

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-100, SUB 165

In the Matter of:)	INITIAL COMMENTS OF
)	VOTE SOLAR
2020 Biennial Integrated Resource Plan)	
and Related 2020 REPS Compliance Plans)	
)	

Vote Solar respectfully submits these initial comments to the North Carolina Utilities Commission (“NCUC” or the “Commission”) on the 2020 Integrated Resources Plans (“IRPs” or “Plans”) filed by Duke Energy Carolinas, LLC (“DEC”) and Duke Energy Progress, LLC (“DEP”) (collectively the “Companies,” “Duke Energy,” or “Duke”).

SUMMARY

Vote Solar submitted expert testimony on the Duke Energy 2020 IRPs to the South Carolina Public Service Commission (Dockets 2019-224-E and 2019-224-E) on February 5, 2020. While the regulatory, economic, and physical contexts differ between North and South Carolina, the conclusions and recommendations reached by Mr. Fitch in his testimony apply to Duke Energy’s Plans in both jurisdictions. In the interest of providing a consistent foundation for evaluating the Plans, that testimony and its exhibits are attached to these comments.

In his testimony, Vote Solar regulatory manager Tyler Fitch reached the following conclusions:

Emergent climate-related risks are material to Duke Energy’s assets and operations in the Carolinas. Physical, economic, regulatory, financial, and reputational risks driven by climate change are material business risks to Duke Energy, and prudent business management would dictate that Duke Energy assess and manage these risks.

Duke Energy has an obligation to demonstrate management of climate-related risks in its Plans. Integrated Resources Plans identify the mix of resources that will lead to least-cost power to ratepayers. Demonstrating a least-cost plan should incorporate due consideration of medium- and long-term climate-related risks.

Duke Energy's 2020 Integrated Resource Plans do not adequately assess or manage climate-related risks. Duke Energy's IRPs do not provide an adequate assessment of vulnerability to climate-related risks, do not consider strategies that would drive direct ratepayer benefits and manage climate-related risks, and do not adequately evaluate potential climate-related costs to the plans.

Given Duke Energy's failure to demonstrate assessment and management of material business risks, Vote Solar requests that the Commission reject Duke Energy's 2020 Integrated Resource Plans as not reasonable for planning purposes and direct Duke Energy to pursue resource planning practices that pursue risk-informed planning. To the extent that further information on issues discussed within the Plans and comments by Public Staff, Vote Solar and other intervenors would be helpful to the deliberation of the Commission, Vote Solar requests that the Commission convene an evidentiary hearing to hear expert testimony on these issues.

I. Emergent Climate Risks are Material to Duke Energy's Assets and Operations

Climate-related risks are potential negative future impacts on an entity due to physical, social, or economic factors driven by climate change. Beyond changes to the physical environment, climate-related risks encompass the regulatory, financial, and economic trends driven by societal reaction to climate change, including but not limited to regulations to limit carbon emissions and reduction in costs of renewable energy technologies.

Awareness of climate risks has accelerated in recent years, and a common understanding of climate-related risks has emerged since the international Financial Stability Board established the Task Force for Climate-Related Financial Disclosures ("TCFD") in 2015.¹ Since TCFD

¹ Task Force on Climate-related Financial Disclosures, (2019, May). 2019 Status Report. p. 2. Retrieved at <https://www.fsb-tcfd.org/publications/tcfd-2019-status-report/>.

published its initial recommendations in 2017, the recommendations have become an international standard, adopted by almost 1,500 organizations, 110 regulators and governing entities, and encompassing over \$150 trillion in global assets under management.² Duke Energy's 2020 Climate Report was developed in compliance with the TCFD framework, demonstrating the ubiquity of the Task Force's recommendations.³

As further discussed in Mr. Fitch's testimony, consideration and management of climate risks have reached a tipping point since Duke Energy's last IRP filing in 2018. Several key developments are driving this transformation:

- **Common language.** The TCFD framework provides a common language for discussing climate-related risks;⁴
- **Physical impacts.** Physical climate-related phenomena are already having negative impact on electric utilities in the United States (e.g. PG&E's bankruptcy after the 2018 wildfires);⁵
- **Financial institution & shareholder concern.** Concern over systemic climate risks by financial institutions and shareholders interested in environmental, social, and governance ("ESG") issues is driving increased scrutiny;⁶

² Task Force on Climate-related Financial Disclosures, (2020, September). 2020 Status Report. P.3. Retrieved at: <https://www.fsb.org/wp-content/uploads/P291020-1.pdf>.

³ Duke Energy (2020). Achieving a Net Zero Carbon Future ("Duke 2020 Climate Report"). P. 3. Retrieved at: <https://www.duke-energy.com/media/pdfs/our-company/climate-report-2020.pdf?la=en>.

⁴ *Ibid.*,

⁵ *UtilityDive* (2020, November). Climate risks are accelerating. Here's what Duke, PG&E, and 16 other utilities expect to pay. Retrieved at: <https://www.utilitydive.com/news/climate-risks-accelerating-heres-what-costs-duke-pge-and-16-other-utilities-expect/588860/>.

⁶ The US Commodities Futures Trading Commission ("CFTC") published a report in September 2020 which states, "Climate change poses a major risk to the stability of the US financial system and to its ability to sustain the American economy," and, accordingly, "[p]romoting the transition to a net-zero emissions economy and safeguarding financial stability are consistent, mutually reinforcing objectives." Duke Energy's first Environmental, Social, & Governance (ESG) investor day took place on October 9, 2020.

- ***New analytical tools.*** Analytical methods are enabling identification of climate-related risks with more precision and granularity, even at an asset level in the electric utility sector;⁷
- ***Convergence on zero by 2050.*** Concern about additional costs of a disorderly transition and the potential for stranded assets are driving a consensus timeline among financial institutions of a zero-emissions economy by 2050.⁸

To recap, there is a common understanding of climate-related risks; the risks are already substantially impacting firms in the US utility sector; investors and the public are taking those risks seriously; the tools exist to pinpoint climate risks; stranded asset risks are in focus; and actors (including Duke Energy⁹) are converging on a net-zero emissions economy by 2050.

In this context, the 70% reduction by 2030 and net-zero by 2050 targets envisioned by the Cooper Administration's Executive Order 80 represent the leading edge of an emergent consensus among utilities, financial institutions, and governments.¹⁰ Outputs of Executive Order 80, including the North Carolina Climate Science Report and the North Carolina Clean Energy Plan, represent tools that North Carolina decisionmakers can use to reach the consensus zero-by-2050 target.

⁷ Bertolotti, A., Basu, D., Akallal, K., Deese, B. (2019, March). Climate Risk in the US Electric Utility Sector: A Case Study. Retrieved at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3347746.

⁸ Beyond the US CFTC's report, 2020 also saw BlackRock join the Climate Action 100+ and Barclays, Morgan Stanley, JP Morgan Chase, and TD commit to net-zero financed emissions by 2050.

⁹ Duke Energy Carolinas (2020, September). Integrated Resources Plan 2020 Biennial Report ("DEC IRP Main Document"), North Carolina Utilities Commission Docket E-100, Sub 165, p. 8.

¹⁰ State of North Carolina (2018, Order). Executive Order No. 80: North Carolina's Commitment to Address Climate Change and Transition to a Clean Energy Economy. Retrieved at: <https://governor.nc.gov/documents/executive-order-no-80-north-carolinas-commitment-address-climate-change-and-transition>.

Mr. Fitch authored a report, titled “Carbon Stranding: Climate Risk and Stranded Assets in Duke’s Integrated Resources Plan,” that explores the specific exposures of Duke Energy Carolinas and Duke Energy Progress to climate-related risks. While his overview relies on publicly available information and should not be considered a comprehensive assessment, it provides a helpful indication of climate-related risks to Duke Energy’s assets and operations. A summary table from the report is provided below as Figure 1-1, and the report is attached as Exhibit TF-2 of Mr. Fitch’s testimony.

Type of Risk	Duke Energy Exposure in Carolinas
Physical	2020 North Carolina Climate Science Report found that “large changes in North Carolina’s climate, much larger than at any time in the state’s history, are <i>very likely</i> .” A Moody’s analysis found Duke among the most at-risk utilities to flooding.
Financial	BlackRock, Duke Energy Corporation’s third-largest shareholder, claims climate risks are driving a “fundamental reshaping of finance.” The firm voted against boards of directors 55 times during 2019-2020 due to lack of climate progress. Increased focus on environmental, social, & governance (ESG) issues are driving Duke investor attention.
Economic	Renewable energy technologies are outcompeting conventional fossil-fueled generation, even on a subsidy-free basis. Expert analysis finds that portfolios of clean energy resources could economically out-compete existing fossil generation by the mid-2020s.
Regulatory	North Carolina’s Clean Energy Plan contemplates future policies to decarbonize the electric power sector, including accelerated coal retirements, market-based carbon reduction programs, clean energy standards, or a combination of these standards.
Reputational	Duke Energy’s existing decarbonization goals are a public commitment, and the corporation’s reputation and social license could be damaged if the commitment is not upheld. In a recent survey, Deloitte found that “the math doesn’t add up” for Duke’s decarbonization plan.

Figure 1-1. Summary of Climate Risks for Duke Energy Companies in the Carolinas.¹¹

Duke Energy’s companies face climate-related risks across each of the categories described by the TCFD framework. These risks are interconnected, material to Duke Energy’s assets and

¹¹ Fitch, T. (2021, January). Carbon Stranding: Climate Risk and Stranded Assets in Duke's Integrated Resources Plan. *Energy Transitions Institute*. P. iv. Retrieved at: <https://energytransitions.org/carbon-stranding>.

operations¹² and likely to accelerate through the IRP planning horizon and beyond. If climate-related risks are not adequately assessed and managed, just as Duke Energy is expected to manage other business risks, then ratepayers, shareholders, and management alike will be exposed to negative outcomes, including increased costs and stranded assets.

II. Least-Cost Resource Planning Entails Consideration of Climate-Related Risks.

North Carolina Gen. Stat. § 62-2(3a) states the policy of the State of North Carolina regarding resource planning:

To assure that resources necessary to meet future growth through the provision of adequate, reliable utility service 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[.]

The relevant standard for evaluating Duke Energy's Integrated Resource Plans is the extent to which the Plans demonstrate they result in the *least-cost* mix of resources for North Carolina ratepayers. Given the uncertainty inherent in long-term planning and the coincident transformations taking place across the energy landscape, demonstration of least-cost planning should also take relevant, material risks into account. The Commission provided guidance on risk-informed least-cost planning in its April 2020 Order on Duke Energy's 2019 Update Reports:

The Commission observes that all parties agree that the near and intermediate term periods will be marked by rapid technological change

¹² At Duke Energy's October 2020 ESG day, a member of the Duke Energy Board of Directors identified climate issues as "central... to our business model and our future as a company." See: Duke Energy (2020, October). 2020 ESG Investor Day Transcript. Retrieved at: <https://www.duke-energy.com/media/pdfs/our-company/investors/news-and-events/2020/esg/2020-esg-day-transcript.pdf?la=en>.

accompanied and reinforced by potentially dramatic changes in the costs of new generating technologies and compounded by an increasing emphasis on reduction in greenhouse gas emissions from electric power generation. The Commission's view is no different. For this reason it is important when applying the principle of long-term least cost planning for generation assets that the Companies avoid near term investments in long-lived generating assets that may, due to market forces and technological change, become economically stranded over the course of the longer planning period.¹³

This statement by the Commission crystallizes the need and opportunity for consideration of long-term, climate-related risks within Duke Energy's resource plans. Assessment of long-term, least-cost planning should integrate consideration of all relevant risks and opportunities, and the climate-related exposures identified in the previous section will have increasing impacts over the planning period and beyond. Demonstration that Duke Energy's Integrated Resource Plans are least cost must include adequate assessment and management of climate-related risks.

III. Duke Energy's Integrated Resource Plans Do Not Adequately Assess or Manage Climate-related Risks

In his testimony, Mr. Fitch provides an in-depth critique of Duke Energy's assessment and management of climate-related risks in the Plans. Mr. Fitch also provides specific recommendations to Duke Energy and regulators for pursuing climate-risk-informed resource planning. The conclusions reached in Mr. Fitch's testimony are summarized below:

Duke Energy did not adequately assess climate-related risks in the formation of the 2020 Integrated Resources Plans.

- 1. Duke Energy did not conduct a systematic assessment of climate-related risks in the Carolinas.*** While Duke Energy provided a high-level, corporate assessment of climate risks in its 2020 Climate Report,¹⁴ information in the report is not of adequate precision for assessing risk to Duke Energy's assets and operations in the Carolinas. Utility

¹³ NCUC, (2020, April). Order Accepting Filing of 2019 Update Reports and Accepting 2019 REPS Compliance Plans. Docket No. E-100, Sub 157. P. 11. Retrieved at: <https://starw1.ncuc.net/ncuc/ViewFile.aspx?Id=86f15be3-7617-4910-aeae-d8568c4d0983>.

¹⁴ The 2020 Climate Report is attached to these comments as Exhibit TF-3.

operating-company-level climate risk assessments are emerging in proceedings in New York and California public service commission proceedings.¹⁵

2. ***Duke Energy did not incorporate foreseeable climate-related physical impacts into the Plans.*** The North Carolina Climate Science Report,¹⁶ Duke Energy's corporate 2020 Climate Report,¹⁷ and recent power sector modeling scholarship¹⁸ anticipate climate-driven physical impacts to power sector operation in the Carolinas, but Duke Energy's IRPs do not adequately account for physical impacts in forecasts or operations.
3. ***The Companies' reference carbon prices no longer provide an appropriate benchmark.*** While the inclusion of a reference carbon policy is a sound approach to forecasting regulatory risk, recent proposals and forecasts have outpaced Duke Energy's placeholder policy. The Energy Information Administration's 2021 Annual Energy Outlook, for instance, uses a \$25/ton price in 2021 as a mid-level estimate.¹⁹

Duke Energy did not consider strategies that would mitigate climate-related risks while driving incremental cost benefits.

1. ***Duke Energy's modeling capabilities do not yet fully integrate distributed energy resources.*** The IRP documents explain that Duke Energy's integrated systems & operations planning (ISOP) will create opportunities to cost-effectively defer or avoid transmission, distribution, or generation resources,²⁰ but the analytical capability to assess these opportunities is not yet available. Vote Solar agrees with the Commission that comprehensive utility system planning processes will be essential to transitioning to a clean energy economy,²¹ and while these capabilities are not yet functional Duke Energy should pursue a 'no-regrets' approach.

¹⁵ See: Whieldon, E. (2020, October). New York PSC is considering making utilities report climate change risks. *S&P Global*. Retrieved at: <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/new-york-psc-is-considering-making-utilities-report-climate-change-risks-60765680>.

¹⁶ Kunkel, K., Corbett, D., Perry, L., Easterling, D., Dello, K., Robinson, W., Ballinger, A., Dissen, J., Stevens, L., Bililign, S., Lackmann, G., Stewart, B., Champion, S., Luettich Jr., R., & Terando, A. (2020, September). North Carolina Climate Science Report. North Carolina Institute for Climate Studies. Retrieved at: https://ncics.org/wp-content/uploads/2020/10/NC_Climate_Science_Report_FullReport_Final_revised_September2020.pdf.

¹⁷ Duke Energy, *supra* note 3.

¹⁸ Fonseca, F., Craig, M., Jaramillo, P., Berges, M., Severnini, E., Loew, A., Zhai, H., Cheng, Y., Nijssen, B., Voisin, N., & Yearsley, J. (2021, January). Effects of Climate Change on Capacity Expansion Decisions of an Electricity Generation Fleet in the Southeast U.S. *Environmental Science & Technology*. DOI: 10.1021/acs.est.0c06547.

¹⁹ US Energy Information Administration (2020, March). *Annual Energy Outlook 2020: Alternative Policies*. Retrieved at: https://www.eia.gov/outlooks/aeo/section_issue_policies.php.

²⁰ DEC IRP Main Document, p. 121.

²¹ NCUC (2021, January 26). Order Granting Motions for Leave and Altering Start Time for Technical Conference. Docket No. E-100, Sub 165. Retrieved at: <https://starw1.ncuc.net/NCUC/ViewFile.aspx?Id=fc22831e-549b-441b-abe9-34dc8b9415b2>.

2. ***Duke Energy has declined to assess all regional coordination options that could drive direct customer benefits.*** Duke Energy’s IRPs were proposed contemporaneously with the development and proposal of a voluntary energy exchange market that would include Duke Energy Progress and Duke Energy Carolinas, branded by proponents as the Southeast Energy Exchange Market (“SEEM”). While SEEM could provide economic benefits to ratepayers, several expert studies from a variety of institutions found that an energy imbalance market (“EIM”) or creation of a regional transmission organization (“RTO”) in the Southeast could drive even more economic and carbon emissions benefits.²² Pursuit of SEEM without consideration of other regional coordination arrangements represents a missed opportunity to drive ratepayer benefits and manage climate-related risks.

Duke Energy’s evaluation of its selected scenarios consistently under-estimate long-term climate-related risks.

1. ***At a portfolio level, Duke Energy does not adequately evaluate the risks of failing to meet long-term carbon commitments.*** Despite Duke Energy’s net-zero by 2050 commitment, the base cases actually represent a slower pace in emissions reductions compared to 2005-2019, and the Plans do not articulate a credible or cost-effective pathway to zero emissions. According to Mr. Fitch’s analysis, approximately 15 gigawatts of carbon-emitting capacity would still be online in 2050 if Duke Energy pursued the base case with carbon policy. Shutting these plants down early to meet carbon commitments could result in \$4.8 billion of stranded asset costs to ratepayers, or \$900 per residential Duke Energy customer in the Carolinas.²³
2. ***At an asset level, Duke Energy does not adequately estimate the cost of zero-carbon retrofits or risk of stranding for its carbon-emitting generation.*** While Duke Energy provides a high-level description of zero-carbon retrofits like carbon capture and storage or fuel substitution by renewable natural gas or hydrogen,²⁴ the Plans do not include a detailed discussion of feasibility for these interventions, or the costs that they would impose on ratepayers. Reliance on these hypothetical solutions without due consideration could lock ratepayers into an expensive or impractical path to a net-

²² See: Chen, J. (2020, March). Evaluating Options for Enhancing Wholesale Competition and Implications for the Southeastern United States. Duke Nicholas Institute for Environmental Policy Solutions. P.1. Retrieved at: <https://nicholasinstitute.duke.edu/sites/default/files/publications/Evaluating%20Options%20for%20Enhancing-Wholesale-Competition-and-Implications-for-the-Southeastern-United-States-Final.pdf>;

Butner, M. (2020, September). An Energy Imbalance Market in the Southeastern United States. Energy Transition Institute. P. 10-11. Retrieved at: <https://energytransitions.org/energy-imbalance-market>;

Chen, J. & Bardee, M. (2020, August). How Voluntary Electricity Trading Can Help Efficiency in the Southeast. R Street Institute. Retrieved at: <https://www.rstreet.org/wp-content/uploads/2020/08/No.-201-Energy-Trade-in-the-Southeast.pdf>.

²³ Fitch, p. ii.

²⁴ DEC IRP Main Document, p. 136.

zero energy system.

3. ***Duke Energy's calculation of plan costs are not adjusted for risk and consistently under-estimate long-term climate risks.*** Duke Energy's cost estimation approach assumes that cost trajectories 2036-2050 for each of the plans will mimic 2020-2035 costs. This approach effectively assumes that plans that do the *least* to transition to a zero-carbon energy system in the 2020-2035 time frame will also cost the least in the 2036-2050 period—just when these scenarios would have to accelerate investment to reach net-zero commitments. Duke Energy's use of a private discount rate also emphasizes short-term costs and benefits over long-term costs and benefits.

Based on these conclusions, Mr. Fitch recommends that the North Carolina Utilities Commission reject Duke Energy's 2020 Integrated Resources Plans as proposed. Furthermore, he recommends several revisions to a re-submitted, modified IRP, and he recommends a short-term action plan to better integrate climate-related risks. A full list of recommendations can be found in Section V of Mr. Fitch's testimony. In line with Mr. Fitch's testimony and conclusions, Vote Solar requests that the Commission reject Duke Energy's 2020 Integrated Resource Plans as not reasonable for planning purposes and that the Commission order revised IRPs and short-term action plans that adequately incorporate climate-related risks.

IV. Emerging Climate-Related Risks and the Utility of an Evidentiary Hearing

Underscoring the emergent nature of climate-related risks, there have been additional developments between the February 5, 2021 filing of Mr. Fitch's testimony in South Carolina and the filing of these comments that inform discussion of climate-related risks. In particular, the Texas power system failed to provide power during the February 2021 polar vortex event²⁵ and federal policies addressing climate risk have changed, each having implications for consideration in Duke Energy's Plans.

²⁵ Gold, R. (2021, February). Why is Texas Experiencing Power Outages? *Wall Street Journal*. Retrieved at: <https://www.wsj.com/articles/texas-weather-power-outage-11613425923>.

Sustained power outages across Texas driven by unprecedented cold temperatures in February 2021 represent one of the most significant electricity system failures in recent decades. Although an in-depth understanding of the causes of the supply shortfall is still developing, power and gas systems as a whole were not adequately prepared to operate under extreme cold or peak-load winter conditions.²⁶ While any single event is driven by a multitude of factors, meteorologists project that climate change will increase the likelihood of similar extreme weather events. The North Carolina Science Report identifies increased likelihood of polar vortex events like the one in Texas as a potential outcome of climate change in the Carolinas.²⁷ In response to these events and emergent climate-driven reliability risks, the Federal Energy Regulatory Commission (“FERC”) initiated a proceeding to assess impacts of climate change on electric reliability.²⁸ In South Carolina, Governor McMaster directed the Office of Regulatory Staff to assess the vulnerability to extreme winter conditions of the state’s power grid on February 19.²⁹ Events in Texas underscore the need for utilities and regulators to systematically assess physical vulnerabilities of the system to climate-driven physical impacts, including operational risks to gas infrastructure and individual generation units.³⁰

²⁶ Morehouse, C. (2021, February). “Power experts cite gas constraints as main cause of ERCOT outages, but system planning questions remain.” *UtilityDive*. Retrieved at: <https://www.utilitydive.com/news/power-experts-cite-gas-constraints-as-main-cause-of-ercot-outages-but-syst/595255/>.

²⁷ Kunkel et al., p. 101.

²⁸ Federal Energy Regulatory Commission (2021, February). FERC to Examine Electric Reliability in the Face of Climate Change. Retrieved at: <https://www.ferc.gov/news-events/news/ferc-examine-electric-reliability-face-climate-change>.

²⁹ WMBF News (2021, February). “McMaster orders review of state’s power grid.” Retrieved at: <https://www.wmbfnews.com/2021/02/19/mcmaster-orders-review-states-power-grid/>.

³⁰ Douglas, E., McGee, K., & McCullough, J. (2021, February). Texas leaders failed to heed warnings that left the state's power grid vulnerable to winter extremes, experts say. *Texas Tribune*. Retrieved at: <https://www.texastribune.org/2021/02/17/texas-power-grid-failures/>.

Since the September 2020 submission of the Integrated Resource Plans, the prospect of federal policy change has increased with the change in partisan control of the White House and the Senate. Top officials in the newly-inaugurated Biden administration have made addressing climate risk a key priority,³¹ and the likelihood of legislative support for zero-carbon generation has increased significantly. The prospects of federal policy change have already led Duke Energy CEO Lynn Good to acknowledge impacts on filed resource plans, explaining that “the integrated resource plans that we shared in the fall [were] predicated on the tax policy that existed at the time.”³²

The emergence of climate-related risks, increased focus on a long-term transition to a decarbonized energy system, and rapid pace of developments relevant to Duke Energy’s plans in the Carolinas underscore the need to pursue resource plans that are responsive to financial, technology, and policy changes and avoid stranded assets. In light of these recent events, it is more important than ever that the Commission have a complete and timely view of resource plans. At the discretion of the Commission, Vote Solar requests that the Commission convene an evidentiary hearing to hear expert testimony on issues identified by Public Staff, Vote Solar, and other intervenors.

³¹ Warmbrodt, Z. (2021, January). “Yellen vows to set up Treasury team to focus on climate, in victory for advocates.” *Politico*. Retrieved at: <https://www.politico.com/news/2021/01/19/yellen-treasury-department-climate-change-460408>.

³² Duke Energy (2021, February). Q4 Duke Energy Corporation Earnings Call. Retrieved at: https://www.duke-energy.com/_media/pdfs/our-company/investors/news-and-events/2020/4qresults/4q20-transcript.pdf?la=en.

CONCLUSION

As of the submission of these Initial Comments of Vote Solar, the year 2050 — the zero-emissions target year commonly-held by Duke Energy,³³ most large US electric utilities,³⁴ the state of North Carolina,³⁵ and a growing number of major financial institutions³⁶ — is less than 30 years away. There is little doubt that the electricity grid will dramatically change over the next three decades. The investments contemplated within Duke Energy's 2020 Integrated Resource Plans will be part of that mid-century power grid, and in the case of some assets, will be in the first half of their expected lifetimes. Over the course of those investments' lives, climate-driven physical impacts and economic transitions are highly likely to continue to accelerate. In spite of these heightened risks and Duke Energy's net-zero by 2050 commitment, Duke presented Plans to the Commission that include a substantial build-out of carbon-emitting generation assets.³⁷

To ensure the long-term provision of least-cost power to North Carolina ratepayers, Duke Energy's integrated resource plans must reflect climate-related risks and adequately manage them. To the extent that the Plans fail to do so, the Plans do not represent least-cost planning. Although no specific investments are being approved or denied in this proceeding, these Plans have a particular significance as the first plans submitted to the Commission since the completion of the

³³ DEC IRP Main Document, p. 8.

³⁴ Whieldon, E. (2020, July). "Paths to net zero: In taking plunge, US utilities ahead of global oil, mining." *S&P Global*. Retrieved at: <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/path-to-net-zero-in-taking-plunge-us-utilities-ahead-of-global-oil-mining-59543532>.

³⁵ North Carolina Department of Environmental Quality (2019, October). North Carolina Clean Energy Plan. P. 12. Retrieved at: https://files.nc.gov/ncdeq/climate-change/clean-energy-plan/NC_Clean_Energy_Plan_OCT_2019_.pdf.

³⁶ Silverstein, K. (2020, November). "Banks Bet They Can Go Zero-Carbon And Still Boost the Bottom Line." *Forbes*. Retrieved at: <https://www.forbes.com/sites/kensilverstein/2020/11/16/banks-are-betting-they-can-hit-their-net-zero-carbon-goals-and-still-better-their-bottom-lines>.

³⁷ DEC IRP Main Document, p. 16.

North Carolina Clean Energy Plan and Duke Energy's announcement of its net-zero by 2050 carbon emissions commitment. Precedent set by the Commission's decision on these Plans will likely have a substantial impact on the clean energy transition in the Carolinas. Approval of the Plans could lead to the same economically-stranded asset costs to ratepayers described by the Commission in its April 2020 Order.³⁸

Based on a review of Duke Energy's 2020 Integrated Resource Plans and evidence of emerging climate-related risks, Vote Solar requests that the Commission, after due consideration of the Plans and intervenor comments, reject Duke Energy's 2020 Integrated Resource Plans as inadequate for planning purposes, and direct Duke Energy to adopt resource plans that integrate climate-related risk.

Respectfully submitted this 26th day of February, 2021.

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Expert Witness

³⁸ NCUC (2020, April).

CERTIFICATE OF SERVICE

I hereby certify that I have served the persons listed on the official service list for Docket No. E-100, Sub 165, a copy of the following: Initial Comments of Vote Solar with Attachments 1 - 7 via U.S. Mail or email transmission, where parties have consented to electronic service.

This 26th day of February, 2021.

/s/

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