Fulmore, Janice

From:	Nancy LaPlaca <laplaca.nancy@gmail.com>
Sent:	Thursday, May 9, 2019 10:30 PM
To:	Statements
Cc:	barrondn@appstate.edu; kleinh@appstate.edu; startek@appstate.edu
Subject:	Attached: Letters for Docket E-100 Sub 157, Duke Energy IRP
Attachments:	Devyn Barron-Letter to NCUC.pdf; Hannah Klein-NCUC-letter.word.docx; Emma Start Final Mini Assignment .docx

Please file the attached letters in Docket E-100 Sub 157, Duke Energy 2018 IRP.

Thank you!

Nancy LaPlaca
480-359-8442

Chairman Finley,

My name is Devyn Barron, and I am a student at Appalachian State University. I hope this email finds you with urgency. As a young person realizing that the future of living with catastrophic climate change is upon my early adulthood, I write to you with hopes that you will take my words into consideration. The 5th IPCC report was released late last year, as I know you are aware of. This report, which comes from an intergovernmental board within the United Nations, has stated with extremely high confidence that in order to avoid irreversible, catastrophic climate change, global carbon dioxide emissions need to be cut in half[1]. This board is made up of the most intelligent and highly regarded scientists across the globe, shouldn't we listen to them and take this information into every part of our governmental planning? Cutting emissions by half would help keep warming within a 1.5-2C change, but at 2C we still lose 99% of our coral reefs and gain regular occuring weather catastrophes like hurricane Matthew and Florence. This means that in my lifetime if I have kids, they will only know what coral reefs are through old documentaries and will live with devastating storms as their norm. The comfort my parents, grandparents, and great-grandparents were able to live in is being taken away from my life without my consent.

Outside of the IPCC reports, 97% of climate scientists acknowledge that climate change is happening and is caused anthropogenically[2]. The mass media in this country does a great job at making climate science seem like a very polarized, 50-50 problem[3]. In reality, if 97% of doctors told someone they had cancer would we pretend like the 3% are more likely to be correct and not begin treatment? No. Climate scientists and all members of the IPCC are qualified, educated scientists and we need to take their reports seriously.

In light of Duke Energy's recent Integrated Resource Plan and the globes timeline for approaching catastrophic climate change, I write to you asking for transparency with citizens of North Carolina. In order to even begin to reach safe mitigation levels, we need unprecedented change right now in our state, most importantly in the energy sector. It is your responsibility to be very clear with the public on what the decision process looks like and to have our voices

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[1] IPCC, 2018: Summary for Policymakers. In: *Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty* [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, Maycock, M. Tignor, and T. Waterfield (eds.)]. *World Meteorological Organization, Geneva, Switzerland, 32 pp.*

[2] John Cook et. al. *Quantifying the consensus on anthropogenic global warming in the scientific literature.* Environmental Research Letters. IOP Publishing. 2013.

[3] Naomi Oreskes & Erik M. Conway. *Merchants of Doubt. How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming.* 2010.

represented every step of the way in regards to an IRP that will directly affect our wallets. Right now there are no meetings open to the public at the capital in which we can directly speak to the utility commissioners or the representatives from Duke Energy. Our founding fathers created a democratic system so that their opinions could be heard and decisions could be made fairly. Not having open hearings to the public is not democratic. I can guarantee you that as a citizen that lives summer months in Raleigh, I would most certainly make it to public hearings to ask questions, make public comments, and perform my civic duty. My peers, who also share my stress and anxiety about the fate of our futures, would also want to be a part of this decision making.

Not only do I ask for transparency, but I ask for public "translations" persay, of all utility decisions and plans. Before taking a couple classes on the energy sector, I had no idea how monopolized utilities worked or really how energy decisions were made. I am fortunate to have been able to go through school to take classes that help me understand this governmental decision process, but I know the vast majority of North Carolinians are not in the same position.. Utility decisions are directly going to affect all of the citizens in North Carolina, because it is our money and our futures that are impacted. Without clear systematic understanding of how the energy sector works at the state level, how can citizens have the opportunity to voice concerns when they are unlikely to even know that their state officials influence energy decisions. Utility "lingo" is quite complex. I would argue that even people who work in the energy sector or work for city/state level government don't fully understand the language. For example the difference between MW and MWh, or what this actually equates to in terms of how much energy is actually being produced. Understanding our governmental decisions should not be a privilege to only those who can afford to go to school to study the energy sector--it should be *very clear* to all citizens.

The utilities commision can't make decisions without consulting the public or blindly let decisions be practically made by Duke Energy. This is the antithesis of a democratic decision--especially when the majority of Americans (76%) acknowledge that climate change is happening[4]. If it wasn't for those few assembly members and NC WARN, there would have been no public hearing to address Duke Energy's IRP. Just like that the next 15 years of the money I, and others in NC, spend on energy would have been determined without my knowing. With the greatest crisis of our time already beginning, as we have seen the effects in our home state, the state government needs to be clear, transparent, and representative of citizens' hopes and fears.

In all honesty I see too many parallels with the deliberate choices within the energy sector to delay transforming to a renewable energy based state to other historical cases of denial. For

[4] Yale Program for Climate Communication and George Mason Center for Climate Change Communication. *Climate Change in the American Mind.* March 2018.

example when the tobacco industry funded millions of dollars into campaigns and media outlets to promote that tobacco was still safe. Among decades of solid scientific evidence, the industry continued to sell and advertise that smoking tobacco and claiming that "[they] don't know" what the science actually concludes. Even more similarly, is the situation with acid rain regulation during the Reagan Era. The Reagan Administration continued to address the clear connection between industry pollution and acid rain by saying, "we still don't know what is causing it". At the time this was because the coal industry and other polluting entities saw it as "too expensive" to either retrofit smokestacks or add technology to reduce sulfur dioxide emissions. In both of these industries, because they had such close ties to the country's GDP, decision making was delayed until the absolute last moment and were protected by the government. As a case based on the health impacts of emissions of a certain byproduct from the burning of fossil fuels, I believe there are scary parallels between the case of acid rain and climate change--my worry with this case is that we don't have any amount of time to deal with not making progressive change in the energy sector. In all three of these cases it is important to look at what decisions are deliberately not being made.

Nondecision-making is intentionally not changing or doing anything when there is a clear demand or support for some kind of action. This most often occurs when the demands are suffocated before they are openly voiced to the public, therefore preventing the "problem" before it arises. Nondecision-making allows individuals, especially within the government or a high-held position, to make the political decision-making process subjective to their own interests[5]. This is exactly what we are seeing under the influence of Duke Energy on the government. It is estimated that Duke Energy contributes over 80 million dollars to influence local, state, and federal level entities[6]. Based on North Carolina's hesitancy to adopt better energy efficiency programs and really dive into readily available renewable energy technology, it only seems possible because of the economic influence Duke Energy has across NC. Not to mention that NC WARN and others have developed full plans and strategies to get North Carolina's emissions cut by half by 2030; in line with the IPCC's reports.

In light of all of this, I ask for your willingness to be open and transparent with the public. Energy should not be complicated, because everyone needs it. There shouldn't be confusion about how energy decisions are made or what utility terms mean. Your decisions and plans impact every single citizen and their wallets across the state. Rejecting Duke Energy's current proposed IRP and opening up comments and discussion with the public is *absolutely necessary*. Upon reviewing the IRP it is clear that there is an assumed "business as usual" agenda that continues growth and increases natural gas consumption[7].

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[5] Steven Lukes. *Power: A Radical View*. London; New York: Macmillan. 1974.
[6] NC WARN
[7] Duke Energy IRP 2018

Our state level government, and all levels of government in the United States, need to revisit what values our country was founded on. Transparency from our elected leaders is the most important aspect to keeping an equitable democratic system, and I am seeing this failed. Please, for the sake of young people everywhere and all living beings on this planet, look at the science and other routes accessible to make immediate change. It is far past the time to be asking not what is feasible, but rather what is **necessary**.

Thank you for your time and consideration on these pressing matters, and simply for listening.

All the best,
Devyn Barron

April 30, 2019

Mr. Edward S. Finley, Jr., Chairman NC Utilities Commission
430 N. Salisbury Street
Raleigh, NC 27603

Dear Members and Chairman of the North Carolina Utilities Commission,

The following letter is concerning the new Integrated Resource Plan from Duke Energy—both Duke Energy Progress and Duke Energy Carolinas. As many other representatives and citizens have surely pointed out: the current IRP is slacking. It in no ways outlines a direct, realistic, nor efficient means of meeting the promises of the Renewable Energy Resolutions of counties in North Carolina and battling the cataclysmic outlook of climate change.

The most startling and disappointing part about the current IRP presented by Duke Energy is its attempt to include renewable energy just enough to appease demand for energy alternatives, while still remaining dependent on outdated methods, fossil fuels, and money from investors. For example, in NC Warn's summary of the IRP presentation it states that "Both DEC and DEP rely extensively on new natural gas additions to meet the rest of the demand primarily because both DEC and DEP are now claiming to be winter peaking utilities, i.e., the largest demand is during the winter peak.[1] It seems rather contradicting that DEC and DEP are building new infrastructure to meet winter peaks when the expected growth rate over the next 15 years has actually been reduced since the initial forecast in 2016: whereas previously winter peak was expected to grow 1.2% for DEC, it is now only 0.9%; and whereas winter peak growth was projected to be 1.3% for DEP in 2016, it is currently at 0.7%.[2] It is unnecessary for DEC and DEP to construct new natural gas power plants to meet winter peak demand if the demand is actually lower than initially thought; furthermore, it is unnecessary because there are affordable and secure renewable energy alternatives that could replace natural gas *if* it was actually needed to meet winter peak demands.

According to the docket summary for the IRP presentation, DEC intends to " add 2,190 MW of natural gas more than it did in its 2016 IRP, primarily natural gas

[1] *NC WARN INITIAL COMMENTS*. State of North Carolina Utilities Commission, 2017, *NC WARN INITIAL COMMENTS*, starw1.ncuc.net/NCUC/ViewFile.aspx?Id=f23578d4-8f0b-45ae-a20e-ef4ff18c3cb2.

Ibid.

units for peaking and baseload."[3] Again, Duke Energy is planning to increase natural gas production and infrastructure—despite the fact that natural gas is more damaging to the environment than carbon dioxide. According to the Environmental Protection Agency (EPA), Methane (CH4), which is the main byproduct of natural gas, has a global warming potential (GWP) of 28-36 over 100 years compared to carbon dioxide which is 1 over 100 years.[4] Of course, some might argue that CO2 lasts longer than CH4 which lasts about a decade; however, "CH4 also absorbs much more energy than CO2. The net effect of the shorter lifetime and higher energy absorption is reflected in the GWP. The CH4 GWP also accounts for some indirect effects, such as the fact that CH4 is a precursor to ozone."[5] Despite methane being a shorter lived greenhouse gas, it is "84 times more potent than carbon dioxide."[6] It is becoming clearer in the scientific world that the real enemy of climate change is not oil and coal, but natural gas, too. In fact, it seems that natural gas with its methane byproducts could be much more dangerous. It makes little sense for the utility companies to build new natural gas plants and rely on it heavily during peak times when there are so many other clean alternatives available in this modern world.

The old belief that renewable were "just too expensive" is now entirely proven false. Many new innovations in renewables such as solar and wind have made it possible to buy energy at a much cheaper rate than traditional fossil fuels distributed from utility companies: "new solar and wind are actually cheaper than new gas plants… [and] the price of electricity storage, especially lithium-ion batteries, [are] coming down sharply."[7] To elaborate: "The lifecycle cost of electricity from new nuclear plants is now $148 per megawatt-hour, or 14.8 cents per kilowatt-hour, while it is 5 c/kwh for utility scale solar and 4.5 c/kwh for wind. By comparison, the average price for electricity in United States is 11 cents per kWh."[8] Many utility companies—including Duke Energy attempt to devalue renewables by claiming that they are not reliable, that they are too

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NC WARN INITIAL COMMENTS. State of North Carolina Utilities Commission, 2017, *NC WARN INITIAL COMMENTS*, starw1.ncuc.net/NCUC/ViewFile.aspx?Id=f23578d4-8f0b-45ae-a20e-ef4ff18c3cb2.

[4] "Understanding Global Warming Potentials." *EPA*, Environmental Protection Agency, 14 Feb. 2017, www.epa.gov/ghgemissions/understanding-global-warming-potentials.

[5] Ibid.

[6] "Methane: The Other Important Greenhouse Gas." *Environmental Defense Fund*, www.edf.org/climate/methane-other-important-greenhouse-gas.

[7] Romm, Joe. "New Study Reaches a Stunning Conclusion about the Cost of Solar and Wind Energy." *ThinkProgress*, 7 Nov. 2017, thinkprogress.org/solar-wind-keep-getting-cheaper-33c38350fb95/.

Ibid.

variable: however, technologies are expanding day-by-day and there are sustainable, effective batteries, among other storage options, that would allow energy from solar and wind to be stored during low peak demand times; and then later tapped into during high peak demand times. Rather than relying on the convenience of coal, oil, natural gas, nuclear, etc., the Utilities Commission needs to hold Duke Energy accountable and demand they learn *smart* ways of producing, storing and distributing energy.

The idea that fossil fuels are less variable than renewables is, while technically valid, somewhat misleading: if anything, resources such as oil and gas are in the long-term much more unreliable because they are finite. We can only rely on them for so long; whereas renewable energies such as solar, wind, geothermal, hydraulics, etc., are much more stable—they are cyclic, regenerative, and clean. It just requires better planning in order to maintain a base load capacity and time energy usage. Perhaps natural gas will last civilization a little bit longer: a few decades or so. However, "if we continue to use these fossil fuels at the current rate without finding additional reserves, it is expected that coal and natural gas will last until 2060. However, the consumption of natural gas grew considerably last year, rising by 3%."[9] It seems that natural gas is depleting faster due to higher demand, which means that the reserves will likely not last as long as 2060—especially if such demand continues to grow. The demand on natural gas twill only speed up its inevitable end, will only highlight its finiteness. What seems more reliable, more safe and stable in this increasingly chaotic situation our entire planet is in? Coal, oil, and natural gas, of which all are approaching depletion and only increasing the chaos? Or renewable energy such as solar and wind that are regenerative in themselves and that are rapidly becoming more cost-effective while remaining environmentally friendly?

The entire objective of the Integrated Resource Planning is to determine the "least cost mix" to meet with the forested growth in demand for energy. Why then is Duke Energy not using easily accessible knowledge and resources to meet the very goal of the plan that they outlined? If the least cost mix can include renewable energies (which it does) there needs to be more it than the small share included in the current IRP plan: better and longer contracts between utilities and independent producers/distributers, better rates and rewards, better communication and transparency. Change will be the most expensive part (abandoning and decommissioning assets, transitioning to renewables, building

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"Green Energy." *Midcounties Co-Operative Energy*, www.cooperativeenergy.coop/customer-service/frequently-asked-questions/green-energy/green-energy-faqs/when-will-fossil-fuels-run-out/.

new infrastructures); but it will be more cost-effective in the long run—and much cheaper than the destruction our planet.

Cordially,

Hannah Klein

615 Fallview Lane
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Boone, NC 28607

April 22, 2019

Chairman Edward S. Finley, Jr.
4325 Mail Service Center
Raleigh, NC 27699-4300

Dear Chairman Finley,

My name is Emma, and I am currently a junior attending Appalachian State University, located in Boone, North Carolina, the heart of the Appalachians. I am currently on track to graduate with a Bachelor's of Science degree in Sustainable Development. Appalachian State University, as well as the town of Boone, prides itself on being sustainable, earth-loving, and environmentally-conscious. Many students, like myself, choose to attend Appalachian State due to their efforts towards sustainability[1]. Appalachian State, known colloquially as "App State" or just simply "App", utilizes solar panels, LEED-certified buildings, and wind power. We are on the forefront of the renewable energy campaign in the UNC System[2].

You can imagine my frustration, Chairman Finley, when I learned of Duke Energy's proposed Integrated Resource Plan (IRP). Duke Energy's IRP is a step in the wrong direction. It continues their monopoly within the energy sector, and completely ignores any urgency regarding climate change action. It would not cooperate with North Carolina Governor Roy Cooper's plan to reduce greenhouse gas emissions, nor does it cooperate with municipal goals for massive reductions in greenhouse gas emissions[3].

Chairman Finley, I urge you, and others, to take a stand against Duke Energy and take a stand against climate change. I urge you to hold Duke Energy accountable for climate action, as they are one of the largest energy companies in the United States[4]. Climate action must be taken by all governments, industries, and states. Chairman Finley, you can do your part in climate action by doing the following:

1. Allowing an evidentiary hearing as asked by six western NC General Assembly Members;

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[1] Around 75% of students attending Appalachian say they were "influenced" to attend by the University's commitments to sustainability and sustainability practices. https://today.appstate.edu/2019/03/27/earth-day

[2] Appalachian State utilizes solar thermal, photovoltaics, and wind power to remain a leader in renewable energy use in North Carolina. https://sustain.appstate.edu/initiatives/renewable/

[3] Six members of the North Carolina General Assembly have written a letter of concern calling for a public hearing on Duke's IRP. https://mountainx.com/blogwire/nc-utilities-commission-to-hold-public-hearing-in-asheville-on-duke-energy-progress-15-year-integrated-resource-plan/

[4] According to the Energy and Policy Institute, Duke Energy is one of the highest carbon-emitters in the energy/utility sector.

2. Properly consider and address the issue of climate change as you further in your career; and,
3. As Chairman of the NCUC, consider a rapid transition to renewable and clean energies within the NCUC.

Chairman, it is of the utmost importance that you, as Chairman of the NCUC, properly address and respond to climate change and the concerns laid out by many scientists, governments, and scholars worldwide. Perhaps the most important climate literature you should consider as you move forward in decision-making processes for the NCUC is the Intergovernmental Panel on Climate Change (IPCC)'s most recent report on climate change. There is absolutely nothing more pressing or more important in the energy world than addressing climate change. I urge you to take this report into account as you continue to make influential and powerful decisions about energy use and resources in North Carolina.

Comprised of and informed by the world's leading climate scientists, the IPCC released a Special Report (their 5th assessment) in 2018 regarding global warming of 1.5 degrees Celsius[5]. The report highlights the impending crisis Earth will face if we don't take climate change seriously and begin to address it on a large-scale at an intense rate. The report[6] highlights the following risks posed by rising temperatures and the exacerbation of climate change:

1. Increased extreme temperatures (extreme heat and extreme cold)
2. Heavy precipitation in certain regions, and extreme drought in others
3. Species loss and extinction
4. Sea-level rise
5. Increased vulnerability for many communities worldwide

In addition to these crises that will soon be faced by planet Earth, the report authors also highlight one very important aspect of climate change: adaptation and adaptive capacity. Adaptations *must* be taken in order to minimize the risks and damage that will soon be caused due to climate disaster.

As Chairman of the North Carolina Utilities Commission, it is also your responsibility to address climate change in any way you can. Fortunately, you have many opportunities, as you work with utilities. One of the most significant changes you can do is to make the switch to renewables. This will reduce greenhouse gas emissions significantly, and will contribute to the overall fight against climate change. As highlighted by the report summary[7], CO2 emissions *must* be

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[5] We have about 12 years to keep global warming at a maximum of 1.5 degrees celsius, which still invites climate catastrophe and global unrest. https://www.theguardian.com/environment/2018/oct/08/global-warming-must-not-exceed-15c-warns-landmark-un-report

[6] The IPCC created the Special Report in response to the United Nation's request. The summary and the full report can be found here: https://www.ipcc.ch/sr15/chapter/summary-for-policy-makers/

[7] Carbon dioxide is the main greenhouse gas that must be reduced in emissions by significant amounts, as summarized in Part C of the report. https://www.ipcc.ch/sr15/chapter/summary-for-policy-makers/

drastically reduced in the coming years and decades. One of the main ways to accomplish this is by switching to renewable, clean sources of energy, such as solar, wind, or geothermal, all of which can be done in North Carolina. The IPCC report demands that we make drastic changes in energy sources and infrastructure, and you can do your part with the NCUC by switching to renewables.

Luckily for North Carolina, there is great potential for solar power. According to the Solar Energy Industries Association (SEIA)[8], prices for solar in North Carolina are falling, by almost 50% in the last five years. It is also projected that North Carolina will grow by almost 4,000 MW in the coming years. It would be a mistake for the NCUC not to support the growth of solar and other renewable energies in North Carolina.

Chairman Finley, I thank you for your time in reading this letter. I hope that you will heavily consider allowing a hearing regarding Duke Energy's upcoming IRP. I also hope that you will take seriously my concerns, as a student studying and advocating for sustainability, regarding climate change and renewable energy in North Carolina. Most importantly, I hope you take the time to read the most recent IPCC report regarding climate change, and seriously consider as well as properly implement its suggestions into your role as Chairman of the NCUC.

Thank you very much,

Emma Start
Sustainable Development B.S.
Appalachian State University '20

233 Crossing Way
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[8] The SEIA provides comprehensive information about the solar industry, including jobs and investments. In NC, there are currently just under 7,000 solar jobs and almost $8 billion in investments. https://www.seia.org/state-solar-policy/north-carolina-solar