September 14, 2020

Honorable Roy Cooper
Governor of North Carolina
116 West Jones St.
Raleigh, NC 27603

Lynn J. Good
President and Chief Executive Officer
Duke Energy Corporation
550 South Tryon Street
Charlotte, NC 28202

Subject: Working together to create a just and equitable energy future as NC emerges from COVID-19

Dear Governor Cooper and CEO Good,

We commend Duke Energy's July 5th announcement that it has cancelled the proposed Atlantic Coast Pipeline (ACP). We also appreciate the Governor's leadership during the ongoing global pandemic and his administration's denial of the water quality permit for the Mountain Valley Pipeline Southgate Extension, which his environment secretary announced saying we should instead "invest in clean, renewable energy sources and the economic benefits of energy innovation."

We now appeal to you both to help foster a new chapter of cooperation so that North Carolina can do everything possible to help stem the even larger and ongoing climate crisis. Lessons from the pandemic and the ACP provide a critically important opportunity to spring forward to "a better normal," while a return to business as usual would be a mistake from which we might never recover.

Recent developments summarized below – combined with others sent to you in August and October of last year and in January 2020 – have increased our understanding that the harm from fossil fuels, combined with advances that are quickly eliminating the need for coal- and natural gas-fired electricity, makes this the time to develop a "new normal" that embraces the future rather than the past.

Under the Governor's direction, most North Carolinians across the political spectrum have demonstrated the willingness to sacrifice in response to a major threat, and to act in ways that benefit their loved ones as well as the common good. Measures necessary to slow the pandemic have, by their nature, caused much hardship.

By contrast, climate protection requires nothing like that level of sacrifice. Taking necessary steps to cut climate pollution through enhanced energy efficiency programs and much more rapid deployment of cheaper renewables and energy storage will benefit virtually all North Carolinians and businesses by reducing energy bills and air pollution. This will make us more resilient in the face of inevitable damage from hurricanes and other weather extremes. In addition, the shift to renewable power, paired with cost-effective energy storage and proven energy-balancing systems, is precisely the economic and job-creation engine needed to mitigate the impacts of what could well become an extended global recession.

As laid out in the resources listed below, and in others we have previously sent to you, some of them even specific to North Carolina, **a clean energy economy emphasizing distributed renewable resources can be both a climate solution and an economic boon**. Thanks to Governor Cooper's Executive Order 80, Duke Energy and other stakeholders are working as we speak to design policies that would accelerate climate action while protecting utility interests. Unfortunately, the biggest obstacle to success in that process may be Duke Energy's stated intention to continue expanding its natural gas fleet and to continue to rely heavily on gas far beyond the time that scientists say we must eliminate fossil fuel emissions.

Duke's latest Integrated Resource Plan shows plans to add as much as 9,600 megawatts of gas-fired generation in the Carolinas over the next 15 years. In addition, we have learned that Duke Energy is in the process of adding another 5,600 MW of gas-fired generation at its coal-burning plants, which is not included in the IRP projection and which has not been subject to regulatory or public scrutiny or approval prior to construction. Altogether, Duke projects to build some 50 gas-burning units although it already has large amounts of excess capacity. Equally troubling are published reports that Duke is considering investing in the troubled Mountain Valley Pipeline project.

Whereas we could be meeting needs now through existing gas capacity, energy efficiency and low-cost renewables, Duke's 2020 Climate Report calls for increasing use of gas until new technologies such as small nuclear reactors and carbon capture become cost-effective. In fact, after decades of effort and billions invested, both technologies have suffered repeated failures including, most recently, the mothballing of the only U.S. carbon capture project due to multi-faceted performance and economic problems.

The climate crisis demands that we stop building new fossil fuel infrastructure immediately. We hope you will recognize that new gas projects will face the same delays, cost uncertainty and legal challenges that plagued the ACP. We urge you instead to use the ongoing Clean Energy Plan stakeholder processes to make a real pivot to renewable energy programs that can maintain the financial health of the utility while saving ratepayers money, creating more jobs and winning the support of a broad spectrum of stakeholders.

Governor Cooper, we need your help to make this happen. Your actions during the pandemic have demonstrated that you have the authority to significantly alter business activity, as more than 70 organizations called on you to do in a March 13 letter asking you to declare a Climate

Emergency. You have demonstrated that you do indeed have the authority to stop Duke Energy's huge expansion of fracked gas usage, not only on the basis that gas is a leading driver of the ongoing climate emergency that is deeply destructive to North Carolina, but also because it could well lead to billions of dollars worth of stranded assets charged to state ratepayers.

A better, faster path would be for the state and Duke Energy leaders to jointly announce a moratorium on new natural gas-burning power generation and pipelines. By doing so at this time, you might well prevent yet another acrimonious and costly legal battle over who should pay for failed projects and practices (such as that going on now over coal ash) and instead usher in a new era in which we can all cooperate to forge a clean, profitable and equitable way forward.

You could simultaneously announce a suite of clean energy programs that would signal to the state that a new direction has been chosen. We outline some possibilities below.

Mounting Evidence

Last October, some of us urged the Governor to lead a national ban on new gas infrastructure, explaining that such investments run entirely counter to the global need to reduce – instead of expand – fossil fuels.

We draw your attention to the following new research and reporting that is increasingly underscoring this position.

- *Scientific American*, 4/12/20: Levels of methane (natural gas) in the atmosphere are growing rapidly and have hit an all-time high, according to NOAA, largely due to oil and gas fracking. Reducing emissions of this highly potent heat trapper is crucial to limiting warming in the near term. As one of us (Dr. Shindell) told *Scientific American*, ***"You see the benefits in the first decade or two that you make the cuts.*** *You see fewer people dying from heat waves. You see less powerful storms and all the stuff that comes from climate change."* [emphasis added]
- New research by Dr. Shindell, forthcoming, finds that the 330 megatons of methane emissions in the US every year lead to ~25,000 annual deaths from air pollution and will lead to ~4,300 annual deaths from heat exposure after a decade or so. These emissions also send ~50,000 people to the emergency room for asthma per year and lead to the loss of ~33 million hours of labor per year, primarily in agriculture, construction, transportation and manufacturing, due to heat exposure. Roughly 2% of the heat-related deaths and roughly 3% of the air pollution related impacts and heat-related labor losses occur in NC.
- *Earth System Science Data* and *Environmental Research Letters*, 7/15/20: Two studies show methane emissions are expected to continue rising. Stanford's Dr. Robert Jackson, a co-author on both studies, told the *New York Times*: *"We're still producing food. We're still producing natural gas. If we continue to release methane as we have done in recent decades, we have no chance."*

- *Nature*, 2/12/20: A study shows that fossil fuels are a larger contributor to increased atmospheric methane than previously believed. This study cites earlier findings that the greenhouse gas footprint of shale gas is significantly larger than that of conventional natural gas and coal.
- James Hansen, 4/13/20: As this prominent climatologist wrote recently, *"We began to flatten the methane curve in about year 2000 …but it was short lived, because we introduced a new source, 'fracking' **… Human-made sources can be reduced, and, indeed, must be reduced."*** [emphasis added] Hansen insists there is still time to solve the climate problem, and that cutting methane emissions is crucial.
- Thomas Hadwin, May 2020: An analysis by this former energy executive showed that rapidly changing energy markets, new legislation in Virginia, a surplus of gas across the region, and many other factors made the years-delayed ACP a risky, unnecessary investment. Many of those same factors apply to the Mountain Valley Pipeline Southgate extension and to Duke Energy's plans to expand gas generation.
- *Financial Times*, 3/19/20: "Independent US energy producers are restructuring billions of dollars of debt or discussing new ways to stay afloat as collapsing oil prices and soaring bond yields threaten bankruptcies across the beleaguered shale sector." The U.S. fracking industry is in free-fall; thus fuel supply and pricing for Duke's gas expansion is in question. As many of us have argued since 2015, fracked-well drilling of natural gas is a Ponzi scheme – it has never paid for itself, as investors kept pouring billions of dollars into the game. It was failing well before the pandemic.
- 7/21/20: Seventy-two leading investors and other leaders urged Fed Chair Jerome Powell and other financial regulators to recognize the risk to financial markets posed by climate change, and to take steps to mitigate that risk.
- *Breakthrough Batteries*, 2019: This report finds that ***"****Natural gas plants that move forward are at high risk of becoming stranded assets, and* ***as early as 2021, some existing power plants could be more expensive to continue operating than least-cost [clean energy portfolio] alternatives****… **These changes are already contributing to cancellations of planned natural-gas power generation****…The need for these new natural-gas plants can be offset through clean-energy portfolios (CEPs) of energy storage, efficiency, renewable energy, and demand response...."* [emphasis added]
- Institute for Energy Economics & Financial Analysis (IEEFA), 7/1/20: This article cites case studies from four states where coal plants are being closed and replaced with renewables and storage rather than gas.
- Greentech Media, 4/22/20: Duke could join the utilities cited in the previous item and help to drive those economies of scale. A recent story reported that utility NextEra will spend $1 billion on storage in 2021. CEO John Ketchum said: *"There's a significant opportunity in almost every part of the country where batteries are now more economic than gas-fired peakers, even at today's natural-gas prices. ... A lot of folks that own peakers [and] a lot of folks that own coal are very aggressively looking at renewables as an option, with [environmental, social, governance investment principles] as a tailwind."*

- *Offshore Wind: Generating Economic Benefits on the East Coast*, August 2018: E2 research found that adding an average-size wind farm off the North Carolina coast would bring more than 5,500 jobs and over $700 million in economic benefits. During construction such a wind farm would add over $28 million to North Carolina's tax base and, once operating, would add over $1 million/year to the tax base and continue to employ almost 200 workers. Note that this represents economic potential for just one offshore wind farm; in 2016, the National Renewable Energy Laboratory found that North Carolina has among the best offshore wind resources in the US (*2016 Offshore Wind Energy Resource Assessment for the United States*,p. viii).

A New Way Forward

In a recent column, billionaire and former presidential candidate Tom Steyer wrote: *"The good news is that investing in new [clean energy] markets, new growth, new jobs — and arresting the climate crisis to protect public health — is, in fact, the same path."*

Now that clean, efficient energy usage is both doable and less expensive than polluting power, it is time for North Carolina to quickly turn in that direction. We must seize this opportunity to quickly halt the expansion of gas and begin ramping up the clean alternatives that are being called for across the political spectrum.

As emphasized in our October 2019 letter, the worthy goals of the Clean Energy Plan and Duke's climate targets will be outmatched by the climate impacts of a natural gas expansion. The single biggest boost that you both could give to the reforms currently being explored would be to announce a cancellation of the gas expansion and an immediate pivot to renewable energy resources.

You could simultaneously announce your official commitment to actions aimed at rapidly expanding clean energy alternatives, such as:

- establishing clean energy job training programs at North Carolina community colleges
- replacing plans for new gas capacity with solar, storage and offshore and near-shore wind investments
- expansion and improvement of existing energy efficiency and demand-side management programs
- renewal and improvement of the solar programs established under HB589, which expire at the end of 2022
- promotion of electric vehicles including education, increased charging infrastructure, innovative off-peak charging tariffs and vehicle-to-grid programs that would compensate EV owners for grid services provided by their batteries.

This is the time to spring forward into a paradigm that could become a pivotal move toward averting the growing climate crisis. At the least, we have a chance to end the adversarial nature of the energy discussion in our state and inspire the public that a wide variety of parties and interests are coming together to try our best at this unique time in history.

Please seize this opportunity to avoid a return to business as usual after the COVID crisis, and instead to announce a major turn toward a clean energy era that will align utility interests with those of the public in a way that benefits all. We believe that most Duke Energy critics are eager to find new ways to cooperate with its leaders if Duke will apply its wealth and expertise to real climate protection.

The hurricane season now underway is projected to be worse than average, even as many of the state's most vulnerable people continue trying to recover from storms of the past three years.

This is the time to prioritize their long-term needs, and the long-term needs of all North Carolinians. We believe that, with your leadership and lessons of cooperation from the pandemic, our society's new normal can be one that moves rapidly toward equity and climate protection in the energy sector and models equity and justice priorities for many other sectors of our society as well.

Please let us know how we can work with you to make this effort a reality.

Sincerely,

Drew Shindell, Distinguished Professor of Earth Sciences, Duke University

Dale Evarts, former Director, Climate, International and Multimedia Group, Office of Air Quality Planning and Standards, US Environmental Protection Agency (EPA)

Kathy Kaufman, former Regulatory Analyst, Air Economics Group, Office of Air Quality Planning and Standards, US EPA

Anne Lazarides, PhD

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And these additional alumni of the US EPA in Research Triangle Park, NC:

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