V-411
PJ Lofland	60 plus	V-413
Bill Jenson	Apex Town Council	V-415
Harvey Richmond	NC Chapter of Sierra Club	V-417
Richard Glazier	North Carolina Justice Center	V-419
Dr. Gerald Strobe		V-421
Karen Bearden		V-422
Dave Rogers (cosigned by 1100)	Environment North Carolina	V-423
Sig Hutchinson	Commissioner for Wake County	V-481
Sheila Read		V-498
Dr. Charles Humble		V-499
Alison Lawrence Jones	Mothers & Others for Clean Air	V-500
John Bachmann		V-501
Samuel Gunter	North Carolina Housing Coalition	V-504
Jared Burton	New Belgium Brewing	V-506
Marvin Wall		V-507
Theresa Vick	BREDL	V-508
Hallie Turner		V-509
Dr. Robert Bruck	Louisburg College – Self	V-510
Jasper Cobb		V-511
Elizabeth Adams		V-512
Stephen Jurovico	NC Interfaith Power & Light	V-513
Carson Harkrader	Carolina Solar Energy	V-514
Richard Harkrader	NC Clean Energy Business Alliance	V-515
Morgan Malone	NCSU Fossil Free	V-516
Carolina Blythe	ACE Action Fellowship	V-517
Robert van der Dribb	ACE Action Fellowship	V-518

<u>NAME</u>	<u>REPRESENTING</u>	<u>PAGE</u>
Adam Kay	Ace Action Fellowship	V-519
Jasmine Gregory	Alliance for Climate Education	V-520
Arya Pontula	Alliance for Climate Education	V-521
Michelle Nowlin	Duke Environmental Law & Policy Clinic	V-522
Katharine Kollins	Southeastern Wind Coalition	V-523
Anita Simna		V-524
Kyra Moore		V-525
Lib Hutchby		V-526
Thom Kay	Appalachian Voices	V-527
Paul Namaste		V-528
Ewan Kingston		V-529
Holly Hardin	Durham Public Schools	V-530
Marc Dreyfors	Carolina Biodiesel, LLC	V-531
Roy McIlmal	Appalachian Voices	V-532
Kevin Shinault		V-533
Susan McBride	60 Plus	V-534
Beverly C. Luna		V-535

Good Evening. My name is Deborah Ester and

Thank you for the opportunity to speak today. I am here on behalf of the North Carolina Conservation Network and as a North Carolina native. Growing up in Raleigh, I spent summers at the beach and took many fall trips to the mountains. Over the years, I have seen the environmental impacts of acid rain on our beautiful mountains and ~~the~~ erosion of our pristine beaches, but I have also seen what can happen when a community comes together to say 'enough is enough'.

Tourism is a \$20 billion a year industry in North Carolina. Recreational fishing is a \$2 billion industry. Agriculture is an \$80 billion a year industry. Together these industries employ hundreds of thousands of North Carolinians and support millions of North Carolina families. All of these vital industries face a severe threat as a result of the effects of climate change.

Sea level rise, increase in strength and frequency of hurricanes, droughts, food shortages, water shortages, heat waves and spread of diseases are all happening and will continue to happen at greater frequency the longer we wait to take action. Just last week, the world came together to say 'enough is enough' at the climate talks in Paris, and agreed on a path toward curbing climate change. While the world was coming together to devise a plan to protect our economies, our environment, and our health, North Carolina was busy working on a plan to fail.

The state plan DEQ has put forward is inadequate and is certain to be deemed as such by the EPA. Moving forward with only building block one will not help us accomplish our goal of reducing CO<sub>2</sub> emissions. This "plan to fail" is a waste of state resources and time and risks a federal takeover of our state's energy plan. The Clean Power Plan rests on strong legal authority, and the EPA already addressed and debunked the McCrory Administration's arguments at length in the final rule.

We have a unique opportunity to come together and solve this problem. We can reduce our CO<sub>2</sub> emissions while producing jobs. We would like to see the Department seek the public's input before drafting a plan. We would also like to see a plan that includes energy efficiency and renewable energy to create jobs and bring money into struggling North Carolina communities.

Enough is enough. It's time to stop playing politics with our economy, our jobs, our environment, and our health. Instead, let's work together on a plan to succeed.



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Hello, my name is David Schwartz. I am a post-graduate law fellow with Duke's Environmental Law and Policy Clinic. I have come to this hearing to express my concern regarding the Proposed Rule's insufficient impact on CO<sub>2</sub> emissions from fossil-fuel fired power plants. As currently written, the Proposed Rule is only expected to result in a 0.4% reduction per year in CO<sub>2</sub> emissions from fossil fuel fired power plants. This is startlingly insufficient, since the Clean Power Plan's goal for North Carolina is a 36% reduction from 2012 baseline levels by 2030.

I will focus on the three most problematic aspects of the state's proposal. First, and most importantly, the Proposed Rule impermissibly ignores two methods for CO<sub>2</sub> emission reduction identified in the EPA's Clean Power Plan – (1) substituting increased electricity generation from lower-emitting existing natural gas units ~~for generation from coal-fired units and~~ (2) substituting increased electricity generation from new zero-emitting renewable energy projects ~~for fossil fuel-fired units~~. The Proposed Rule puts all of its eggs in one basket by focusing solely on limiting CO<sub>2</sub> emissions through various "heat rate improvement" measures. In the Clean Power Plan – the EPA repeatedly notes that states must not solely rely on heat rate improvement approaches. HRI measures alone make coal-fired power plants more efficient and competitive, thus resulting in greater reliance on coal plants – which can severely reduce, or even eliminate any emission reductions obtained from improving the plant's heat rate.

Second, the Proposed Rule appears as though it was designed specifically so that it could be rejected by the EPA. The McCrory administration should invest its time and taxpayer money to developing a forward-looking emission reduction strategy, instead of baiting EPA for a fight. Without curbing energy-sector GHG emissions, North Carolina will suffer tremendous financial damage due to sea level rise, adverse health impacts, extreme weather events such as heat waves and flooding, and the resultant social upheavals and human suffering that these events precipitate. These impacts will most severely affect children, the elderly, and low-income, minority communities.

Third, the Proposed Rule does not do enough to protect the health and environmental quality of North Carolina's most disadvantaged communities. Specifically, 14 out of the 24 coal-fired power plants in the state are not slated for any emissions reduction measures under the Proposed Rule, and these plants are predominantly located in low-income, minority communities. North Carolina has a troublingly poor record of protecting such communities, and the Proposed Rule only exacerbates this problem.

Finally, climate change is too important of a problem to politicize. At the very least, the rule must be revised to include systems of emission reduction other than heat rate improvement measures – preferably, through including increased generation from renewables. We owe it to current and future generations of North Carolinians to act swiftly, decisively, and boldly. The Proposed Rule does none of those – it must be seriously revised to reflect the gravity of the problem it seeks to address. Thank you very much for your time.

### NC Proposed Rule Public Hearing Message Box

<u>Problem</u>	<u>Solution</u>
<ul style="list-style-type: none"> <li>• Anthropogenic climate change is the largest, most complex, and most severe threat human society has ever faced, and is already impacting North Carolina</li> <li>• Climate change is, first and foremost, driven by fossil fuel combustion. The United States is the largest historical emitter of GHGs, and the energy sector is the largest emitter of GHGs in the US.</li> <li>• The Proposed Rule’s sole reliance on heat rate improvement to limit CO2 emissions at power plants goes against the express language of the Clean Power Plan.</li> <li>• The Proposed Rule will only result in a 0.4% reduction per year in CO2 emissions, and could actually increase emissions in the long-run.</li> <li>• CPP’s goal for NC is a 36% reduction in CO2 emissions from 2012 levels by 2030.</li> </ul>	<ul style="list-style-type: none"> <li>• Addressing climate change in any meaningful way absolutely requires addressing CO2 pollution from the energy sector – in the form of a determined and rapid move away from coal to natural gas and renewables.</li> <li>• The Proposed Rule must be revised to include systems of emission reduction other than heat rate improvement measures, such as transferring energy generation from coal-fired plants to natural gas-fired and, preferably, renewable sources.</li> <li>• The McCrory administration should invest its time, efforts, and taxpayer money to developing a forward-thinking emissions reduction strategy, instead of engaging in petty political maneuvering</li> <li>• Transitioning energy generation to renewable sources creates jobs, invests in our communities, and helps North Carolina maintain its leadership in the clean energy industry.</li> </ul>
<u>Values</u>	<u>Call to Action</u>
<ul style="list-style-type: none"> <li>• The North Carolina Constitution requires the protection of NC’s lands and waters of [Art. XIV, Sec. 5] – “It shall be the policy of this State to conserve and protect its lands and waters for the benefit of all its citizenry...”.</li> <li>• Art. XIV, Sec. 5 maintains that is a “proper function of the State of North Carolina...to control and limit the pollution of our air and water”</li> <li>• North Carolinians are morally obligated protect their shared natural resources and those most vulnerable to the impacts of climate change.</li> <li>• Climate change’s impacts will be most severely felt by children, the elderly, and low-income and minority communities. We should do all we can to alleviate human suffering through GHG mitigation</li> </ul>	<ul style="list-style-type: none"> <li>• North Carolina’s Proposed Rule must be revised to reflect the seriousness of the climate change problem.</li> <li>• North Carolina can and should do more to fully implement the CPP – the current proposed rule is so deficient, it hardly even qualifies as a “half-hearted” measure</li> <li>• Climate change is too important of a problem to politicize – the McCrory administration should not gamble with the future well-being of North Carolinians by putting forth a doomed-to-fail proposed rule.</li> <li>• Without curbing energy-sector GHG emissions, North Carolina will suffer tremendous financial damage due to sea level rise, adverse health impacts, extreme weather events, and the resultant social upheavals that these events precipitate.</li> </ul>

NOTES

My Subject tonight is about wind power - its like what you get from eating Beans - its not constant

Blue ridge outer Banks what about effects on life

have you seen a wind farm? not very pleasing to the eyes a lot of noise / no beans no wind / no wind no power / doesnt gen much power at low wind / starts shutdown at 60mph+ wind ~~so with wind gust @ 60 to 80~~ so if you have winds variable between 62 and 40 w/start and stop no power (it doesnt work!)

The target wind turbine only gen elec for 425 homes @ full capacity / how many wind turbines would you need for a town of 100,000 homes

!! you do the math / what about - wall mart - street lights - cities - subways - Transits never mind Washington DC alone - ~~enough~~ there is enough ~~not~~ air <sup>there</sup> if we could use it we could

Big cities

heat it in cold weather / cost alone for 1 turbine \$40,000 to \$70,000 how long will it take to pay for it, <sup>we will</sup> need to eat a lot of beans <sub>to pay for it</sub>

No wind no power / we will have <sup>to have</sup> our power plants as back-up

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~~does this mean we will have a power bill~~

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ON Solar Power NO SUN NO HELP



I Am a member of 60plus - representing 7.2 million senior citizens across the US. V-413 A/503

Wind energy was abandoned well over 100 years ago because it was totally inconsistent with more modern needs for power. When we flip a switch..we want the lights to come on..100% of the time.

There is nothing environmentally friendly about wind energy. Just one part of a turbine..the generator uses considerable rare earth elements..2000+ lbs. per MW. Mining and processing of these metals has terrible environmental consequences which the left conveniently ignores. As an example..just the rare earths of a typical 100 MW wind project would generate approximately: A....20,000 sq. meters of destroyed vegetation.... B....1.2 million pounds of CO2. C....6 million cubic meters of toxic air pollution. D...29 million gallons of poisoned water. E....600 million lbs. of highly contaminated tailing sands and...F....280,000 lbs. of radioactive waste.

LAND...wind energy requires VAST amounts of land, Thus CREATING VAST EYESORES.

RAW MATERIALS...Wind turbine installations use large amounts of steel..copper..rare earth metals..fiberglass..concrete..rebar and other materials.

MONEY...Taxpayers must provide perpetual subsidies to prop up wind projects..they cannot survive without steady infusions of cash via tariffs..tax breaks and direct payments.

ENERGY...Mining..quarrying..drilling..milling..refining..smelting and manufacturing operations make the production of metals..concrete..fiberglass and resins..turbines and heavy equipment to do all of the above very energy intensive..and then there is the transporting and installing of turbines..towers..backups and transmission lines. ~~What kind of energy do you think it takes to accomplish all of that? Certainly NOT wind energy.~~

Very expensive

HEALTH...There is a growing body of evidence that wind turbines cause significant health problems which are being completely ignored ~~amongst the absurd hysteria over hydraulic fracturing and natural gas exploration.~~

ENVIRONMENT...Our birds are being slaughtered..from raptors to bats..they are falling from the sky to the tune of thousands per year because of wind turbines. Livestock will refuse to graze near turbines. ~~Why is that do you think? Could it be the vibration? These things are being ignored just like the health problems for humans.~~

JOBS..."Green" installer and maintenance jobs cost up to \$750,000 apiece and destroy 2.2 to 3.7 traditional jobs for every eco-friendly job created.

ELECTRICITY COSTS AND RELIABILITY...Wind power's electricity costs far more then coal...gas or nuclear alternatives and it's intermittent nature wreaks havoc on power grids and consumers. Energy intensive industries cannot compete against ~~cheap~~ Chinese...Indian and other countries <sup>CHEAP</sup> electricity and labor.

I keep hearing the words affordable and cheap. Neither word applies when it comes to the new EPA rules. ~~And not all of us have short memories or believe everything we read at Salon.com or The Huffington Post.~~ When Obama was speaking to environmentalist supporters in 2008 regarding his plans to address global warming he said..."Under my plan, electricity costs will necessarily skyrocket." White

House Science Advisor John Holdren said...“We need to *de-develop* the United States to bring our economic system into line with the realities of ecology and the global resource situation.” The impact of this is exzpecially severe for low-income groups and minorities. Estimated projected job losses for blacks is 7 million and 12 million for Hispanics with the poverty rate increasing by more than 23% for blacks and 26 % for Hispanics.

The “Clean Power Plan” will ultimately more than double the cost of natural gas and electricity..adding over 1 trillion to family and business energy bills. And reduce US economic growth every year causing 2.3 trillion in losses over the next 2 decades. *ESPECIALLY HARD HIT WILL BE SENIORS + ANYONE ON A FIXED INCOME.*  
~~Why would we want higher costs for families..businesses..lost jobs..lower incomes..higher poverty rates..reduced standards of living and diminished health and welfare in general? All the while food and healthcare costs will be steadily climbing~~ surely we do not want to create a new energy-driven poverty. *AND*

Those that have gas..thinking it would be cheaper..will be hit with higher costs as coal power is reduced...natural gas will have to pick up the lack of coal power. ~~These new rules are nothing more than a huge national energy tax.~~

Here is something to think about...the Utility Death Spiral. As more homes and businesses go solar..utility companies begin to have serious capital problems...they still have a big..expensive electricity grid to maintain..so they are forced to raise rates on non-solar customers to make up the difference..keep the grid running and stay profitable. In addition to raising the rates on non-solar customers they will also make dramatic cuts to solar incentives..thus doubling the rates of solar customers as well...~~But hey who cares..right? Its only money.~~

Apart from the sheer ugliness of solar panels...lengthy contracts with providers...the maintenance and eventual replacement thereof...the government tax incentive is only available to those that have a high enough income to afford them. The poor cannot possibly participate and will be disproportionately affected.

Please...drop all the hysteria..get a grip..only GOD can destroy what GOD has made. Anyone that thinks otherwise has another think coming. ~~For those of you that would rather walk to work or ride a bicycle to work instead of driving a car that uses “dirty” energy no matter how far away that job may be..then I wont stop you. If you want to live in the dark use candles and fireplaces..or what you want..I dont care. I dont care if you are a guest. I dont care if you are a guest.~~

NOW..having said all that..let me also say I..along with most every one I know are not against solar energy...when it is truly practical and truly cheap or at least affordable...even to those with lower incomes...but not while those 2 things are still ~~years away~~. Almost all of us love this planet and want to be good stewards...so instead of FORCING those that don't see eye to eye with you on every detail to pay for what YOU want..lets all work together to achieve what we ALL want and need. *Just SLOW DOWN AND BE A LITTLE MORE PATIENT - TECHNOLOGY IS ON THE WAY*  
Reliable..affordable energy. *WE ALL WANT CLEAN AIR*

Thank you.  
  
PJ LOFLAND

Bill Jensen

Apex Town Council

Over 95% of Climatologists believe we are in trouble with Climate Change. And more are coming to that conclusion every day. Our local weatherman, Greg Fishel now agrees that we are in trouble with climate change and we need to move faster to reign-in carbon dioxide emissions. The North Carolina plan for reducing carbon dioxide emissions falls far short of what we need to achieve.

The state needs to get directly involved with renewable energy systems on public buildings and properties. In fact, we should already have solar PV systems on all state owned buildings. We cannot continue to rely on private industry to achieve the necessary goals in reducing carbon dioxide.

If the state would provide local government entities very moderate assistance in financing solar PV systems, we could install these systems on all of our local government buildings in a cost effective manner.

As a town councilman, I have been working on developing solar energy systems in Apex. We are now working with Duke Energy to evaluate the possibility of a 1.2 Megawatt PV system. To achieve this system we will also work with private industry.

The private sector receives tax-credits and depreciation allowances that towns are not availed of. If the state would provide the same assistance to towns as grants, we could install these systems ourselves and keep all public money in the public sector.

In closing, I would like to Compare Renewable Usage in North Carolina to that in Scotland

Year	NC	Scotland
1990's	7%	7%
Today	6%	Over 40%
2020	12.5%	100% goal, but likely 87%

If Scotland can achieve almost 100% renewable energy electric production by 2020, North Carolina can do better than we are proposing.

Generating facilities

Gas fired turbines waste heat to steam turbines

Steam turbine waste heat to Pentane Gas based turbines

December 17, 2015

Statement to Air Quality Division

Comments on draft NC Clean Power Plan

My name is Harvey Richmond and my comments today are on behalf of the NC Chapter of the Sierra Club. I'm a retired senior EPA environmental analyst and I worked on national air quality regulations for over 31 years. I currently serve as co-chair of the NC Chapter of the Sierra Club's Clean Energy Campaign and serve in a volunteer capacity. My comments do not represent the views of the EPA.

At a time when nearly 200 nations, nearly the entire world, have come together in Paris and signed an historic agreement acknowledging that climate change is real, that emissions from humans are a significant contributor, and that significant actions by all governments are needed to prevent a 2 degree centigrade rise in global temperature, the NC Department of Environmental Quality has chosen to submit a draft plan that is completely inadequate. The draft plan deals with only those measures that can be taken to improve heat rate efficiency on site at existing coal-fired power plants. The DEQ proposal falls incredibly short of meeting the carbon dioxide emission reductions required by the EPA for 2030.

Instead of embracing and encouraging energy efficiency, and adoption of more solar and wind and other forms of renewable energy, the McCrory Administration would rather spend our taxpayers dollars on suing the EPA. Other states throughout the southeast and beyond, including a number of states that are also suing EPA, at least are holding substantive stakeholder meetings and developing real plans that are designed to meet the required EPA targets. North Carolina could submit a request for extension if it needs more time to prepare state rules to meet the called-for emission reductions, but instead is rushing through an inadequate plan guaranteed to be rejected by the EPA.

While EPA has built considerable flexibility into the Clean Power Plan rule, North Carolina's DEQ chooses to ignore the many possible alternatives it could include in a strong and just plan that would be designed to meet the federal targets. The flexibility of the Federal plan allows states like North Carolina to reduce costs to consumers and to spur private investments in clean energy. A real plan could and should include other state laws or policies that have the effect of reducing carbon dioxide emissions – like the renewable energy and efficiency portfolio standards (REPS). It is understood that meeting the existing REPS will go a long ways towards the state meeting the carbon dioxide reductions set forth by the EPA for 2030.

Instead of racing this inadequate draft rule through a public hearing process during the holiday season, DEQ should be engaging in a collaborative public stakeholder process, like other states

in the Southeast (e.g., Virginia, South Carolina, Georgia, and Florida) with the goal of developing a substantive plan, rather than the sham it has produced so far. DEQ has ignored the federal requirements in the final Clean Power Plan rule to include vulnerable communities in a substantive stakeholder process.

It is the Environmental Management Commission's (EMC's) responsibility to make sure that the NC DEQ submits a valid state compliance plan. Rather than rubber stamping the McCrory administration's plan to pursue lawsuit after lawsuit, the Sierra Club calls on the Environmental Management Commission to reject the inadequate plan put forth by the DEQ. The EMC should insist that DEQ develop a real plan for our state that 1) reduces carbon dioxide emissions in accordance with the federal requirements, 2) includes clean energy solutions, 3) protects our communities health and the environment, and 4) includes vulnerable communities and public stakeholders in the development of a substantive plan that meets the EPA targets for the year 2030.

The Sierra Club plans on submitting additional written comments prior to the close of the public comment period.

Harvey Richmond, Co-Chair

Clean Energy Campaign

NC Chapter of the Sierra Club

106 Hebride Court

Cary, NC 27513

Comments of Rick Glazier

December 17, 2015

Good evening.

My name is Rick Glazier.

I am the Executive Director of the North Carolina Justice Center, a Raleigh based nonprofit with the mission of assisting low income communities across the state. Until recently, I had the great honor of serving in the NC House as the Representative for District 44 and Cumberland County.

My work in these two positions while remarkably different in some ways is also remarkably the same. Every day I endeavor to improve the lives of my fellow North Carolinians, some of whom, then, as now, struggle to pay for the most basic necessities such as electric utility service. It is well past time that we as a state take the steps necessary to reduce carbon emissions, but also well past time that we work to help low income communities meet their energy needs through the adoption of strong energy efficiency measures and wind and solar energy generation.

It is not often that solutions to problems would so readily present themselves as they have in regards to the issues that we address here this evening. What is, sadly, too common, is that it appears policy leaders in our state yet again are failing to take advantage of a great opportunity.

I am here this evening to ask you to make significant improvements to the current NC Clean Power Plan so that it will better serve our

economy, our environment, and our citizens, especially those living on low incomes.

For the sake of our environment, not only would a robust Clean Power Plan cut carbon emissions and other pollutants and help protect our fragile coast from sea level rise, but the adoption of energy efficiency measures and renewable energy in the form of wind and solar would help create badly needed jobs that could be performed by low and middle class workers in NC. But that's only the beginning, if the state plan included the adoption of the Clean Energy Incentive Program, which it currently does not, NC could benefit from a more rapid deployment of wind and solar generation and energy efficiency programs targeting low income communities that are desperate for programs that meet their needs to reduce energy costs and improve their living spaces.

The current plan simply does not do enough to serve the needs of NC, and I urge that you revise this plan so that it incorporates aggressive adoption of renewable energy and energy efficiency programs.

Thank you for the opportunity to speak to you today.

Date: December 17, 2015  
To: Donald R. van der Vaart, NC Department of Environmental Quality  
From: Gerald Strobe, M.D. Retired Pediatric Pulmonologist  
Re: Statement for Clean Power Plan Hearing, Raleigh, NC

Secretary of the Division of Environmental Quality and Environmental Management Commission  
Members:

My name is Dr. Jerry Strobe. As a pediatric pulmonologist, I spent 33 years after my training taking care of hundreds of infants and children with respiratory illnesses like asthma, chronic bronchitis, and respiratory failure. I worked at ECU and Vidant Hospital in Greenville, Mission Children's Hospital in Asheville, and UNC Hospitals in Chapel Hill, and I now volunteer with the Chatham County Council on Aging.

I am concerned about elevated atmospheric levels of CO2 which enhance ground levels of other pollutants. The interactions of these pollutants enhances their toxicities which exacerbates asthma and other chronic lung diseases resulting in acute illnesses leading to ER visits, hospitalizations, or even death, particularly in infants and the elderly.

The NC State Center for Health Statistics reported that \$132 million were spent for hospital care for patients with asthma in 2010\*. We anticipate the population in Raleigh and Charlotte to grow by 71 percent over the next 15 years which will lead to increased pressure on our medical care systems. Taking aggressive, comprehensive and immediate action to curb emissions now, can lead to improved air quality and better health for our patients with chronic lung disease.

The American Public Health Association and the American Academy of Pediatrics recognize the imperative to reduce carbon emissions, not only to address climate change, but also to protect public health. The Clean Power Plan provides an opportunity to ensure our air is healthy and clean, and we strongly encourage the implementation in North Carolina of a plan that meets and even exceeds the federal carbon reduction target as soon as possible.

Gerald L. Strobe, MD, FAAP, retired Pediatric Pulmonologist and Clinical Professor at ECU  
Currently: Board member, Chatham County Council on Aging and Committee  
Member, Chatham County Community Advisory Committee for Long Term Care Ombudsman Program.  
1624 Hadley Mill Road  
Pittsboro, NC27312

Home 919-542-1697  
Mobile 252-341-9678

\*Data Source: *North Carolina State Center for Health Statistics, North Carolina Hospital Discharge 2006-2010 (Data as of May 31, 2012).*

~~Even~~ The EPA's Clean Power Plan doesn't go far enough. Gov. McCrory needs to develop a REAL Clean Power Plan!

There are many good things happening with our great, local farms, regenerative agriculture, and solar in NC. That needs to EXPAND BIG TIME NOW!!! There needs to be a shift in consciousness! If NC doesn't have a real clean power plan they will hold back the state from moving at the swift, critical speed needed to get off fossil fuels.

Instead of fighting the EPA over the Clean Power Plan, the governor needs to speak out and support North Carolina's current clean energy policies like the Renewable Energy Portfolio, and make it **even stronger**. The tax incentive for solar that is **expiring** at the end of the year needs to be reintroduced and expanded. Both of these will help create jobs that he's always talking about. **Good paying jobs**, that pay a fair wage. Just think of all of the homes, faith organizations, and small businesses getting on board with solar!! The governor needs to support NC WARN's new campaign and set up a "green ribbon" panel to develop a just plan for helping coal plant employees transition to green energy jobs in order to preserve North Carolina communities. **Changing** the direction of climate change helps save lives, cuts pollution, creates jobs and improves health.

Just last week the world's **governments** announced their intentions of 1.5 degrees Celsius. That means fossil fuels have to stay in the ground. There can be NO fracking, no offshore drilling, no coal ash, and no pipelines!!!

NC must keep fossil fuels **in** the ground and move toward a just transition to 100% renewables NOW!

Peace and love for our beautiful Earth, Karen Bearden  
1809 Lakepark Drive, Raleigh, NC 27612

Thank you for the hosting these hearings and thank you for the time to speak. My name is Dave Rogers, and I am the director of Environment North Carolina, a statewide environmental organization with more than 50,000 members and supporters across the state.

Environment North Carolina calls on the state to adopt a State Implementation Plan that both meets the requirements set in the Clean Power Plan, and emphasizes the use of clean, renewable energy sources like wind and solar.

*It's the 21st Century. We should get our energy from sources that don't pollute*

So, While global warming poses one of the greatest challenges we will face as a world, it also presents North Carolina with a unique opportunity to become a national leader in the energy economy of the 21st century. We consistently rank at the top of lists in terms of solar installation. We have the most offshore wind potential of any Atlantic state. North Carolina should move forward smartly and aggressively to both maximize these resources, but also in order to capture the businesses that are required to build up that infrastructure. This would create tens of thousands of jobs, and allow North Carolina to become a hub for clean energy.

*our air & water, and will never run out*  
*In fact, we released a report last year that shows that NC could meet 75% of the requirement of the Clean Power Plan with solar alone.*

I can't say that I know which company will become the next Exxon or Shell when it comes to energy, but I'm pretty sure it won't be Exxon, Shell, or any company that largely peddles fossil fuels. And don't we want that next company to call North Carolina home?

Thank you. I'd also like to turn over the signatures of more than 1,100 people who are calling for the same thing.



To: Governor McCrory  
 CC: Joelle Burleson, Division of Air Quality

From the threat of rising sea levels to more frequent and severe droughts and floods, North Carolina has a lot to risk when it comes to global warming. We should be doing everything we can to tackle climate change, and that starts with the single largest contributor: carbon pollution. I support the Environmental Protection Agency's recently proposed limits on carbon pollution, known as the Clean Power Plan (CPP).

North Carolina has tremendous opportunity to curb harmful carbon emissions and expand clean energy sources like wind and solar. We are well positioned to meet the goals set forth in the Clean Power Plan if we build upon our solar success and wind potential. Not only is there no clean energy in DEQ's current proposal, but the administration is also setting the state up for failure by knowingly submitting a substandard plan.

I urge you and your administration to take this problem seriously, and put forth a plan that maximizes wind and solar energy for North Carolina.

First Name	Last Name	Email	Zip	State	Comment
Katherine	Nickels	nickelka@brevard.edu	28712	NC	
Liz	Kazal	ekazal@gmail.com	27601	NC	
Beth	Stanberry	rdtrtle@gmail.com	28802	NC	
steve	lucas	slucas78704@gmail.com	78704	TX	
Nancy	Laplaca	laplaca.nancy@gmail.com	27705	NC	Please, be a leader and not a laggard. Protect the People, not Duke Energy and other large corporations that are polluting our air, water -- and our DEMOCRACY!
Martha	Girolami	mgiorlami@mac.com	27523	NC	
Christy	Thompson	autumnsong@mac.com	28792	NC	
Edward	Brophy	ebrophy@tlbgroup.com	28409	NC	Support sustainable energy
David	Bristol	barkingatnight@gmail.com	28409	NC	
Bonnie	Koshofer	apanda617@aol.com	12305	NY	
Rachel	Fussell	rachel.fussell@gmail.com	28734	NC	
Judy	Moran	timstarjudy@aol.com	32404	FL	
Mary Ann	Gough	magough@charter.net	28804	NC	
Judy	harrelson	judy@glasswarehouse.net	27344	NC	
Sammy	Haygood	s.haygood@att.net	27527	NC	
Christoper	Jones	cjj127@gmail.com	37209	TN	

Moira	Breen	Moirafbreen@gmail.com	27707	NC	
Dane	Bowen	dbowen5@carolina.rr.com	28227	NC	People know about global warming and that we need to act now. No more protecting big polluters.
Andrea	Burnham	Arpapp174@gmail.com	27520	NC	
Carolyn	Smith	lorraine_sm@yahoo.com	27048	NC	The protection of our environment should come first!
Dustin	Houston	dhouston0222@vcat.cvcc.edu	27511	NC	
Bryna	Rapp	bryna@furniturelab.com	27516	NC	
Emily	Mazure	queenem@gmail.com	27713	NC	
Barbara	Kantola	blkantola@comcast.net	49120	MI	Not acting on climate shows you don't care about the future generations, including your own family.
Zach	Nichols	zacharymnichols@gmail.com	27858	NC	
Felicity	Gage	mimife123@yahoo.com	27960	NC	Please begin being more forward thinking with your actions on these crucial environmental issues that will affect generations to come.
Christi	Dillon	racegirl1971@yahoo.com	28117	NC	
N.S.	Greenwood	nsgreenwood@yahoo.com	27615	NC	Climate change is not a myth. You need to get real, stop the greed, and shape up.
Kay	Maddox	Ktbug74@gmail.com	27208	NC	
Deb	Brown	deb@econweb.com	27624	NC	
lorenz	steininger	schreibdemstein@posteo.de	22554	VA	
Nathan	Reynolds	nareynol@gmail.com	27519	NC	Make North Carolina a leader in this space!
Amy	Marschall	marschall@mindspring.com	27603	NC	NC and the planet need clean energy, solar and wind, in the Clean Power Plan.
Anna	Toth	chunkpooh@hotmail.com	28806	NC	
Matt	Rawlins	mdrawlins@earthlink.net	28117	NC	
Tom	Anderson	moderngame1@gmail.com	28762	NC	This is one issue we need to follow California's lead on. We're already 50 years late in taking action on this!!
Stephen	Kandall	sk1840@aol.com	27614	NC	
Lee	Kuyper	Lkuyper@nc.rr.com	27707	NC	
Mary	Price	mryprice@juno.com	27713	NC	
Daniela	Rossi	danieladdt@hotmail.com	83210	ID	
Dana V.	Little	dvlsr1955@yahoo.com	28787	NC	Maybe you do not care about what is happening with climate change but I do and will remember it on election day!
Tim	Wadkins	timwadkins@gmail.com	20910	MD	
Barbara	Al-Yousuf	bobbi1079@hotmail.com	61073	IL	I lived in NC for 13 yrs and I am sad the way pollution is overtaking this planet. Please do something to help.

Meryl	Pinque	merylpinque@yahoo.fr	04401	ME	
Maureen	Hayes	mchayes720@gmail.com	27516	NC	Duke Energy is not taking advantage of its opportunity to move this state in a much more sustainable direction, and be on the forefront of where this country needs to go in terms of energy. Shame on you Governor McCrory if you don't insist Duke Energy do what's right for North Carolina and its citizens. Maureen Hayes
Mark	Hurmenca	Gocubsmark@aol.com	28428	NC	
Neil	Freedman	neil.freedman@duke.edu	27705	NC	
Rick	Savage	rsavage1@gmail.com	27511	NC	
Adrienne	Gardner	briannamackenzie@yahoo.com	27030	NC	
Joanne	Heckel	Jch52969@aol.com	27012	NC	
Todd	O'Buckley	okham@netscape.net	27704	NC	
Elizabeth	Norman	emn3@mindspring.com	27701	NC	
Mary	Junkins	txveggie@gmail.com	27519	NC	
Linda	Orr	ncdovechild@yahoo.com	28734	NC	
Sharon	Garlena	sharon.garlena@tatr.org	21703	MD	People over profit, clean, renewable, sustainable energy now!
Philip T	Johnson	pjphilip12@gmail.com	27517	NC	I AM ACTUALLY SCARED TO DEATH AS I DON'T BELIEVE THE REPUBLICANS ARE INTELLIGENT ENOUGH TO UNDERSTAND WHAT CLIMATE CHANGE MEANS. THEIR PATHETIC MINDS ARE TOTALLY CLOGGED WITH DOLLAR BILL SIGNS.
Alison	Smitley	alison.smitley@gmail.com	27610	NC	
Aubrey	Navarro	aupele@aol.com	28348	NC	
Dave	Perrey	dperrey@frontier.com	27713	NC	I really don't care if you believe in climate change or rising oceans, to exclude solar and other renewable energy in your energy plan is short-sighted. Keep the state at the fore front, not trailing behind.
Gavin	Dillard	gavco@me.com	28711	NC	Environment above all else! Without a livable environment, there IS no economy.
Misako	Toda	misakotoda@gmail.com	27514	NC	
Danielle	Boulet	danimboulet@hotmail.com	27278	NC	
Elizabeth	Evans	emevans500@aol.com	27510	NC	
Carol	Lee	jelliebeanbaby@gmail.com	28449	NC	Why do you oppose clean air and renewable energy?

Virginia	Travis	ginger_travis@bellsouth.net	27278	NC	Gov. McCrory, does the fact that Google wants to buy a solar farm here not tell you something about the future of energy and its relationship to jobs? We need alternatives to the coal your favorite utility and former employer burns!
John	Watts	wattersonfamily@nc.rr.com	27312	NC	
Stephen	Ryan	srbeachbum@gmail.com	27972	NC	
Benjamin	Wheeler	bw83@duke.edu	27712	NC	
Rochelle	Gibney	rogibney@gmail.com	28562	NC	
Linda	Rudick	jeffrudick@hotmail.com	28468	NC	
Bill	Ross	sg95br@me.com	27514	NC	
Randy	Byers	byers.randy@gmail.com	27408	NC	
Pope	McElvy	popemcelvy@gmail.com	28804	NC	
Michael P.	Ferguson	iamearthangel@att.net	27516	NC	~we deserve a better governor than Patty...period...michael p.~
Martin	Greenhut	martyg@bcn.net	28753	NC	
Vicki	Ryder	peace5942@gmail.com	27707	NC	Gov. McCrory, you were elected to protect all of the people of North Carolina, not the for-profit energy industry. Will poisoned air and water be your legacy?
D Denise	Dianaty	DeniseDianaty@aol.com	27526	NC	"As stewards of creation, what account will the Humanity be able to give of our Stewardship?" POEM: North Carolina Home Sweet Home An homage to the North Carolina I've always known Awake to a painted morning sky Filled w' scent of magnolia and Carolina pine Reveling in a sun-drenched landscape Of blossoming hydrangea and myrtle, crape With azalea blossoms and fragrant rose Wild jasmine and hyacinth perfume kiss th'nose. Climbing honeysuckle n'bumblebees 'Neath sheltering oak and towering maple trees Mountain to coast steeped in mythic lore Where all ev'ry native roads lead to the shore From homes of native red earthy brick. A gentle, misty Southern wisdom flows thick Wreathes the Grandfather's Mountain spaces Teaching unspoken lessons for the ages Life is not hurrying – but sav'ring In this place... this home ever unwavering God-kissed from misty mountain to roiling shore This North Carolina home sweet home we adore. D. Denise Dianaty © 01 November 2015
James	Hardin	jwhardin@nc.rr.com	27607	NC	
Jim	Amerault	jamerault@nc.rr.com	27597	NC	

Gay	Loesch	gayloesch@yahoo.com	28227	NC	Let's make a big push for wind and solar power, renewable energy-limit carbon pollution, NOW! for our families of the future. Make decisions for quality life and tackle pollution and climate change.
Duane	Scaggs	duane@scaggsmail.com	27513	NC	Stop playing games. Global climate change is real and a real threat regardless of what is causing it. Yes, lower cost energy is good, but in a balanced manner. Solar and Wind are not the only answer, but they are part of the solution and she be a significant part of any plan.
Lawrence	East	rstyeast@aol.com	28540	NC	
Ruth	Reynolds	ruthrules6@yahoo.com	27713	NC	
Colby	Hall	challnc@gmail.com	27609	NC	We need to take effective action to protect our environment now, before we no longer have a choice and are unable to deal with the consequences.
Virginia	Wright-Frierson	Vmwf@ec.rr.com	28401	NC	Why are you destroying our beautiful state??
Douglas	Merrey	dougmerrey@gmail.com	27312	NC	
Armstrong	Pillow	hart.pillow@gmail.com	27572	NC	Governor, As a professional not working for money these days, I want you to join the sustainable energy movement or get out of the way, with all due respect.
Tracy	Feldman	tracysfeldman@yahoo.com	27713	NC	
Janet	Maker	jamaker2001@hotmail.com	90024	CA	
James	Corrigan	mo2010@me.com	27560	NC	

Pat	Colwell	pkcolwell@yahoo.com	28621	NC	We are blessed with wonderful sunshine in NC that costs us nothing. Why would we not harvest that to create energy that is totally sustainable and doesn't pollute? We have a 5.9 kw solar system which is connected to the grid via net-metering with Duke Energy. We borrowed money to put this in. Duke paid nothing for it. They pay us 8 cents for what we buy back at 11 cents. If that isn't profitable to them, there is a problem in their operation and not in the concept. Every building in NC should have solar panels on as they do in Europe. Duke needs to figure out an energy model which doesn't require centralized energy creation but rather can leverage distributed creation as well as distributed use. If they can't figure that out, they will not survive as that is what the 21st Century will ultimately need. Please stop helping them avoid this necessary step toward a healthier future for us, our children and our grandchildren. Thank you.
Michael	Hodges	hodgesmail@gmail.com	48103	MI	Governor, we have got to stop raping our planet to fill the pockets of the big power companies. Let's get with the program here in NC and promote the use of clean energy. If implemented properly, I think clean energy can supplement current sources nicely. And when the grid finally goes down, North Carolina will be ready!
Donald	Harland	dharland@bellsouth.net	28715	NC	
Tasha	Pate	limesmudge@gmail.com	27701	NC	I support CPP 100% because I care about our future more than corporate profits.
Paul	Naylor	naylorpaul@msn.com	27707	NC	
Brian	Paradise	bgparadise@comcast.net	32082	FL	
Sandra	Westmoreland	sfwestmoreland@hotmail.com	27909	NC	
Gea	Skeens	geadotty@hotmail.com	28806	NC	Gov. McCrory please think on a broader scale than just your bank account. It would be the only reason that someone would ignore all of the science data about climate change. You must be getting a huge payoff.
Cindy	Leach	cleach@fathomrealty.com	27513	NC	
Sherri	McRoberts	sherri@mcrobertsmiller.com	28715	NC	
Valarie	Davis	workinma@yahoo.com	27895	NC	
Janet	Maker	jamaker2001@hotmail.com	90024	CA	

Donald	Barker	wolvesdenobx@gmail.com	27949	NC	
David	Pyle	spyle8211@aol.com	28211	NC	
Julia	Riddle	jriddle8@triad.rr.com	27408	NC	I am very disappointed in your choice not to support the President on global warming. I regret that I voted for you for governor and will not make that mistake twice.
Jw	Vogel	jevferrell@gmail.com	28205	NC	
Lincoln	Hancock	lincoln.hancock@gmail.com	27601	NC	
doug	krause	dougkrause@mts.net	58108	PA	
Ronken	Lynton	ronlynton@gmail.com	27312	NC	
Victoria	Roy	victoriaroync@gmail.com	27278	NC	
Smara	Voglesong	smaravoglesong@gmail.com	08055	NJ	Time to move away from dirty, devastating, greedy fossil fuels and take care of our planet. We must rely/back solar and wind power.
Ada	Khoury	inthemoment007@yahoo.com	28787	NC	
Jim	Carillon	jim@jimaline.com	28730	NC	And don't punish those of us who drive electric powered vehicles with extra registration taxes.
Tom	Dancer	tdancer@frontier.com	28765	NC	
Barbara	Bailey	bjbailey1pa@yahoo.com	28801	NC	
Frannie	Goodrich	morrisonkat@gmail.com	27704	NC	We have minimal time to address this very important issue. Do we want to rise to the occasion, or be lamented by our children for disregarding Science for temporary economic security??
Jennifer	Rogers	jenleerogers@gmail.com	27707	NC	Please help work to preserve our beautiful state for generations to come.
Craig	Weaver	mtnmancraig@gmail.com	28607	NC	
Barbara	Johnson	barbara.johnson79@gmail.com	28101	NC	Please protect our state!
Joe	Bearden	chickadeebirders@gmail.com	27612	NC	
Anthony	Madejczyk	tony@pheinc.com	27704	NC	I hear you can get future oceanfront property cheap -- in Goldsboro!
Karen	Balcom	karenbalcom@nc.rr.com	27514	NC	
Terri	Masiello	mediationwithterri@gmail.com	28687	NC	Prove to us you can lead this great state by embracing clean sustainable power.
Cathy	Nieman	cathy.nieman@gmail.com	28787	NC	
Valerie	Hildebrand	vintgal009@gmail.com	44134	OH	

Audrey	Muck	fanninmm@gmail.com	27012	NC	I'm signing on to this request because I want my children and grandchildren - and beyond - to enjoy clean air and water. I'm also very disappointed that the solar tax credits expired just as I was ready to invest in panels myself.
Kay	Duncan	kayduncan625@gmail.com	28803	NC	Governor McCrory, now is the time to act to mitigate climate change and secure a future for us all.
Holly	Mills	hollyjb3@yahoo.com	27713	NC	
Theresa	Wood	tmw647@gmail.com	28787	NC	NC needs to step up and be a leader in renewable energy, not a footdragger. This issue is too important.
David	Rogers	davidrogers27@gmail.com	27705	NC	
Marc	Schoenberg	mschoenberg@twmi.rr.com	48336	MI	
Charles	Iitzkovitz	chuckitz791@gmail.com	28804	NC	
Patti	Sonnentag	sonnentagpb@gmail.com	27516	NC	I'm sure this is falling on deaf ears or you wouldn't be implementing this destructive policy for NC that you have chosen. But I will ask you once again to please be part of the solution instead part of the problem. You need to clean up NC air & water and reverse the damage you and Duke & others with this mind set are creating. Please start listening to what the people of this state are saying, it's what you were hired to do!!!
Annie	Whitney	karl.d.whitney@gmail.com	27705	NC	Dear Gov. McCrory, I think a balanced energy and climate change strategy is essential for our society to meet our serious energy and climate needs. We need abundant, reliable energy, but we also need clean air, water, and land. Fracking is such a messy technology and there seems to be no need for yet more dirty oil. Coal should just go. I would so much prefer more nuclear, wind, and solar. I think promoting these 3 combined would position North Carolina well to be a leader in safe, smart, and clean energy. Please expand the energy options in your administration's energy plan. Thank you - Karl Whitney
John	Cardarelli	jfcardarelli@gmail.com	27103	NC	I enjoy the Outer Banks a great deal. North Carolina does not need to do any exploratory oil drilling nor do we need to frack for gas. There is a glut of oil in the world right now. Instead, we need to develop and support new businesses which promote solar and wind power.
Patsy	Bullard	tarheelia103@yahoo.com	28023	NC	

Marc	Schoenberg	mschoenberg@twmi.rr.com	48336	MI	
David	Rogers	davidrogers27@gmail.com	27705	NC	
Sandra	Adair	sandyadair7@gmail.com	28712	NC	
Suzanne	Schenkel	suzanneschenkel@yahoo.com	28388	NC	
Carol	Bentley	cabonbike@gmail.com	28205	NC	It is time to stop your "good ole boy" antics and do what is right for this state and ALL her citizens! CLEAN POWER!
Daniel	Graham	grahamdn@bellsouth.net	27517	NC	SCIENCE AND STEM !!
Karen	Boekschoten	kljboekschoten@hotmail.com	28803	NC	
Nadine	Duckworth	hellof_amom@yahoo.com	28681	NC	
Michelle	Hayward	kittyandmoose@yahoo.co.uk	11201	NY	
Joe	Perszyk	jperszyk@yahoo.com	27539	NC	
Sonja	Stahlhut	sonjastahlhut@yahoo.com	27713	NC	I moved to North Carolina 16 years ago, coming from California, my home state. While there is much I still miss, I don't miss the dirty air and water. I just don't. Traveling to North Carolina beaches, in particular, was a real revelation. The skies were blue, with pretty clouds - not yellow from oil drilling and pollution taking place offshore. When I drive through North Carolina mountains, the forests are not turning an orange brown from pollution. North Carolina is uniquely positioned geographically to take advantage of the best clean energy has to offer, and to preserve its considerable tourist industry. Protect your state, Governor McCrory. It is the best, most responsible thing you can do.
Marc	Pendergast	george@rcukes.com	27514	NC	
Hayward	Anderson	haywardand@hotmail.com	28216	NC	
John	Baynon	jbaynon@nc.rr.com	27502	NC	If you take the time to look on social media, you'll see that you are loosing the support of those you depend on for re-election. Stop doing favors for your energy lobbyists and do what is right for NC and the people you work for!
Nadine	Duckworth	hellof_amom@yahoo.com	28681	NC	
Robert	Austin	bobandcharlotte@ec.rr.com	28589	NC	
Kate	Torrey	kate.d.torrey@gmail.com	27516	NC	Support solar, support wind, reduce our carbon footprint--for our children's sake!
Dale M.	Grimes	dale.grimes@gmail.com	27519	NC	
Jeff	Walker	jeffavl@yahoo.com	28806	NC	
Michael	Hamden	m2007hamden@cs.com	27516	NC	

Keith	Easop	keasop@nc.rr.com	27587	NC	Solar credits should also be put back into the budget. I don't understand why it was taken out. I voted republican last time. I'm hoping I can next time too. Thank you
Theresa	Lauro	toural@aol.com	28105	NC	Your loyalty to Duke Power is impressive. Greed and arrogance is now ruling NC.
Phillip	Scaggs	phil@scaggsmail.com	27513	NC	
Cliff	Greeson	cgdrums@triad.rr.com	27408	NC	FORWARD NOT backward!
Mary	Davis	lizamuggin@aol.com	27609	NC	Please don't let politics enter into this critical issue!
Alton	Tyre	altontyre2276@msn.com	27231	NC	
Chris	Willett	willett4@email.unc.edu	27516	NC	
Shawn	O'Neill	shawn@myprintplus.com	27948	NC	
Cornelia	Powell	cornelia@corneliapowell.com	28723	NC	
Lawrence	Crowley	magic@ecentral.com	80027	CO	
Barry	Anderson	barry@gcp.com	27948	NC	
Doris	Vannoy	stard@hotmail.com	28697	NC	Curb pollution that is endangering everyone's health too.
Jenny	Quist	jcquist@gmail.com	27613	NC	
Janet	Tice	starjet@mindspring.com	27516	NC	Please don't let your actions and political games make our beautiful state one of the most backward in the country.
Sandra	Resner	sresner@triad.rr.com	27409	NC	
April	Pauley Mink	leapfarm@gmail.com	28756	NC	Please stop this outright assault on your constituents health and the health and beauty of our great state. You don't have to always cater to the energy and corporate sectors. You have done so much damage to so much that was great about this wonderful state. We are tired of your tireless assault on the environment and our rights. This is one more nail in your attempt to be re-elected. You are losing votes on everything you do. April Mink Mill Spring NC 28756
Phyllis	Swank	pswank38@gmail.com	27514	NC	
Patricia	Winne	wyldeflower_98@yahoo.com	28043	NC	
Michael	Wechter	mswclu@att.net	28704	NC	You work for all of NC & not Duke Energy!
Pam	Alterman	pamgator@gmail.com	27513	NC	We need to protect NC's environment NOW. So much of our Economy depends on tourism at our coast and mountains. We need renewable energy put in place to protect these great areas. Global warming must be addressed NOW. We need to support the Clean Power Plan with renewables. Thank You!

Lisa	Globke	tyedye@bellsouth.net	27534	NC	Obviously you don't care about the environment. NC is behind the times in this matter. I applaud the places I visit that have solar power and wind power.
Tom	Clarke	tomclarke@mindspring.com	27408	NC	
Jasmina	Bricic	keiji_miashin@hotmail.com	28504	NC	
Margaret	Silvers	marsilvers@gmail.com	28756	NC	
Robert	BELKNAP	rebelknap@sms.edu	27603	NC	
Susan	McClutchn	susan@tranquilbirthing.com	27713	NC	As a chemical engineer with nearly 20 years experience as in the environmental field, I beg you to stop the destructive path you're taking and go back to making our state a leader in renewable energy sources. Your plan needs to include an emphasis on wind and solar energy sources as well as leaving room to encourage other renewable sources in order to be sustainable. Please search your conscience and choose environmental policies that will improve our state and the health of the people who live here. So far your policies have undermined years of progress and are destroying our lovely state and the health of every person in it. You still have time to change course and be known as the governor who had the spine and wisdom to go against his party and do what was best for his state and constituents.
Colleen	Allen	Colleenwelshallen@gmail.com	27519	NC	
Gayle	Ruedi	gayle.ruedi@gmail.com	27517	NC	Time has run out for the environment. Do the right thing--just once.
Tony	Strickland	extruder@gmail.com	27539	NC	
Julia	Simmons	jupie_one@hotmail.com	28779	NC	
j	angell	jangell@earthlink.net	95672	CA	
Eric	Greene	greenee@edgecombe.edu	27829	NC	
Jay	Hawekotte	ncsurfhawk@hotmail.com	27964	NC	Please do the right thing for the long term health and welfare of all people in NC. Thank you.
Glenn	Clingroth	gcling@bellsouth.net	27608	NC	Please, sponsor and support more alternative energy projects and support tax breaks for solar and wind projects as this is one of the best ways to support alternative energy projects.

Nancy	Silver	nancysworkshop@gmail.com	28804	NC	We are running out of time. If you care about the world your children and grandchildren will inhabit, you must move to clean, renewable energy. There will be a time when all the money in the world will not protect anyone.
Jack	Raker	Jackraker@yahoo.com	28752	NC	Stop making it look like you will support anything for enough MONEY!!!
Dot	Harper	Dotharper05@gmail.com	27420	NC	
Pam	Dix	parndix@me.com	28031	NC	
David	Andes	dandes1043@gmail.com	27244	NC	This is a moral issue. If we do not protect future generations,we have failed. Little else matters.
Peter	Kusek	pkusek@unca.edu	28804	NC	
Chris	Drumright	astrohoops@aol.com	37130	TN	
Betty Lou	Chaika	blchaika@earthlink.net	27517	NC	It is crucial to fight global warming that we keep fossil fuels in the ground. So we need wind and solar.
Marcia	Sobel	ramar50@yahoo.com	27858	NC	
Kyle	Dalton	kyledalton123@yahoo.com	27016	NC	Dear Governor McCrory, Our legacy as individuals,parents and policy makers is to be sure the decisions we make create a livable future for those that follow us.Please support clean energy with wind and solar for our state and for a future that is only the heart beat of a child away.
Christian	Smith	databasemaker@mac.com	28504	NC	All NC politicians must work harder to protect our most valuable asset: a healthy, clean, and balanced environment.
Charlie	Nitsch	pnitsch@carolina.rr.com	28205	NC	
Bonnie	Westbrook	jimbonw@msn.com	28461	NC	Please support the Clean Power Plan in North Carolina, and prevent oil exploration and drilling off our beautiful coastline! Wind, solar, and power from the ocean currents are all feasible and support clean energy goals. Stand up and be a leader on Clean Energy!
Mary	Holt	maryblakeholt@gmail.com	27527	NC	I am the mother of two young girls. Every generation has a responsibility to leave the world better than we found it. Stand up to what is right and protect the environment. Good integrity is greater than the love of money and status.
Carson	Monteith	carsonm28@gmail.com	27609	NC	
Neil	McWilliam	n.mcwilliam@duke.edu	27516	NC	
Selene	Russo	selenee@me.com	27713	NC	
Arida	Emrys	aeemrys@att.net	28806	NC	

Jean	Moxley	moxleyj@hotmail.com	27401	NC	Please work to make our state a place that we can breath safely in. That has water that is protected.
Jen	Aubrey	jen.aubrey01@gmail.com	27514	NC	
Sarah	Davis	sdny152@yahoo.com	27615	NC	
Jeff	Willoughby	jeffwill@carolina.rr.com	28269	NC	
Karla	Devine	kjdevine99@yahoo.com	90266	CA	
Art	Smoker	ansmoker@gmail.com	28754	NC	
Nancy	Acopine	nancyacopine@gmail.com	28804	NC	
Robert	Irvin	brandog479@hotmail.com	27704	NC	
Thomas	Holub	tom.holub@yahoo.com	27614	NC	please act boldly on climate change to position NC as a leader in this area
Camilla	Torsander	camillat@gmx.com	54130	ot	
Joseph	Phillips	pmtjoe@yahoo.com	27284	NC	
Joan	Brannon	jbrann@ymail.com	28692	NC	The global CO2 level just passed 400ppm. We are approaching a point of no return on climate change, an you are clinging to a non-renewable strategy which is beyond justification. It is beyond time to embark on some forward thinking on renewables.
Avril	Lomas	avril08@windstream.net	28782	NC	I guess that given the test re. Climate change ,YOU would be in the same wheelhouse as Ted Cruz!!
Jerry	Peavy	pvphoto@sbcglobal.net	95926	CA	
Johnnie	Midyette	jmidyette@triad.rr.com	27103	NC	Please do not destroy North Carolina. We need to preserve and make our state safer for all.
Daniel	Ater	ncdan8r@aol.com	28803	NC	Don't take environmental/climate issues backwards any!
J. Kent	Williams	kwilliams1@triad.rr.com	27407	NC	
Laurie	Leland	laurie_leland@yahoo.com	96734	HI	
Joseph	Reardon	jrear6640@aol.com	NC	NC	
Steve	Adams	adamite@triad.rr.com	27292	NC	Your attitude is very selfish. You are supposed to care about our state and its people - not corporate welfare. Are you unaware that these are not the same thing?
Susan	Buccini	buccini@aol.com	28409	NC	Environment FIRST! Without clean air, water and soil to survive, nothing else will matter.
Eric	Krohn	ekrohnphd@yahoo.com	27401	NC	
Joy	Stanistreet	joyelia87@gmail.com	28516	NC	
Jan	Hinman	hinmanjb@gmail.com	28571	NY	

Ragubathee	Pather	rpath645@hotmail.com	28278	NC	Given our beautiful coastal area which we stand to loose with climate change, we should be leading the charge on combatting climate change. Shame on you for not doing so.
Kristen	Alspaugh	alspaugh@alumni.unc.edu	28209	NC	Please be responsible and help us support renewable energy for our future generations.
Jay	Newhard	jaynewhard@suddenlink.net	27858	NC	
Jacey	Wilson	jaceya@gmail.com	27516	NC	
Anthony	Capobianco	acapobia1@verizon.net	15102	PA	
Sally	Thomas	sallymthomas@earthlink.net	28209	NC	North Carolina cannot afford to be behind the norm on planning for the future -- we have too much at risk. Plus, it just doesn't make sense when we have viable alternatives that we are choosing not to pursue. Please do the right thing for my grandchildren and think of the future.
Lorine	Nemes	lsteinbunner@nc.rr.com	27587	NC	
Mary	Gold	mhgold@mindspring.com	27407	NC	Many have worked so hard so make it a clean, healthy, vibrant place to live. Please continue this path -- not the path of greed and destruction.
Ray	Boling	vrholing@gmail.com	27606	NC	As a former state employee of the Dept. Of Environment and Natural Resources, I am more than disappointed at the NC governmental response to the latest EPA Incentives for states to address climate change. My wife owns property along the NC coast. We need immediate help to deal with climate change to avoid the ultimate loss of real property here in NC. Please add renewable energy plans to the NC response to the requirements of the EPA PROGRAM. Ray Boling
rhonda	lawford	rhondalawford@hotmail.com	60474	IL	
Donna	Newman	dnewman27606@yahoo.com	27606	NC	Please act with swiftness to get us away from oil, coal, and gas and moving toward a clean, green future! We need a good, usable plan to avoid the continued use of carbon as our energy source, not just cosmetic fixes for our aging CO2-intensive infrastructure. Prevent further coal ash spill disasters and clean up our waters and air. We demand a clean future!
John	Bradshaw	jbradshaw10@att.net	28212	NC	
Tami	Palacky	tpalacky@gmail.com	22153	VA	

Win	Southworth	southworthw@hotmail.com	28815	NC	Please do what is best for our citizens and the future of our renewable energy system, and thereby, our air & water qualities and health care costs.
mary	raymond	marray45@yahoo.com	27502	NC	
Melanie	Husfelt	melanie.husfelt@yahoo.com	27104	NC	
Pat	Wang	patwangnc@yahoo.com	28056	NC	So many people understand that global warming is real and caused by humans, that your denial of it makes it appear you have been bought by big energy. Please think of the people.
Wayne	Scott	wayne_skull@yahoo.com	27712	NC	
Carolyn	Davis	carolynhillthomas@gmail.com	28207	NC	
Kevin	Bobal	kbbobal@gmail.com	27613	NC	
Patrick	Seegers	patrickseegers@gmail.com	28173	NC	I have lived in North Carolina all my life and am raising a family here. I vote and they do to. Please do all you can to address climate change.
JANIE	NEELY	janie.neely@gmail.com	28787	NC	NC has a chance to be a leader in an important movement. Please support the Clean Power Plan.
Leo	Thibodeau	joethibodeau@absolutegroup.com	27513	NC	
Chas	Griffin	cpgriff8@nc.rr.com	27376	NC	
Barbara	Cavalluzzi	wolffglen@windstream.net	27330	NC	
Pam	Mclamb	pammclamb@nc.rr.com	27592	NC	I plead that you'll take this issue as seriously as it is. We must be able to use alternate & sustainable power sources.
Cama	Merritt	merritt.cama@gmail.com	27104	NC	Boost the alternate energy sources in our state. Encourage more wind and solar.
Joanne	Torrence	joanne.torrence@gmail.com	23111	NC	Please vote NO to offshore drilling. Invest in our future with renewable energy. The gift that keeps on giving, doesn't pollute, run out, or jeopardize the livelihood of your patrons dependent on the oceans clean health.
John	Shearer	bsup@bellsouth.net	27514	NC	
Liz	Field	ejeffield16@comcast.net	01720	MA	
Deborah	Kenyon	dcjkenyon@aol.com	27502	NC	
Mara	Wooten	mew0373@yahoo.com	27545	NC	
Charlie	Wallin	wallincr@gmail.com	28607	NC	
Mercedes	Armillas	miarmillas@gmail.com	11216	NY	
Janice	Bruni	janbruni2001@yahoo.com	27048	NC	Do you even read your mail?

Edward	Barnard	cosmic.janitor@yahoo.com	27603	NC	You have to date sided with special interests and industry representatives on every environmental issue - that in no way protects the NC. Public welfare nor is it what a governor is elected to do. Rather than accusing the media of bias against you, why don't you begin looking after the welfare of the people who elected you as their governor.
Rachel	Leek	rae1226@gmail.com	28786	NC	
Karen	Papalia	kpapalia@nc.rr.com	27614	NC	
Gail	Simon	gail_simon@yahoo.com	27407	NC	
robert	garrett	bob7336@hotmail.com	45039	OH	
iam, Margaret & Scott	Holcomb	doslobos@charter.net	28782	NC	A HEALTHY ECONOMY requires A CLEAN, HEALTHY ENVIRONMENT 4 Producers & Consumers.
Philip	Davenport	pdav@me.com	27614	NC	
Robert	Ortiz	r77ortiz@hotmail.com	94945	CA	
Brenda	McCall	brnd_mccall@yahoo.com	27243	NC	
Robin	Keller	jrobinke@gmail.com	27511	NC	
kenneth	anderson	kaceaok@yahoo.com	27408	NC	
Bob	Conroy	lrn@mindspring.com	27705	NC	
Tim	Rice	tim.rice@duke.edu	27707	NC	To deny the causes of Climate Change is to burrow your head in the sand. "Hoping" it will go away does a serious dis-service to our children. I hope you can see your way clear to do the right thing for the public, rather than the right thing for the Energy Companies.
Christopher	Beard	cmbear89@gmail.com	27103	NC	
Emilia	Boccagna	Emiliaboccagna@virgilio.it	88100	ot	
John	Freeze	jfreeze@triad.rr.com	27205	NC	As a resident of NC, I urge you stop supporting fossil fuels, and instead, support the Clean Power Plan.
Gary	S Hmoock	lyngar@mindspring.com	27278	NC	
Karen	Crowell	kcrowell3@nc.rr.com	27312	NC	It's unthinkable that anyone would ignore the threat of climate change and continue to promote non-renewable sources of energy that pollute our environment and have a direct impact on the future of this planet. It's obvious that Duke Power's influence is contributing to this blatant denial of the risks we face. I suppose our only option is to elect someone who sincerely believes in what's good for the people of North Carolina, and acts accordingly.

Allison	Anselmo	alleighkat@gmail.com	28551	NC	Please protect our state and our tourism dollars, they are more important that you and your party being able to claim that the environment is not in danger from companies like Duke Power!
Karen	Shapiro	hshapiro1@nc.rr.com	27614	NC	
Chanda	Farley	Raptured_Night18@Yahoo.com	28716	NC	
Patricia	Myers	ttrishamyersnc@earthlink.net	27612	NC	
Anne Dickson	Fogleman	fogleman@dicksonpress.com	27514	NC	
David	Piet	piet.david45@gmail.com	27312	NC	As a community and nation we need to wake up to the science on climate change and protect ourselves and future generations from further damage. Thank you, sir.
Mina	Lloyd	mina@minalloyd.com	27606	NC	
Mindy	Oshrain	moshrain@earthlink.net	27705	NC	
Martha	Spann	mspann10@gmail.com	28605	NC	
Madeleine	Hodges	mhodges@alumni.unca.edu	27707	NC	
Patricia	Poret	3poret2@gmail.com	27514	NC	
Hallie	Barnes	halynfriends@yahoo.com	27587	NC	
Cindy	Yates	yatescp2002@yahoo.com	28429	NC	
Robert	Campell	Rcampell@nc.rr.com	27707	NC	
Jeff	Hibbard	jhibbard@riseup.net	28778	NC	
Jamie	Heath	wheelerja10@students.ecu.edu	27834	NC	
James	Mulcare	xsecretsx@cableone.net	99403	WA	
Mf	Solomon	mfsolomon@nc.rr.com	27707	NC	
Joseph	Greaser	greaser4j@gmail.com	27526	NC	
Bill	Groves	okiedokey7@sbcglobal.net	28734	NC	
Thomas	Carson	thcarson@gmail.com	27705	NC	
jeff	hopkins	jhop-90@earthlink.net	60046	IL	
Kenneth	Marr	KenMarrApex@att.net	27523	NC	
Mary	Goodkind	mary@lindleyg.com	28803	NC	Please play a positive role in protecting all of North Carolina from the extremes of weather and rising sea levels.
Marilyn	Wendt	mmwendt@mindspring.com	27615	NC	Please include solar and wind in your renewable energy program!
Karen	Lewis	sopoof@yahoo.com	28327	NC	
Leigh	Hart	Dol123@mac.com	27514	NC	

Pat	Bennett	patbennett@comporium.net	28712	NC	
Lynda	Durden	ldurden@etinternet.net	28338	NC	
Paul	Nitsch	nitschp@queens.edu	28274	NC	
Frank	Lewis	jlef50@yahoo.com	28645	NC	
Laura	Heise	laurieheise@mindspring.com	27312	NC	We truly don't have time to shilly-shally on this. Every year we don't act forcefully for clean energy means more misery later on.
Nicholas	Borisow	Ngborisow@gmail.com	27519	NC	The long term health of our community is not in energy that is "imported" from other states. Our self sustainability is key to North Carolina leading growth into the future. Thanks for voting in line with your constituency!
Anna	Keyte	alk2@duke.edu	27707	NC	Please do something meaningful to combat climate change!
Earl	Huband	wilhub@earthlink.net	27705	NC	We owe it to our children and our children's children to do everything in our power to move away from oil and gas toward cleaner forms of energy.
Robin	Hall	rocrobn37@gmail.com	28173	NC	
Carl	Fisher	carl@fisher.name	27312	NC	
William	Kumpf	wckumpf@yahoo.com	27510	NC	Governor McCrory, please understand that our statewide dependence on fossil fuels will compromise the ability of future generations to enjoy this wonderful place. We need to acknowledge climate change, and respond to it with renewable energy sources.
Kenna	Sommer	Guerakiki2@aol.com	28806	NC	
Kicab	Castaneda-Mendez	kicabcm@yahoo.com	27517	NC	
Bryant	Poole	bap2015@yahoo.com	28803	NC	At 67, I have lived a long time in NC and I hope to see it remain a beautiful State. You have destroyed education while funding other interests. We are producing more fuel than ever and NC can join in BUT with renewables like windmills at the coast. You will be remembered for what you do with the pristine state you inherited.
James	Arbogast	jimarbogast@carolina.rr.com	28105	NC	Quit supporting polluters! Protect the environment for our kids and grandkids. Wake up!
Etsuyo	Choi	etsuyo@earthlink.net	27514	NC	
Valerie	Young	vyoung123@earthlink.net	27517	NC	
Barbara	Cudmore	bcudmore@gmail.com	27516	NC	Please, protect our home the environment
Carol	Thompson	mcact8@gmail.com	PA	PA	

Vero	Brentjens	vaamb1@me.com	27932	NC	
Irwin	Fridovich	ffridovich@biochem.duke.edu	27707	NC	The fact that CO2 absorbs in the infra red predicts that it will hinder the radiative cooling of this planet of ours. The rising average temperature, and the progressive melting of glaciers and ice caps was predictable and is now observable. To slow this and prevent catastrophe we need to decrease burning fossil fuels and use more solar, wind, and nuclear sources of energy.
David	Raulerson	der666666@hotmail.com	28716	NC	
James	Nutt	jenutt@nc.rr.com	27608	NC	I support the Clean Power Plan.
Candace	L	vt_cmonster@hotmail.com	27705	NC	
Randy	Tysinger	farmergreennc@yahoo.com	27350	NC	Solar and wind power are needed and to deny it is stupid. But as with all politics I guess you need to spend a few million dollars and form a committee to come to this conclusion for yourselves....
Bruce	Nawrocki	bruce_nawrocki@hotmail.com	27613	NC	
Scott	Tucker	odrone@yahoo.com	27612	NC	
Judy	Williams	dwill38@gmail.com	28658	NC	
Carol	Schmidt	Schmidt205@bellsouth.net	28803	NC	
John	Miskelly	wdstockjc@aol.com	21212	MD	
Tamara	Stanley	tstanley101@yahoo.com	28539	NC	I have lived my life in Swansboro, "Friendly City by the Sea." Our ocean and waterway's are a way of life for both job's and recreation. I have seen the changes on my kayak and fishing trip's and it's not good. Mainly I stay in a 3 mile area by my home up the river and at the end of every month I take a photo of all the trash I pull out. I do this surrounded by a huge chemical slick. This year low tide being as high as previous high tides has been the normal. We MUST protect our waterway's, not just for us but for the future and beauty of this great state.
Martie	Thompson Kingree	mpthomp@clemson.edu	28717	NC	
Laura	Cotterman	lmcotterman@embarqmail.com	27278	NC	Climate Change is the challenge of our century--far more serious than threats from terrorism. Don't be behind the curve on this!

Karen	Bates	yatter@me.com	27516	NC	it is time to step up and for NC to reduce our carbon emission output. We are in a prime location to utilize sold and wind sources. Water resources on the coast.
John	Boylston	jpb1243@netscape.net	27707	NC	
John	Thornberry	johnthornberry249@yahoo.com	15931	PA	Protecting the environment protects the planet. We are all here to help make things better for us and future generations but there won't be any if we don't take care of the planet along with ourselves. I urge you to think about the kind of world you want your children, grandchildren, and descendants to live in. Thank you.
Melody	Wood	mwood126@triad.rr.com	27410	NC	Please protect our state's natural resources by supporting renewable forms of energy like solar wind water.
elaine	schall	jcschl@aol.com	27408	NC	Protect the earth
debra	donnelly	dadonnelly@hotmail.com	28748	NC	Let North Carolina be a leader for the rest of the country in limited harmful pollution
Andrea	Winkler	andreamwinkler@gmail.com	27705	NC	
Cheryl	Swofford	cherylswofford@gmail.com	28752	NC	
George	Phillips	nctrack@gmail.com	27510	NC	
Robert	Ziegler	Rjziegler_4@yahoo.com	28792	NC	
Tim	Walker	twalker915@gmail.com	27517	NC	
Voncile	Ferguson	1voncile@gmail.com	27410	NC	
Kate	Ancaya	Kate.ancaya@gmail.com	28803	NC	
James	Wheeler	jim@jimwheelersculptor.co.nz	28170	NC	Alternative energy gives citizens the freedom of choice! Support the Clean Energy Plan.
Thomas	Trescone	tomtrescone@yahoo.com	98121	WA	
Christine	Westfall	chwestfall@gmail.com	27701	NC	
Erin	Quist	emqute@gmail.com	27609	NC	
Chris	Rains	crains3193@carolina.rr.com	28173	NC	C'mon Governor, even if you don't believe in climate change, we still need strong alternate forms of energy. We can't continue to put all of our eggs in one basket.
Ryan	Draper	raptorred01@yahoo.com	27514	NC	
Robert	Furuya	parrano5@hotmail.com	27607	NC	
Bonnie	MacKinnon	bmackinnonwitherspoon@yahoo.com	78626	TX	
Flora	Pino García	florapino@bme.es	00000	ot	

Karen	Hodges	khodges@jungiananalyticpraxis.com	28205	NC	Addressing climate change should be one of state government's #1 priorities. We are falling behind and must realize the seriousness of this situation.
Evelyn	Coltman	evelyn3226@charter.net	28786	NC	
Bartholomew	Barker	bart.barker@gmail.com	27278	NC	
Ernst	Mecke	ernstmecke@yahoo.com	00150	ot	Well, should a politician make decisions on the basis of short run or long run considerations ...
Bruce	Donnell	b_donnell@msn.com	87506	NM	
Gretchen	Simpson	gretchen.simpson@ymail.com	28753	NC	
Cynthia	Slater	sidslater@gmail.com	27403	NC	
FORREST	GREEN	greenforrest11@gmail.com	28806	NC	We as North Carolinians want to have renewable energy as does our country overall. Please honor this - thanks
Sam	Cook	samcook666@gmail.com	28805	NC	It is climate change that is one of the major factors destabilizing the middle east right now, as farmers displaced from their land, unable to survive because of climate change, are stressing an already unjust and unsustainable dictatorship. We cannot afford to be fools when it comes to climate change. Too much is riding on addressing it quickly and decisively. I realize that those who put you in office necessarily destroy the environment to maximize their profits, but sometimes you have to put common sense before cronyism.
Dale	Sheehan	sheehan891@bellsouth.net	28731	NC	
Susan	Zimmer	sezgenie70@gmail.com	28451	NC	
Sharon	Osika-Michales	osikamis@excite.com	13152	NY	Emerald Isle will be one of the first on the list of lands that will no longer exist if the sea level rises. My whole family lives on either this Outer Bank or on the mainland shore area across the Intracoastal Waterway. Not just land will be lost--so will jobs, and the economic base for eastern NC counties' tourism and fishing industries. This is not small potatoes--it's big money. Why are you not protecting NC's eastern shoreline?
Jane	Church	janechrch@yahoo.com	27517	NC	
Chey	Cary	jakrabbitt@att.net	28806	NC	
Adrian	Smith	adsmith57@charter.net	27559	NC	
CAROLL	FOWLER	fowler83@earthlink.net	94541	CA	

Kathryn	Davis	kathrynanandbruce@gmail.com	27312	NC	Stop and consider what you are doing and not doing. Please take a moment and consider the science of climate change. Please see the long-term financial benefits of acting now to address this issue. And put some solar and wind initiatives in the plan too.
cheryl	Johnson	cheryljay7351@yahoo.com	28805	NC	Gov. McCrory, Please support wind and solar energy by setting a goal and timetable for implementing these energy sources.
Marie	Garlock	writetomarie@gmail.com	27701	NC	SERIOUSLY! You are tasked with a leader, not a destructor or corrupt liner of others and your own pockets.
Robert	Rosen	robertarosen.rosen66@gmail.com	27713	NC	
Van	Hallman	vhallman1@triad.rr.com	27265	NC	
John	Fleming	flemij1@bellsouth.net	27513	NC	Governor McCrory, please do the right thing for the future of North Carolinians. We have to plan for the future and this is one area where we can be proactive to benefit future generations. Thank you.
Frances	O'Neal	momoneal77@gmail.com	97223	OR	
Christine	Crowley	canncrowley@gmail.com	28205	NC	
Lisa	Neste	lilmouse1213@earthlink.net	27265	NC	
Eric	Schweitzer	spinweb1@yahoo.com	27609	NC	North Carolina should be at the forefront of this important issue, not stonewalling the President's laudable efforts.
Barbara	Harvey	Barharvey@aol.com	27511	NC	Pleas support the Clean Power Plan.
Jennifer	Clarke	jclarke25@nc.rr.com	27606	NC	
Sam	Todd	boleytodd@mindspring.com	28227	NC	
Janis	Ramquist	janis@ramquist.com	27608	NC	
Deja	Lizer	Dayjah219@aol.com	28806	NC	
Matthew	Vorstermans	matthew81@rogers.com	27560	NC	
Alex	Goldstein	avg6110@alum.uncw.edu	28270	NC	
Dale	Weston	majorrest@earthlink.net	28540	NC	Sometimes it is best to do the right thing --- not the right wing thing. If you are to effectively govern the state of NC for the overall welfare of both citizens and businesses, you will distance yourself from the loonier fringes you have been playing with.
John	Van Horn	elprimojpvh@aol.com	64111	MO	
Carole	Schreiber	cks442@gmail.com	28712	NC	
Mary	Keenan	maryekeenan@aol.con	28786	NC	

Jeanne	OBryan	jgoodman704@yahoo.com	28612	NC	Solar power and tax credits for clean solar energy are the way to go. Go clean energy!!!!
Lynn	Scattolini	glscattolini@yahoo.com	27516	NC	Do you care about the environment your children and grandchildren will inherit? I do. Please reconsider and support a plan that includes clean energy sources.
Arthur	Firth	afirth@carolina.rr.com	28146	NC	
George	Neste	nastygeorge59@earthlink.net	27265	NC	
Mary	Nolan	mnolan8765@aol.com	28428	NC	
Michael	Eisenberg	mikeeeisen@yahoo.com	27613	NC	
Kate	Lamar	jlamarca@charter.net	28709	NC	
anthony	montapert	amontapert@roadrunner.com	93004	CA	
Gregory	Austin	gregaustin@mindspring.com	28216	NC	
David	Baker	Dbaker011@live.com	27519	NC	
Janet	Smith	ncsierracg@gmail.com	27858	NC	
Elisabeth	Curtis	bbgranda@gmail.com	27516	NC	
Scott	Juslin	scottj@hampshirehooligans.com	28562	NC	
Doris	Marshall	gull9832@basicisp.net	28054	NC	
John	Hill	johnhill@telus.net	00000	BC	
Geraldine	Ring	geraldine_ring@hotmail.com	01190	ot	
Gregory	Hall	gmhall711@mail.com	28787	NC	Stop acting like chicken little, respect the overwhelming scientific evidence and the consensus of the scientific community and do something to stop global warming now!!!
Ruth	Stambaugh	deemare@juno.com	28711	NC	
Elana	Kann	elanakann@gmail.com	28806	NC	How can a Clean Power Plan be clean without clean sources like wind and solar generation?
Jerry and Barbara	Whitmire	jerry.whitmire18@yahoo.com	28768	NC	Governor McCrory, Please include solar and wind power in your considerations. Thank you, Jerry & Bonnie Whitmire
Todd	Patton	tcpatton@mindspring.com	27705	NC	
James	Walsh	jaywalsh@thistle-cottage.com	28680	NC	
Brenda	Hayes	vberrini@gmail.com	27278	NC	The threat is obvious and so are the solutions. I vote and am watching carefully.
Philip	Sannes	philsannes@gmail.com	27605	NC	
Susan	Attermeier	satter@bellsouth.net	27278	NC	Our economy as well as the environment would benefit greatly from promotion of solar and wind power.
Bruce	Hlodnicki	bjh55@sbcglobal.net	46226	IN	

Ellie	Mayer	elliemayer@gmail.com	277-3	NC	Really? You don't care about our precious earth?
Stephen	Boletchek	sboletchek@gmail.com	27502	NC	
Betty	Pipes	bettypipes@yahoo.com	27502	NC	Please save our beautiful state from pollution.
Thomas	Johnson	tcjbdog@gmail.com	28605	NC	I think you have a small minded, greedy agenda.
Laurice	ferris	lferris1@nc.rr.com	27517	NC	
Susan	Edelstein	macturtle@att.net	27511	NC	
Heide	Coppotelli	goodshepherd@citcom.net	28718	NC	
Joann	Cortez	joannscortes@yahoo.com	28804	NC	
Thomas	Oriel	candtoriel@yahoo.com	27529	NC	Stop covering for Duke Energy!
V.	Wang	vwkwang97@gmail.com	27519	NC	
William	St. George	wrstgeorge@aol.com	28403	NC	
Sam	Brewer	nopablue@yahoo.com	27511	NC	
Robert	Collins	robiepc@carolina.rr.com	28205	NC	
Mary	White	white.m.eliz@gmail.com	27704	NC	
William	Yingst	wyingst@atmc.net	28467	NC	
Darlene	Hamilton	darlene.hamilton@siemens.com	27604	NC	
Lisa	Pearson	lispearson@att.net	28112	NC	
DEBORAH	SMITH	deborah993@cox.net	73112	OK	
Dianne	Douglas	dianne.douglas@asu.edu	85042	AZ	
Theresa	Waldspurger	twaldspurger@gmail.com	21635	MD	
Janet	Neihart	janeihart66@aol.com	55016	MN	
Ellen	Osborne	peaceeao7@aol.com	27313	NC	
J.	Hilton	hilton.jlynn@gmail.com	27526	NC	
Janine	Tokarczyk	janine-t@triad.rr.com	27302	NC	
Steven	Linden	slinden@bellsouth.net	28792	NC	
Rob	Rowe	vitara2k@hotmail.com	27513	NC	We are already a leader in solar energy. Let's focus our attentions and jobs on clean energy and protect NC's environment and do what we can to reduce global warming.
Ericka	Patillo	erickapatillo@me.com	27712	NC	renewable, clean energy sources exist. Why ignore them?
Linda	Wilkins	squeaky1951@frontier.com	27509	NC	You need to clean up YOUR act and protect North Carolinians.
Henrietta	Jenrette	rjstarbuck@aol.com	27613	NC	
Michelle	Mitchell	michelleymittchell@gmail.com	28031	NC	
Ted	Odell	ted.odell44@gmail.com	28557	NC	It's time to move into the 20th Century

James	Schall	tchapi@icloud.com	28801	NC	
Barbara	Rabinowitz	bapara@att.net	27518	NC	
Erik	Butler	eriksbutler@gmail.com	27156	NC	Mr. McCrory, Do you want to be a one term flash-in the-pan Govenor of North Carolina, or do you want to be a visionary? This is your chance. Make a meaningful move to reduce carbon emissions. Climate change is real. It's here. We're the cause and you have the power to help stop it. Will you use that power for the sake of humankind, or will you waste it? Your choice. Do the right thing. Dr. Erik Butler
Richard	Partridge	rapartridge1@bellsouth.net	27301	NC	
Kurt	Weaver	kurt.l.weaver@gmail.com	27613	NC	
Ruth	Noble	ruth@nobleruth.com	28805	NC	
Olivia	Singleton	livandsing@yahoo.com	27705	NC	In your heart of hearts you know that climate change is happening and every citizen and elected official must do his part. My beloved North Carolina is threatened just like every other piece of this beautiful planet. Please do the right thing and look to the near future by emphasizing wind and solar energy production. Drilling for oil and fracking are obsolete ways to meet our energy needs. So many people are choosing to migrate to this state because of our natural resources and clean, plentiful beauty. Let's show them that we are forward-thinking!
Lenore	Reeves	lerves@gmail.com	60448	IL	
Martha	Atkins	Nhisprnce@yahoo.com	27704	NC	

Michelle	Belanger	revelators@triad.rr.com	27105	NC	There are so many reasons why moving in the direction of clean energy and efficiency are great for our state and country. One in five children has asthma, made worse by the same air pollution that comes from carbon emitting fuels. Reducing our dependence on oil means less support for the oil rich nations, and the people who control the spigots. It also means less air and water pollution here at home. We have mountain tops being blown off in our neighboring states, with the debris of rock mixed with the chemicals from the explosives being poured into the headwaters of streams. That will continue until we develop alternatives. What kind of world do you want to leave for your kids? Decentralizing the grid means we are less vulnerable to the kinds of chain reactions that cause six states to have a power outage several years ago. A smart grid, powered by many individual sources of power, allows for better back up and flexibility. Battery technology for solar is developing very quickly. why would we want to shut our state off from being leaders in these technologies? Also, radically ramping up our efficiency will save money for a lot of people. We cut our heat bill in half by adding foam insulation to our house. Solar and wind power are already providing jobs for North Carolinians, and are a couple of the fastest growing industries in the energy fields. Why wouldn't you want to support that? Lastly, I am disgusted that you are cutting things like support for our schools and teachers, so you can waste our money on suing the federal government. It's time you listened to all the voters you represent, and not just the partisan ones who want to join you in undermining the president or anyone who disagrees with you.
Betsy	Webster	Wdonaldcjr@gmail.com	28125	NC	Acting on climate issues is a moral responsibility for the citizens of the world. Please consider environmental issues in your administration
Debbie	Walston	Debwalston@yahoo.com	28105	NC	We support solar and wind energy, we also vote.
Joyce	B	celestialprincess2@triad.rr.com	27265	NC	you can ignore us, but we vote.
Amy	Marino	amydmarino@yahoo.com	27519	NC	
Nathan	Peterson	fhmsnathan@yahoo.com	27893	NC	
Ruth	Miller	ruthmiller@me.com	27516	NC	

Jonathan	Halperen	jhalperen@yahoo.com	27608	NC	
Tammy	Barr	mamabookelf@yahoo.com	27105	NC	
Randy	Bernard	rbwnc@charter.net	28805	NC	
Robert	Swett	robert.swett@att.net	28711	NC	
Laurel	Covington	angelasaurus@hotmail.com	33548	FL	
Caleb	Pusey	calebpusey@gmail.com	28806	NC	
Johanna	Pierce	Johannakateobriant@gmail.com	28806	NC	Thank you for helping ensure a bright future for our children by making clean energy a priority for NC.
John	Pasqua	killself5150@yahoo.com	92025	CA	
Martha	Parry	mfparry@sbcglobal.net	28714	NC	
Gwen	Straub	gwenpstraub@frontier.com	28761	NC	Stop protecting corporations and start protecting the Earth and the people that inhabit it!
Joanne	Nikides	nikidesj@msn.com	27705	NC	
Doug	Wingeier	dcwing@main.nc.us	28801	NC	
paula	xiberras	paulajx2001@hotmail.com	70011	LA	
Mark	Leischner	mtleischner@gmail.com	28675	NC	
Steve	Roberts	poetsroberts@yahoo.com	28401	NC	Get with it!
Joy	Farlow	jifarlow@earthlink.net	27408	NC	
Terry	Dunn	Terrysd@embarqmail.com	27028	NC	Please respect God's Creation !!!
Frank	Moore	fjmoorecpa@yahoo.com	27519	NC	
Amy	Hartzog	Nyx_Ro@triad.rr.com	27055	NC	
Anthony	So	anthonydso@hotmail.com	27516	NC	
Gary	Simpson	gsimpson@nc.rr.com	27312	NC	
Donna	Dupree	donnadupree44@yahoo.com	28707	NC	As Governor you have a constitutional responsibility to provide for the welfare of NC citizens. You are not doing so by fighting against the Clean Power Plan. Voters will remember that in November 2016.
Kate	Ladd	lizard1@mchsi.com	27916	NC	
Linda	Maynard	disc87@aol.com	27502	NC	We do not have the right to destroy this precious earth.
Jackie	Posey	jactip@bellsouth.net	35672	AL	
Martha	Spencer	spencer_martha@hotmail.com	28712	NC	
Frank	Massey	Franksfo@triad.rr.com	27407	NC	Please pray and discern about all of your decisions and have the courage to govern for the "common good" of our state and it's citizens.
Vickey	Baker	doghaven@harlannet.com	51537	IA	

Paul	McDermott	pmmcdermott@hotmail.com	90065	CA	
Todd	Hack	thack86@gmail.com	91913	CA	
Donna	Brooks	majikgirl@gmail.com	28212	NC	
Jessica	Bundy	KumoriArashi@gmail.com	28301	NC	
Munsie	Davis	missmunsie@gmail.com	27516	NC	
Juan	Canet	juan_canet@yahoo.com	28314	NC	Climate change is a reality and with ugly results coming.
Jerry	Vick	jjvickjr@gmail.com	27889	NC	
Evelyn	Craig	evelyncraig@hotmail.com	27510	NC	
Sam	Dawson	samdawsonanimallover@gmail.com	27403	NC	
Susan	Lathrop	suchi1025@bellsouth.net	28711	NC	
Todd	Lee	stkman3@aol.com	28805	NC	
Pat	Vescio	pat5vesc@aol.com	27513	NC	
P	Wright	PAWWRIGHT@GMAIL.COM	28692	NC	
Doug	Bunn	honeydohusband@nc.rr.com	27612	NC	Why are you so threatened by protecting the environment that we breathe in, swim in, drink? Wise up and protect the only place we have to live, Earth, before you and your rich scavengers of natural resources kill us all. Remember you and your family will be part of us all if the world, America, North Carolina become so polluted that life cannot be sustained here.
Joe	Fleming	Jdfleming@bellsouth.net	27502	NC	Please support President Obama's plan to reduce our carbon footprint in NC.
Greg	Hohn	ghohn@nc.rr.com	27516	NC	
Mark	Simonsen	fracas66@yahoo.com	27713	NC	Our beautiful North Carolina can be forward thinking about progress and actually preserve our natural resources for future generations instead of pushing for constant growth. Growth does not necessarily equate with progress and success.
Antoinette	Foster	antoifoster@yahoo.com	27608	NC	
Bobby	Watson	robertwatson3@gmail.com	27612	NC	Think about your children, and your grandchildren, not all your buddies at duke energy.
Sharon	Johnson	sharonjohnsondvm@hotmail.com	28791	NC	

Mike	Huff	mhuff@voyageracademy.net	27704	NC	Climate change is one of the most significant issues facing not just our country, but the world. If we have the opportunity to explore and develop forms of energy that do not produce carbon pollution we need to take advantage of that opportunity. I support the Clean Power Plan.
Brian & Judy	Poole	brianp49@btinternet.com	LD6 5EU	ot	
Maud	van Tol	maudvantol@kpnplanet.nl	2986EV	ot	
Esther	Garvett	Egarvett@gmail.com	33186	FL	
Daniel	Case	troycase@hotmail.com	27613	NC	The behavior of the republican party on the environment makes no sense to me, except as pandering to big industry donors. Do you no longer represent normal citizens at all? Is it all about protecting big companies from regulation? This kind of behavior makes me embarrassed to be a North Carolinian. Policies like these will determine how many people leave or die because of global warming. We all have to ask ourselves how many North Carolinians we are willing to see die so that the big polluters can keep their profit margins high.
Timothy	Farrow	Tfarrow120@gmail.com	27519	NC	
Joellen	Brandmoyer	joellenb@earthlink.net	27516	NC	As a Republican expounding on jobs here in North Carolina, you should be promoting clean energy technologies! We have companies here that are innovating in the clean energy field, but they need support of our State. Otherwise, they or their valued employees move to States that support their work.
Jon	Doyle	jdoyle@pci-llc.com	27612	NC	
Edward	Kenestrick	ekenestrick@hotmail.com	27704	NC	Think of the record you are leaving. You do not want your descendants to revile you, do you?
Kenneth	Marks	bookman3@bellsouth.net	27502	NC	
Joan	Byrd	jbyrd@email.wcu.edu	28723	NC	Please don't let North Carolina drop the ball here! We need to support clean energy! Please ensure that our state looks to the future.
Ruchir	Vora	daddyruchir@yahoo.com	27516	NC	
Ray	Boling	vrboling@gmail.com	27606	NC	
Jayne	Coley	coley910@charter.net	28409	NC	Who is your concern, Governor, We the People or They, your friends????
Nancy & Helmut	Mueller	helmutmueller@att.net	27516	NC	

Tom	Craig	motgiarc@gmail.com	28801	NC	Please come into the 21st Century!!!!
angela	horan	adhoran@bellsouth.net	27516	NC	
Doug	Kass	jazzodyssey1000@yahoo.com	27612	NC	Governor McCrory, please act responsibly toward curbing carbon pollution. What kind of world do you want to leave to your children and grandchildren?
Bepi	Pinner	Bepinner@gmail.com	27705	NC	
Barry	Cheney	bcheney58@gmail.com	28601	NC	We can do this! NC can once again lead the nation toward a clean, green future. Please do what you know needs to be done, not what Duke Power wants.
Richard	Holloway	richard.l.holloway@gmail.com	27517	NC	
Jonathan	Sheline	jonseline@gmail.com	27705	NC	I am a family physician, in practice in Durham for the past 25 years. My wife and I raised two children here, who are now 30 and 27. I am not a radical. Climate change is a very real problem which I think about every day. It is way past time government officials at all levels to WAKE UP and start doing the right thing. I vote. This should not be a partisan issue.
Pamela	Benbow	pamelafbenbow@gmail.com	27278	NC	I want North Carolina to be a national and world leader in a new economy of clean, renewable energy. I want us to show others how to create the energy jobs of today and tomorrow in the exciting new fields of solar (boundless possibilities) and wind. We want to be a clean, mean machine for a clean and healthy planet--not some filthy old dinosaur that feeds in oil and gas, and drives our climate crisis to the edge, and rattles Shear on Harris nuclear power plant with earthquakes caused by fracking--just like the 700+ quakes so far this year by cracked state Oklahoma.
Susan	Gardener	ssaenger@nc.rr.com	27705	NC	
Susan	Brown	suznmars1@mac.com	28754	NC	
Patricia	Bell	pmtbell@yahoo.com	27520	NC	
Toni	Defiglia	tadefigl@gmail.com	27403	NC	
Joseph	Appleton	joseph.d.appleton@gmail.com	22821	VA	
Michael	Haskell	mikehaskell@maine.rr.com	04074	ME	
Melina	Griffis	melinagriffis@yahoo.com	27519	NC	
Joel	Marchesoni	jmarchesoni@gmail.com	28779	NC	
Laura	Mitchell	pixel_grrl@yahoo.com	28208	NC	
Susie	Edwards	susie.k.edwards@att.net	27513	NC	

Karen	Bates	yatter@me.com	27516	NC	Clean up your act and allow for a healthy future for our grandchildren and the Earth
Joseph	Harper	jahsra@yahoo.com	27410	NC	
adja	catalano	adjacat@yahoo.com	28403	NC	
Cindy	Thacker	cindytha@bellsouth.net	27605	NC	
Joyce	Pusel	jpusel@mindspring.com	27713	NC	
Elizabeth	Celli	Elicelli@att.net	27516	NC	
Stephen	Preston	spp1011@gmail.com	28460	NC	
sandra	arapoudis	martheo@otenet.gr	85133	AL	
David	Jamieson-Drake	vjd12345@gmail.com	27705	NC	Please take care change seriously and promote clean, renewable energy!
John	Herron	jmherron@webtv.net	28234	NC	
Sharon	Whitmore	sharonwhitmore1@gmail.com	27572	NC	The Clean Power Plan is necessary for our survival.
Peter	Scott	anticivpunk@gmail.com	46534	IN	
Marilyn	Weakley	weakleymarilyn@hotmail.com	27546	NC	
Ann	Eastabrooks	scarf_lady@ureach.com	28901	NC	
michelle	wright	michellewookie@yahoo.com	27516	NC	
Janet	Pecci	jpecci@att.net	27606	NC	
Dr. Rudy	Zarzar	zarzar@elon.edu	27215	NC	
Janice	Phillips	janp931@yahoo.com	27284	NC	
Stephen	Sample	stephen.sample@frontier.com	27704	NC	
Robert	McEntire	romcentire@yahoo.com	27408	NC	
Kaye	Fulcher	mollykaye@yahoo.com	28226	NC	
Welkin	Yang	welkinyang@yahoo.com	27518	NC	
James	Womble	five4unc@gmail.com	27607	NC	save our state!
Tonia	Crumpton	Robin_crumpton@yahoo.com	27511	NC	
Jeffrey	Rix	jrix@earworm.com	28801	NC	
Charlotte	Speltz	jspeltz@nc.rr.com	27502	NC	As a person of faith, I cannot believe that you, the governor of this great state, would stand in the way of clean air solutions which will ensure that we leave our children a climate they can survive!
Elizabeth	Conroy	conroyliz@gmail.com	27705	NC	
Phil	Kaveler	pwkaveler@yahoo.com	28031	NC	
Linda	Griffin	fanci02281@gmail.com	28906	NC	The governor only knows how to do what the stupid people want.

Louise	McCoy	louisebmccoy@earthlink.net	27609	NC	
Jeanne	Guilbault	jmlmg2@gmail.com	27526	NC	We are very disappointed that a state like North Carolina, one of the most beautiful states in the nation, is being run so poorly. It is clear that our governor is standing by big business and does not care about the people of North Carolina.
George	Bartholomew	howardsknob@gmail.com	28607	NC	
Sharon	Nicodemus	bream@omsoft.com	95821	CA	
Mary	Stoudt	mcsfes@charter.net	27948	NC	
Ennis	Baker	enniscaldwell@gmail.com	27516	NC	
Lee	Osborne	Losborne@perigee.net	28110	NC	
Sean	Damrel	sdamrel@gmail.com	27403	NC	
thomas	lux	tomad234@yahoo.com	28676	NC	
Deborah	Matsushima	debbie.matsushima@gmail.com	27713	NC	
Margaret	Hryniuk	Stanmom2000@aol.com	27529	NC	
John	Yoakum	jyoakum@pobox.com	27511	NC	
Martin	Wilcox	martin.wilcox@live.com	27253	NC	
William	Dawson	fox_davidson@yahoo.com	27616	NC	
Amber	Tarter	Abtarter@gmail.com	27516	NC	We need to take real action on climate change.
Janis	Hammett	janis_hammett@yahoo.com	27403	NC	
Caleb	Laieski	Caleb.Michael.Laieski@gmail.com	22305	VA	
Caleb	Laieski	Caleb.Michael.Laieski@gmail.com	22305	VA	
Rita	Mullis	ritamullis@gmail.com	28227	NC	
Suneet	Srivastava	suneetforcharity@gmail.com	M4M2M8	ON	
Kathy	Jooss	rjooss@gmx.de	27516	NC	I'm teaching my kids about taking responsibility for their actions. To me, taking actions to mitigate climate change is the only responsible, adult thing to do. Please act NOW.
Pamela	Fogg	pamelafogg3@gmail.com	27519	NC	
Parrish	Ellis	Parrishellis@gmail.com	28804	NC	I work in the clean energy economy and it is important to my family that the clean energy bill actually included support for the multiple renewable energy resource industries. If you really care about your grandchildren like all politicians espouse, then you'll stop your hypocrisy and start taking steps forward into the new clean energy economy.

Mary	Gray	penysgwarn@yahoo.com	28607	NC	This state already has clean energy and wind power. Are you going to deprive people of the FREEDOM OF CHOICE TO MAKE THEIR OWN DECISIONS TO FIGHT CLIMATE CHANGE. You have clearly abdicated all responsibility, shame, shame, shame on you.
Bob	Lincoln	linc@earthlink.net	27517	NC	
Rosemary	Stark	rmstark@suddenlink.net	28562	NC	Clean air is an issue that all of us need. When the air is clean, there are fewer respiratory illnesses, like asthma. I would hope all political parties would favor clean air for the public.
Julie	Tuttle	joolsrools@gmail.com	27517	NC	
Frances	Huffman	francieh3396@att.net	27103	NC	
Walter	Daniels	wdaniels@live.com	27707	NC	Governor McCrory, Not recognizing the threat from Global Warming is akin to believing the world is flat. I cringe at the thought of the entire Outer Banks becoming submerged while our Republican leadership fails to even recognize there is a real problem and fails to engage in long-term planning in this regard. Please don't succumb to the lowest common denominator and play politics with our planet earth and that portion we share in North Carolina.
Kat	Stevenson	canihazmeowz@gmail.com	27609	NC	
John	Sauls	jbs316074@gmail.com	27607	NC	Stop working for Duke Power and start working for the people of NC
Brandy	Meadows	branflakes12@hotmail.com	28405	NC	
Harvey	Richmond	harvey4climateaction@gmail.com	27513	NC	Stop burying your head in the sand, and start leading on the transition away from fossil fuels and towards renewable energy sources and energy efficiency programs.
Elizabeth	Cox	elizcox@yahoo.com	27713	NC	
Jock	Simmons	unclelegend@yahoo.com	28658	NC	
John	Little	johnl4942@gmail.com	27609	NC	
Jean	Hodder	rhodder@bellsouth.net	27517	NC	If you say your priority is to protect the people of NC, then you should support the EPA's Clean Power Plan.
Ronald	Clayton	se-larvae@hotmail.com	27203	NC	Stop protecting the polluters. You are supposed to serve the people of North Carolina, and America - NOT special interests for your own benefit.
Betty	Alexander	balexander36@live.com	27587	NC	Act responsibly by promoting clean energy sources in the interest of all NC citizens. It's the right thing to do.

Debra	Grady	clayfarm@gmail.com	28513	NC	As an educated leader of our state, I thought that you would be doing all that you can to protect us from the risks of global warming. Instead it seems that you are knowingly setting our state up for failure. It is really difficult to understand how you are willing to risk human lives for the sake of protecting big carbon polluters.
Shoshana	Serxner-Merchant	ssexner1124@att.net	27607	NC	That includes rescinding his signature on the law that allows fracking in NC
Anthony	Snider	asnider@fastmail.fm	28403	NC	
James	Thomas	jmichaelthomas2005@gmail.com	27514	NC	
Audrey	Brown	audrey.brown.m@gmail.com	28205	NC	
Janis	Karn	jan@connectionstoo.com	27605	NC	
Diane	Clark	zurclark@bellsouth.net	27235	NC	
Selena	Lauterer	selena@artemisindependent.com	28607	NC	
Ryan	Ward	rcw8134@uncw.edu	28403	NC	
Norma D	Burns	countrymouse@rtmc.net	27208	NC	North Carolina used to be one of the most advanced and progressive states in the South. Good leadership made it so. This is your opportunity to lead in a way that future generations will remember.
Kris	Ledford	Mightykl@gmail.com	27707	NC	
Judi	Trecartin	jmcalvi01832@yahoo.com	34691	FL	
Elizabeth	McClure	Emcclure5@gmail.com	28806	NC	Having clean air to breathe and fresh water to drink trumps all other issues.
Richard	Ashton	rwa15@yahoo.com	28374	NC	
Helen	Harbett	hlh555@frontier.com	27705	NC	With 97% of scientists stating that global warming is real, please recognize this and do something about it. Thank you for all you do.
peter	birckhead	pbirckhead@hotmail.com	27510	NC	
Judy	harrelson	judy@glasswarehouse.net	27344	NC	
William	Bethune	whbethune@gmail.com	27278	NC	
Michael	Sileno	thestatelottery@gmail.com	27408	NC	

Richard	Pritts	rdpritts@ol.com	28744	NC	As an architect who incorporates sustainable design elements into my project I am trying to do my part along with my clients to help mitigate global warming. The governor and the NC legislature need to be focusing on clean energy alternatives in lieu of perpetuating the use of fossil fuels.
Peter	Valenti	pvalenti10@nyc.rr.com	28374	NC	We must be more proactive in preserving our natural resources for our children and grandchildren!
Barbara	Good	barb_579@yahoo.com	28803	NC	
Michael	Schapira	amperion@aol.com	27613	NC	Gov. - Please help our climate - while it is just expensive....
Adam	Molvin	rickey2591@yahoo.com	27601	NC	unfortunately, trying to mention any sort of earth-saving, progressive leaning idea to a republican is waste of time
Alan	Cormack	abcormack@gmail.com	27519	NC	
William	Alexander	williamea@charter.net	28786	NC	Climate change is real. Get with the program or get out of government. We are tired of your dragging your feet on an issue that is of great importance to all of us. If you do not have enough sense to believe in science that is your problem...don't make it our's.
Barbara	Smith	bsmith@smithlegal.com	27607	NC	
Jean Ann	Wheelock	jeanann.wheelock@gmail.com	28801	NC	
Albert	Carter	ahcarter@nc.rr.com	27514	NC	I was in Alaska last year, where global warming is way ahead of North Carolina, but we will, sadly, follow that lead.
Daphne	Stam	mom2319@gmail.com	27560	NC	
Edward	Lewy	elewy1@att.net	27312	NC	
Francine	Toor	fhtesq@bellsouth.net	28078	NC	
JC	Honeycutt	jchoneycutt@earthlink.net	27944	NC	Coastal NC, where I live, is the perfect environment for both wind and solar power. It's hard to see any logical reason why our governor and state government won't acknowledge this and take advantage of our natural resources for clean power.
Kimberly	Sparrow	krcanale@yahoo.com	27312	NC	
Colonel	Meyer	RonM430@AOL.com	34286	FL	

Wayne	Counts	countswb@mcc.gov	27519	NC	I understand your hesitation to go against Duke Energy and take a stand for the future of clean power in our state. But for the benefit of all it would be best to encourage clean energy production in North Carolina. I think you could encourage Duke Energy to begin an earnest effort towards clean energy production. The resistance seems to be the initial costs but the production of clean power would be cheaper to produce and benefit the environment in short order. With the environmental disasters this year with coal ash pits it is clear we should encourage the elimination of coal power plants as soon as possible.
Kent	Swenson	kswenson42@gmail.com	28734	NC	
Dana	Thalheimer	dthalheimer@nc.rr.com	27513	NC	The best way to save energy is to no need it in the first place, and buildings consume something like 40% of energy consumed in the US, so let's implement a plan to make all new construction in NC carbon neutral by 2025.
James	Smith	mail@theatrewireless.com	27615	NC	Diminuating the worldwide research knowledge contributed by thousands of scientists -- none of whom wish to end up wrong -- is simply foolish. Why are you willing to make important long-term decisions based on non-scientific information? Accredited peer review on a grand scale says climate change needs to be addressed. This is not a game, Mr. McCrory. To use one of your party's favorite phrases, "It's time to listen to the adults in the room." We need more than empty legislation with a nice name and no action. Stop burning coal.
Sam	Cook	samcook666@gmail.com	28805	NC	This would be good business for Duke Power. Why are you blocking it?
Charles	Froelich	frodaddy125@yahoo.com	28806	NC	
Adora	Nsonwu	adoransonwu@aol.com	27407	NC	
David	Sachter	dhsachter@aol.com	28701	NC	For the sake of our children, and all who dwell on this earth!
Madeline	Coven	madelinecoven@gmail.com	27539	NC	
susan	estes	sgestes@carolinachairandtable.com	27409	NC	LET'S KEEP CAROLINA as ENVIRONMENTALLY CLEAN as possible with your help...we deserve this a North Carolinians.
janet	forman	giselle351@gmail.com	10011	NY	
Sally	Aycock	marv_sally@yahoo.com	27410	NC	We beg you to do the right thing for N.C. by curbing carbon emissions for the future health of our citizens.

ALICE	GREENE	awgreene@aol.com	27106	NC	
nancy	coffey	coffeyn11@yahoo.com	28605	NC	
Krissa	Johnson-Sotomayor	Kjsotomayor@att.net	27513	NC	
randy	marrs	randymars48@gmail.com	28804	NC	
Linda	Ricks	mricks@ec.rr.com	28516	NC	
Judith	Hoag	Jhoag38663@aol.com	27410	NC	With your anti-environment policies you are jeopardizing the future of our planet and the health of our children. There is no excuse for your blatant disregard of the environmentalist's point of view. There is a reasonable balance. Sincerely, Judith Hoag
Lindsay	Ayliffe	lacreative88@gmail.com	28805	NC	Will you lead our beautiful state into a clean future or will you be forever known as the last governor who could have, but didn't. It takes courage to change. You still have some time, but not much. We're counting on you.
Jennifer	miller	jen@termship.com	21221	MD	
Nicole	Maschke	mauricemaschke@gmail.com	44102	OH	
Dorothy	Butler	dbutler14@nc.rr.com	27705	NC	I will be watching at the Nov election how you decide about our environmnet
Daniel	Ater	ncdan8r@aol.com	28803	NC	The time is now!
Lee	Kirby	lkirby@smithlaw.com	27603	NC	This is one place to put the best interests of all of the people of the state ahead of any particular narrow economic interests.
Jane	Volland	jane.volland@gmail.com	27707	NC	
Shannon	Dancy	sdancy@nc.rr.com	27278	NC	
Judith and John	Pilutti	jlaps@nc.rr.com	27613	NC	
Katie	Paulson	katie@nclcv.org			
Patty	Collins	pattycollins72@yahoo.com	27249	NC	
Ramamurthy	Rengasamy	ram0516@yahoo.com	27519	NC	
Amy	Bonchonsky	amybon@gmail.com	27511	NC	look Pat sometimes you have to bite the bullet. We are long past the time to be sticking our heads in the sand and pretending that climate change is not real and our choices are expediting the rise of temperatures. Leadership isn't about pandering and kicking the can down the road. DO THE RIGHT THING!
ilana	dubester	ilana@dubester.net	27312	NC	
Aaron	Deyton	aarondeyton@gmail.com	28714	NC	

Steven	McCraw	smccraw@gmail.com	28806	NC	
William	Blackley	wjblackley@gmail.com	28621	NC	Burning fossil fuel or biomass creates toxic air pollution that damages humans. For this alone, the NC Plan for energy should be heavy on solar, wind and potentially hydrogen forms of creating electricity rather on coal, gas, woody biomass or garbage, etc. The Governor's plan does not include clean energy. Why are we ignoring the proven safe forms of energy that create no toxic emissions or waste dumps?
Jan	Gillespie	janny1028@aol.com	27713	NC	
Sally	Stuckey	sally@stuckey.net	28715	NC	
Amy	Fletcher	amy.fletcher719@icloud.com	27278	NC	Wake up! Do the right thing for your glisten and theirs!!!
Matthew	Rubino	matt_rubino@ncsu.edu	27695	NC	
Patricia	Engelke	pengelke@nc.rr.com	27612	NC	
mike	zuskoski	mikeydives@hotmail.com	28801	NC	
Sharon	Osika-Michales	osikamis@excite.com	13152	NY	
Brandy	Lewis	brandynicole77@gmail.com	28803	NC	
Jack	Hicks	jackhicks3@msn.com	27514	NC	
Lesley	North	lesleynrth@gmail.com	27516	NC	
Mark	Antliff	antliff@duke.edu	27516	NC	
Christa	Jones	crispawelle@hotmail.com	27103	NC	NC is uniquely situated for maximizing on wind and solar energy. This is a no-brainer!
Johnny	Rice	yungdaddie@gmail.com	28739	NC	
Dominic	Ruiz-Esparza	Dmesparza@gmail.com	27605	NC	
Laura	Porter	laurasporter@gmail.com	27517	NC	
Deborah	Moody	moodswing55@gmail.com	28601	NC	
William	Robertson	Robertson2015@gmail.com	27605	NC	It's just the right thing to do. I want to be a part of the generation remembered for caring and trying and not the one that failed to act.
Sharon	Garlena	sharon.garlena@tatrc.org	21703	MD	It's past time to act on climate and support clean energy. Protect people and our planet NOT corporations.
Kathy	Kaufman	kknarotsky@yahoo.com	27516	NC	
Harrison	Curtid	bud.curtis@gmail.com	28562	NC	

June	Spencer-Francis	jbugbites@bellsouth.net	28405	NC	Governor McCrory, I live just 10 minutes from Wrightsville Beach and have lived on the coast my entire life. My husband and I enjoy the clean waters and clean fishing. Please reconsider and move toward better means of clean energy. Thank you.
Tracy	Himes	verdemom@ymail.com	28025	NC	This is a chance to redeem yourself a little bit from all the good legislation that you reversed on clean air initiatives! We in the Charlotte area are counting on you Pat!
David	Kirsh	Mediashun@mindspring.com	27707	NC	
Elaine	Lite	crittermagn@charter.net	28804	NC	
Michael	James	mzrjames@hotmail.com	27705	NC	
Linda	Kissinger	lkissinger@mac.com	27516	NC	Governor, I believe this will be an important campaign issue and one that you should take seriously and support, if you want to be re-elected.
Linda	Griffin	fanci02281@gmail.com	28906	NC	
Anne	Shamp	ashamp@aol.com	28443	NC	I live at the coast. I'm not on a barrier island. So, I will probably be able to live out my life in my home. But, that is not the case for my grandchildren. I hope you have equal respect for our grandchildren as you do Duke Energy. Please pay attention.
Betsy	Malpass	bjmalpass9@gmail.com	26517	NC	North Carolina used to be a leader in clean green energy solutions. Get us back on track FAST!
Carolyn	Buckner	mojobuckner@hotmail.com	27516	NC	
Dulce	Rodriguez-Wester	rodriguez-wester@wilsonschoolsnc.net	27896	NC	It is about time that you respect the North Carolinians and forget taking care of your wallet and friend' personal interest. Stop destroying NC
cindy	Castevens	cjc648@yahoo.com	27103	NC	Please support CPP--YOU can be a true leader by having compassion for future generations.
Elizabeth	Guthrie	lizguth1@frontiernet.net	14580	NY	
Kathy	Underhill	kurealty@yahoo.com	27514	NC	
Charles	Squires	chassqu@carolina.rr.com	28222	NC	
Patricia	Dutile	pattydutile@yahoo.com	27705	NC	
william	dickerson	tama@wncretreat.com	28805	NC	The value of a healthy environment for the health and well being of future generations is the number one priority!
Joan	Jobsis	joanjobsis@gmail.com	27519	NC	
Dolores	Calley	deecalley@yahoo.com	27511	NC	Show that you are smart enough to support a long term solution.

Steve	Maggi	ssmmjr@gmail.com	27502	NC	
Marie	LaPetina	maria.lapetina@gmail.com	27514	NC	
sandra	beard	sandibeard@hotmail.com	28411	NC	
Tony	Strickland	extruder@gmail.com	27539	NC	
John	Wallace	wallacejohn@charter.net	28443	NC	Let's hope the governor isn't still working for Duke Progress Energy.
Elizabeth	Cox	elizcox@yahoo.com	27713	NC	
Jeff	Saginaw	jsaginaw@bellsouth.net	27603	NC	
Jack	Penrod	jdpjwp@aol.com	27502	NC	
Millicent	Troupe	m.troupe@nc.rr.com	27513	NC	
Susan and John	Teague	susea@austin.rr.com	78734	TX	We are paying attention and we hope you will work to stop the Carbon Pollution and build on a clean power plan for the future. Our Texas leaders do not speak for us and talking to them is like talking to a wall. Clean air and water knows no boundary and nothing can be sustained without it. Please do the right thing and give our children hope and a healthy legacy for the future.
Albert	Hetzell	al.hetzell@frontier.com	28906	NC	
Sarah	Roholt	Sroholt@nc.rr.com	27604	NC	
BB	Oehm	bboehm01@yahoo.com	27545	NC	
Angela	Giddings	johnmara13@earthlink.net	27510	NC	
Martha	Edwards	halandmarty@embarqmail.com	27587	NC	NC should curb carbon emissions and expand clean energy through it's solar and wind potentials
Dot	Sulock	dsulock@unca.edu	28804	NC	renewables create local jobs and are good for the NC economy
Thea	Surrey	rubythea@hotmail.com	32901	FL	
Robert	Sauer	Robertoliver@charter.net	28801	NC	
Tom	Winstead	myzenthing@yahoo.com	27606	NC	
Leigh	Saunders	peace2@ihug.co.nz	04122	ot	
Karen	Freeman	kjfreeman0707@gmail.com	27609	NC	Let NC be a leader in doing the right thing for our state, our country and our planet.
Mary Hughes	Brookhart	mhbroomhart@gmail.com	27510	NC	
Benjamin	Salemi	bensalemi@yahoo.com	27705	NC	
Janet	Maker	jamaker2001@hotmail.com	90024	CA	
Harrison	Marshall	harmarshall@gmail.com	27511	NC	
Theresa	Rosenberg	trosenberg@mindspring.com	27607	NC	

Elizabeth	Riddle	jtb3jar61@yahoo.com	27377	NC	
Don	Smith	cms210@aol.com	28348	NC	
Dianne	Douglas	ddouglas@mainex1.asu.edu	85042	AZ	
Scott	Tucker	tucker28@gmai.com	28037	NC	
Stephanie	Benson	stephanie@stephanie-benson.com	27358	NC	
Craig	Fedor	lfedo346@earthlink.net	27408	NC	
Donna	Hunt	huntedjip@aol.com	27954	NC	
Marta	Momeyer	martamomeyer@gmail.com	27502	NC	Stop putting your head in the sand on climate change! Start using alternate power sources like solar. Think about future generations and what our legacy is going to be.
Laura	Whyte	lwchapelhill@aol.com	27514	NC	Coal is fading -- get with the program of renewables!
Lawrence	Kessler	kessler@unc.edu	28451	NC	
Fang	Cai	fangcai@gmail.com	27705	NC	
Joel	Fuller	joelfuller@americanchik.com	28409	NC	Stop polluting our state and our planet. How you and your Republican friends ignore the issues of climate change is an act of terror on all of humanity. theMermaids'Song2047 will begin to expose your dirty little secrets in 2016.
Robert	Dietz	bobdietz51@gmail.com	27511	NC	
James	Kantor	james.s.kantor@gmail.com	27612	NC	
Maureen	Smith	maureensmith51@aol.com	28277	NC	
Vanessa	Smith	vansmith6869@gmail.com	27603	NC	
Jim	McGlinn	jim.mcglinn08@gmail.com	28803	NC	
Wendie	Schneider	waschneider@ec.rr.com	28465	NC	We MUST do our part for the sake of our children.
B. Mark	Schmerling	photodocmark@gmail.com	28773	NC	Fossil and nuclear industry big shots and their products are evil. Renewable energy is good. The choice is obvious. We choose renewable energy, and we choose to get Pat McCrory out of public office.
Marcia	Harris-Owens	marcia11@carolina.rr.com	28203	NC	
Juli	Hennessee	julihenn@yahoo.com	28655	NC	
Katherine	Catlett	kpcat@earthlink.net	27410	NC	
Leonard	Mole	lmole1941@yahoo.com	27511	NC	
George	Tolleson	gtoll2@charter.net	28803	NC	
Chandra	Rambo	chan.rambo@gmail.com	28570	NC	
Sandra Phillips	Yaggy	spyaggy@mac.com	27312	NC	Stop listening to your corporate lobbyists!
Nina	Allen	nina_allen@ncsu.edu	27612	NC	

Deborah	Swanson	dswanson@aol.com	28730	NC	
David	Belcher	davidwillis111@hotmail.com	v9a1t3	BC	
Karen	Arbogast	karbogast@carolina.rr.com	28105	NC	We need to look at environmental impacts, not just respond to big business.
David	Booth	dkbooth@outlook.com	27705	NC	
Alice	Wieting	awieting1@yahoo.com	27215	NC	
Jayne	Boyer	dr.jayne.boyer@gmail.com	27707	NC	
Elizabeth	Caslin	caslink@bellsouth.net	27615	NC	
Eileen	Schneider	schneider.eileen@gmail.com	27511	NC	Do what's right and stop talking about 'what your've done! They don't match!
Gary	Newman	newmanhand@yahoo.com	27312	NC	A healthy economy comes from a healthy constituency. Help me vote for you by being more protective of our environment. Thank you.
Allison	Delavan	sweaterjunky@aol.com	28730	NC	
Rebecca	MacNair-Semands	rrmacnai@uncc.edu	28205	NC	
Lisa	Bible	lisamaynardbible@hotmail.com	28804	NC	
Rusty	Dixon	rusty.dixon@cpcc.edu	28205	NC	
Kenneth	Ashe	tville33@yahoo.com	28753	NC	
Nikki	Del Castillo	nikki_delcastillo@yahoo.com	27379	NC	
Rob	Seltzer	rsscpa@earthlink.net	90265	CA	
Betsy	Rountree	serountree1@yahoo.com	27591	NC	You need to do the right thing for our state and ALL the people. Really tired of your agenda. Nothing positive for the average person. And, why are you even going to run for re-election. You have done nothing right as far as I am concerned and this issue takes the cake. You need to just finish these next few months and get yourself back to Charlotte.
Constance	Engle	connie_engle@alumni.Brown.edu	28739	NC	
Ann	Green	veganchik@hotmail.com	28715	NC	
Miriam	Angress	mials@duke.edu	27707	NC	
Kendal	Brown	kendalbasea@gmail.com	27516	NC	
Sue	Payne	spayneinnc@bellsouth.net	28791	NC	
Sandra	Koritz	openhand@bellsouth.net	27406	NC	This is the only planet we have to live on, act responsibly act in climate change now

David	Bruckenstein	pieguy729@yahoo.com	27517	NC	Dear Governor McCrory, it sounds simple when put this way but, act like your children live here. What do you want their future to be, rather than what makes good short term economic sense, is the question you should be asking. Lobbyists don't care about your kids, but you do. Thanks.
Michael	McConney	mdmconney@gmail.com	28469	NC	
Cheryl	Mitchell-Olds	mitchcmo@yahoo.com	27705	NC	
Marie	Hailey	stadababa55@aol.com	27604	NC	
Alina	Pittman	alinav1982@aim.com	28215	NC	
Keith	Allen	allnwood@msn.com	27231	NC	Your claim that you are/were "not a lobbyist" for Duke Energy is increasingly suspect, as you side with Duke in policies which both suppress and seek to monopolize renewable sources of energy. You are a corporate shill, through and through. The public deserves far better.
Patricia	Myers	ttrishamyersnc@earthlink.net	27612	NC	
Colleen	Sheahon	csheahon@yahoo.com	28607	NC	
Richard	Strowd	swog.strowd@gmail.com	27516	NC	
Michael	Gellar	gellar.michael@gmail.com	28205	NC	
Jeff	Lawrence	wolfbuff2@yahoo.com	27519	NC	Not only that, but I also think we should have a more business-friendly environment for generating alternate energy in this state
Pamela	Dykstra	pameladykstra@gmail.com	28036	NC	
Doyle	Graham	doyle.g.graham@gmail.com	27705	NC	
Andrew	Henderson	babadrew77@yahoo.com	28036	NC	
Nelson	Baker	onegoldeneagle@yahoo.com	43719	OH	
Joyce	Brown	joycebrown@mindspring.com	27516	NC	
Dick	Bilsborrow	richard_bilsborrow@unc.edu	27707	NC	this is an important issue, should be non-partisan too
Darley	Adare	darley@carolina.rr.com	28207	NC	
Cory	Kloehn	sabrina_cory@yahoo.com	27560	NC	
Donald	Barnhart	dn_barnhart@yahoo.com	27526	NC	
Scott	Hertel	inthemountains46@gmail.com	28791	NC	Longer we wait, the worse it will get. Do something now!
Edward	Mezynski	emezynski@gmail.com	27312	NC	
Carol	Mohr	caroljmohr@gmail.com	27312	NC	
Angela	Benestad	benestada@aol.com	27513	NC	
Gary	Matthews	gamatthews03@gmail.com	27511	NC	

Elizabeth	Guy	bethguy@earthlink.net	27705	NC	
Robert	Love	relove333@aol.com	27314	NC	
Peter	Crean	pwcrean@bellsouth.net	27516	NC	
Vickie	Penninger	vickpenn@bellsouth.net	27608	NC	
Dale	Mc Keel	dale_mckeel@yahoo.com	27707	NC	
Emily	Earle	eaearle@gmail.com	27012	NC	
Meri	Zaumsei	alemaner@yahoo.com	28804	NC	Not only is coal emission harmful but the harvesting of coal is damaging to ALL life in the vicinity. Let's do the right thing for everyone.
Deb	Rosengrant	drosengrant@gmail.com	28712	NC	
Elisabeth	Curtis	granda.curtis@gmail.com	27516	NC	
Philip	Walker	bprints@frontier.com	28734	NC	
Claudia	Thuring	Cthuring@yahoo.com	28078	NC	
Charles	Webb	webbdnc@aol.com	27510	NC	
Astrid	Keup	astridkeup@mac.com	35469	ot	
M Jane	Stoffer	jjhiker@att.net	28805	NC	
Linda	smathers	lindasmathers@hotmail.com	28806	NC	
Ashley	Snell	ashleydsnell@gmail.com	27312	NC	
James	Cogswell	jamescogswell@att.net	28711	NC	
Michael G	Angstreich	angmark@online.no	28315	NC	
Barb	Stenross	stenross@gmail.com	27510	NC	
Sherry	Jenkins	sherrydee63@hotmail.com	28312	NC	
Michele	Hutchins	michele2162001@yahoo.com	27265	NC	
Kaaren	Stoner	kaarenstoner@bellsouth.net	28785	NC	
Tucker	Bailey	tuckerbailey@triad.rr.com	27009	NC	The people of North Carolina want clean energy from wind and solar, not dirty coal or gas.
Gary	Clontz	gclontz@msn.com	28721	NC	Oil and coal are the past. Time for solar and wind alternatives.
George	McManus	Mcmanus@mail.com	27326	NC	
Cavett	French	cavettf@mindspring.com	27701	NC	
Fred	Stanback	stanbackf@aol.com	28144	NC	
Nancy	Cartwright	nancycartwright@yahoo.com	27705	NC	Please!!!
Rebecca	Reid	reidrobustelli@gmail.com	28739	NC	
Rebecca	Carter	rgjcarter@gmail.com	27053	NC	
Noel	Parenti	noel@newplanetyoga.com	27106	NC	

Philip	Buchanan	bnpbuchanan@bellsouth.net	27517	NC	
Philip	Buchanan	bnpbuchanan@bellsouth.net	27517	NC	
Catherine	Marie	c.marie8@yahoo.com	27607	NC	
Jay	Peters	jaypeters@mindspring.com	27707	NC	Curbing coal emissions is a good start. We should add more stringent vehicle inspections on older automobiles and trucks as well.
Stephen	DeAugustines	steve.d@pobox.com	28746	NC	
Rob	Moore	robmarcia@bellsouth.net	27455	NC	
Pat	Belk	pat.belk@gmail.com	28031	NC	Take a stand and support CPP.
Richard	Koerber	fishtwo@charter.net	28801	NC	Get with it, we have grandchildren to think of !!
Tom	Emmel	emmel@rtpenv.com	27606	NC	
Carol	Flath	flath@duke.edu	27701	NC	
Harry	Taylor	hataylor@ccim.net	28211	NC	
Cliff	Norris	lcliffnorris@rtmc.net	27341	NC	
Dori	Cole	dpernicka@yahoo.com	60189	IL	
Scott	Stone	scottstone@bellsouth.net	28150	NC	
Kerry	Bullock-Ozkan	bullockozkan@twc.com	27510	NC	
Stephen	Blake	steve_blake@bellsouth.net	27012	NC	Your corrupt crony capitalist administration represents the interests of executives and shareholders of the Duke Energy monopoly at the expense of NC taxpayers & ratepayers.
Joe	Jacob	joejacob@mindspring.com	27312	NC	There was a time when leaders believed the world was flat. They ignored facts. It is time to recognize climate change is for real and you don't want history to judge you as ignorant to the facts.
alysa	delgado	amdelgad@live.unc.edu	27516	NC	
Nancy	Hill	dhill51@ec.rr.com	28412	NC	
Lloyd	Schmeidler	lloydschmeidler@aol.com	27701	NC	
Neil	Infante	aneilio46@icloud.com	27278	NC	
Jessica	Browning	jessicabrowning@gmail.com	28803	NC	
Annette	Racer	annracer@charter.net	28730	NC	
David	Gilbert	Pawn27514@yahoo.com	27514	NC	
Renee	Coles	rcrcoles@gmail.com	NC	NC	
Thomas	Cannon	tomcannon45@gmail.com	28711	NC	It is time that NC stops looking like a subsidiary of Duke Power. We used to be seen as an environment friendly state and we have lost that distinction. But it is not to look good that we must support carbon free power. It is for our lives.

Craig	Friday	Craigf80@yahoo.com	28205	NC	
catherine	nelon	thenelons@charter.net	28782	NC	
Janna	Davis	Jannavee@bellsouth.net	28806	NC	
Elisabeth	Bechmann	elisabeth.bechmann@kstp.at	03100	ot	
Christine	Roeffen	Christib@gmx.net	66978	ot	
charles	Pettee	cpettee@bellsouth.net	27516	NC	As the father of two boys, one of whom suffers from asthma, and life-long NC native, I wonder how long the Outer Banks will be above sea level, and I also wonder how long our mountains can withstand all the air and water quality attacks that your administration and DENR promote so regularly. Maybe you can consider not only the need for NC to prepare for the inevitable reality of a future dependent upon clean energy, but also the need to protect our tourism industry by doing our part to curb toxic emissions NOW.
Denise	Larson	buddhette13@gmail.com	27312	NC	
Carole	Larivee	larivee@aol.com	28785	NC	
Margaret	Morris	mspeg78@gmail.com	28732	NC	
Peg	Gjertsen	peg.gjertsen@gmail.com	27607	NC	
Deborah	Wagner	dwjake2@aol.com	28778	NC	Governor McCorry, as a Christian I think you would find the following interesting, I found it while doing devotions this morning. "It would be ludicrous to suggest that a man, having sinned against God, could then have it within his power to forgive his own sin." I think that statement also applies to polluters. It would be ludicrous to suggest that a polluter have polluted would have it within themselves to monitor and report on their pollution. It is not within their power. How does that make any logical sense. We talk about leaving a country for our children, I think we need to ensure that there is a country worth leaving. Regards, Deborah Wagner
Willard	Cottrell	willard@ccvn.com	28714	NC	Are you stupid or do you act stupid as our governor?
Michael	Koch	mikeh.koch@yahoo.com	28215	NC	
Renee	Hayes	renee.hayes1956@gmail.com	27370	NC	
Steve	Hickle	shickle@nc.rr.com	27604	NC	
Michael	Moore	michaelmoore@skybest.com	28607	NC	
Nancy	O	orsetna@aol.com	19711	DE	
Ana	Baxley	Ana.baxley@gmail.com	27576	NC	

Sean	Anglin	sportscharles@hotmail.com	27608	NC	
Susan	Allen	su.allen50@gmail.com	27612	NC	Start doing the job you were allegedly elected to do and that's protect and work for the PEOPLE of this state instead of BIG MONEY!
Sean	Anglin	sportscharles@hotmail.com	27608	NC	
James	Pearce	jpearce3@sbcglobal.net	27713	NC	Global warming is real and we have to act now and act responsibly!
Miller	Graves	millergraves@gmail.com	28803	NC	WE ARE NOT GOING TO LET UP!!! GET WITH THE PROGRAM GOVERNOR!!
Lesley	Barker	lesleyjbarker@earthlink.net	27408	NC	We have to have clean energy to mitigate climate change. I am horrified that your administration has their heads in the sand!
Holly	Arrowood	hollyarrowood@aol.com	27514	NC	Investing in clean energy now will help ensure our state's prosperity for decades! North Carolina should be doing everything possible to lead the country in clean energy development.
Kristina	Heiks	kheiks@yahoo.com	28607	NC	
William	Nichols	williamnichols16@yahoo.com	28734	NC	You work for US now, not Duke Power! As a disabled vet I DEMAND you carry out OUR wishes!
A.D.	Revels	adreveals0205@gmail.com	27858	NC	
Doug	Curri van	dbcurrivan@gmail.com	27502	NC	
Tom	Adkisson	Pivomaker@hotmail.com	27103	NC	Let's be a leader in mitigating climate change, not a slave to fossil fuel companies. DO THE RIGHT THING!! IT IS OUR MORAL OBLIGATION TO OUR KIDS!!
Melissa	Griffin	theschool@mindspring.com	27539	NC	
Dan	Stancil	dan.stancil@topbuild.com	27609	NC	We owe it to our children to leave the world a better place than we found it. Economics will take care of itself, but the environment needs our help.
larry a mary	edington	superman3646@live.com	49047	MI	we are running out of time to act on this please act now
Arnold	McEntire	Arnolddmc@gmail.com	28762	NC	Get your aim correct, Governor!
Peggy	Wilson	pwilson640@bellsouth.net	27523	NC	
Martha	Whitfield	whitfieldmartha@gmail.com	28207	NC	
Victor	Lowell	victorlowell@earthlink.net	27614	NC	This is not about Politics it's about the survival of our planet!!
Anita	Mcleod	anitamcleod@aol.com	27707	NC	Let us protect our health and the future of children. This is a no-brainer and creates jobs for wind and solar clean energy!!
Jill	Green	jillgreen@gmail.com	27320	NC	

Melissa	Sherman	Mds5511@aol.com	27608	NC	Gov. McCrory, We can no longer ignore the effects of global warming. Please support wind and solar energy potential in NC. Sincerely, Melissa Sherman
Ann	Wood	ann.wood@rocketmail.com	27604	NC	Help in stopping the trashing of the earth
Barton	Armstrong	bparms@gmail.com	27609	NC	There really is nothing more important than clean air, clean water and clean technologies. Please agree and behave accordingly. Thank you
Allyn	Howlett	Allyn-babyowl@hotmail.com	27041	NC	I use geothermal heating and cooling and drive a Prius hybrid. I look forward to a solar future! There is no reason why every home in the state cannot so the same! Please provide the incentives our citizens need!
Brian	Burns	thebburns11@yahoo.com	28730	NC	
Heather	Chait	heschait@yahoo.com	28270	NC	
Rebecca	Felton	rfelton@ec.rr.com	28461	NC	
Sharon	Gillespie	pretend@austin.rr.com	78703	TX	
robert	luke	coolhan_99@yahoo.com	95603	CA	
Donna	Lovick	dhnlov@yahoo.com	27501	NC	
Gretchen	KLEIN	MI4SONS@BELLSOUTH.NET	27233	NC	ARE YOU LISTENING TO OUR STATE, OR ONLY DUKE ENERGY.
Barb	Stenross	stenross@gmail.com	27510	NC	
Mary	Keenan	maryekeenana@aol.com	28786	NC	Why can't you hear us?
James	Dicke	jldandpad@hotmail.com	27609	NC	
Linda	Knowles	lindaknowles21@yahoo.com	27592	NC	
M.	Klein	magklein@hotmail.com	27836	NC	We have just installed Solar on our new home in Raleigh and are dismayed you do not have the foresight to support such renewable energy strategies as well as curbing harmful carbon emissions.
Margie	Stewart	margiestewart@frontier.com	27707	NC	
Dale	Hopp	dhopp@carolina.rr.com	28104	NC	
Jeff	Moore	jpattern@aol.com	27511	NC	
Debbie	Collins	uncswimmom2@aol.com	28670	NC	
Geoff	Dunkak	geoff.dunkak@gmail.com	27713	NC	
Brenda	McCall	brnd_mccall@yahoo.com	27243	NC	
Jack	Coble	jcoblephd@bellsouth.net	27403	NC	What an embarrassment you and your admin has been to the nation.
Carol-Ann	Greenslade	realy@fearringtonhome.com	27312	NC	
Jan	Hinman	hinmanjb@gmail.com	28571	NY	

Susan	Warren	swarren28806@gmail.com	28806	ND	
Sue	Patterson	ncsuemp@aol.com	28405	NC	
Betsy	Webster	Wdonaldcjr@gmail.com	28125	NC	Our responsibility is for future generations not ourselves
Judy	Martinez	martinezjudith884@gmail.com	27510	NC	
Leonard	Thorne	Leothorne@att.net	27513	NC	Solar and wind are the new energy sources. Let NC lead the way.
Janet	Robinson	bocacatlover@gmail.com	33433	FL	
Judith	Weigner	weignerj@bellsouth.net	28739	NC	
Francis	Pflug	pflugfa@yahoo.com	27519	NC	
virginia	clute	g.clute@yahoo.com	27527	NC	
David	Cook	dcook@dac-and.com	28001	NC	Pat, I was an undergraduate at one of our state's fine universities about the time Art Pope was born. We studied ecology and environmental issues then, and it was clear already at that time that the Human race was in serious danger of poisoning itself unless we did something about it quickly. Well, we didn't, and now its up to you and your colleagues to take firm action in a last-ditch effort to keep the planet viable for us. And you are doing wrong. Pull yourself together, Pat, and take the right action TODAY.
Ed	Stavish	bigtanager@gmail.com	28743	NC	Clean power is the only way forward for North Carolina
JANIE	NEELY	janie.neely@gmail.com	28787	NC	Please maximize wind and solar energy for N.C., and limit carbon pollution.
Lydia	Garvey	wolfhowlmama@yahoo.com	73601	OK	
David	Allen	dra561@gmail.com	28786	NC	
John	Millen	millenjg@gmail.com	28714	NC	Let's use more solar and wind.
Chrystelee	Burns	chrys_chloe@yahoo.fr	28312	NC	
Robert	Paine	rwpaine49@yahoo.com	27712	NC	This is not a political issue. This is a quality of life issue for all of us citizens of this state.
James	Lovejoy	jlovejoy@nc.rr.com	27518	NC	Lets replace coal with natural gas and nuclear energy.
Greg	Sells	gsells@austin.rr.com	78741	TX	
Walter L	Davis Jr	1daviswalter@windstream.net	28128	NC	We must protect our Grand children's future.
Sandra	Hillerstrom	ramahbear@yahoo.com	28740	NC	
Danielle	Brestel	daniellebrestel@gmail.com	27712	NC	
Charlotte	Englehart	Charlotteanne1@yahoo.com	27608	NC	

David	Shearer	resqp2tv@frontier.com	28783	NC	If there is no one left to make all this money and no one left to spend all this money why would we want to go down this road??
Mac	Hulslander	mac.hulslander@gmail.com	27607	NC	
Dennis	Welch	blakeprof@gmail.com	27519	NC	Governor McGrory: Regarding the realities of global warming and severe climate change, you and the GOP are on the wrong side of history.
Michelle	Lee	misllee@yahoo.com	28226	NC	
Andrew	Meyer	andrewjmeyer@earthlink.net	27612	NC	North Carolina is known by its beauty. Don't ruin it by your poor policies and failure to act.
Pamela	Sheridan	Pasheridan8@aim.com	08098	NJ	
Andre	Mckoy	Mckoyandre@gmail.com	27516	NC	We continually bite the hand that feeds... The eventual consequences will be something we cannot reverse. We all know this and refuse to take serious action. There is no better time than now, before it's too late. Peace 1 Love
Connie	Bishop	connieb@charter.net	28655	NC	
Thayer	Jordan	ttjbear1@aol.com	27278	NC	
Julia	Myers	julia_myers@yahoo.com	27615	NC	
Esther	Murphy	edm1958@gmail.com	28411	NC	If you say the word "ENVIRONMENT", will your head explode?
Esther	Murphy	edm1958@gmail.com	28411	NC	Are you some other life form which exists without healthy ecology?
Brenda	Tenerelli	lvangelo98@aol.com	28787	NC	
Howard	Tyas Jr. Rev. Dr.	htyas@carolina.rr.com	28205	NC	
Larry	Hannon	ms03923@gmail.com	28270	NC	
Melissa	Hastings	princess_ryoko@msn.com	28570	NC	
Peter	van Dorsten	pv2049@gmail.com	27615	NC	
Frank	Lorch	franklorch@yahoo.com	28203	NC	
Frank	Zachary	fzachary@gmail.com	27012	NC	
Joe	Phillips	joephil282@yahoo.com	27235	NC	
Michael	Carney	mcarneyv@aol.com	08078	NJ	

Colleen	Farley	c.m.farley@att.net	27408	NC	Dear Governor McCrory, Please do the right thing for North Carolina and the future residents of this state as well as our current citizens. You know the right thing to do is reduce carbon pollution, expand solar and wind energy initiatives and prohibit off-shore drilling. You know this is not a partisan issue. Best regards, Colleen Farley Greensboro, NC
Cathy	Harless	catmax@triad.rr.com	27265	NC	Governor McCrory, You are some sorry governor. I'm glad I didn't vote for you! You are slowly ruining the state of North Carolina!!!
Christina	Hugenschmidt	christina.hugenschmidt@gmail.com	27104	NC	Air pollution increases risks for a host of medical conditions and increases medical costs. It kills the beautiful trees in our mountains that attract tourist dollars.
Kathleen	Bonfoey	harumscarum@msn.com	27301	NC	
Linda	Maynard	disc87@aol.com	27502	NC	We sould respect this earth , NOT kill it!
William	Phillips	hphillipsjr@charter.net	27330	NC	
Karen	Mallam	karenmallam@yahoo.com	27344	NC	
Nora	Davidson	tigers@islandnet.com	98311	WA	
shirley	mills	shirleymills12@yahoo.co.uk	dy4 9au	ot	
Pat	Gottlieb	patncackalacky@yahoo.com	27701	NC	
M	Dillon	msdillon@earthlink.net	33133	FL	
M	Dillon	msdillon@earthlink.net	33133	FL	
Hart	Squire	unique@main.nc.us	28787	NC	
Kathy	Jooss	rjooss@gmx.de	27516	NC	
Dorothy	Lee	cleebuncombe.main.nc.us	28748	NC	
Fielding	Wilson	fwilson20@nc.rr.com	27527	NC	
Sandy	Forrest	snd.forrest@gmail.com	28654	NC	McCory has been horrible for our state and the nation, as he has done everything he possibly could to cater to energy co. rather than protecting our environment.
Anne	Hansley	annehansley@me.com	28791	NC	Completely ridiculous that NC would not include wind power in an energy move forward plan for this great state. No votes for this kind of bad judgement or self serving policies.

Rita	Burns-Wooten	burnswooten@yahoo.com	28613	NC	PLEASE ensure the health and safety of all North Carolinians!!! The air we breathe, the water we drink, and the food we eat---THAT is ALL our cells have to WORK WITH to remain healthy, heal, repair tissue damage, etc. WHY do you think SO MANY of our citizens have CANCER??? I am an RN with 36 years experience.
Ronald	Runyan	Rbrunyan@gmail.com	27513	NC	Stop Fracking in NC!
Rachel	CAmpbell	rachcamrjc@yahoo.com	28226	NC	
Suzanne	Fox	Drusuzanne wolfe@gmail.com	27517	NC	
Catherine	Moorehead	major2mo@yahoo.com	28711	NC	
Mary	Kirschhoch	fak42@aol.com	28374	NC	We've got your number Mr McCrory.....do the morally responsible thing regarding the environment.
Tanya	Taylor	tanyavtaylor@hotmail.com	27572	NC	
Catherine	Starkweather	cathy001@frontier.com	27713	NC	
Sarah	Charles	sarahandk@gmail.com	27265	NC	
Jason	Chappell	Chappell756@gmail.com	27707	NC	
Jill	Ray	blackcatfarm@hotmail.com	28025	NC	
Nancy	King	nrking58@yahoo.com	28570	NC	
Madeleine	Pabis	mpabis3@gmail.com	27704	NC	
Michael	Watson	mtwatson13@charter.net	28601	NC	Besides adding jobs to the economy and saving the environment, clean energy saves money and lives. Act now to meet the goals.
Wynne	Queen	Wynnepqueen@yahoo.com	28043	NC	
Leslie	Rojohn	leslie@ventureoutcorp.com	28779	NC	
Edward	Link	e.link@earthlink.net	27513	NC	
Joseph	Harper	jshsra@yahoo.com	27410	NC	
Lisa	Gunther	lisadgunther@gmail.com	28677	NC	Please don't let your political affiliation destroy the planet for future generations.
Robert	Heston	rob@sungraffix.net	27103	NC	All that money you're saving and making for your rich buddies by pumping more carbon in the air will do them no good when the methane rises from the Arctic and kills everything....
Lauren	Bonardi	lolly11710@yahoo.com	28401	NC	
Anne	Whitefield	anne@main.nc.us	27705	NC	listen to our leaders in Paris, please!
Barbara	Terry	barbaraterry2010@gmail.com	27312	NC	
Renee	McCann	reneemccann2@gmail.com	28412	NC	

Larry	Hannon	ms03923@gmail.com	28270	NC	
Larry	Hannon	ms03923@gmail.com	28270	NC	
dan	hiltz	danniboy21@yahoo.com	60548	IL	
Tracy	Stevenson	Tracystevenson313@gmail.com	27609	NC	We have an OBLIGATION to protect the environment for future generations. As an elected official, you are responsible for ensuring this critical issue gets prioritization and resourcing given how relevant it is to your constituency. We need a plan.....now. Please exercise your granted authority with conscience and responsibility.
Chris	Holochak	Holochakc@yahoo.com	27608	NC	
Sheryl	Harmon	slharmon@nc.rr.com	27513	NC	
Yvonne	Moody	Yvonne37@bellsouth.net	28461	NC	It is so important to cut way down on carbon pollution! In the 16 years I have lived in NC, I notice a definite increase in the tide levels in the marsh behind my house. More of that will seriously impact so many people living on the coast.
Ted	Storck	thestorcks@att.net	27606	NC	
James	Lee	leeja40@hotmail.com	258314	NC	
Metin	Aydemir	maydemirus@yahoo.com	27713	NC	
Jon	Van Horn	jvhsound@gmail.com	27510	NC	
Pauline	Williams	dickabee@aol.com	27511	NC	North Carolina needs to step up to this problem. It is time to think long-range instead of going for short-term money grabs.
Nick	Hood	foamyislord42@gmail.com	27012	NC	
mark	march	markdmarch@yahoo.com	27106	NC	
Craig	Bailey	captcrb@gmail.com	28139	NC	
Mary Anne	Combs	macombs42@yahoo.com	28752	NC	Why do you do this? Do you not understand science? You are supposed to be our intelligent leader and help us move in a safe direction. Do you understand solar and wind power? Why do you support polluting energy sources? Do they give money to you? I doesn't make sense.
Edward	Jagusiak	eddiejag@hotmail.com	07751	NJ	

Ricky	Dowdal	dwrc@aol.com	28681	NC	Governor McCrory ,is not a governor of the citizens of our state, but his loyalty is to big business and lobbies. He could care less about our state and protecting our natural resources as they are a hindrance to the lobbies and big business and will even throw our fellow citizens under the bus to make a buck for himself and job security when the citizens throw him and his cronies out of office.
Victoria	Childers	Vchilders967@gmail.com	27302	NC	
charles	Pettee	cpettee@bellsouth.net	27516	NC	
Steve	Rundle	steve.rundle@inartdesigns.com	28217	NC	
Richard	Thomas	thomas1766@comporium.net	28768	NC	It is irresponsible NOT to act on climate change to protect our environment.
Robert	Grew	rgrew@bellsouth.net	27609	NC	
Joseph	Wells	ncjwells@gmail.com	27606	NC	
William	McMullin	mcmullinw@gmail.com	48071	MI	
Jose	De Arteaga	kenn.jose@comcast.net	20020	DC	
Wendy	Stevens	wagothro@hotmail.com	28214	NC	
Kimberly	Wiley	kwiley16@hotmail.com	14612	NY	
Joseph	Hoess	josephhoess@yahoo.com	46574	IN	
Jennifer	Halenbeck	jenniferhalenbeck100@msn.com	28716	NC	
James	Carroll	jimbev@mitchell.main.nc.us	28705	NC	
Richard	Haas	rhaas1006@mac.com	28451	NC	
Brian	Burns	thebburns11@yahoo.com	28730	NC	
C. Warren	Pope	cdubski@yahoo.com	28803	NC	
Joseph	Harper	jshsra@yahoo.com	27410	NC	
Peter	Funk	funkman48@yahoo.com	27021	NC	
jan	hansen	jbhansenn@yahoo.com	28115	NC	
Elizabeth	Thanasouk	liz-gorman@hotmail.com	28540	NC	
Vickie	Penninger	vickpenn@bellsouth.net	27608	NC	
Julia	Young	mandjyoung@mindspring.com	27312	NC	
Jocelyn	Browning	jazdshowstopa@gmail.com	24060	VA	
Phillip	Howard	phowardgso@aol.com	27408	NC	Please consider the constituents that work, breathe, drink water in our state

Laurie	Lamoreaux	laurielmr@hotmai.com	27516	NC	
Jon	Doyle	jdoyle@pci-llc.com	27612	NC	If there is a state plan get some PR on it. If not then I think we need to have a plan that mirror takes into Federal policy but considers local politics. Now is the time to act...not in another administration.
Barbara	wilson	ladymossrose@gmail.com	27048	NC	Spend at least as much on solar, wind and other alternative energy.
Bruce	Clarke	b707737@hotmail.com	37684	TN	Get on the right side of history, before you become an irrelevant dinosaur
Larry	Olivier	oliviela@gmail.com	37327	TN	
Dianne	Douglas	ddouglas@mainex1.asu.edu	85042	AZ	
Barbara	Sloss	barbarasloss@yahoo.com	28805	NC	I believe in solar. I bought panels for my roof top.
Paige	Humphreys	paigehurley73@hotmail.com	28579	NC	
Hal	Trufan	htrufan@gmail.com	28226	NC	
Jenny	Lellinger	jlellinger@earthlink.net	28712	NC	
Lynn	Kohn	chloe11@frontier.com	27707	NC	North Carolina should take the lead and support the switch to renewable energy as well as the president's Clean Power Plan. Thank you.
Caleb	Laieski	Caleb.Michael.Laieski@gmail.com	22305	VA	
Louise	Perini	lep56078@yahoo.com	27703	NC	
Chris	Washington	cwashington@wlrk.com	10019	NY	
Kimberly	Wiley	kwiley16@hotmail.com	14612	NY	
Peter	Reynolds	p.j.reynolds@earthlink.net	27703	NC	
Joseph	Nolan	niual@yahoo.com	28806	NC	Gov. McCrory, I emphatically support your braver in standing up for moral issues. I appreciate the fact that you are standing up for children in our public schools. But protecting the environment is ALSO a moral issue. "God put the man into the garden to DRESS IT AND TO KEEP IT"
Chris	Washington	cwashington@wlrk.com	10019	NY	
Wynne	Queen	Wynnepqueen@yahoo.com	28043	NC	
Judy	White	judywhite@triad.rr.com	27407	NC	You will have a legacy of being most corrupt bought and paid for republican tea party in the history of North Carolina.
susan	hendrickson	swhendri55@yahoo.com	27407	NC	You need to make some changes, or we will!

Heath	Moody	Brantonhmoody@gmail.com	28801	NC	Stop catering to corporate polluters & lobbyists and start representing the conscience people of NC & real science. You'll either be known as a leader who helped reduce our climate impact or a leader who blocked efforts & sided w/ the profits of Duke Energy & polluters who put profits in front of people & the environment. Be on the right side of history. Act now on climate change!
Herman	Hailey	Hneilhailey@aol.com	27288	NC	Please rise above the stupidity of denial.
Alice Ann	Williamson	aliceann@ec.rr.com	Wilmington	NC	A clean energy plan is essential.
Tony	Church	tmchurch@charter.net	28601	NC	
Judy	Thomson	thomsonranch@gmail.com	27713	NC	
Marion	Kreh	Katzenfrau2000@yahoo.com	28429	NC	
Donna	Etheridge	dretheri@yahoo.com	27607	NC	
Ramie	Thorstad	meccag13@gmail.com	28748	NC	
Ruth	Held	ruth_h_28070@yahoo.com	27203	NC	
Eliza	Farren	elizaf@live.unc.edu	27510	NC	
Nick	Hood	foamyislord42@gmail.com	27012	NC	
Jacob	Johnson	jacob51johnson@gmail.com	33547	FL	
linda	coley	mlc755@aol.com	28210	NC	
Brad	Smith	bs46908@gmail.com	27403	NC	Please do the right thing for future generations. We don't want to become as bad as Beijing.
Joel	Neuwirth	Joelneuwirth@hotmail.com	28374	NC	
Ron	Coleman	Rnclmn@hotmail.com	27215	NC	Think about the average person for a change, instead of money.

Sig Hutchinson, 2704 Snowy Meadow Ct. Raleigh NC 27614

[Sig@SigHutchinson.com](mailto:Sig@SigHutchinson.com)

I'm Sig Hutchinson Commissioner for Wake County and I stand before you today to offer my Congratulations. Congratulations for the opportunity to usher in the most important change in our state and our economy since the Industrial Revolution.

As someone who has been in politics for twenty years, one thing I've found that no matter who's in office, what political party or at what stage of the business cycle, Legislators on Jones St. are laser focused and consumed with one three letter word. That being "jobs." Gov. McCrory never misses an opportunity to have his picture taken with the next CEO offering a new 2 or 300 jobs adding to our economic landscape. Unfortunately, most of these jobs tend to be in urban setting for people with special skills and higher education.

That's why your role here is so important in that the economic development and jobs that I am congratulating you for today, is mostly in our rural communities.

And a much better story than our history with tobacco and textiles that have made NC so great in the past.

We talk about the Industrial Revolution and how that has been replaced with the Knowledge economy. But what I'm offering is the third revolution; a Third New economy known as the "Natural Economy."

The Natural Economy relies on what God has blessed us with. In this case, that being the sun and the wind.

The bible speaks to this in 2 Peter 1:3 saying, "God's divine power has **given** us everything we **need for life** and for Godliness.

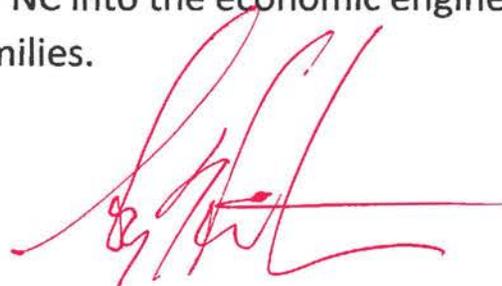
By working with our natural economy, rural land owners can leverage the wind and sun to turn God's resources into financial gain and still leave enough land for their agricultural uses.

But rather than the back breaking work of tobacco or the long hours of textiles, this economy means going to the mail box once a month to pick up your check. That money can then go to buy shoes, clothes, healthcare, food, education and support the local economy creating much needed jobs. And it's so easy.

No need to be punching holes in the ocean floor running the risks of fouling our beaches or pumping toxins into the ground putting at risk our clean and abundant water or even pumping carbon into the atmosphere. With the Natural Economy, the gold is already on the ground, shining from our magnificent sun, and the wind can blow natural and clean creating the electricity to power our towns and cities, without the smell of hog waste.

How much money and how many jobs. Experts will tell you 10,000 of jobs and billions in revenue. I would say that you have within your power the ability to save rural North Carolina with the ability to generate enough power to electrify this entire state, which will be billions and the jobs associated with building that infrastructure.

Truly, the Natural Economy is our future. The pricing is right, the technology is here, the people are ready, and the time is now. Which is why during this holiday season I'm asking us all to thank God for his blessings and asking you to use those blessing to transform rural NC into the economic engine that it can become for our citizens and our families.



12-17-2019

-Signature Jensen-



# North Carolina Clean Energy Industry Census

2014





NC SUSTAINABLE  
ENERGY ASSOCIATION

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**North Carolina Sustainable Energy Association:**

The NC Sustainable Energy Association (NCSEA) is a 501(c)(3) nonprofit membership organization of individuals, businesses, government and nonprofits interested in North Carolina's sustainable energy future. NCSEA drives public policy and market development to create energy jobs, economic opportunities and affordable energy to benefit North Carolina.

Today, our team of clean energy advisors, analysts and advocates works closely with policymakers, consumers and industry leaders to research, inspire and affect clean energy progress statewide.

**Acknowledgements:**

NCSEA would like to thank all of the companies, institutions, and organizations that responded to the 2014 Southeast Clean Energy Industry Census. The willingness of respondents to generously donate their time and insights allows NCSEA to capture and share important data about the clean energy industry in North Carolina with regulators, legislators, and decision makers in the state and beyond.

NCSEA also appreciates the efforts of partner organizations the South Carolina Clean Energy Business Alliance, Southface in Georgia, and the Virginia Energy Efficiency Council on the Southeast Clean Energy Industry Census. Additional thanks are due to Karen Eller, Donna Hughes, and everyone at the Center for Urban Affairs and Community Services at North Carolina State University for their continued support of this project.

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# INTRODUCTION

## About The Census

Since 2008, the NC Sustainable Energy Association (NCSEA) has surveyed companies, institutions, and organizations (collectively referred to as “firms”) in the clean energy industry in order to quantify their impact on the state’s economy. The 2014 North Carolina Clean Energy Industry Census (North Carolina Census) represents the seventh edition of this survey and resulting report.

NCSEA created the Census to help measure the impact of North Carolina’s clean energy policies and identify where policies are or are not achieving the results policymakers, economic developers, and industry envisioned. From 2007-2013, policies such as the Renewable Energy and Energy Efficiency Portfolio Standard<sup>1</sup>, the state Renewable Energy Investment Tax Credit<sup>2</sup> and government energy efficiency goals have allowed a clean energy market to form in North Carolina and our clean energy industry to develop and access the energy market, competing on price and quality, and building out a supply chain to the benefit of the entire North Carolina economy.

This report aims to provide a snapshot of the current state of the clean energy industry in North Carolina by addressing common questions such as:

- How many firms are currently working in the clean energy industry?
- What business sectors are they in, and what kinds of work are they doing?
- How many people are employed by these firms?
- How much revenue are these firms generating?
- What is the business climate surrounding these firms?
- What is going to drive continued growth in this industry going forward?

Presenting analysis on employment, revenues, geographic presence, export activity, and business climate, the North Carolina Census report has become an invaluable resource for stakeholders with a myriad of uses including:

- Benchmarking the overall industry and specific sectors.
- Supporting decision-makers in answering policy questions.
- Promoting the success of clean energy policies, businesses, and industries.
- Identifying policy challenges and possible solutions.
- Tracking the development of clean energy markets in North Carolina.

This is also the second year NCSEA has partnered with the South Carolina Clean Energy Business Alliance, Southface in Georgia, and the Virginia Energy Efficiency Council (collectively referred to as the “Partners”) to produce the Southeast Clean Energy Industry Census (Southeast Census).<sup>3</sup> For the Southeast Census, the Partners surveyed firms to understand employment, revenue, and policy drivers of various sectors within each state and the southeast region clean energy industry. This report presents the survey results and analysis that pertain to North Carolina’s clean energy industry. Please visit [www.cleanenergyindustry.org](http://www.cleanenergyindustry.org) for information on the Southeast Census results.

The 2014 Southeast Census will also be incorporated into the US Department of Energy-funded Southeast Clean Energy Manufacturing Roadmap (Southeast Roadmap), which will provide an assessment of the region’s existing clean energy landscape and present a suite of considerations to grow the North Carolina and Southeast clean energy industry and market. The Southeast Roadmap and North Carolina Roadmap will be issued towards the end of 2015.

## Survey Process

Each Partner compiled a list of firms in its state. Each state-level Census relied on a common questionnaire developed by the Partners, as well as an online survey tool and phone-banking system managed by the North Carolina State University Center for Urban Affairs and Community Services (NC State).

## Data Analysis

NCSEA performed the analysis of all Census data with input from the Partners. NCSEA utilized the self-reported data from responding firms who classified themselves among a selection of clean energy business activities and sectors

(See Table 1 and Table 2, below). This level of granularity allowed for the analysis of the activities being conducted within each clean energy sector of North Carolina's economy. Data in this report is presented in aggregate in order to protect the privacy of responding firms, and includes a conservative modeling of firms that did not respond but are anticipated to be active in North Carolina's clean energy industry. Readers interested in additional analysis on census data and related market intelligence should contact NCSEA staff directly at [info@energync.org](mailto:info@energync.org) with their questions.<sup>4</sup>

For the 2014 analysis, the Partners utilized the approach taken by NCSEA during the first five iterations of the North Carolina Clean Energy Industry Census from 2008 – 2012. This report presents direct findings from self-reported data provided by 567 firms operating within North Carolina. This represents approximately 47% of the estimated 1,208 firms currently conducting clean energy related business in North Carolina. These 567 responding firms and 641 modeled firms represent a significant portion of the state's clean energy industry, but certainly do not cover all activity. The conservative nature of the analysis means that the true economic impact of the clean energy industry in North Carolina is larger than what is presented in the 2014 Census. Please refer to Appendix B for greater detail of survey methodology.

**Table 1. Clean Energy Business Activities**

Activities
Design and Construction of New Buildings
Professional Services, Education, or Consulting
Installation, Design, or Development of Renewable Energy Systems
Installation or Maintenance of Building System Components
Sale of Renewable Energy Systems
Sale of Building System Components
Research and Development
Manufacturing
Power Generation

**Table 2. Clean Energy Business Sectors**

Sectors
Building Efficiency
Solar
Geothermal
Biomass
Storage
Wind
Smart Grid
Alternative Fuel Vehicles
Hydropower/Marine
Fuel Cells

## HIGHLIGHTS

The 2014 North Carolina Census is the seventh annual report released by NCSEA on the status of the clean energy industry in our state. Information about employment, revenue, and the general business climate was provided directly by firms operating in the industry.

The clean energy industry in North Carolina has been a rapidly growing part of the state's economy since the first version of this report in 2008. It now boasts participation by more than 1,200 firms, provides nearly 23,000 full-time equivalent (FTE) jobs, and generates approximately \$4.8 billion in annual gross revenues.

From 2012 to 2014, employment in the industry increased from 15,200 to 22,995 FTE; an annual increase of 25%.

We've also seen a 15% per year increase in revenues generated by clean energy activities in the state since 2012, reaching \$4.8 billion in the 2014 Census. This far outpaces the 2.3% per year increase in gross state product since 2012.<sup>5,6,7</sup>

Additional data shows the \$2.7 billion invested in clean energy infrastructure in North Carolina between 2007 and 2014 is also making a positive economic impact. For each dollar of the Renewable Energy Investment Tax Credit utilized \$1.93 has been returned to state and local governments.<sup>8</sup> This investment has led North Carolina to become the number four state in the nation for solar installations with more than 600MW of available capacity.<sup>9</sup>

**Figure 1. NC Clean Energy Firms, Revenue, and Employment**



**22,995 FTE**



**1,208 Firms**



**\$4.8 Billion  
in Revenue**

## FIRMS

The clean energy industry in North Carolina continues to be dominated by firms involved in the Building Efficiency and Solar sectors, representing a combined 59% of all firms (38% Building Efficiency, 21% Solar). The Geothermal sector is also well represented with another 12% of all firms.

Within all of the clean energy industry sectors, the activities of Design and Construction of New Buildings, and Professional Services, Education, or Consulting are the most numerous, accounting for 22% and 19% of all firms respectively. Various installation activities are also well represented with 15% of all firms engaged in Installation, Design, or Development of Renewable Energy Systems, and 13% involved in Installation or Maintenance of Building System Components.

Figure 2. NC Clean Energy Firms by Sector

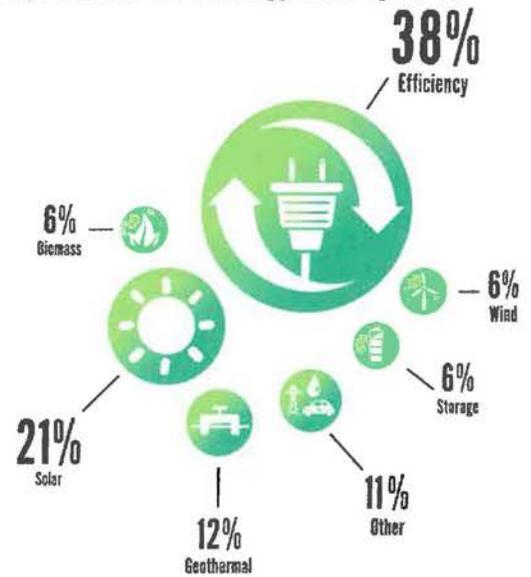


Table 3. NC Clean Energy Firms by Sector

Sector	Clean Energy Firms
Building Efficiency	833
Solar	450
Geothermal	264
Biomass	134
Storage	121
Wind	119
Smart Grid	87
Alternative Fuel Vehicles	83
Hydropower/Marine	55
Fuel Cells	17
<b>Total</b>	<b>2,165</b>

Table 4. NC Clean Energy Firms by Activity

Activity	Clean Energy Firms
Design and Construction of New Buildings	528
Professional Services, Education, or Consulting	454
Installation, Design, or Development of Renewable Energy Systems	360
Installation or Maintenance of Building System Components	305
Sale of Renewable Energy Systems	239
Sale of Building System Components	173
Research and Development	143
Manufacturing	132
Power Generation	102
<b>Total</b>	<b>2,435</b>

## EMPLOYMENT

In light of recurring policy uncertainty, the growth in clean energy employment in North Carolina has been steady and encouraging. The most notable finding in employment from this year's Census is the dominance of the Building Efficiency sector as a clean energy employer. Accounting for nearly one half of all the FTE in the industry, Building Efficiency is certainly the leader in providing clean energy jobs. It is also interesting to note that the majority of jobs in Building Efficiency are currently involved with the Design and Construction of New Buildings. This is promising both as an indicator of broad economic health in the state and as a signal that energy efficient buildings are in high demand. Firms in this sector, however, are not as optimistic about job growth next year as firms in some other sectors. See the Growth section for more information on where industry projects an increase in jobs over the next 12 months.

Also worth noting about 2014 clean energy employment is the rise in jobs in the Storage sector. Up nearly 50% from 2012, there are now 1,306 FTE working on energy storage in North Carolina. More than half of these are involved in Manufacturing, which should bode well for the state as we see a greater utilization of storage technologies over the next several years.

Figure 3. NC Clean Energy Employment by Sector

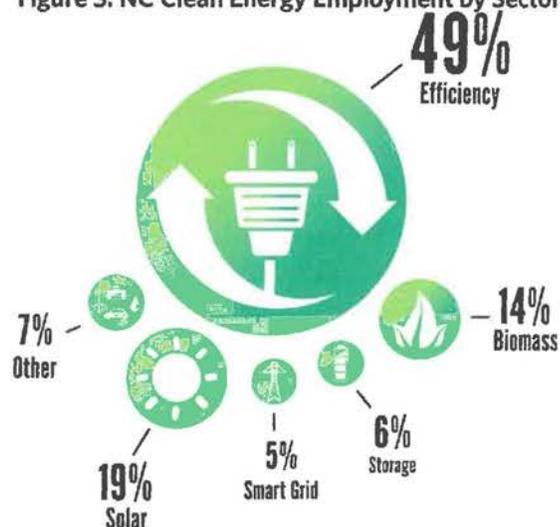


Table 5. NC Clean Energy Employment by Sector

Sector	Clean Energy FTE	% of NC FTE
Building Efficiency	11,277	49%
Solar	4,307	19%
Biomass	3,246	14%
Storage	1,306	6%
Smart Grid	1,045	5%
Hydropower/Marine	585	3%
Geothermal	545	2%
Alternative Fuel Vehicles	403	2%
Wind	248	1%
Fuel Cells	33	0%
<b>Total</b>	<b>22,995</b>	<b>100%</b>

Table 6. NC Clean Energy Employment by Activity

Activity	Clean Energy FTE	% of NC FTE
Design and Construction of New Buildings	5,326	23%
Installation, Design, or Development of Renewable Energy Systems	3,909	17%
Professional Services, Education, or Consulting	3,731	16%
Sale of Renewable Energy Systems	2,345	10%
Sale of Building System Components	2,013	9%
Installation or Maintenance of Building System Components	1,943	8%
Manufacturing	1,766	8%
Power Generation	1,433	6%
Research and Development	530	2%
<b>Total</b>	<b>22,995</b>	<b>100%</b>

## REVENUE

In 2014 the Building Efficiency sector was the top earner bringing in approximately \$1.9 billion, followed closely by the Solar sector with earnings of \$1.6 billion. These top two sectors account for 73% of all clean energy industry revenues (39% and 34% respectively).

As might be expected considering the top grossing sector, Design or Construction of New Buildings was reported as the top revenue generating business activity, accounting for \$1.5 billion and 32% of total industry revenues. Activities that align more closely to the Solar sector, however, take the next two spots with the Sale of Renewable Energy Systems and Installation, Design, or Development of Renewable Energy Systems bringing in \$750 million and \$540 million in total earnings respectively.

Figure 4. NC Clean Energy Revenue by Sector

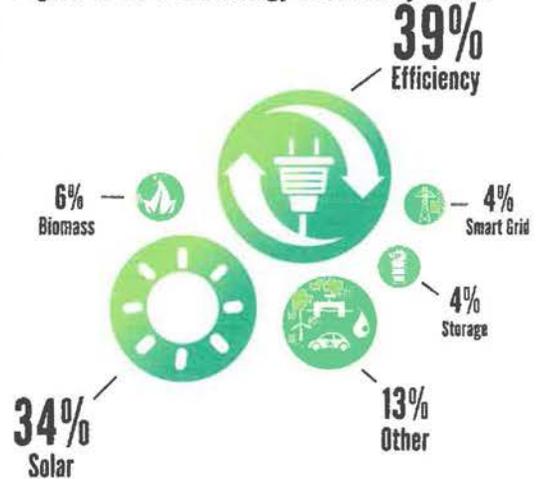


Table 7. NC Clean Energy Revenue by Sector

Sector	Clean Energy Revenue	% of Revenue
Building Efficiency	\$ 1,870,023,812	39%
Solar	\$ 1,640,526,876	34%
Biomass/Biofuels	\$ 298,241,908	6%
Storage	\$ 190,291,576	4%
Smart Grid	\$ 170,148,429	4%
Hydropower/Marine	\$ 169,738,274	4%
Wind	\$ 161,610,963	3%
Alternative Fuel Vehicles	\$ 144,213,168	3%
Geothermal	\$ 143,356,017	3%
Fuel Cells	\$ 7,613,989	0%
<b>Total</b>	<b>\$ 4,795,765,013</b>	<b>100%</b>

Table 8. NC Clean Energy Revenue by Activity

Activity	Clean Energy Revenue	% of Revenue
Design or Construction of New Buildings	\$ 1,533,064,611	32%
Sale of Renewable Energy Systems	\$ 748,709,732	16%
Installation, Design, or Development of Renewable Energy Systems	\$ 542,969,803	11%
Sale of Building System Components	\$ 476,625,308	10%
Power Generation	\$ 447,639,476	9%
Professional Services, Education, or Consulting	\$ 342,721,510	7%
Manufacturing	\$ 282,500,690	6%
Research and Development	\$ 228,039,216	5%
Installation or Maintenance of Building System Components	\$ 193,494,667	4%
<b>Total</b>	<b>\$ 4,795,765,013</b>	<b>100%</b>

# EXPORTS

While some clean energy goods and services generated in North Carolina remain close to home, 20% of them land in markets outside the state. The products and services that are sold locally likely come from firms in the Building Efficiency sector, whose business activities are conducted close to their physical office locations. Indeed, 87% of all goods and services in the Building Efficiency sector remain in North Carolina. This, of course, is beneficial to the sector as continued growth in the state will likely demand local labor for activities such as Design and Construction of New Buildings, and Installation or Maintenance of Building System Components.

Also worth noting, however, is that North Carolina's leading-edge technology sectors such as Storage and Smart Grid are sending more of their goods and services outside of the state and region. Storage is sending approximately 18% of their products to national and international markets, while Smart Grid firms are seeing 25% of their merchandise and expertise make it out of the Southeast.

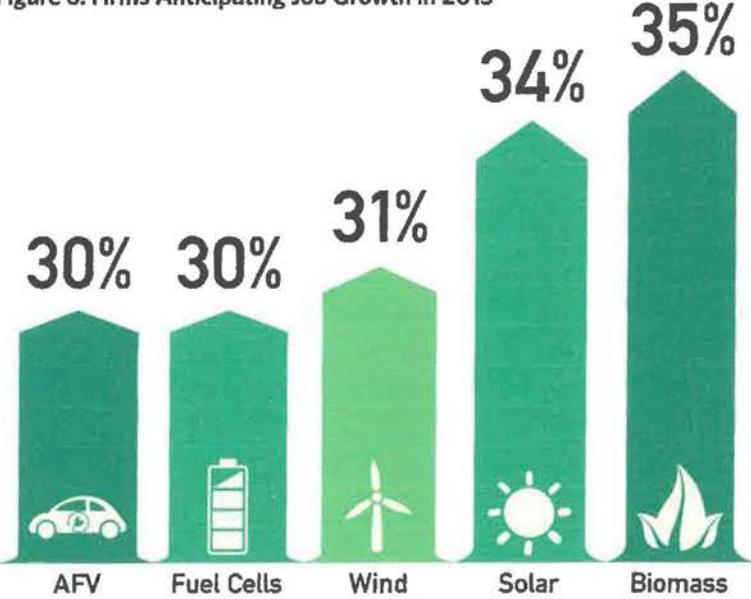
Furthermore, firms engaged in clean energy product Manufacturing sent approximately 40% of their goods out of state this year. This is beneficial for bringing in revenue from outside North Carolina, but it is also important that viable markets for these goods and services remain within the state.

Figure 5. NC Clean Energy Products by Destination Market



# GROWTH

Figure 6. Firms Anticipating Job Growth in 2015



This year saw firms take a less optimistic outlook for hiring in the upcoming year. Last year, more than half the firms in some sectors indicated that they would add jobs over the next 12 months. This year, the Biomass sector was most confident about increases in employment with 35% of firms reporting they anticipated adding jobs next year. It is important to note, however, that firms in all sectors indicated they would be adding jobs, with greater than 30% of Solar, Wind, Fuel Cells, and Alternative Fuel Vehicles firms anticipating employment growth.

When these firms do look to hire, they note several skill areas that will help them succeed. Unsurprisingly, a knowledge of high performance building is among the top skills firms are looking for in potential employees, along with energy auditing and electrical systems/wiring.

## GEOGRAPHY

Clean energy in North Carolina is no longer a niche industry. There are now solar farms, LEED certified buildings, waste-to-energy systems, and electric vehicle fueling stations in every corner of the state. Likewise, the firms that provide the goods and services needed to meet the rising demand for clean energy also occupy every corner of the state, providing jobs and revenues to rural and urban counties alike.

There are, however, some distinct clusters of the clean energy industry in the Triangle, Triad, Charlotte, and Asheville areas. This is an indication of the positive network externalities that these firms are able to utilize in North Carolina's business climate.<sup>10</sup>

Figure 7. Clean Energy across NC



## BUSINESS CLIMATE

Firms in North Carolina's clean energy industry have overcome an uncertain business climate to achieve tremendous growth in jobs and revenues since 2008. Firms indicate factors such as the quality of research and development collaboration, and the impact of renewable portfolio standards are key contributors to this growth.

On the other hand, firms note that there is room for improvement in some of the dynamics of the market environment. These include the lack of interaction among firms from different industries and economic sectors and the partnering of government and academic institutions with private sector firms. These findings show that there is a potential for both greater collaboration between industries, as well as opportunities for additional public-private partnerships that would allow for the development and testing of novel technologies that are paramount in the clean energy industry.

- Renewable Portfolio Standards
- Quality of Educational Institutions
- R&D Collaboration
- Public-Private Partnerships

Firms do, however, rate the Southeast region in general as a good location for them to be successful and anticipate that it will remain a good location for businesses in the clean energy industry over the next five years.

## CONCLUSION

We have known for several years now that North Carolina has a dynamic and growing clean energy industry. The 2014 North Carolina Census results further affirm that point by showing that there are approximately 1,200 clean energy firms providing 22,995 full-time equivalent jobs and generating \$4.8 billion in gross revenue. This represents an annual growth of approximately 25% since 2012, far outpacing the growth seen in other industries.

Clean energy projects reach all corners of the state and bring with them jobs and investment in local communities. Furthermore, income enters the state through the sale of clean energy products and services that originate here and are exported to national and international markets.

Firms in all sectors of the state's clean energy industry anticipate hiring new employees during 2015. Of particular importance going forward will be the Building Efficiency sector, which was the largest in terms of both 2014 employment and revenue. The addition of jobs in the Building Efficiency sector as well as continued growth by the other sectors will bolster North Carolina's clean energy industry and the broader state economy.

Finally, firms in North Carolina recognize the region as being a place where their business can thrive now and in the future. Supported by strong policies such as the Renewable Energy and Energy Efficiency Portfolio Standard and the Renewable Energy Investment Tax Credit, as well as a strong network of internationally recognized colleges and universities, clean energy firms in North Carolina are excited to operate in an environment conducive to the growth shown in this report.

## APPENDIX A: SECTOR DEFINITIONS

### 2014 Southeast Clean Energy Industry Census Sector Definitions

The clean energy industry is inclusive of both energy efficiency and renewable energy technologies and contains the following ten business sectors:

1. **Alternative Fuel Vehicles** – Alternative Fuel Vehicles are those that run exclusively on alternative fuels, including electricity, or a blend of traditional petroleum fuels and alternative fuels. These include, but are not limited to:
  - Hybrid electric vehicles
  - Electric vehicles
  - Flexible-fuel vehicles
  - Biofuel vehicles, and
  - Natural gas vehicles

This sector also includes firms involved in the conversion of traditional fuel vehicles to run on alternative fuels.
2. **Biomass/Biofuels** – This sector relates to the generation of heat or electricity from either the combustion of organic and waste materials, or their conversion to biofuels. These organic and waste materials include, but are not limited to:
  - Plant-based sources (e.g., wood, grasses, or natural oils)
  - Municipal wastewater
  - Municipal solid waste
3. **Building Efficiency** – This sector employs technologies, products, and services that reduce the amount of energy required for processes, tasks, or buildings. Examples of firms in this sector include, but are not limited to:
  - Developers or installers of more efficient lighting technologies or HVAC systems
  - Producers or installers of other energy conservation technologies for buildings
  - Energy Star, LEED, or EarthCraft builders
  - Developers of more efficient manufacturing processes
4. **Energy Storage** – This sector covers energy storage devices or physical media that are used to store energy, in various forms, for use at a later time. Technologies and products currently included in the sector are:
  - Batteries
  - Mechanical storage mechanisms such as compressed air or flywheels
  - Thermal storage
5. **Fuel Cells** – This sector includes technologies or devices that convert chemical energy from a fuel source into electricity through an oxidizing reaction. Fuel sources may include:
  - Hydrogen
  - Hydrocarbons such as natural gas, methanol, or other alcohols
6. **Geothermal** – This sector includes both Geothermal Energy and Ground Source Heat Pump (GSHP) technology. Geothermal Energy utilizes the thermal energy (heat) stored in the Earth to generate electricity, while GSHP are a central heating and cooling system that transfers heat to or from the ground.
7. **Hydropower/Marine** – Hydropower refers to harnessing the force of falling or flowing water, including marine waves, for useful purposes such as to generating electricity or creating mechanical force.
8. **Smart Grid** – This sector incorporates technologies and products related to updating the current electricity grid infrastructure with increased multidirectional communication, data collection, and automation. This includes, but is not limited to, digital metering equipment, sensors, controls, and related software.
9. **Solar** – This sector includes technologies and products related to the conversion of sunlight either directly into electricity through photovoltaic cells or indirectly through concentrated solar power. The sector also includes solar thermal products that harness sunlight to meet thermal requirements for residential, commercial, or industrial processes.

**10. Wind** - The wind sector includes products related to the harnessing of wind energy. This includes, but is not limited to, wind turbines for the creation of electricity, wind pumps for pumping and drainage power, and windmills for mechanical power.

To qualify as being active in a specific sector, a firm must perform at least one of the following nine activities with that sector:

- Design or Construction of New Buildings
- Sale of Building System Components
- Sale of Renewable Energy Systems
- Installation, Design, or Development of Renewable Energy Systems
- Installation or Maintenance of Building System Components
- Manufacturing
- Power Generation
- Professional Services, Education, or Consulting
- Research and Development

## APPENDIX B: METHODOLOGY

The 2014 Southeast Clean Energy Industry Census is a collaboration between the North Carolina Sustainable Energy Association (NCSEA), the South Carolina Clean Energy Business Alliance (SCCEBA), Southface in Georgia, and the Virginia Energy Efficiency Council (VAEEC). These organizations are collectively referred to as the Partners.

Each Partner compiled a list of clean energy companies, organizations, and institutions (collectively referred to as firms) in its state. Each state-level Census relied on a common questionnaire developed by the Partners, as well as an online survey tool and phone-banking system managed by North Carolina State University Center for Urban Affairs and Community Services (NC State). NCSEA performed the data analysis of all Census data with input from the Partners.

Results in this report are specific to clean energy business conducted within North Carolina. Please see [www.cleanenergyindustry.org](http://www.cleanenergyindustry.org) for information regarding all states included in the Southeast Census.

### A Conservative Approach

The Partners utilized the approach taken by NCSEA during the first five iterations of the North Carolina Clean Energy Industry Census from 2008 – 2012. The 2014 North Carolina Clean Energy Industry Report presents direct findings from self-reported data provided by 576 firms, as well as information attributed to an additional 641 modeled firms. Taken together, these represent a significant portion of the state's clean energy industry, but certainly do not cover all activity. Our methodology does not attempt to quantify impacts of this unknown portion of North Carolina's clean energy industry. The conservative nature of the analysis means that the true economic impact of the clean energy industry in North Carolina is larger than what is presented in the 2014 Census.

### Identifying Clean Energy Firms

1. NCSEA compiled a preliminary list of North Carolina firms potentially in the clean energy industry from the following sources:
  - Lists of firms maintained by NCSEA.
  - Publicly available industry websites.
  - Lists maintained by other organizations.
  - Online searches.
2. NCSEA then assessed whether each firm is involved in a clean energy business sector included in the Census.
3. For firms deemed to be within the scope, NCSEA identified primary and secondary contacts and obtained their email and telephone information.
4. NCSEA shared its preliminary list of clean energy firms with other Partners in order to eliminate duplicate entries.
5. NCSEA delivered its preliminary list of North Carolina clean energy firms to NC State. NC State conducted the online survey and follow-up phone interviews.
6. NCSEA delivered additional lists of newly identified clean energy firms to NC State in July and August, 2014.

### Performing the Survey

1. Each North Carolina firm received an email from NCSEA that included a hyperlink to the online survey, as well as unique login and password credentials.
2. NCSEA sent multiple reminder emails to those North Carolina firms that had not completed the survey.
3. NC State conducted phone interviews with North Carolina firms that had not yet completed the online survey.
4. The Partners closed the survey on October 31, 2014.

### Identifying Business Units

Firms were asked to self-identify as being involved in the clean energy industry by indicating they had at least one employee dedicating a portion of their time to one of the nine business activities in one of ten clean energy business sectors. Each activity within a clean energy industry sector is defined as a clean energy business unit (e.g, Research and Development / Solar). The 2014 Census has 90 activity/sector cross-sections resulting from combinations of the following activities and sectors:

#### Activities:

- |   |  |
|---|--|
| 1. Design or Construction of New Buildings                          | 6. Manufacturing                                 |
| 2. Sale of Building System Components                               | 7. Power Generation                              |
| 3. Sale of Renewable Energy Systems                                 | 8. Profession Services, Education, or Consulting |
| 4. Installation, Design, or Development of Renewable Energy Systems | 9. Research and Development                      |
| 5. Installation or Maintenance of Building System Components        |  |

Sectors:

- |                              |                      |
|------------------------------|----------------------|
| 1. Alternative Fuel Vehicles | 6. Geothermal        |
| 2. Biomass/Biofuels          | 7. Hydropower/Marine |
| 3. Building Efficiency       | 8. Smart Grid        |
| 4. Energy Storage            | 9. Solar             |
| 5. Fuel Cells                | 10. Wind             |

Through this selection process, each responding firm indicated its clean energy business unit(s). Firms were asked to provide their total full-time equivalent (FTE) employment and total gross annual revenue at all locations. Firms were also asked to complete metrics for each of their clean energy business unit(s), including:

- Percentage of total staff time allocated to each business unit;
- Percentage of that work occurring in Georgia, North Carolina, South Carolina, and/or Virginia;
- Anticipated change in jobs for each business unit;
- Location of any additional offices associated with each business unit; and
- The percentage of goods and services delivered to each geographic market for each business unit.

**Calculating Full-Time Equivalent Employees of Responding Firms**

The Partners used full-time equivalent employees, or FTEs, as opposed to the number of individual employees. FTE is representational of a single 30 hour per week block of employment. NCSEA calculated clean energy FTE employees by multiplying a firm's total number of FTE employees at the time of the survey by the percentage of total staff time that the firm dedicated to each of its clean energy business units in North Carolina. FTEs provide a high degree of flexibility for accurately modeling the equivalent man-hours spent working on clean energy. For example, two employees who spend 50% of their time on clean energy would be calculated as a clean energy FTE of 1.0.

**Calculating Annual Revenue of Responding Firms**

The Partners asked firms to report their total gross annual revenue from the most recent fiscal year (2013 in this case) by selecting from the following revenue ranges:

- |   |  |
|---|--|
| 1. Less than \$100,000                    | 9. \$25 million to less than \$50 million    |
| 2. \$100,000 to less than \$250,000       | 10. \$50 million to less than \$100 million  |
| 3. \$250,000 to less than \$500,000       | 11. \$100 million to less than \$250 million |
| 4. \$500,000 to less than \$1 million     | 12. \$250 million to less than \$500 million |
| 5. \$1 million to less than \$2.5 million | 13. \$500 million or more                    |
| 6. \$2.5 million to less than \$5 million | 14. Prefer not to answer                     |
| 7. \$5 million to less than \$10 million  | 15. Do not know                              |
| 8. \$10 million to less than \$25 million |  |

Firms were then assigned a revenue number equal to the median value the range they selected. In other words, a firm falling in the "less than \$100,000" bracket was classified as "\$50,000." Firms in the "\$500 million or more" bracket were classified as \$500 million. To calculate a firm's revenue by clean energy business unit, NCSEA multiplied the firm's total revenue by the percentage of total staff time that the firm dedicated to each business unit active in North Carolina.

**Modeled Firms**

NCSEA used survey response data to estimate the total number of clean energy firms active in North Carolina. This included firms that responded to the Census survey as well as additional firms that were modeled based on the data from responding firms. NCSEA used the following process for estimating the total number of clean energy firms and assigning them characteristics:

1. NCSEA compiled a list of firms potentially involved in North Carolina's clean energy industry. All of these firms were contacted via email and/or telephone and a percentage of them provided complete survey responses. NC State placed all of the firms, regardless of whether they provided a responses, into the following categories:
  - Completed Interviews – Firms that completed the survey through a phone interview with NC State.
  - Completed Online – Firms that completed the survey online via the email link.
  - Respondent Will Do Online – Firms that indicated to NC State over the phone that they would take the survey online, but did not complete the survey.
  - Respondent Ineligible – Firms that self-identified as not being involved in the clean energy industry.
  - Duplicate ID – Firms that appeared on the initial list twice.
  - Attempts Exhausted – Firms that NC State was unable to contact over the phone and did not complete the survey online.

- Wrong Number – The provided phone number was incorrect.
  - Out of Service – The provided phone number was no longer in service.
  - Refused – Firms that indicated they were not willing to participate in the survey but did not self-identify as being ineligible.
2. NCSEA identified the firms in the Completed Interviews, Completed Online, Respondent Will Do Online, and Refused categories as active in the North Carolina clean energy industry.
  3. NCSEA identified the firms in the Respondent Ineligible, Duplicate ID, Wrong Number, and Out of Service Categories as not active in the North Carolina clean energy industry.
  4. NCSEA estimated the percentage of the remaining firms, those in the Attempts Exhausted category, that are active in the North Carolina clean energy industry using the following calculation:

$$\frac{\text{Completed Interviews, Completed Online, Respondent Will Do Online, and Refused Categories}}{\text{Total Number of Firms Contacted}} \times \text{Attempts Exhausted} = \text{Additional Firms Active in NC Clean Energy Industry}$$

5. NCSEA added the firms in Step 2 and 4 to determine the estimated number of firms active in North Carolina's clean energy industry.
6. NCSEA determined the number of modeled firms by subtracting the number of Completed Interviews and Completed Online responses from the total number of firms in the industry.
7. NCSEA calculated an 80% trimmed mean for the FTE and revenue in each business unit (activity/sector cross-section) by removing the upper and lower 10% of the reported FTE and associated revenue.
8. NCSEA applied the resulting trimmed means of FTE and revenue for the 90 activity/sector cross-sections to the modeled firms based on their relative percentages in the direct response data, i.e., information provided through the Completed Interviews and Completed Online responses.

### A Note About Removed Firms

NCSEA and its partners assessed all responses and identified firms that provided data that grossly overstated employment or revenues. These firms were contacted again in an effort to validate their responses. The Partners kept in the data set corrected responses from firms who retook the Census and eliminated from the dataset responses from firms that could not be reached.

### Endnotes:

1. NC Renewable Energy and Energy Efficiency Portfolio Standard - Available at: [www.ncuc.commerce.state.nc.us/rebs/reps.htm](http://www.ncuc.commerce.state.nc.us/rebs/reps.htm)
2. N.C. Gen. Stat. § 105-129.15 et seq. Available at: [www.ncleg.net/EnactedLegislation/Statutes/HTML/ByArticle/Chapter\\_105/Article\\_3B.html](http://www.ncleg.net/EnactedLegislation/Statutes/HTML/ByArticle/Chapter_105/Article_3B.html)
3. The Southeast Census is a partnership between NCSEA, South Carolina Clean Energy Business Alliance (SCCEBA), Southface in Georgia, and the Virginia Energy Efficiency Council (VAEEC).
4. Since 2008, NCSEA has expanded its data collection to include over twenty unique datasets measuring a diversity of market factors such as costs, projects, and resources. On a fee-for-service basis, NCSEA can assist private, public and non-profit entities needing more customized intelligence into clean energy market and policy in North Carolina.
5. Revenue collected in the 2014 Census refers to the previous fiscal year (i.e. 2013) and is compared to North Carolina's 2013 GSP growth.
6. Federal Reserve Bank of Richmond. Regional Profiles: North Carolina. [https://www.richmondfed.org/research/regional\\_economy/reports/regional\\_profiles/pdf/nc\\_regional\\_profile.pdf](https://www.richmondfed.org/research/regional_economy/reports/regional_profiles/pdf/nc_regional_profile.pdf)
7. It should be noted that GSP in North Carolina outpaced the national GDP growth of 1.8% in 2013.
8. RTI International. Economic Impact Analysis of Clean Energy Development in North Carolina – 2014 Update. [http://c.ymcdn.com/sites/www.energync.org/resource/resmgr/Resources\\_Page/NCSEA\\_econimpact2014.pdf](http://c.ymcdn.com/sites/www.energync.org/resource/resmgr/Resources_Page/NCSEA_econimpact2014.pdf)
9. Solar Energy Industries Association. State Solar Policy. North Carolina Solar. <http://www.seia.org/state-solar-policy/north-carolina>
10. NCSEA will release analysis of the clean energy clusters identified through the census in sector specific reports later this year.

Testimony, Sheila Read, Raleigh resident  
NC Department of Environmental Quality hearings on the Clean Power Plan  
Dec. 17, 2015

- As a Christian, I try to live by the great commandment: to love God and love our neighbors as ourselves.
- I believe with all my heart that in a spirit of love, God calls us to work for the Common good.
- Climate change is a moral issue because it affects the lives of our neighbors. The fishermen on the coast. The farmers who grow our food. The elderly and children who are affected by heat and poor air quality. And the people who can't afford to move or retreat to a second home if the climate overheats.
- As Pope Francis said, caring for the environment is NOT an OPTIONAL part of Christianity.
- I see climate change as the ultimate pro-life issue. PAUSE
- Our atmosphere is the envelope that contains all life. PAUSE
- My grandchildren are 7, 3 and 7 months old.
- When I look at them, I feel the responsibility to do everything I can to ensure that the climate 50 years from now is one that still sustains human life.
  
- The recent conference in Paris showed that global leaders take seriously the reality that climate change has already begun and is one of the most urgent threats facing humanity.
- Climate change is already affecting North Carolina.
- As a gardener, I have noticed the increase in heavy rainstorms that dump inches of rain and create runoff that threatens the health of water supplies.
- Extreme weather threatens beach communities that are vital to our recreation and economy.
- Extreme heat, drought and heavier rain harms agriculture and our food supply.
  
- North Carolina is well positioned to take advantage of the opportunity to transition to cleaner energy. Our state is already a leader nationally in renewable energy production.
- A North Carolina plan should include input from all stakeholders. Our plan should build on the state's progress in promoting renewable energy, which will create jobs in addition to reducing emissions of green house gases.
  
- Let's play our part in the global effort to find solutions to climate change.
- Let's be courageous and work together with all stakeholders to create a Clean Power Plan that protects public health now and for future generations.
- Let's step up and do the right thing, so that 50 years from now our children and grandchildren are not suffering or dying from an unhealthy climate.
- We have an opportunity now to live out of our highest values of love and generosity in our response to climate change. Let's do it.

Date: December 17, 2015  
To: Donald R. van der Vaart, Secretary, NC Department of Environmental Quality  
From: Charles Humble, PhD, Retired Epidemiologist  
RE: Statement for Clean Power Plan Hearing, Raleigh, NC

My name is Charles Humble. I am a retired epidemiologist who received my PhD from UNC's School of Public Health. I started working in air pollution research in 1974. Since then the US has done a good job reducing smog and the acidification of the air and water from oxides of nitrogen and sulfur, but we have lagged in dealing with CO2. Ever higher levels of CO2 in the atmosphere are driving global warming which threatens our health and economic well-being.

The Clean Power Plan is an important part of our response to this problem. I am asking Governor McCrory to put forward a plan that will help us meet the goals of the CPP by building on the strengths and opportunities that we possess here in NC.

We can easily redouble our commitment to renewables. North Carolina is blessed with ample land and abundant sun light and wind. Today is the anniversary of powered flight. 100 years ago the Wright Brothers came to Kitty Hawk to test their airplane precisely because they knew that strong, reliable winds could be found along the North Carolina coast. We can't wait another 100 years to rediscover this resource!

Lastly, there is the low-hanging fruit of improved insulation in homes. Some years ago researchers took an infra-red camera up above Madison, WI in the dead of winter. They were looking for residential heat loss. What they saw was little heat coming from newer homes and massive losses from older housing stock. Clearly, the biggest bangs for our bucks lie in improvements to older homes. This and all these options can generate good jobs and improve public health in North Carolina.

Charles Humble  
910 Emory Drive  
Chapel Hill  
NC 27517  
919-942-0669



A PROGRAM OF

**AMERICAN LUNG ASSOCIATION.**  
OF THE SOUTHEAST, INC.

**TESTIMONY PROVIDED BY:**

**ALISON LAWRENCE JONES, Project Manager for North Carolina,  
Mothers & Others for Clean Air, a program of American Lung Association of the  
Southeast, Inc.**

**RE: N.C. Department of Environmental Quality, Division of Air Quality, Environmental  
Management Commission  
RALEIGH, N.C., DECEMBER 17, 2015  
PROPOSED ADOPTION OF AIR QUALITY RULES**

My name is Alison Jones, I am the Project Manager for North Carolina for Mothers & Others for Clean Air, a program of the American Lung Association of the Southeast, Inc. Thank you for providing an opportunity for me to speak. Mothers & Others for Clean Air ~~Mothers~~ is a unique partnership of leading public health and child advocacy organizations working to advance public policy that will improve air quality and fight climate change in order to reduce the effects of air pollution on public health, especially children's health. We know that children are at a higher risk from the ill effects of air pollution because they breathe at an increased rate and spend more time out of doors.

The effects of greenhouse gases leading to a changing climate impact our health through degraded air quality, wildfires, drought, heat waves and more. Scientists project that warmer temperatures from climate change will increase the frequency of days with unhealthy levels of ground-level ozone, a harmful air pollutant, and a component in smog.

Carbon dioxide pollution is a greenhouse gas and contributes to rising temperatures that will increase the risk of unhealthy levels of air pollution threatening the health of our children, and fossil fuel-fired power plants are the largest single source of U.S. carbon dioxide emissions.

A strong adaptation of a Clean Power Plan in N.C. will immediately reduce carbon dioxide emissions and other air pollutants, thereby keeping children out of the hospital and in school and helping to keep older adults, athletes and outdoor workers breathing easier. We want to make sure we achieve the EPA's estimated health benefits of the Clean Power Plan, including preventing up to 3,600 premature deaths in 2030, preventing 90,000 asthma attacks and avoiding 300,000 days missed from work and school each year nationwide. These health benefits will only come if North Carolina and other states develop effective plans to meet the requirements set out by the EPA in the Clean Power Plan.

We support a strong state adaptation of the Clean Power Plan with an emphasis on renewable energy and energy efficiency.

We need a strong Clean Power Plan in place for N.C. to cut carbon pollution and lessen the burden on the health of our citizens. We urge NC's DEQ to adopt standards that will ensure we do as much as we can to fight these threats and protect public health.

Thank you.

Alison Lawrence Jones, North Carolina Project Manager  
Mothers & Others for Clean Air, American Lung Association of the Southeast

C: 910-922-0295

[www.mocleanair.org](http://www.mocleanair.org) | [www.facebook.com/mocleanair](https://www.facebook.com/mocleanair) | <https://twitter.com/mocleanair>

**Comments of John Bachmann, Principal, Vision Air Consulting LLC, reflecting his personal views, to the NC Environmental Management Commission (EMC) on the NC Department of Environmental Quality’s (NCDEQ) primary plan for complying with the EPA Final Clean Power Plan Rules (CPP).**

*Climate change is a serious, growing threat to North Carolina and the rest of the world that compels the development and implementation of serious solutions.*

North Carolina’s coastal resources and the vibrant tourist economy they support are at particular risk, both because of the potential of increased damaging storms and the certainty of a continued acceleration of sea level rise. It may be comforting to look at the draft 30 year projections made by the Coastal Resources Commission Science panel, but recent statements by NASA scientists and an updated EPA assessment last summer suggest that the high end of the range IPCC forecasts of sea level rise for 2100 (3 feet) used by the panel now look closer to the low end of what we may see by the end of this century (eg EPA estimates of 5 feet for NC). If we are lucky enough to find ocean expansion and melting associated with warming are on the low end of what is expected, then the actions we can take now have a better chance slowing or preventing the loss our barrier islands in the early part of the 22<sup>nd</sup> century. Our state has a significant stake in the U.S. and international effort to address climate change.

Figure 2. Projected Sea Level Rise along the Contiguous U.S. Coastline in 2100



Map shows projected relative (to land) sea level rise under the Reference scenario for select coastal counties in the contiguous U.S. Projections are based on global mean sea level rise in 2100 (56 inches), adjusted for local subsidence and uplift.

[Download the figure; download the data.](#)

### Rule Fiscal Impact Summary

• 23 Measures

Range in HRI	26 – 80 Btu/kWh
Cumulative Reduction in HRI	0.4% (relative to 2012 baseline)
Cumulative Reduction in CO2 Emissions	191,826 tons/yr 0.4% (relative to 2012 baseline)
Cumulative Initial Capital Cost	\$ 51,818,929
2019 Capital Recovery Cost	\$ 3,302,450 / yr
2019 O&M Cost	\$ 3,007,109 / yr
2019 Fuel Saving	\$ - 7,316,705 / yr
2019 Net Annual Cost	\$ - 1,007,146 / yr
<b>Net Fiscal Impact</b>	<b>\$ -5,888,009</b>



*North Carolina’s response to the Clean Power Plan is risky, ill considered, and wholly inadequate with respect to the EPA rules and to the threat posed by climate change.*

According to NC DEQ estimates (above), the CO<sub>2</sub> reductions achieved by the proposed rule would be only 0.4% compared to the 2012 base line or 30 times smaller than the mass based reductions called for in the EPA final rule by 2030. Nevertheless, the proposed rule is a bargain, as the modest increase in efficiency appears to result in a net savings of \$5.9 million. This raises the question posed in the Duke Nicholas Institute analysis last May as to why these kinds of improvements have not already been implemented in the baseline by the company. Surely this inadequate combustion efficiency tune-up,

while welcome, cannot be considered to be a serious effort to address the requirements of the EPA rule or a prudent policy for addressing the larger problem of climate change.

The DEQ response is predicated on the risky assumption that the state can better interpret the requirements of the Clean Air Act than can EPA. This is risky for the industry as well as NC policymakers, because if EPA prevails in the lawsuits, North Carolina will lose control of important policy choices permitted in the rule, and be forced to accept a less flexible Federal Plan. This is why many states that are litigating the rule are also working with stakeholders to develop plans that would comply the EPA goals – and presumably why Secretary van der Vaart recently announced the DEQ would be developing some kind of delayed ‘backup’ response. The current proposal is also risky because it continues to prolong the uncertainty for Duke Energy and all of the states it serves now face in planning for energy supply and environmental protection over the next 15 years. Finally, this approach is risky for our environment because, besides vigorous objections to EPA’s rule, the state leaders in responsible for this proposal have shown no signs that they are taking the issue of climate change seriously, and so far they do not appear to be ready to offer or work toward any serious long-term solutions that would be as good or better than the opportunity for planning and cooperation offered by the Clean Power Plan.

While some of the worst effects of climate change may not appear imminent, the long-life time of CO<sub>2</sub> in the atmosphere means that we are already committed to significant warming in this century that cannot be stopped by the recent downturn in emissions. And delaying significant reductions only increases the eventual level of damage as temperatures and effects reach more critical levels in the long run. Although CO<sub>2</sub> is indeed acidifying the oceans, this is not like acid rain, where reductions of sulfur and nitrogen oxides over the last 20 years have produced significant near term benefits.

*A decision by Governor McCrory and his Administration to recognize the challenges of climate change and to show real leadership in exploring creative and sensible long-term approaches is in the best interests of the economy, the environment, and the people of North Carolina.*

Recently, the Governor has rightly called attention to the tremendous progress made in cleaning the air of North Carolina. This is in no small measure due to a long term multistate multi-stakeholder effort to examine the multiple pollutants, sources, damages, and solutions, the Southern Appalachian Mountain Initiative (SAMI). I am proud to have helped conceive and secure funding to jumpstart the SAMI effort in my days at EPA, but North Carolina officials and many others did the heavy lifting in making the process work. This was followed by a bipartisan effort in the North Carolina legislature to pass the landmark Clean Smokestacks legislation, which prompted significant in-state reductions and subsequent EPA actions that contributed to reducing the pollutants coming into North Carolina from other states. Tighter Federal car and truck standards also contributed. Based on EIA data and Duke Energy’s Integrated Resource Plan (IRP), the 20% reduction in statewide CO<sub>2</sub> emissions between 2005 and 2013 appears largely driven by decisions made by Duke Energy to retire certain older coal fired generation units as a least cost approach to meet these state and federal air pollution requirements, given the availability of cheaper natural gas, as well as the need to meet the requirements of North Carolina’s first in the Southeast Renewable Energy and Energy Efficiency Portfolio Standards (REPS). Decisions were also influenced by the possibility of future climate related programs.

The Governor and the state again have an opportunity to show leadership for the region. At the very least, the DEQ should use the opportunity presented by the Clean Power Plan and begin now to work with stakeholders and surrounding states to develop and analyze alternative comprehensive approaches to reducing CO<sub>2</sub> emissions from power generation. Based on the results of published analyses by the Nicholas Institute and EPA, it is likely that multistate trading would reduce the total costs of compliance, and it is possible that North Carolina might be a net seller of allowances. Moreover, further examination of options for the already growing renewable energy sector and energy conservation carries the promise of increased jobs that can't be shipped overseas. Such analyses can reveal significant insights and opportunities, as well as problems to avoid; a cooperative effort with stakeholders on alternative approaches that might meet or exceed the EPA requirements should begin as soon as possible.

It is unfortunate that the goal of protecting the environment, once a source of strong bipartisan consensus, has run afoul of the current partisan divide. Yet with COP21, the efforts of some evangelical groups, and the hard reexamination of the science by meteorologists like our own Greg Fishel, more and more Americans are becoming convinced that human induced climate change is an important issue that must be addressed. There is an opportunity, particularly for Republican executives, to show leadership on this issue. While at EPA I was proud to work with a number of talented Republican political appointees. Two of them, in particular, were Administrators Bill Ruckleshaus and William Reilly. This month, both decided to weigh in on the Clean Power litigation as *Amici Curiae* in support of EPA's position. It is of note that both are graduates of Harvard Law School, and both oversaw the administration of the Clean Air Act, including Section 111d. In their brief they state "the Clean Power Plan falls well within the bounds of an administrator's authority to embrace reasonable interpretation of existing stationary statutory language to address unforeseen problems without the need to resort to congressional amendment of the current law." They also wrote that the Plan "represents the very kind of pollution control program they endorsed at EPA." The Governor should consider the counsel of these strong Republican leaders. If he chooses to break with current convention and lead on this issue, he would certainly be in good company.

#### *Brief Bio.*

John Bachmann of Vision Air Consulting, LLC worked in EPA's air office for 33 years and was Associate Director for Science/Policy and New Programs for the Office of Air Quality Planning and Standards. He played a significant role in the development of ambient air quality standards, acid rain, visibility, the Clean Air Act Amendments of 1990 as well as subsequent initiatives and regulations to develop multipollutant programs for the power sector to address regional air pollution, mercury, and CO<sub>2</sub>. Most recently he organized a plenary session at June 2015 of the Air and Waste Management Association in Raleigh that featured presentations by EPA Administrator Gina McCarthy, Secretary van der Vaart, Caro Boyce of Duke Energy, and Vickie Patton of the Environmental Defense Fund.

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December 17, 2015

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**Public Comment on**  
**North Carolina's Clean Power Plan Implementation Plan**

The North Carolina Housing Coalition is a private, non-profit membership organization made up of housing providers and advocates from across the state. Our mission is to ensure that every North Carolinian has access to a safe, decent, affordable home. In furtherance of that mission, the Coalition encourages the Department of Environmental Quality (DEQ) to include investments in energy efficiency for low-income communities in the state's Clean Power Plan (CPP) implementation plan.

Right now at least 14% of North Carolina's households – 518,804 – spend at least half of their income on housing and utilities. Nearly 95% of those households are extremely low- to low-income.<sup>1</sup> Too often, severely cost-burdened households live in older and less energy efficient homes. This means that these families are paying disproportionately higher amounts on utility bills. Investments in demand-side energy efficiency in low-income communities mean real savings on a utility bill. In addition to the jobs that this work creates, lower utility costs means that resources are put back into the hands of families whose tight budgets provide little no margin for error.

North Carolina's CPP implementation plan can play a role in this through the Clean Energy Incentive Program (CEIP). The CEIP was created to reward early investments in demand-side energy efficiency programs implemented in low-income communities. Even though energy efficiency is not a CPP building block for compliance, demand-side energy efficiency is a proven and cost-effective way for North Carolina to comply with carbon reduction target.

<sup>1</sup> National Housing Conference. *Housing Affordability Challenges in North Carolina*. Housing Landscape 2014. <http://www.housingpolicy.org/pdfs/Landscape2014state/North%20Carolina.pdf>

**Extremely low-income:** A family makes less than 30% Area Median Income (AMI) or less than \$13,900/year in NC

**Very low-income:** A family makes 31-50% AMI or between \$13,900 and \$23,167/year in NC

**Low-income:** A family makes 51-80% AMI or between \$23,167 and \$37,067/year in NC



North Carolina has an opportunity to craft a plan that works for our state by putting resources back into our most vulnerable communities. We encourage DEQ to opt in to the CEIP and include demand-side energy efficiency improvements in low-income communities as a feature of the CPP implementation plan.

Sincerely,

A handwritten signature in black ink, appearing to read 'Samuel Gunter', is written over a faint, circular watermark or stamp.

Samuel Gunter  
*Director of Policy and Advocacy*  
*North Carolina Housing Coalition*

Jared Burton

Hey thank you for having us tonight. My name is Jared Burton I work with New Belgium Brewing and we just finished a new brewing company in Asheville, North Carolina. It's a \$140 Million facility. We are the 4<sup>th</sup> largest craft brewing in the United States and we are representative in North Carolina of a \$2 billion industry. We have our first facility in Fort Collins, Colorado and you may not know much about New Belgium but we are 100% employee owns and we have the second largest solar array on our facility there and we also catch our own methane water and have a generator. We plan to do these same steps in Asheville. The reason I bring this up as obviously these are cost intensive processes to put into your establishment but customers expect this from us. In the craft brewing community, if we are not being on the fore front of renewable sustainability it affects our bottom line. Our concerns want that on our packaging and they want to know it is a serious investment for us. At new Belgium we do support the Clean Power Plan and we just finished up a company that we did with Environment North Carolina and Ben & Jerry's where Ben and Jerry's was able to collect 3,000 signatures in North Carolina and we had over 100 letters that were delivered to the Deputy Secretary and the Chief Deputy Secretary of Dept. of Environmental Quality where we were able to talk about renewable energy and we definitely feel that the renewable pieces of the Clean Power Plan are definitely a focus for North Carolina where we can be a leader in the South East. We definitely have a lead right now in the solar and I think we have the opportunity to explore wind in a way we have not done yet. I know we are looking very seriously at nuclear but I hope we do look at solar and wind a little harder before we look at these avenues. I have lived in North Carolina for 27 years. I have been an employee at the New Belgium for 5 Years. I have 2 children, two girls and I just hope that as a whole we adopt a Clean Power Plan in North Carolina. The EPA standards I think are meetable. I think as a state we can exceed those and I hope that we choose to. Thank you

Marvin Wall

My name is Marvin Wall and I represent myself. I appreciate the opportunity to speak .We have a choice. We can continue to deny there are problems with the climate change in which case we will put ourselves and future generations in grave danger or we can try to do everything we possibly can to reduce some of the negative effects of climate change .We need more solar now not five or ten years from now. We need more wind now not five or ten years from now. We need energy efficiency. I'd like to ask the audience a question if they could give me a response I would appreciate it. How many of you are opposed to the North Carolina Clean Power Plan? As it stands and support an EPA Plan or stronger than an EPA Plan. Raise your hand. Thank you .Let the record show that 99.9% of those in attendance want more for a Clean Power Plan .Thank you

Theresa Vick

Good Evening Chairman Carter and Dept. Environmental Staff and Folks here in the audience. I am Theresa Vick. I am the North Carolina Healthy campaign coordinator for the defense league. I'm here to talk about the policy of the so called Clean Power Plan. We will be submitting additional technical comments. North Carolina's Clean Power Plan also known as the Climate Cap rather than acting on it they rather favor a path paying no attention to fact. The course that the Dept. of Environmental Quality has taken ignores the importance of economic benefits and health benefits of renewable energy and reflects a particular ideology that does not serve public health or the environment. The so called plan that Dept. of Environmental Quality has submitted to the EPA is nothing more than a middle finger salute and is intended to fail. The rationale that the Dept. of Environmental Quality used to justify their failure to protect the people of North Carolina is deeply flawed and the rhetoric coming out of the agency reflects this. Press releases using terms such as over reach and special interest that refer to an industry deficient in depth in order to sell their narrative to the public by attempting to hold them hostage with the threat of higher energy bills. Using low income families as a reason for their resistance to avoid EPA'S Clean Power Plan is particularly ironic being neither the Department nor the division within the agency have a comprehensive environmental justice policy and routinely make light of environmental justice concerns. Where can we look for the reason behind the Department arrogance? According to an analysis conducted by Yale University for brevity 61% of adult North Carolinians poled support EPA'S Clean Power Plan. So it cannot be based on public opinion. It's crystal clear that Department of Environmental Quality actions primarily benefit their number one customer, Duke Energy. They don't have to challenge the plan because DEQ is doing it for them. On October 8, 2015 Duke Energy CEO Les Hood was quoted in the Charlotte Business Journal as saying that the experts will see the Obama Administration in court regardless of whether or not her company is the one to challenge it. The Department. Must get serious about protecting North Carolinians, not dirty energy special interest. Put this plan in the shredder and try it again.

Hallie Turner

I am Hallie Turner. I'm thirteen years old. I've been passionate about the issue of climate change since I was nine. I have met with my mayor, written the president, shared many blog posts, and given speeches in my community. I helped organize a rally of more than 300 people in Raleigh in 2013, and I recently took the state to court over protecting our climate.

I've lived in North Carolina all my life. I love the mountains and the beaches and the greenways and the rivers. I love hiking at Hanging Rock and Umstead State Park. I love kayaking on North Carolina's lakes and riding waves at the beach. Without an effective Clean Power Plan for the state, these things are at risk.

I signed up to speak today on behalf of today's young people and future generations. Science has made it clear that we need to act and act now to protect our future. We need a significant and immediate shift away from fossil fuels, but the plan North Carolina proposes ignores the facts. The North Carolina plan fails to include sufficient CO2 reductions, prioritize renewables, or meet the standards of the federal Clean Power Plan. It does not reflect the voices of the people it will impact. It jeopardizes our health, our economy, our safety, and social justice for all North Carolinians. Our leaders are playing political games with our future.

Our government has a responsibility to ensure a healthy, safe, and sustainable environment for each of its citizens. This issue is urgent, and members of the youngest generation are the ones who are the most vulnerable to the effects of inaction. We need our leaders to take a stand now. They have the power to protect our future and to make North Carolina an example for the rest of the country.

When I talk and write about this issue I always challenge young people to make their voices heard. I am here today to do just that. I want my leaders to hear my voice and to create a plan that protects the health, safety, and natural beauty of North Carolina. Thank you.

Robert Bruck

Well it's May 4, 1981 and I'm with a van load of graduate students heading up to the summit of Mt Mitchell to state investigating what was euphemistically called acid rain at that time and of course what I was met with was fraud, hoax. There is no such thing. Well we spent millions of dollars researching that problem. And in 1991 The Clean Air Amendments were passed. You'll bankrupt America. Well suffer dioxide, nitrogen dioxide was reduced by 70%. There is no acid problem in the eastern U.S and no we did not bankrupt the economy or cause coal fired plants or others to go out of business. 194 countries met several days ago. I'm not going to tell you what they said if you haven't figured it out by now I really have nothing to say to you. Bottom line is we have a problem of carbon dioxide emission. We've passed 400 parts per million. There's no end in sight. You're going to hear from plenty of other people about the ramifications that is going to be on our state. The time to cut those emissions is now. The USEPA submitted a bill. That bill gave us modest targets to be able to meet the needs that just we in NC would be able to attain. No it's not impossible, it's not a hoax and it's not a fraud. It needs to be done now. NC is #3 in renewable energy in the US of America. What does the General Assembly do? They take away the various subsidies that every other state in the nation has. It's insanity for every \$ that's invested by there's a \$10 return in income to our state not including jobs. Are what we're looking at here some cynical, ideological, conservatives agenda. Where if the President of the US or the EPA recommends something the answer is we're not going to do it or are we going to use the great science where 50 years of university research in our own state have shown what we need to do and we need to do it now. NC should be part of the solution, not part of the problem. Thank You

Jasper Cobb

Hi my name is Jasper Cobb I'm a freshman at Chapel Hill High School and I plan to study Marine Sciences. Ocean acidification has been called the twin of global warming. It means the water is becoming more acid. This is happening because the ocean absorbs about 1/3 of the CO<sub>2</sub> in the atmosphere. So it is now 30% more acidic than it was during the industrial revolution. The lower pH levels is eroding bicarbonate shells from animals like oysters and killing them off. When shell fish are gone the entire marine ecosystem is at risk. Many jobs in NC come from fishing and seafood provide an important part of our diet. Scientist say if we continue emitting so much carbon the ocean could become 100% more acidic than what they are now. We need to change so our systems don't create any more harmful emissions now or in the future. I'm willing to sacrifice to save our ocean and I hope you are too.

Elizabeth Adams

Hello my name is Elizabeth Adams. Tonight I am speaking on behalf of myself. The Clean Power Plan (CPP) for NC needs to reduce its dependence on inefficient out dated dirty and toxic waste generating systems and for smart local clean energy innovations. I choose to drive an electric vehicle. I own a home that is rated as energy efficient and it has solar panels. They reduce our utility bills and our CO2 emissions by 20% since 2003. I chose to work, shop and invest with companies that have a high 100% renewable and efficiency strategies. Solar powered electric buses, electric trains, electric homes, electric vehicle and smart grids are products with unlimited potential to solar. The CPP for NC needs to focus on empowering communities, businesses and individuals in a clean efficient renewable economy. Creating local green jobs. NC should be a climate leader and quickly reducing greenhouse gas emissions while also cutting cost and risk for NC citizens and businesses. Rate payers should not be absorbing the high cost of new nuclear or behind the fence line--- improvement we can do better. Thank You

Stephen Jurovico

Hi I'm Steven Jurovico I'm with the Executive Committee of Interfaith Power & Light but I'm speaking for myself and I thank you for this opportunity. I'm gonna cut to the chase on this issue about power plant at least as I see it. Politico is not a zero sum game that is if the Democrats puts forth a proposal and it passes it's a win for the Democrats and a loss for the Republicans or if the Republicans put forth something and it passes it's a win for the republicans and it's a loss for the Democrats. That's a false premise and a disgraceful premise. It is not a zero sum game because in that equation the interest of Americans are not included. Is politics just about wins and losses for the Republicans or the Democrats or do the needs of the American people enter the picture? They must enter the picture if one party proposes something for the benefit of the country and it passes it is to the credit of both parties that it has passed. That's the perspective that we need. I believe I don't know but I believe that in the dark of night every member of this EMC understand that climate change is real it's complex and it's serious and its even somewhat scary and I believe you also know its caused by the burning of fossil fuels and that coal fired power plants represent the largest single source of emissions in the country. So the EPA plans to cut those emissions significantly makes perfect sense. Any increase in cost will be far smaller that the cost for delaying emission reductions. You also know that this plan does not meet the EPA requirement. NC is particularly vulnerable to climate change because of our agricultural industry and our long coast line, our tourist industry and our fishing industry and hundreds of thousands of people who live within a mile or two of the Atlantic. Please do not stall or withhold on the CPP because the initiative came from a Democratic Administration. Reject this juvenile sand game of politics that's practiced in Washington. Let's be smarter than those folks. Do what's right for NC and for the American people and reject this plan. Thank You

Carson Harkrader

Good Evening. My name is Carson Harkrader and to the public servants who are here tonight thank you so much for listening to us. We appreciate it very much. I was born in Durham. I grew up going to the beach at Cape Hatteras. I work in the clean energy industry. I worked first for 8 years at GE. Wind energy then I got an MBA from New York University and 3 years ago I came home to NC to work in the solar industry. I am currently the Director of Product Development at Carolina Solar Energy in Durham. I'm speaking on behalf of my company. We support the CPP and I'd like to share some data and information as to why we do so. One piece that I think has been talked about tonight as the impact of clean energy and jobs on the economy. I'm going to read a few names from a large group of energy buyers. That have developed something called the buyers principles. They are requesting the easier purchase of more renewable energy. Many of the brand that we know best in the US ,Nestle, Johnson & Johnson, Cisco, Amazon, Kellogg, Sprint, General Motors, Starbucks, Yahoo, REI, Volvo, Unilever, Target, Facebook, McDonald's, Google, Facebook, etc.. These are companies that have been coming to NC. Some of them have come and invested in NC because of our success in the Southeast at promoting clean energy and renewable energy. As you may know we are the only state in the southeast right now that has a renewable energy portfolio standard. I brought an executive summary of a report written by RTI International that they prepared assessing the economic and energy weights impacting our renewable energy portfolio here in NC. In the report RTI International is an independent consulting body that reports for the state legislature as well as other groups. Key findings are expected to be lower than they would have been had NC continued to use only conventional generation sources. Integrating renewable energy and efficient sources in NC'S electricity portfolio to comply with the renewable energy portfolio we have will result in cost savings of 651 Million. As a member of the solar energy we are very, very proud of what we have achieved in NC. We were number 2 in the country last year. We're going to be number 2 again this year. It's a huge success and a driver of jobs. We have a lot of business interest that's really cheering us on as we create jobs in economic development and clean energy. We invite the chance to do that more and we hope that the state will approve the CPP. It gives us more growth to do what we're doing. Thank You for your time.

Richard Harkrader

Good Evening My name is Richard Harkrader CEO of Carolina's Solar Energy and I'm here tonight to speak for the NC Clean Energy Business Alliance which is a statewide group alliance for energy efficiency. Representing energy companies including Geo Thermal and Solar. I came here today to ask you to reject this plan. This is really no plan. This is business as usual and to go ahead with this plan is inconceivable. The justification that I hear for the plan is that it's too expensive. Well I think that is false reasoning. The other reason that is given is that it's a job killer. So as far as the cost is concerned NC at the end of this year would have installed 1.4 gwh of solar energy as my daughter just said we are # 2 in the country. 1.4 gwh is a size larger than the Sharon Harris and we've done this in the last 5 years since the start of the recession. And in doing so we are able to power 200,000 homes and we've invested over \$4 million in NC. \$3 billion of that in tier 1 low wealth counties. At the same time we've created over 15,000 jobs and at the same time we've attracted Apple, Google, Facebook and others to NC because of our energy policy. I ask you and our organization ask you to reject this plan and create a real plan that addresses the carbon issues and improves our economy at the same time.

Morgan Malone

Hello my name is Morgan Malone and I'm here representing my fellow students at NC State and across the UNC school system who support clean power across the universities. Science tells us that climate change is happening now and happening fast and that it's due to anthropogenic causes. The real question for many of us is what's going to happen as a result of it? At our current projection our country is headed toward complete and total environmental collapse. One of the major reasons holding us back from making decisions is our political system. A system that does not provide for economical consideration. However change is economically feasible. The real issue is that many politicians and governmental officials do not agree with the way environmentalist propose to fix the problem. Nothing will change unless the government stops pretending that climate change is just an argument. Currently we have the tools and the knowledge to save ourselves. We have the opportunity to invest in clean and safe energy to reduce our consumption and to live sustainably. It will not be easy but we can do it. So why aren't we? By following the EPA'S guidelines we can protect our public health, the cost of power to households and businesses, and create jobs across our beautiful state. So why does our governor continue to oppose clean safe solar energy and other sources of clean power will benefit our society because it empowers the people and not the corporations. We've a lot of technology and science behind it and as it continues to increase it will be more reliable. Through renewable power we can become self-sufficient. The sun shines on earth more energy in a single day than we can consume in an entire year. We know that it will work and that it is reliable. It also increases local jobs for maintenance and research. It does not contribute to climate change and therefore is not causing any major security threats. Global warming is becoming the greatest threat to our national security. So why aren't we addressing the issue? As a more decentralized grid technology developed and more technology is implemented renewable energy is becoming affordable. By implementing the CPP that actually limits carbon production and supports clean energy we can bring a brighter and cleaner future to our planet. Thank You

Caroline Blythe

Hello my name is Caroline Blythe and I live in Chatham County. I am a sophomore at Woods Charter School and I am a member of the Alliance for Environmental Action Fellowship. When I first heard about the EPA'S CPP I was thrilled because it finally felt like there was a real initiative in place to combat climate change which is the biggest threat to my future, my generation and generations to come. What wasn't so thrilling was discovering the course of action NC was taking concerning the plan. This is an important issue to me not only as an environmentalist and as a climate change advocate but as a youth and a resident of our planet. Think what we would gain if we effectively combat climate change and the most to lose if we sit quietly doing and that is what North Carolina's current plan is calling for. Creating a strong and effective CPP will not only benefit youth by giving us a habitual world for the future but will benefit marginally low income communities , minorities, those at risk of respiratory disease , and many other groups of people that will be negatively impacted by climate change. Passing an effective clean power plan will not only help effective clean power plan will not only help the United State but NC to become more energy cleaner, Cities will become more livable and many jobs will be created. The benefits of the plan extend to sea level rise as well because the EPA'S proposed plan would help to prevent 4 feet of sea level rise by 2100. On balance these benefits of the plan out- weigh any potential risk of inaction. Considering both sides of the argument the answer is clear to me. Passing an effective and reformative CPP will benefit residents of NC and the United States, the economy, and the environment. We cannot afford the cost of inaction. Making the strong and effective changes outlined in the CPP is not only the best choice for the people of our state but the only choice. Thank you.

Robert van der Dribb

Good Evening. I'm Robert van der Dribb. I'm a junior at Cedar Ridge High School in Goldsboro. I'm part of the Alliance for Education or ACE and I'm also representing other youth my age who could not make it here to this hearing. Most importantly I'm very happy to have the opportunity to share my perspective on the CPP. While many here have talked about the specific details of the CPP tonight. I would like to step back and look at the economic reality this plan poses for NC. Here's the deal no matter how you cut it the cost of inaction on climate change is higher than a strong CPP that works at creating a renewable energy source and cutting back on fossil fuel emissions. Allow me to explain. Fifty Million a year. That's how much the impacts of erosion cost NC. Fifty million a year and that's probably one of the smallest cost climate change will have on our community. That's just erosion. Nothing more. That's not taking into account additional cost of property damage because of sea level rise on the already poor conditions of highway 12 and its impacts or the fact that there will be more strong hurricanes that impact the coast. That's not considering the impact on tourism and fishing, the forestry and agricultural industry. That's just erosion and when we start to consider all these impacts together the cost of inaction rises to the billions. Climate change is here and it's real and it's impacting us now and if you stop and think about it for a second the best choice of action for NC and its economy is incorporating these more renewable energy resources in the CPP. From the reduction of fossil fuel you see the impacts on our community through the creation of thousands of energy jobs, help the design, build and maintain these resources. Having a stronger CPP would benefit us environmentally and economically. So tonight I ask you to stand up for what's right for our economy and what's right for our future by adopting a strong CPP that holds up renewable energy and phases out fossil fuel. Thank you

Adam Kay

My name is Adam Kay. I'm a high school senior at Durham Academy with the Youth Environmental Activist with the Alliance for Climate Education and a lifelong North Carolinian. I love this state. Many of my best and earliest memories are of hiking and back packing in its beautiful forest and state parks and along the Eno River near my home. NC is a unique and beautiful place. It's been an incredible state to grow up in and I'm tremendously grateful that I've been able to experience so much of what makes it special my 18 years here. However I'm aware that unless we do whatever we can to protect our environment and the things that make NC so special within a few short decades a huge portion of this will be irrevocably lost to us and throughout general climate change is going to transform NC and not for the better. We can expect more frequent and stronger hurricanes, extreme heat waves, regular droughts, worsening air quality and increased spread of tropical diseases. All of these impacts will be horrible for the quality of life of people across the state. It's too late to avoid these impacts the greenhouse gas emissions trajectory over my life time remove that as a possibility at this point. What we can do is limit the damage. A few days ago for the first time in history 195 nations agreed to limit greenhouse gas emissions as part of this undertaking the EPA has asked NC to reduce our CO2 emissions by 36% over the next 15 years. Barely over 2% per year. We have the resources to do this. The goal was set by the EPA with the assumption that NC has only 12 Million megawatts of renewable energy available annually. However more current estimates put that number at closer to 70 million megawatts. Six times what the EPA thought we had available to us. Not only can we reach this goal we can do so easily. And yet, our legislature has chosen to fail deliberately in order to score political points by suing the EPA for our own failure. Selling out my future and the future of millions of other young North Carolinians solely to score political points is obscene. We can preserve the beauty and the biodiversity of our state but only if we act now. It's in our power to accomplish all of this and turn our state from a laggard to a leader in generating the energy needed for our future. By adopting a strong clean power plan we can insure a better future for ourselves and for future generations and preserve the place that has mattered so much to so many people. Thank you for your time

Jasmine Gregory

Hello my name is Jasmine Gregory. I am 16 years old and I am a high school junior. I am also here as an Alliance for Climate Education Action Fellowship member. I am here today not only because I have a passion for climate change but also for the equitable treatment of all people regardless of race, religion or background. Climate change is real and more than 97% of scientist agree we're no longer worried about proving climate change. Everyone deserves to live a healthy life in a healthy environment. This is not always the case. In the United State the number one reason students miss school is asthma. Currently in NC 519,000 adults and 300,000 children have asthma which can be directly linked to coal power plant emissions. I would like to emphasize this is especially prevalent in minority and low income communities where African American children are 3 times as likely to suffer asthma attacks. Studies also show that race is the number one indicator is the placement of the toxic facilities .This is the definition of injustice. These communities are disproportionately affected by climate change and hit first and worse by a problem they are least responsible for creating. Climate change amplifies social and economic and environmental injustice and we as North Carolinians have the opportunity to address these problems. I know that all North Carolinians are concerned about the health of their friends and families and neighbors living near dangerous fossil fuel emissions plants and they are specifically in the poorest communities who are normally sick their beds or in their hospital to have the opportunity to go out to find jobs to provide for their families. As a fellow North Carolinian I know that our state is a beautiful place and natural wonders clean air and most importantly amazing people. As citizens we must unsure that Governor McCrory and our legislatures understand that we demand a clean energy future. We refuse to sit by and watch our environment and our lives be degrade simply because our elected officials lack the courage to lead. We must act now because we can no longer put off the facts. We must also remember to involve members of low income communities and minority communities in creating the plan. We must leave no voice out and no one behind. Breathing air is essential to a healthy life and we all deserve this. No matter what you look like and where you come from at the end of the day none of these issues can be addressed without the support and compliance of the government with the people. This is why I stand here today to ask Governor McCrory and our legislators to stand with the people of NC and help protect our lives and future by taking bold action on climate change and adopting a strong Clean Power Plan. Thank You

Arya Pontula

Good evening. My name is Arya Pontula and I'm a sophomore at Enloe High School. I'm also a member of Alliance for Climate Education Action Fellowship. Since kindergarten I understood that climate change is occurring and that the effects would be dire. So many around me were convinced that we would not have to fare it. My parents, my brother, my friends and I would no longer be here to experience the devastating hurricanes and tornadoes and hazardous heat streaks that climate change would bring. It was a selfish outlook. Now those dire consequences are actually happening. We're witnessing the hottest summers on record and hurricanes such as Sandy are brewing to bring death and destruction. Floods across the world are threatening lives of millions. Only together can we stop climate change. We live in a world that belongs to all of us. And only all of us united can save our globe. Having lived in NC all my life I have grown to love the state and I am immensely proud of our huge state parks, waterfalls, mountains, swamps and endless forest and swaths of uninhabited land. I feel immensely privileged to be able to access these areas so easily but climate change can quickly ruin the old landscapes considering the time it took to form them. We in NC need to implement solar energy throughout our state. Vedicative are prominent position to lead by example in the southeast. We are a national leader in solar energy with large scale solar projects such as the Capital Solar Partner Project and the Dogwood Solar Project which together have the capability of providing energy for 7,600 homes. If we can accomplish this together why can't we continue striving toward a future of clean energy? Why can't we reduce carbon emissions by 36% by 2030? Why can't we implement the Clean Power Plan (CPP) to preserve the beauty of our state? The CPP is clean and flexible. We have a great start in renewable energy. Let's build on what we have. The clean energy industry has generated near \$4.8 Billion in annual gross revenues. Let's expand our economy but cut our carbon emissions. Renewable energy generation has grown at least 76% since 2008. Let's lead in our commitment to growing renewable energy generation by leaps and bounds. I would like to leave you with this quote from the prominent author Mary Ann Williams. "Our deepest fear is not that we are inadequate. Our deepest fear is that we are powerful beyond measure. We ask ourselves who am I to be brilliant, gorgeous, talented and fabulous. Actually who am I not to be. We were born to make a manifest to the glory of God that is within us and as we let our own light shine we unconsciously give others the right to do the same." Thank you for your time.

Michelle Nowlin

Hello thank you very much for the opportunity to be here today. My name is Michelle Nowlin. I'm a supervising attorney at the Environmental Law and Policy Clinic at Duke University. I teach the practice of environmental law as well as a class on food and agricultural law. I came here tonight very discouraged by the proposal that the state has put forward. But I must say that after hearing the comments of everyone here this evening representing such a wide swath of our community I'm heartened by the optimism and the encouragement that has been articulated here to do the right thing and serve the interest of all of our citizens. As others have emphasized with eloquence and with facts the proposal you put forward lacks vision and foresight and squanders opportunity. Granted it is a challenge to reduce global warming, greenhouse gas emissions while at the same time growing our economy to meet the needs of a growing population. But the challenges of climate change and the challenges that this presents us demands us tapping into the ingenuity and the creativity that brought NC out of poverty in the mid 1900's and made it the leader in the region that it is today. The CPP is the start and we encourage the state to work on the building blocks and the second criteria to develop a robust energy sector and build on the investments that have been made in the past decade. These revisions should include a plan for the clean energy investment program where there is an opportunity to invest in clean energy efficiency measures and also reduce demand and improve economic conditions for low income residents. There's an opportunity here to work with our agricultural sector which possibly has the most to lose in this changing global environment and convert manure into energy alleviating the horrible conditions around the state and also mitigating the industry's own environmental impacts as well as reducing its contribution to climate change. There's an opportunity here to work with stake holders across the state and develop a seriously legal complaint plan and we encourage you to ask the governor and the general assembly to restore and expand incentives for renewables and to hold hearing in other parts of the state where communities are likely to more seriously experience the effects of climate change. Such as areas in the mountains and our agricultural communities and the outer banks itself. Thank you very much.

Katharine Kollins

Hello I am Katherine Kollins. I am the president of the south eastern wind coalition. So like many of the other comments today I don't believe that DEQ's current compliance proposal is best for the state of North Carolina (NC) in terms of the future of our electricity prices, economic development nor of the environment. Forcing NC into accepting EPA's federal plan will greatly limit our states' ability to adjust and utilize electricity generating plants in a manner that's tailored to our state's natural energy resources. Our local skilled work forces and the lowest cost compliance options. Creating a robust stakeholder process for our state allows NC to propose a plan that will capitalize on the incredible energy resources that our state can employ. NC has diverse and abundantly naturally occurring resources that allow our state to generate our own clean and reliable electricity. I would like to highlight the utilization of wind power options within the Clean Power Plan (CPP). Although the adoption of wind power in NC is in its very early stages it is an important and untapped resource that benefits all North Carolinians. This source of energy is an economic boon to the counties that have wind resources and work to capitalize those resources. A small county can see their tax base increase by 50% or double overnight. Family farmers could harvest the wind. A steady income stream not dependent on weather precipitation or timing right alongside their typical technical jobs are created primarily in our rural counties. They offer excellent career opportunities for local residents. For every approximately 15 mw of installed turbines when at capacity there is one 60 to 80 thousand dollar salaried position added to those tier 1 counties. It's really only by including wind and other renewables and a thorough analysis of clean power plan options that our state will be able to realize all of the benefits that come from wind power and other renewables which includes the economic benefits that many tonight have mentioned and that we as a coalition stress. There are all kinds of energy resources that the CPP guidelines which can only be accomplished if our state plays an active role in creating a plan tailor made to our specific resources and strengths. Thank you.

Anita Simna

I'm kind of sorry you had to be here for almost 2 hours but I'm also thrilled about it. My name is Anita Simna. I'm a student at UNC Chapel Hill and I study quantitative biology and I daydream at college which means that I spend a lot of time making stuff up as it comes to me. It's kind of weird but it seems a lot of members of the DEQ also think that they are improve comedians and so I'm here to encourage them to stop making stuff up. It's not funny. And to start listening to real science and that's where quantitative biology comes in. As a student I know that 97% of scientists recognize a phenomenon based on evidence is no joke. This is my 5<sup>th</sup> year in the UNC system. Since I attended the class of science and math in high school and I'm frustrated because in these premiere public educational institutions, we know the facts and we're crafting proposals and solutions to address them. And they are not to be taken lightly. This proposal is at best a waste of taxpayer money since it will just result in the same standard set by the EPA to secure our future. Without our dependence on the state to decide how we want to secure that future. But more than that, this anti-climate stamp shows blatant disregards for the futures of North Carolinians and for academic literature, the conclusive evidence and the scientific process that thrives on higher education if it cannot control our actions and our policy. My peers and I need a strong leader who can think long term and bare the awesome burden of a dirty state. If the Governor's Administration cannot be leaders at least follow examples of my own University, which after really listening to its constituent students to be coal free by 2030 and be natural by 2050. Our State's Motto, "esse quam videri", means to be rather than to seem. The McCrory Administration to make meaningful progress on the North Carolina strategy for the Clean Power Plan including input form key stakeholders and especially the young people because our present determines our future. In other words, I call on them to be leaders in fashion for progress and not just seem like leaders or at least do the minimum to meet our federal mandate. And for our state it has its own issue. It's time to recognize studies from North Carolina from my University at Chapel Hill. Ask us about climate change. Thank you.

Kyra Moore

Hi, my name is Kyra Moore and I'm here on behalf of what I believe is most North Carolinians and I have 2 points and a couple of questions. First off, the US Defense Department said that climate change is not only a threat to the national defense but it is a major threat to the national defense more so than ISIS or more than Al Qaeda or any terrorist group or any other country. And I am surprised that McCrory doesn't consider our national defense important. The second thing, is jobs and that another thing McCrory emphasized is the importance of bringing jobs to NC. Not only would it bring jobs here as a result of having more solar and wind and other renewable energy jobs but for each job it creates jobs in other industries too. Because those people with their extra income have money to buy medicine, health insurance, food, clothes, houses, cars and buying all these goods and services and using more services that creates jobs too. So, it creates a more positive feedback loop of more and more jobs. Not just renewable energy jobs and my last point, actually a question. Does the fact that Duke Energy, contributes more to the Democrats and the Republican campaigns have anything to do with this decision? Thank you.

Lib Hutchby

I'm native to North Carolina and my mother, grandmother and I'm a social worker and educator. I'm a lifelong learner. Thank you for this opportunity, even though we're getting a little tired shall we say. We're very tired of having to come before a hearing like this and plead and beg and say please do clean up our energy plan for North Carolina. It would be wonderful if we could all work together, cooperate in a way that would make sure that we have a clean energy plan with solar and wind and renewables because we know it's possible. Even in May of 2010, Bob Deary wrote an article in *John Blackburn* on renewable energy. How many of you hear of *John Blackburn*? You're not raising your hand. Maybe I'll give you guys this article then that will help refresh your memory. But he said in the article there are 35 states that have commercial wind power generation. That was in 2010. North Carolina is one of the 15 states that didn't have it. In 2010, so we hope things will be changing and I just wanted to make the comment again. Thanking all of you who have made the connection between war and peace, security, safety and what it is that we want for the future of our children, grandchildren and generation to come for this earth. It was my experience working in ----- resettlement for over 10 years that people would come to the airport at RDU with absolutely nothing except flip flops maybe. They were coming from Vietnam from the Vietnam War. So we have helped settle right in this within 50 miles of Raleigh people from over 20 different countries. Now I'm asking you, you think of yourself and how you get here and how your family got here. Where is your food going to come from? What is it we learned a long time ago? We learned that Maslow's Hierarchy of Needs starts with safety. So we are saying again, help make North Carolina a safe place to live and connect the dots between what a clean energy plan looks like. Not the one that's currently in writing but the one you will write because it must be done. You must write a different one. We do need to all be safe.

Thom Kay

Thank you. My name is Thom Kay. I represent *Appalachian Voices*. *Appalachian Voices* is a non-profit based out of Boone, NC and our hope is to see a day when the integrity of the land, air and water of central North Carolina and South Carolina is protected for future generations and held as a national model for a just and sustainable economy. We're concerned about the direction of NC but also excited about our potential. We don't have a real plan yet but we can have one. The current proposal is designed to fail. It's designed to bring a legal and political battle but NC can instead create a better plan that exceeds our goals of creating jobs and providing us with cleaner air. When creating a plan, it's absolutely necessary to have true stakeholder's process that brings stakeholders and communities together and social justice organizations to the table. North Carolina is full of people who will be affected by a new energy plan but just as importantly, the state is full of people with great ideas for making the state plan that works for all of us. So take advantage of the Clean Air Incentive Program. CAIP will help double the efforts of both renewables and demand beside energy efficiency projects in low income communities. *Appalachian Voices* wants to help build wealth in this country. Particularly in lower income areas in western North Carolina. Home efficiency and roof top solar don't just decrease the need for fossil fuel use, they provide a way to drastically reduce home energy prices in the family's home and greatly increase the quality of life. Please help us take advantage of the opportunities before us and work with stakeholders across that state to create a plan that works for NC. We'll also be submitting some more technical comments. Thank you.

Paul Namaste

Good Evening, my name is Paul Namaste. I am a sociology professor at High Point University but I am here representing myself and my family. Forgive me, I am here with just a hand full of notes. I was not prepared to talk tonight but I felt moved based on the fact if my kids ever asked me what did you do Dad? I want to say I did everything I could. Also, what I tell my kids and my students is process is important. Really what I'm talking about here tonight is we've heard a lot of ideas from a lot of good people. I want to stress process. It does matter how we do these things. So far we have a plan that just kind of popped up and I don't know how much input was here because I was not part of the process here but I am part of the process now. What do we have to do to keep this process going? You had a hearing last night. You have a hearing tonight and I want you to think about this is a Clean Power Plan for the entire State of North Carolina. And I understand the flack you're taking right now and the need to determine the future. The state wants to determine its own future. They don't want to do what the EPA tells them to do. I understand that. So, let's do a process that speaks for the state. Get everybody involved, hear what the people want to say, hear what the businesses want to say and we can develop a plan. We have tremendous resources here in this state. Amazing universities with lots of experts. Businesses that have experience and have produced a lot of their own resources. Developed their own renewable energy. North Carolina over the past decade has become a renewable powerhouse while at the same time, Duke Energy has become one of the largest energy companies in the world. We can do all this together. Let's bring everyone together and talk about what we need. We'll talk about what our desires are. We have the opportunity not just to look at the power plants. We can do renewable energy, like I mentioned before, energy efficiency is the low hanging fruit in the energy business. It's easy and it's a lot cheaper than anything else to do and it makes a huge impact. Long term based on some people changing their habits. What I want to basically say is we started this process. We're not done. We got a long way to go and we can do better. Let's come up with a good plan. A strong plan. Not because the EPA is telling us to do it but because we want to come up with a good plan that is good for North Carolina for our businesses, for our environment, for our citizens. Let's do it because it's the right thing to do. Thank you.

Ewan Kingston

Thanks, you will notice I talk a little funny. I'm originally from New Zealand but I'm really proud to live in North Carolina now. A lot of people have made extremely good points about the imperative need to strengthen the plan to make sure that it does something and meets or exceeds the EPA's mandate by the 2030 target. So they made really good moral arguments. I'm studying to have a PhD in Philosophy Study and those arguments all stack up really well but I want to harp on some of the economic arguments others have been making and also link that to the negotiations that just happened in Paris. Some really interesting things that came out of Paris that people haven't talked about is signals that the world is definitely changing. It's moving towards energy transformation. We've got mission innovation which involves the notion that 20 countries are responsible for 80% of the energy that includes Japan, and whole bunch of other countries. They have pledged to increase their renewable energy and then you've got input from a big business core right wing coalition led by Bill Gates and they have pledged private capital to bring these innovations to market. You've also got innovations happening in developing countries like India starting solar alliances. It's going to have \$4 hundred million running through it soon pushing for solar energy innovation. So, it's obvious that the world is changing toward new energy structure that renewables are the future. No question about it towards really where North Carolina wants to be. In the forefront of that gaining all the advantages you get from innovation, market leaders and business movers within the state. No one wants to be just lagging behind, kind of following along taking up the innovations that are coming from elsewhere. And to me, the choice is obvious. It means that the NC Plan must be significantly strengthened. It must include, as people have said, measures to increase renewable energy here and to increase efficiency and that will keep you on the forefront and moving toward energy confirmation that is happening right now. Thank you.

Holly Hardin

My name is Holly Hardin. I'm a middle school science and math teacher at Lakewood Montessori School in Durham Public School System and I'm lucky enough to teach students for 2 consecutive years. I have 7<sup>th</sup> and 9<sup>th</sup> graders so a lot of my students have truly gotten to dig deep in to the climate change in our science classroom. We're looking at science as well as human impact including NC's contribution to the problem and its impact on our state. This year my students really wanted to take action on this topic, so as someone who also values critical thinking, I asked students to come up with some criteria for what their project they wanted to take on might be. A criteria that would include climate change. Any project you tackle climate change with should have these things, so they did. I know I'm probably a little biased but I think the criteria they come up with is pretty amazing. So I looked at their criteria and wanted to see if North Carolina's plan could stand up to theirs. So I want to look at a couple of them. The first criteria that my 12, 13, and 14 year old students came up were that any solution must involve citizens working together. That it must be about citizens' power to control energy. Second they believe any solution we work on must involve list of different people and back grounds coming together to solve the problem. Well when I think about that with this plan I propose the McCrory administration has taken no meaningful steps to include stake holders and citizens in drafting this plan. So far they haven't really passed the criteria. The next 2 criteria, they said had to involve how the land is changing around us and also any good project must make people aware that this issue is a crisis. And as many before me have shared. This proposal isn't serious enough and there is no urgency in the plan that is proposed. So I know they'll fail. Students also shared they felt it help people understand their greed is affection the earth. Anything more. Whatever we are going to work on shouldn't involve anymore extraction. We must have guarantee for no fracking, no off shore drilling for this to happen. Finally the final criteria I want to share is what I see as the most important one. They said any kind of solution should be a solution that not only works for us but also works for the people most affected by climate change. And *I'm* really proud of them for this. My students know that community extends beyond them and if others are hurting in the community so are we all. Until we meet or exceed the Federal Clean Air Reduction plan we certainly can't say we're helping people most affected by this. The people throughout the world. The people who are daily affected by climate change. If any increase in the temperature is going to affect their lives. So I challenge the state to meet these criteria set up for them by 12, 13 and 14 year olds and support something that not only meets but exceeds the EPA's plan.

Marc Dreyfors

Hi I'm Marc Dreyfors I represent a whole hand full of folks. We have a site over in east Durham that is an old brownfield site. It's the old shell oil field site and we are converting it into an example of what NC can do from the standpoint of renewables. We are collecting waste vegetable oil from local restaurants and converting it into biodiesel fuel and running it in buses. We move people around, we move students around. It is an example of how we can solve this problem of climate change. I'm very concerned about the part that our leadership in the state has not stepped up to the opportunities that climate change and going green afford us. We have a chance to transition our state in to the future. What we're seeing is blockage by our leadership. We have so much opportunity here in NC and with just simple measures we can leap into the future, create jobs, create opportunity and be safe. The sad thing about what's happening is that coming down the road with climate change is that it will impact the poor most. That is completely unfair and we need to get this situation under control. We need to transition rapidly. The situation is very dire, the science is emphatic about how fast and how quickly climate change can hit us. Methane hydrate in the Arctic may happen extremely fast. We are already at tipping points across the world at this point. We've got to get going, so I implore you all of you to stand up and do what's right. Thank You

Roy McIlmal

I was going to stick to my comments but I don't want to repeat a lot of what has already been said. A great part of what others have said. But I do want to provide some real comments about the clean power plan. First if all I'd like to say I wasted about 5 hours of my time reading the current plan. I say that because there's nothing in it and there's nothing in it to help NC. Honestly it's like 60 pages of just repeat. This doesn't do anything and I feel like they could do better spent taxpayer money and Shelia and everybody else's time with procuring solar panels for this building which might have gotten us a little bit further than the current state plan really does in terms of reducing out carbon emissions. But that's not what my comments but I just got to start somewhere. I run the energy savings for the program Appalachian voices and the goal is to promote programs that bring programs that help low income folk working to help credit paying customers of rural electric cooperatives. Most are in Western NC but throughout the state there's 2.5 million customers being served by cooperatives. These cooperatives have low cost access to capital through the rural service thru the USDA and a lot of them are starting to take advantage of it. Roanoke Electric got a 6 million loan guaranteed to do so home retrofits in the next 4 years reducing their customers average energy cost by 30 percent or more. So that's just an example of what can happen. I mean there's 26 electric cooperatives across the state right now. One of them is doing that type of program. One of them is going a loan leased program. And the reason those are important is because they are thousands hundreds of thousands of residence across the state who are low income, impoverished, don't have good credit scores and so they don't have access to finance good home improvement while at the same time they spend a great portion of their of the income. Their gross family income on energy coops the 70 applicants the average energy cost for those 70 folks was near 10 percent over the course of a whole year. For some winter time go up to 30 to 40 percent. That's ridiculous. Like NC up to this point has done very little to help those folks reduce their energy cost and make those home a better place to live. You put a plan together where you're squandering an opportunity provided by EPA's clean power plan that could be used to be leverage to develop a program advisable. Millions of dollars a year in energy renewable investments. I urge you to take this as an opportunity and not as a challenge. I urge you to take advantage of this plan to address real issue caused by this problem. While supporting investments in rural communities while supporting reducing the burden of energy cost on low income families throughout the state while supporting the stabilization of clean energy cost and not leaving us vulnerable to various fuel cost that are associated with fossil fuels. I think that might be it. That the end of my comments. But I think it's really clean. This is a cleaner energy program in the CPP. Everything in it's plan while it does seem daunting is an opportunity. It's an opportunity we have to take advantage of not only for our economy and environment but also for the folks living throughout the state who are struggling to pay their energy bills. Thank you.

Kevin Shinault

My name is Kevin Shinault and I'm from the mountains where we have clean air good water. I was raised on the New River in Virginia. I still grade up there. I just want to say that as a 35 year school teacher and coach I'm really saddened that we haven't done a better job of teaching our young people the constitution and the power of the federal government. This sheet that I've got lays out several things, avoid the imposition of a federal plan, the proposed rule before the EMC. Everything is about the federal rule that EPA comes up with and the DEW has to comply by September 26, 2016. So I'm disappointed in that. I'm also disappointed in the science that looks at something and turns it into a religion and doesn't look at all the facts. Takes only the facts they want. Apparently some of them will think I've taken only the facts that I want. But here's the basic facts if electricity if all this conversion. If it works why does Bill Gates and other multi billionaires need to throw in their money if it's something that's going to make it in the market place? So this renewable energy stuff. Why did Solyndra fail so terribly? Why did Bev Perdue's family up in the mountain? Why did their family multimillion dollar subsidies fail so terribly? Why are the wind turbines and what have you not producing efficient amounts so that everybody's not getting on board without such extreme activism? If my mother-in-law makes \$1000 month after 37 years in social services her power bill is around \$125 a month. 12% a year is the projected cost of her electricity bill going up by converting all this stuff. Giving subsidies to folks again in other areas and she can't afford another 5 years of 65 to \$100 in her monthly bill so truthfully folks here are talking about helping out the disadvantaged and folks in poor neighborhoods well they don't realize yours're really gonna drive up everybody's electricity cost in North Carolina and we're doing a great job already. I appreciate the fellow that worked on the acid rain and what have you. I really think we're at a good place and with the technology comes even in cars and what have you fine. But we shouldn't have to subsidize it. I'm thankful that North Carolina is going to sue even though the lawyers will make all the money. I'm glad you've signed up for this deal. I'm a conservative Christian tea partier and I really feel like a lot of you folks you give man way too much credit. You don't have God in the proper place in your life.

Susan McBride

Good evening my name is Susan McBride. I'm from Stokes County North Carolina and I've been in North Carolina all my years. I'm also with 62 plus. I'd like to just start out by letting you know that I found out that the EPA has already been confirmed that they are in violation. Jim I'm off. The chairman of the U.S Senate environmental works committee released a government accountability office of GAO. The GAO published that its legal decision was the United States Environmental Protection Agency violated prohibitions on the use of taxpayer dollars to convert propaganda and unauthorized publicity as well as for indirect grass roots lobbyist against legislation concerning EPA's contraband fur seal.

This was for water but it's also for climate change. He goes on to say that EPA will go to extreme lengths and even violate the law to promote its activist environmental agenda. Like to read you some quotes from scientist. There are actually 32,000 scientist that will tell you there is no such thing as global warming. There are 17,000 that have actually signed a petition that have asked them to either have their names be removed or they will say that there is no global warming. Any reasonable scientific analysis must include the basis the wrong theory is wrong. That's what NASA scientist Dr. Leonard Weinstein said who worked 35 years at NASA Langley Research. Please remain calm the earth will heal itself. Climate is beyond our power to control. Earth doesn't care about governments or their legislation. You can't find much global warming in the present day weather observation. Climate change is a matter of geological time. Something that the earth routinely does on its own without asking anyone's permission or explaining itself. There's a noble prize winner at Stamford University that says physicist Dr. Robert McGlofland who won the Nobel Peace Prize for physics in 1988. In essence the jig is up the whole thing is a fraud and even the fraudsters that fudges data are admitting to history that things they used to say didn't happen. Perhaps what has doomed the climate gate fraudsters the most was their brazenness in fudging the guidance. That came from Dr. Christopher J. Kobus an associate professor of mechanical engineering at Oakland University specializing in alternative energy thermal transport phenomena two face flow fluid and thermal energy systems. These are people that have degrees. All I have is a little old Stokes County high school education but a lot of common sense. Hundreds of billion dollars have been wasted with an attempt to impose theory that has not been supported by physical world evidence. And that is forcefully imposed by a means of barrage of scar stories and indoctrination that begins as early as our elementary school textbooks. I'm all for being an environmentalist. I'm an 8<sup>th</sup> Cherokee Indian. I'm on disability from the Stokes County School System. I have a very fixed like \$1,000 a month income. I'm wondering if all of you'll know this is just a baby step because if you look at the building blocks here on the 4<sup>th</sup> building block designated by the EPA it says on your 4<sup>th</sup> block what they want you'll to do is you can be more efficient if you can tell us that we don't need to be using any power. That's what it's going to come down to. You say things like Starbucks wants to come here. Starbucks would love for the power to cost us so much in our homes that it would actually cost us more to make a cup of coffee at home than we can drive in our car and to down to buy one at Starbucks because that's what going to happen. On a \$1,000 a month income by the time you go through and do all these things that are absolutely a bunch of political propaganda anyway. All you're gonna do is raise my power bill. I want to tell you I am an efficient home. You know how I know that? Because you'll pay about 7, 8, or 9 dollars a month to send me a piece of paper to tell me that I'm an efficient home and I do better than my neighbors. I don't need to know what my neighbors do. Thank you I have a piece of paper here that'll prove to you that global warming is not. This is 219 month full of confirmed data that there is no such thing. I have a lot more and I'll write it all up. Thank you sir very much.

Beverly Luna

You know Sir I actually thank you. That is the correct pronunciation of my last name but in German its Lunae but because of WWII and my father-in-law and his brother were fighting over there they dropped the "e" to make it Luna. Luna and yet I get mail in hieroglyphics because it's an ancient Chinese Dynasty so it's rather a crazy name. I didn't intend to speak tonight but I've been listening to folks and like Mr. Emery I claim that I'm on my second tour of duty in NC because of all the down turns in the economy my husband's job in manufacturing moved us all over the place. But I've lived previously in NC in the Greensboro area up in Horseshoe, down at Oak Island and we ended up leaving and I've lived in the desert. I've lived in the mountains of Colorado, I've lived in the Rio Grande Valley and then we're back to NC and in saying that I'm hearing people talk tonight about hurricanes. I survived Bertha and Fran on Oak Island. Earthquakes. Well I've experienced earthquakes being pitched right out of bed onto the floor when an earthquake hit out in California. And yet there're talking about all of this global warming and global cooling and climate change and oceans rising and beach erosions yet there's a sun up there and the earth circles around the sun. Sometimes it's a nice circle level sometimes it gets more into an oval. And then our little world kind of wobbles once in a while and it also tilts. Do you'll have a switch or do you have new technology that you're gonna control that because what they're talking about global warming and global cooling. We don't have a thing that we can do about it. When I think about where I was born and raised in beautiful farmland up in northwest Ohio. Very productive farmland but it once was part of what is currently now Lake Erie. Things change. And they will in the future generations. It's been evolving. So global warming. I don't know what their teaching in school anymore because I'm one of these senior citizens but I'm trying to say is that I heard things being referenced to all of this and it's like let's keep the basics the basics. Let's not over flood some topic with stuff that has nothing to do with it. And just to share with you. I've lived where there's been wind farms, Palm Springs, CA. Not a pretty situation. I'm not really too keen on them and the people in Nazare Portugal as Walter was talking about up on the mountains and the beach we're all gonna have to have some medicine for ear buzzing noise if you live near them because they are not pretty and Mr. Kennedy didn't want them near his property either. Did He? I'm all for energy. I'm one of the energy efficient homes in my neighborhood but it's because I didn't run the air conditioner 24/7 and I keep the thermostat set at 67 and I don't leave things on when they shouldn't be because I grew up in a generation like you did and if you left the room you turned the light off. We can be energy efficient but just think about things that are practical and let's not keep bumping up our prices because I live near Belews Creek Power Plant and it's one of the cleaner power plants but because of its size it was equated with smaller ones and so they didn't give it the efficiency rating. They been doing a lot with coal in our power plants and I don't have any. I've gone off the topic here and there but talk and think about things and keep it practical and use common sense and think about we the people. But some of what I hear tonight I had to come up and say, I'm sorry but unless you've got a switch to tell how our earth rotates around the sun as to whether sun spots happen. There's warmth from the sun. There's somethings that we don't have any control over. Thank you. You'll have a blessed evening.