

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION
DOCKET NO. E-2, SUB 1089

In the Matter of:)
Application of Duke Energy)
Progress, LLC for a Certificate of) STATEMENT OF
INTERVENE)
POSITION/COMMENTS)
Public Convenience and Necessity to) RICHARD FIREMAN
Construct a 752 Megawatt Natural)
Gas-Fueled Electric Generation)
Facility in Buncombe County Near)
the City of Asheville)

Chairman Finely, Commissioners and Members of the Public Staff:

I am a party to this Docket not as an expert witness, because as you know, experts are not allowed to present testimony under rules that the Commission established under the “expedited” requirements of SESSION LAW 2015-110, SENATE BILL 716. If I were to have presented expert testimony, I would have called several experts such as:

1. Dr. Drew Shindell of Duke University and formerly of NASA’s Goddard Space Institute. Dr Shindell has published widely on issues related to climate change and costs of fuels. I ask you to read this short article, as summary of his most recent work [NEW MODELS YIELD CLEARER PICTURE OF EMISSIONS' TRUE COSTS](#).¹
2. Dr. Mark Jacobson of Stanford University. His most recent work outlines the current feasibility, using existing technologies, of reaching a fossil fuel free electric energy sector by 2050. Dr. Jacobson is a Professor of Civil and Environmental Engineering. His recent paper is outlined in this short article [Stanford engineers develop state-by-state plan to convert U.S. to 100% clean, renewable energy by 2050](#).² For North Carolina the number of construction and operation jobs, where a person is employed for 40 or more years, is over 160,000 individuals when we transition off of fossil fuels. Savings on electricity, health and climate costs are over \$6600 per year per individual as depicted in this [astonishing graphic](#).³
3. Dr. James Hansen, American’s foremost climate scientist who has been warning us since 1988 about the dangers of climate change. Dr. Hansen is credited with developing the science that tells us the we must keep the vast majority of fossil fuel reserves in the ground in order to preserve the health and ecological integrity of our planet. A recent summary report of [Keep it in the Ground](#) can be read [here](#).⁴

The reason I bring this important scientific information to your attention is because you and I have experienced a few things in common in our long careers and are challenged in a similar fashion in our professional roles.

1. I committed to the study of Medicine in 1963, the same year that the NC General Assembly established the NC Utilities Commission.
2. At that time the science of climate change was in its infancy at best. The first actual recording of atmospheric CO₂ began in 1958. The first reports showed levels of 315 parts per million (now 400 ppm). Medical science had also begun to transition and accelerate into a more scientifically technologically sophisticated discipline, as things we now take for granted such as CT, MRI, and genetic microbiological pharmaceuticals, open heart and joint replacement surgery had not been invented.
3. **Responsible decision-making** by the NC Utilities Commission and Medical Doctors had a very different context in 1963 versus 2016.
4. While the underlying context of our work has changed since 1963, the underlying moral and philosophical precepts have remained constant. In medicine, we are taught to **Do No Harm**. For the Utilities Commission and the Public Staff, the NC Constitution and GS 62-2 provide clear legal and moral guidance.
 - a. Section 2 of the Constitution reads
 - b. 62-2 2(1) To provide fair regulation of public utilities **in the interest of the public**
 - c. **62-2 (5) To encourage and promote harmony between public utilities, their users and the environment;**
 - d. **62-2 (10) To promote the development of renewable energy and energy efficiency through the implementation of a Renewable Energy and Energy Efficiency Portfolio Standard (REPS) that will do all of the following:**
 - i. a. **Diversify the resources** used to reliably meet the energy needs of consumers in the State.
 - ii. b. Provide greater energy security through the use of **indigenous energy resources available within the State.**
 - iii. c. **Encourage private investment in renewable energy and energy efficiency.**
 - iv. d. **Provide improved air quality and other benefits to energy consumers and citizens of the State.**

It is crystal clear to me, that the medical dictum to do no harm and your legal duty to work in the interest of the public are the same clear message, one framed in the negative, one in the positive – just like the two versions of the Golden Rule (Do unto others as you would have them do unto you. – and, Don't do to others what you would not want them to do to you.) Or even better, *For all the law is fulfilled in one word, even in this; Thou shalt love thy neighbor as thyself.*

In medicine, the goal is clear. We work to preserve and protect life. It is rare in medicine, even in emergencies, that decisions have to be made instantaneously. In well over 99 % of cases in my personal experience, time is taken to assess

deliberately, gather evidence, then make a treatment plan. That is true even when the patient is critically ill. It is even more important in that context, because as the person responsible, the doctor does not want to make the incorrect decision because of unnecessary haste. The doctor recognizes the risk of making life or death decisions with insufficient evidence.

In this case now before the Commission, the Certificate of Public Convenience and Necessity (CPCN) for a 752 MW natural gas fueled electric generation facility, we must recognize a year 2016 context. The guidelines of reliable, adequate and least cost must be examined within the framework of rapidly accelerating climate change.

As other comments to this proceeding will make clear, natural gas is a highly potent greenhouse gas. The global warming potential of methane is 72x that of CO₂ over a 5 year period. This a good summary article for you to read [Methane vs. Carbon Dioxide: A Greenhouse Gas Showdown](#).⁵ Certainly the best evidence is that natural gas is not the best choice on which to base an electricity sector in an era of dangerously accelerating global warming.

The bottom line is that it is bad idea to replace coal with natural gas. It is like telling your patient with lung cancer to stop smoking a pack of cigarettes per day, but could replace them with unlimited cigar smoking. Both are addicting and both lead to fatalities.

In a more pointed reference, Jim Rogers, former CEO of Duke Energy, called natural gas the crack cocaine of the fossil fuel industry. This was a reference to both its relative cheapness versus coal, and to its addictiveness because of the attractiveness of its price. I surmise he was not speaking of its deadliness nor of its potency as a greenhouse gas, because that [remark](#) was made in 2011.⁶ It took several more years before the science of methane leakage and potency was elucidated.

If you allow business as usual for Duke Energy in North Carolina to continue its reliance on fossil fuels, you will working against the aspirations of the global science community and over 190 nations in their Paris Agreement in December, 2015. If you replace coal plants in North Carolina with natural gas, we will be contributing to a world 11 degrees warmer sometime by the end of this century. If you green light natural gas electric generation in the next 15 years like Duke Energy estimates in its latest IRP,

1. You can almost guarantee that the NC coast will be unrecognizable because of sea level rise, with billions of dollars in property loss and permanent human migration from coastal communities that are destroyed by storms, rising seas and salt water intrusion.
2. The coastal fishing industry will be practically non-existent because of changes in ocean ecology caused by acidification and increase in ocean temperature
3. Eastern N.C. farming will be less productive.
4. Public health will be harmed because of heat waves and new forms of infectious disease (think West Nile virus, Dengue Fever, the Zika virus and new forms yet undiscovered or mutations)

As our gatekeeper, the Doctor who makes the decision for all the people in NC, now and into the indefinite future, you must make a wise decision. The odds are against us if you approve of the CPCN as written. What are those odds?

The International Panel on Climate Change says business as usual, (more natural gas infrastructure), will HIGHLY LIKELY result in an 11-degree warmer world by 2100. HIGHLY LIKELY means a 95% or greater chance. In other words, there is a ONLY a one in 20 chance that **climate caused damage will be better than the worst case.**

The Nicholas Institute for Environmental Policy Solutions has developed a highly mathematical approach to IRP planning for electric utilities. Their seminal paper [Least Risk Planning for Electric Utilities](#) can be read [here](#).⁷ You may have heard their presentation at Utility Commission Conferences, so may know that their approach is very technical and mathematically sophisticated.

From a medical doctor's perspective the take away message is that in the context of carbon pollution and rapidly accelerating climate change, "least cost" analysis must be integrated with "least risk" and "least regret" analysis.

The consequences of making a mistake with a commitment to a large fleet of natural gas generation facilities in North Carolina is that that such a choice **maximizes risk and regret.** And these risks and regrets are not computed merely in dollars, but in destroyed human communities, mass migrations, starvation, social destabilization and local wars such as we are currently witnessing in the Middle East and Sub-Saharan Africa. To think that we in the United States of America will be immune and insulated from these consequences is both naïve and a form of prideful delusion of American exceptionalism. These regrets will be of Biblical proportion.

I have read your biographies on the NCUC website. You all are highly educated and accomplished people who are familiar with making difficult decisions. Duke Energy is a huge and powerful corporation that has as its primary obligation to increase shareholder value for its stockholders. They are addicted to an old paradigm of boiling water to generate electricity, because it's what they know how to do and it makes them a guaranteed profit. They will not change unless forced to do so by the Commission.

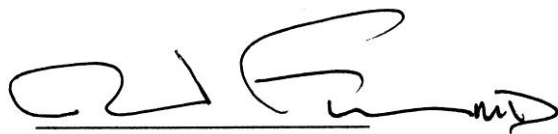
You have the authority under GS 62-2 to reject the application as written. As good stewards (the Doctors) of our collective future, you should not rush into the VERY LIKELY risky scenario by approving DEP's CPCN before gathering expert testimony in a wise, deliberate, open, judicatory process, and in a time frame that is not constrained by a Senate Session Law that limits your ability to act with due diligence for the general welfare of the people of North Carolina. There is no reasonable way that the Public Staff can review all of the relevant information in the time frame constrained by SENATE BILL 716. There is no responsible way you can come to a wise decision without the ability to directly confront DEP and **independent** experts. Least risk and least regrets should be your guiding principles in 2016.

Independent national experts are ready and willing to add their expertise to full and open examination of DEP's CPCN. If you stick with this artificial time frame that serves Duke Energy only, you will set a precedent that will allow friends of Duke Energy in the General Assembly and Governors office to write ad hoc legislation supervening your authority to fairly regulate Duke Energy for the benefit of the people each time Duke Energy wishes to build a dangerous natural gas power plant.

The people of North Carolina (patients in this metaphor) are relying on you to protect them. You not only have the authority to reject this CPCN, you have the moral, legal and fiduciary responsibility to do so. For our collective future and for the health and welfare of all the ones you love, please deny DEP's application as written.

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1. Nicholas School of the Environment: <https://nicholas.duke.edu/about/news/new-models-yield-clearer-picture-emissions-true-costs>
 2. Stanford Report, June 8, 2015, <http://news.stanford.edu/news/2015/june/50states-renewable-energy-060815.html>
 3. The Solutions Project NC infograph: <http://thesolutionsproject.org/infographic/#nc>
 4. Keep it in the Ground, January 2016:
<https://www.sierraclub.org/sites/www.sierraclub.org/files/blog/Keep%20It%20in%20the%20Ground%20-%20January%202016.pdf>
 5. One Green Planet: <http://www.onegreenplanet.org/animalsandnature/methane-vs-carbon-dioxide-a-greenhouse-gas-showdown/>
 6. Climate Progress: <http://thinkprogress.org/climate/2011/06/20/248636/natural-gas-crack-cocaine-of-power-industry/>
 7. Nicholas Institute for Environmental Policy Solutions:
https://nicholasinstitute.duke.edu/sites/default/files/publications/ni_wp_13-05.pdf

Respectfully,



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CERTIFICATE OF SERVICE

I hereby certify that a true and exact copy of the foregoing document was duly served upon counsel of record for all parties to this docket by either depositing same in a depository of the United States Postal Service, first-class postage prepaid, addressed as shown below, or by electronic delivery, this the 10th day of February, 2016.

A handwritten signature in black ink, appearing to read 'R. Fireman, M.D.', written over a horizontal line.

Richard Fireman, M.D.