350 CHARLOTTE

To: North Carolina Utilities Commission
4325 Mail Service Center
Raleigh, NC 27699-4300

Attn: Ms. Charlotte Mitchell, Chairperson

February 26, 2021

From: 350 Charlotte
c/o Jerome Wagner, Lead Organizer
110 Summerlake Dr SW
Concord, NC 28025-5767

Subject: Comments to Duke Energy's Corrected IRP Submissions of November 2020

Reference: NCUC Docket E-100 Sub 165

Dear Ms. Mitchell and other Commissioners:

We are pleased to submit these comments related to Integrated Resource Plans (IRP's) for Duke Energy Carolinas and Duke Energy Progress. We thank you, in advance, for your attention to this vital subject.

By way of introduction, 350 Charlotte is a grassroots, all-volunteer civic association which is focused on mitigation of the climate crisis; we also focus on social justice as relates to climate. We are an autonomous branch of 350.org, which has international reach. We are a voice for climate action and climate justice in North Carolina.

As has been recently reported, 2020 was a record-year in terms of hottest global temperatures.[1] Also, during 2020, storm records in the Atlantic Ocean were smashed, with 30 named hurricanes and tropical storms.[2] And, areas of the US Gulf Coast and Central America were hit repeatedly. Elsewhere, wildfires, droughts, hurricanes, typhons, and other extreme weather events devastated many locales around the planet, concurrent with the coronavirus pandemic.

There is strong consensus in the scientific community that these disasters are tied to climate change resulting from human release of greenhouse gases into the atmosphere. There is a strong and growing sense of urgency that activities which emit carbon to the atmosphere must

[1] "2020 rivals hottest year on record, pushing Earth closer to a critical climate threshold," January 14, 2021, https://www.washingtonpost.com/climate-environment/interactive/2021/2020-tied-for-hottest-year-on-record/; accessed February 5, 2021.

[2] "A look back at the horrific 2020 Atlantic hurricane season," December 1, 2020, https://yaleclimateconnections.org/2020/12/a-look-back-at-the-horrific-2020-atlantic-hurricane-center/; accessed February 5, 2021.

be curtailed. That urgency is heightened by recent observations of previously unanticipated feedback loops in global warming.

The International Federation of Red Cross and Red Crescent Societies (IFRC) reflected this urgency in their November 2020, report titled *Come Heat or High Water.* One headline announcing the report read, "Climate change: New report shows global response is failing people in greatest need."[3] The report states an estimate (drawing on data from 2019) that close to 100 million persons were affected by over 225 climate- or weather-related disasters - in that year alone.

Here in the Carolinas, climate change directly threatened us by sea level rise, inland flooding, and changing weather conditions which are handicapping agriculture. All these factors carry serious economic consequences - already – impacts which are predicted to become increasingly severe with time.

We acknowledge the significant challenges faced by Duke Energy in balancing affordability, reliability, and environmental protection. We also acknowledge the technical resources that Duke Energy is applying to envision its energy future, both in the present IRP's and in its *2020 Climate Report*, issued in April 2020. We thank them sincerely for all this important work.

We acknowledge the progress which fossil fuels have brought to society. Indeed, we would not enjoy our present degree of material sufficiency, comfort, and convenience without the preceding century-plus of fossil fuel use.

We acknowledge, also, the difficult jobs of the North Carolina Utilities Commission and the executive administration, in securing for the present and future citizens of North Carolina the best possible outcomes among a very wide spectrum of issue areas, perspectives, and priorities.

Lastly, we recognize Governor Cooper's Executive Order 80. This forms a necessary "floor" for North Carolina's energy future. We note, however, that even attaining these goals may be insufficient to successfully move North Carolina to a climate-safe position. From that perspective, we feel that all opportunities to "go farther faster" must be continually evaluated.

In general, 350 Charlotte advocates for:

- the termination of new fossil-fuel related construction for electric power generation;
- the immediate accelerated deployment and connection of renewable energy sources, storage systems, energy efficiency, and conservation practices and a concurrent reduction in fossil-fueled power generation;

[3] https://media.ifrc.org/ifrc/press-release/climate-change-new-report-shows-global-response-failing-people-greatest-need/; accessed February 5, 2021.

- intensive research and development into means of storage for electrical power;
- and equity- and justice-centered means for achieving all of these goals.

Hereafter, we refer to the individual IRP's for Duke Energy Carolinas and Duke Energy Progress collectively. Our comments apply to both IRP's in all material regards.

As relates specifically to the subject IRP's:

1. We contend that Pathway D – "70% CO_2 Reduction: High Wind" – must be used as the key starting point for decision-making. Pathway D conforms with Governor Cooper's goals, as stated in Executive Order 80. Pathway D uses technology which is commercially available now. Pathway D delivers carbon emission reductions starting in 2024. Given additional focus, perhaps a variant to Pathway D could deliver additional benefits, such as prompt retirement of coal-based generation and avoidance of additional gas-based generation.
2. We request validation of the cost data (i.e., PVRR values, Table 12-C), which indicates relatively little cost difference between the various pathways.
3. Because maximization of both wind and solar energy requires adequate storage technology, we contend that improving this technology - including long duration storage - must be the immediate focus of Duke's R&D investments, in terms of dollars, intellectual pursuit, and management direction. Development of other hoped-for technologies, such as advanced nuclear and carbon capture, must not distract from this goal.
4. We are thankful that Duke produced Pathway F – "No New Gas" - in the 2020 IRP's. This is a vital addition to the discussion and decision-making. Among other factors weighing against expanding gas-based generation, we believe that the IRP insufficiently addresses possible costs to ratepayers of building expensive new gas infrastructure, based on arguably excessive estimates of demand growth.[4] These facilities would also face problems with transportation of needed fuel from out-of-state and would become stranded assets when Duke's climate goals are achieved.
5. We request that a pathway which maximizes the deployment of renewable energy and storage sources within a minimum timeline be generated for concurrent evaluation by NC's regulators and the public sector.
6. We assert that robust public participation is warranted in this process - on a par, at a minimum, with rate increase proceedings. All decisions to continue or expand fossil-fuel use significantly affect society at large. These plans mark a crucial decision point for society – encompassing electric energy production, added climate burdens, and general

[4] "Key Shortcomings in Duke's North Carolina IRP's: Part 2," February 2, 2021, http://ieefa.org/wp-content/uploads/2021/02/Key-Shortcomings-in-Duke-North-Carolina-IRPs_Part-2_February-2021.pdf; accessed February 22, 2021.

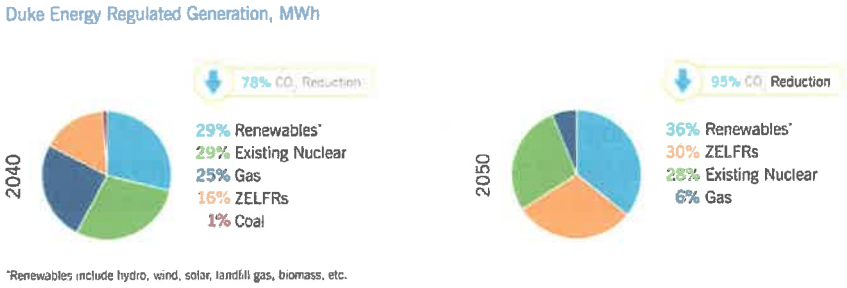
physical and economic security. We contend that it is imperative for the NCUC to foster public involvement on this subject.

7. It is imperative that Duke begin moving beyond conceptual plans to actual implementation plans – including regulatory facilitations, installation locations, property acquisition, equipment procurement planning, detailing of transmission needs, improvements in interconnect management, etc. In this vein, clear, thoughtful, prudent, timely, and forward-looking decision-making by the NCUC in the immediate future is a vital next step.

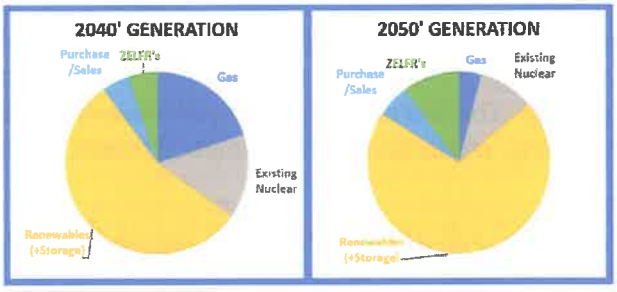
8. We request that Duke address how its pathways align with the City of Charlotte's "Sustainable and Resilient Charlotte by 2050 Resolution," adopted in 2018, in terms of energy generation. This resolution set municipal and community-wide greenhouse gas emissions reduction goals: i) City fleet and facilities to be fueled by 100% zero-carbon sources by 2030; and ii) the whole community to be a low carbon city by 2050 by reducing greenhouse gas emissions to below 2 tons of CO_2 equivalent per person annually.

9. Referring to a letter we sent to Duke Energy Chairperson and CEO, Lynn Good, on June 19, 2020, reflecting on the company's *2020 Climate Report*, we proposed an alternative vision (shown in summary fashion below). We request comment on this vision:

Duke Energy's Suggested Generation Mix (page 26):



Alternative Generation Mix:



Duke Energy Regulated Generation, Percent by Source		
	2040'	2050'
Gas	20	4
Coal	0	0
Existing Nuclear	15	10
Renewables (+Storage)	55	70
Purchase/Sales	5	6
ZELFR's	5	10

In passing, we note also miscellaneous other questions and concerns regarding the IRP's:

1. We question whether renewable sources have been priced fairly in Duke's modeling software; further, we are concerned about whether externalized costs emanating from Duke's fossil- and nuclear-based generation (including social justice implications) are adequately addressed;
2. we assert that a near-term GWP for methane of about 86 is a more appropriate reference value to be used in all evaluations of GHG impacts;
3. we endorse alignment of regional plans with those of the new Administration in Washington, DC;
4. we believe that planning must begin for an orderly transfer of base load generation from the aging nuclear fleet to other sources, including renewables complemented by storage and other practices, avoiding to the extent possible running the aging nuclear plants out to 80 year lives, as currently planned;
5. we advise that limitations on the output of thermal plants (including the nuclear units) due to ambient cooling conditions (i.e., warmer atmosphere, warmer water) be evaluated;
6. we ask the Utilities Commissioners to identify changes to the State's "Renewable Energy & Energy Efficiency Portfolio Standard" (REPS) goals to spur quicker deployment of more renewable energy sources, and we request that they advance enabling legislation;
7. we request further information related to the IRP's, including generation mix charts (similar to the capacity mix charts over time shown in Appendix A) for each pathway and the data (i.e., numbers) behind the various bar-graphs and area-graphs for each pathway, especially as regards source mix over time;
8. we acknowledge Duke's ongoing studies – including with NREL – and look forward to knowing the results of those as relates to transition plans; and,
9. we are interested to learn how Duke will cooperate with the recently announced "Southeast and Mid-Atlantic Regional Transformative Partnership for Offshore Wind Energy Resources (SMART-POWER)" partnership.

We also acknowledge, echo, and recommend to your attention the following:

- Vote Solar's "Duke Energy Report Card" (https://dukesenergyplan.org/);
- Sierra Club – Beyond Coal Campaign – "The Dirty Truth about Utility Climate Pledges" (https://coal.sierraclub.org/the-problem/dirty-truth-greenwashing-utilities);
- The report entitled *A Review of Duke Energy's 2020 Climate Report and Associated Duke Energy Climate Strategy*, issued by the Climate Report Review Group of the

Charlotte-Mecklenburg Climate Leaders (https://cleanaircarolina.org/wp-content/uploads/2021/01/Review-Duke-Energy-2020-Climate-Report.pdf); and,

- The Institute for Energy Economics and Financial Analysis (IEEFA) series titled *Key Shortcomings in Duke's North Carolina IRP's*, including Parts 1 through 3 of an anticipated total of 4 (https://ieefa.org/category/company/duke-energy/).

Please contact Jerome Wagner, as needed, for clarifications. He may be reached at 607-348-5773.

Thank you very much for your attention to this vitally important matter.

Sincerely,

Jerome Wagner (lead author), Holli Adams, and Karen Hodges
On behalf of 350 Charlotte

cc: Ms. Kim Campbell, Chief Clerk of the Commission
North Carolina Utilities Commission
Raleigh, NC 27699-4300