

## Seeing Green: North Carolina's Clean Energy Plan, the Social Cost of Carbon, and a Way Forward Under a Least-Cost Framework\*

*In the absence of robust federal climate change policies, North Carolina is one of the numerous states that has taken the initiative to thwart future climate change impacts within its own borders. North Carolina's Clean Energy Plan is a necessary step toward creating a carbon neutral utility sector, but for the Plan to be effective, North Carolina must address the fact that a public utility system designed to function by providing the least expensive energy options does not neatly transition into a clean energy future when it requires additional financial investments.*

*The Clean Energy Plan's recommendation to require utilities to include the social cost of carbon into their integrated resource plans is enigmatic of this tension. By its nature, the social cost of carbon involves artificially heightening the cost of fossil fuel resources. Irrespective of one's feelings toward carbon intensive resources, it must be acknowledged that the least-cost model cannot easily be served in the state when a utility is required to base its energy portfolio off of energy prices that do not reflect the direct and actual cost of the fuel source.*

*This Recent Development provides a way forward with a solution through which North Carolina's Utility Commission can legally consider the environmental impacts of a fuel source when evaluating the prudence of a public utility's future energy investments. By tackling the issue at the source—the statutory parameters under which the Commission must function—this Recent Development proposes a solution that will provide a broader base on which both environmental advocates and the state's largest utility can pursue their clean energy goals.*

### INTRODUCTION

States across the country are at a critical crossroads. As we approach mid-century, climate change impacts are becoming more apparent to citizens and state actors alike.<sup>1</sup> While private industries and organizations are responding to

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1. See *Status of Treaties: Paris Agreement*, UNITED NATIONS TREATY COLLECTION, [https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg\\_no=XXVII-7-d&chapter=27&clang=\\_en](https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-7-d&chapter=27&clang=_en) [<https://perma.cc/2SEK-MGKV>] (last updated Aug. 31, 2020, 5:01 AM) (listing the 189 nation-state parties to the Paris Climate Accord); *U.S. Public Views on Climate and Energy*, PEW RSCH. CTR. (Nov. 25, 2019), <https://www.pewresearch.org/science/2019/11/25/u-s-public-views-on-climate-and-energy/> [<https://perma.cc/XUF8-UUNVI>] (providing that a majority of Americans and ninety percent of Democrats believe that the United States should do more to address climate change).

social pressures to do their part in reducing emissions,<sup>2</sup> voluntary industry efforts alone will be inadequate to achieve the level of compliance necessary to avoid irreversible impacts.<sup>3</sup> Thus, both state and federal government mandates are an integral element to any climate change mitigation strategy. This concept is at the core of North Carolina's Clean Energy Plan ("the Clean Energy Plan"),<sup>4</sup> an aspirational document that outlines methods to achieve Governor Roy Cooper's goal of making North Carolina a carbon neutral state by 2050.<sup>5</sup> The Clean Energy Plan identifies key stakeholders in achieving this goal and the actions they must take should the Clean Energy Plan come to fruition.<sup>6</sup>

While the Clean Energy Plan itself is a noble cause, its full value can only be realized if stakeholders are able to implement it. A significant hurdle to the Clean Energy Plan's execution is the inherent design and purpose of utility regulation in North Carolina. The regulatory model in North Carolina, in which the North Carolina Utilities Commission ("the Commission") regulates the relationship between North Carolina's electric utilities and its residents and industries,<sup>7</sup> is designed to prohibit utilities from taking financial advantage of customers by leveraging monopoly power to charge exploitative rates.<sup>8</sup> This fundamental design element means that the Commission's statutory duties permit it to approve a utility's proposal to charge customers for resources that adhere to the least-cost principle, meaning investments that are not the least expensive fuel option will be struck down as contrary to the public interest.<sup>9</sup>

2. See, e.g., "We Are Still in" Declaration, WE ARE STILL IN (June 5, 2017), <https://www.wearestillin.com/we-are-still-declaration> [<https://perma.cc/87HR-BDNG>] ("We, the undersigned mayors, county executives, governors, tribal leaders, college and university leaders, businesses, faith groups, cultural institutions, healthcare organizations, and investors are joining forces for the first time to declare that we will continue to support climate action to meet the Paris Agreement.").

3. See JOHN BELLAMY FOSTER, *ECOLOGY AGAINST CAPITALISM* 11 (2002) (asserting that sustainable capitalism creates "issues of sustainability" because "intergenerational environmental equity . . . cannot be incorporated within the short-term time horizon of nonphilanthropic capital"); Scott Prudham, *Pimping Climate Change: Richard Branson, Global Warming, and the Performance of Green Capitalism*, 41 ENV'T & PLAN. 1594, 1595–1600 (2009) (critiquing the green capitalism movement because it "pivots in large measure on the problematic suggestion that more sustainable futures can be secured via capitalist investment and entrepreneurial innovation").

4. N.C. DEP'T. OF ENV'T QUALITY, *NORTH CAROLINA CLEAN ENERGY PLAN* (2019) [hereinafter CLEAN ENERGY PLAN], [https://files.nc.gov/ncdeq/climate-change/clean-energy-plan/NC\\_Clean\\_Energy\\_Plan\\_OCT\\_2019\\_.pdf](https://files.nc.gov/ncdeq/climate-change/clean-energy-plan/NC_Clean_Energy_Plan_OCT_2019_.pdf) [<https://perma.cc/4XG6-FQS9>].

5. *Id.* at 52–53.

6. *Id.* at 7.

7. *About the NC Utilities Commission*, N.C. UTILS. COMM'N (2020), <https://www.ncuc.net/aboutncuc.html> [<https://perma.cc/52DK-42YY>].

8. See *infra* Section I.A.

9. See *infra* Section I.A.

While ideologically admirable, this principle has historically created tension with climate change mitigation efforts.<sup>10</sup> This incongruity is particularly illustrated by one of the Clean Energy Plan’s recommendations, which suggests that the Commission require utilities in the state to include the social cost of carbon in their integrated resource plans (“IRPs”).<sup>11</sup> The social cost of carbon is a climate change mitigation tool that broadens the externalities that fossil fuel resources must financially account for, such as health and environmental impacts.<sup>12</sup> In effect, this artificially raises the relative cost of fossil fuel sources, making clean energy more affordable.<sup>13</sup> IRPs are documents that forecast what kind of investments the utility company will make in the future, so IRPs that account for the social cost of carbon would have the significant potential to change North Carolina’s energy resource portfolio in the future. But, in order for the Clean Energy Plan to be of any value, the tension between the Clean Energy Plan and the Commission’s legal imperatives must be rectified.

This Recent Development will explore the tension between economic efficiency and carbon reduction goals using this provision of the Clean Energy Plan as a case study. Two areas of consideration are relevant in determining whether the Commission will unilaterally require that utilities include the social cost of carbon in their investment forecasts. First, it is necessary to determine whether the Commission is legally permitted to direct utilities to calculate the social cost of carbon when proposing future investments. This determination is done by examining whether the social cost of carbon as a concept sufficiently fits within the least-cost principle and the Commission’s broader statutory duties. Second, if including the social cost of carbon is legally permissible, it is necessary to determine whether the Commission will leverage its agency latitude to unilaterally require its inclusion. This can be done by comparing the social cost of carbon to other clean energy initiatives the Commission has permitted to evaluate the likelihood that the Commission would be willing to affirmatively extend its agency power without an explicit statutory directive.

Analysis proceeds in three parts. Part I provides background information on the traditional utility regulatory model and public utility commissions. Part

10. Rudy Perkins, *Electricity Deregulation, Environmental Externalities and the Limitations of Price*, 39 B.C. L. REV. 993, 993–94 (1998).

11. Colely Girouard, *Understanding IRPs: How Utilities Plan for the Future*, ADVANCED ENERGY ECON.: ADVANCED ENERGY PERSPS. (Aug. 11, 2015, 4:59 PM), <https://blog.aee.net/understanding-irps-how-utilities-plan-for-the-future> [<https://perma.cc/QKN7-7FDP>]; see also *supra* text accompanying notes 64–67.

12. “The social cost of carbon is a measure of the economic harm from [climate change] impacts, expressed as the dollar value of the total damages from emitting one ton of carbon dioxide into the atmosphere.” *The True Cost of Carbon Pollution*, ENV’T. DEF. FUND, <https://www.edf.org/true-cost-carbon-pollution> [<https://perma.cc/Z9FJ-X86G>]; see also Simon Evans, Roz Pidcock & Sophie Yeo, *Q&A: The Social Cost of Carbon*, CARBON BRIEF (Feb. 14, 2017, 8:00 AM), <https://www.carbonbrief.org/qa-social-cost-carbon> [<https://perma.cc/Y3XG-7Q6J>].

13. Evans et al., *supra* note 12.

II addresses the Clean Energy Plan, its recommendation that the Commission require the inclusion of the social cost of carbon in IRPs, and its relative likelihood of success in light of the Commission's statutory framework and past decisions. Part III proposes the legislative process as a more realistic and permanent method of implementation.

## I. BACKGROUND: UTILITY COMMISSIONS IN TRADITIONALLY REGULATED STATES

A contextualized approach to implementing North Carolina's clean energy goals is key to ensuring that efforts to reduce emissions can fully withstand legal and political scrutiny. The following section provides a primer on the historical and legal developments of utility commissions and the policy goals that have shaped their evolution.

### A. *The Role of Utility Commissions*

At its root, the traditional electric utility system is an arrangement to bridge social and economic inequalities.<sup>14</sup> In the early twentieth century, as industrialized urban centers flourished, rural citizens were quite literally left in the dark.<sup>15</sup> Due to economies of scale, private electricity providers were eager to serve urban customers in crowded spaces, as doing so required significantly less infrastructure to serve a much larger number of customers.<sup>16</sup> As the rural-urban divide in electricity access grew and the *Lochner*<sup>17</sup> era came to an end, the judiciary addressed the social consequences of these market failures by declaring that industries "clothed with a public interest . . . must submit to be controlled by the public for the common good."<sup>18</sup> From this principle emerged the traditional electric utility regulatory model, whereby states with traditional regulatory systems<sup>19</sup> provide electric utility companies with an exclusive service

14. See William M. Emmons III, *Franklin D. Roosevelt, Electric Utilities, and the Power of Competition*, 53 J. ECON. HIST. 880, 884–85 (1993). Electricity sector reform was a significant component of President Franklin D. Roosevelt's platform while running for election. *Id.* at 880.

15. This was the predominate justification for the Rural Electrification Act of 1936, Pub. L. No. 74-605, 49 Stat. 1363 (codified as amended at 7 U.S.C. §§ 901–918c), which was passed during the Great Depression—when nine out of ten rural residents lacked access to electricity. *The Electric Cooperative Story*, NAT'L RURAL ELEC. COOP. ASS'N, <https://www.electric.coop/our-organization/history/> [<https://perma.cc/GGR7-6KXE>].

16. See *History of Electricity*, INST. FOR ENERGY RSCH., <https://www.instituteforenergyresearch.org/history-electricity/> [<https://perma.cc/WD6W-X72V>].

17. *Lochner v. New York*, 198 U.S. 45 (1905). In *Lochner*, the U.S. Supreme Court struck down labor regulations limiting working hours for bakers to sixty hours a week and ten hours a day. *Id.* at 52, 57. In the following legal era, courts regularly struck down economic regulations designed to protect citizens in favor of the freedom to contract. See Stephen A. Seigel, *Lochner Era Jurisprudence and the American Constitutional Tradition*, 70 N.C. L. REV. 1, 3 & n.2 (1991).

18. *Munn v. Illinois*, 94 U.S. 113, 126 (1876).

19. I refer to this system as "traditionally regulated" because several states have restructured their electricity system by forcing the vertically integrated monopolies to sell off different portions of their

territory in exchange for the utility's guarantee to provide service to every consumer within the state.<sup>20</sup> This ensures that even the most remote citizens will receive equal access to one of modern society's most fundamental commodities. Rate regulation by state public utility commissions ("PUCs") further ensures access equality.<sup>21</sup> Thus, even in a country deeply committed to the free market, socialism finds a home in electricity access because twentieth-century Americans recognized that some rights were so fundamental as to transcend purely monetary thinking.<sup>22</sup>

While utility regulation was seen as a solution to market failures, regulated monopolies present problems in their own right. The traditional arrangement between public utilities and states, which eliminates natural competitors and provides a license from the state to be the exclusive service provider within a specified territory, led to the need for government systems that would place a check on the potential unbridled greed of utilities.<sup>23</sup> PUCs emerged as the solution.<sup>24</sup>

By 1930, all but one state had developed some sort of legislation permitting an administrative agency to regulate public utilities.<sup>25</sup> While the ways PUCs operate vary across different states, their central purpose is to ensure that utilities are operating to serve the public interest.<sup>26</sup>

PUCs exercise their authority over electric utilities through the rate-making process. In a rate case, a utility is asking a commission to approve a rate increase to cover its growing costs.<sup>27</sup> The utility will put forth its expected operating expenses and capital investments for approval.<sup>28</sup> Under the traditional revenue formula, utilities are entitled to a rate of return on capital

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system to enact competition as a strategy for decreasing consumer costs. These new systems are referred to as "restructured" because while they abandon the traditional regulatory model, regulations still exist to ensure the system adheres to policy goals. See *Regulated vs. Deregulated Electricity Markets*, ENERGYWATCH, <https://energywatch-inc.com/regulated-vs-deregulated-electricity-markets/> [https://perma.cc/XLA7-73TE].

20. JIM LAZAR, REGUL. ASSISTANCE PROJECT, *ELECTRICITY REGULATION IN THE U.S.: A GUIDE* 6 (2d ed. 2016), <http://www.raponline.org/wp-content/uploads/2016/07/rap-lazar-electricity-regulation-US-june-2016.pdf> [https://perma.cc/G75S-YQFD].

21. William Boyd, *Public Utility and the Low-Carbon Future*, 61 *UCLA L. REV.* 1614, 1639–41 (2014).

22. Gar Alperovitz & Thomas M. Hanna, Opinion, *Socialism, American Style*, *N.Y. TIMES* (July 23, 2015), <https://www.nytimes.com/2015/07/23/opinion/socialism-american-style.html> [https://perma.cc/2S2E-UM25 (dark archive)] (explaining how the Tennessee Valley Authority is one of the largest socialist enterprises in the United States and is strongly supported by local Republican politicians, typically the staunchest opponents of socialism).

23. Boyd, *supra* note 21, at 1639–43.

24. *Id.*

25. *Id.* at 1640.

26. *See id.*

27. Robert A. Mello, *Public Utility Rate Increases: A Practice Manual for Administrative Litigation*, 8 *CLEARINGHOUSE REV.* 411, 411 (1974).

28. *Id.* at 412–14.

investments.<sup>29</sup> As a result, there have historically been large debates as to what type of investments can be included in the rate base.<sup>30</sup> Expensive or experimental investments have been viewed as unnecessarily burdensome on consumers because their benefits are outweighed by the increase in cost.<sup>31</sup> Moreover, commissions have held that, due to the public nature of utilities, investors are not entitled to large returns on their investments in comparison to “highly profitable enterprises or speculative ventures.”<sup>32</sup>

When a commission evaluates whether a utility can earn a rate of return on its investments, its focus is on protecting consumers. This means that rates must be just, reasonable, and nondiscriminatory.<sup>33</sup> These criteria have historically been evaluated almost exclusively through an economic lens.<sup>34</sup> For utilities to recover on investments, commissions often require that the utility demonstrate that the decision was financially prudent at the time it was made.<sup>35</sup> Commissions reserve the right to deny utilities a rate of return on investments they deem imprudent.<sup>36</sup>

Courts are extremely deferential to the PUC decision-making process.<sup>37</sup> Under the end-result test, which is employed by courts evaluating whether a

29. *Id.* at 414.

30. The extensive discussion around cost recovery on nuclear plants exemplifies this area of contention. *See generally* *Duquesne Light Co. v. Barasch*, 488 U.S. 299, 313–15 (1989) (deferring to state legislatures in determining whether failed nuclear construction projects should be allowed to be recovered in the rate base); MARK COOPER, PUBLIC RISK, PRIVATE PROFIT, RATEPAYER COST, UTILITY IMPRUDENCE (2013) (presenting an economic analysis of the excessive costs that nuclear facilities in South Carolina and Georgia placed on ratepayers); Russell Gold, *Southern Co. Earnings Hurt by Cost Overruns at Nuclear-Power Plants*, WALL ST. J. (Aug. 8, 2018), <https://www.wsi.com/articles/southern-co-earnings-hurt-by-cost-overruns-at-nuclear-power-plant-1533742372> [<https://perma.cc/WEQ8-GBYM>] (detailing how Southern Company was not passing on increased electricity costs due to a more than double increase in the cost of its nuclear construction project).

31. *See, e.g.*, Robert Walton, *Florida Regulators Deny FPL Nuclear Cost Recovery for 2017*, UTIL. DIVE (Oct. 18, 2017), <https://www.utilitydive.com/news/florida-regulators-deny-fpl-nuclear-cost-recovery-for-2017/507537/> [<https://perma.cc/67RB-2JNW>].

32. *Bluefield Waterworks & Imp. Co. v. Pub. Serv. Comm’n of W. Va.*, 262 U.S. 679, 693 (1923).

33. *Id.*

34. *See id.* at 692–93. What constitutes a fair rate is determined based on whether the resulting rate will disproportionately harm consumers or whether it allows the utility to maintain its financial integrity.

35. *See generally* *Jersey Cent. Power & Light Co. v. FERC*, 810 F.2d 1168 (D.C. Cir. 1987) (finding that a commission’s requirement that the utility demonstrate that an investment was prudently made in order to recover its cost in the rate base did not constitute an unconstitutional taking), *superseded by statute*, Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (codified as amended in scattered sections of 15 U.S.C. and 47 U.S.C.).

36. *Id.*

37. *See State ex rel. Utils. Comm’n v. Mebane Home Tel. Co.*, 298 N.C. 162, 173, 257 S.E.2d 623, 632 (1979) (“Recognizing that the Commission has accumulated substantial expertise through its experience in supervising the public utilities of this State and that it should ordinarily be free to exercise that discretion, the scope of our review is narrow.”).

commission improperly denied a utility a rate of return on an investment, courts look to whether the PUC's decision created a just and reasonable outcome.<sup>38</sup> This is evaluated by examining whether the outcome adhered to the PUC's mandate—fair economic results.<sup>39</sup> PUC decisions are supposed to focus on protecting investor interests in maintaining financial integrity and access to capital markets as well as consumer interests in nonexploitative rates.<sup>40</sup> Judges will not substitute their own judgment as to what the “public interest” is.<sup>41</sup>

Because the traditional system is so strongly focused on economic outcomes, PUCs can stifle electric utilities' pursuit of other goals that are widely viewed as “clothed in the public interest,”<sup>42</sup> including environmental initiatives, because these goals do not adhere to the traditional economic efficiency model.<sup>43</sup> If an environmental initiative is not legally mandated, utilities can be denied a rate of return on investments that, while socially viewed as prudent, do not meet the least-cost mandate.<sup>44</sup> This traditional system is particularly problematic in the twenty-first century because greenhouse gas emissions have demonstrable economic impacts,<sup>45</sup> but these impacts are not inherently internalized in the actual cost of carbon resources.<sup>46</sup> This results in a PUC system where the least-cost mandate creates raging externalities that are not fully realized in the decision-making process.

While disavowing the entire state regulatory system might seem like the simplest solution to ensuring that the principle of “just and reasonable rates” better accounts for social and environmental concerns, this Recent Development does not seek to make normative claims about the relative desirability of the current North Carolina PUC system. The pitfalls of different regulatory systems in accounting for environmental concerns have been

38. *Fed. Power Comm'n v. Hope Nat. Gas Co.*, 320 U.S. 591, 602 (1944) (“If the total effect of the rate order cannot be said to be unjust and unreasonable, judicial inquiry under the Act is at an end. The fact that the method employed to reach that result may contain infirmities is not then important.”).

39. *Mebane Home Tel. Co.*, 298 N.C. at 167–71, 257 S.E.2d at 628–31 (deferring to the Commission's weighing of the explicitly economic evidence in the original commission hearing).

40. *Hope Nat. Gas Co.*, 320 U.S. at 603.

41. *See id.* at 602.

42. *Munn v. Illinois*, 94 U.S. 113, 126 (1876).

43. Perkins, *supra* note 10, at 993–95.

44. *See, e.g.*, Application of Louisville Gas & Elec. Co. & Ky. Utils. Co. for Approval of Purchased Power Agreements & Recovery of Associated Costs, Case No. 2009-00353 (Ky. Pub. Serv. Comm'n Oct. 21, 2009), [https://psc.ky.gov/PSCSCF/2009%20cases/2009-00353/20091021\\_PSC\\_ORDER.PDF](https://psc.ky.gov/PSCSCF/2009%20cases/2009-00353/20091021_PSC_ORDER.PDF) [<https://perma.cc/LHX9-5UPR>] (denying a utility's request to include a new contract for wind power in the rate base because the utility had not gone through the traditional rate case proceeding to determine whether the rate increase would be “fair, just and reasonable”).

45. *See* Perkins, *supra* note 10, at 1008–09.

46. *See id.* at 994–95.

addressed in prior works.<sup>47</sup> Instead, this Recent Development seeks to address the challenges in North Carolina as they currently exist. This approach is more conservative but has the potential to be more easily replicated by states in positions similar to North Carolina. Likewise, while a revolutionary approach might be ideologically admirable, political realities in states like North Carolina, where legislatures are primarily controlled by Republicans, mean that throwing out an entire utility system to replace it with one that fully upholds climate change goals is not an easy feat. Moreover, utilizing the current political structure ensures that when the policy objective is codified, the procedural aspects of its implementation maintain legitimacy in the eyes of those with power. A unilateral PUC mandate that sidesteps key statutory requirements or significantly diverges from norms runs a measurable risk of being struck down by the same system it is trying to dismantle.

#### B. *North Carolina's Utility Commission and Clean Energy Plan*

The Commission is composed of seven commissioners appointed by the Governor and approved by the General Assembly (“GA”).<sup>48</sup> Each commissioner serves a staggered six-year term.<sup>49</sup> The Commission is an independent agency in that it does not answer to the legislature or the Governor directly.<sup>50</sup> While the Commission is subject to statutory duties, it sets forth its own rules governing its proceedings within the confines of those legal imperatives.<sup>51</sup> It also has latitude in deciding what priorities investor-owned utilities are allowed to incorporate into their rates.<sup>52</sup> In this regard, the Commission is an incredibly powerful entity that impacts the economic and environmental well-being of North Carolina citizens.

Because the Commission is the most influential player in governing the electric power system in the state, it is no surprise that it has been identified as a key actor in the Clean Energy Plan. The groundwork for the Clean Energy Plan began in October 2018 with Governor Cooper’s Executive Order No. 80 (“EO 80”).<sup>53</sup> EO 80 directed North Carolina’s Department of Environmental

47. See, e.g., Emily Hammonde & David B. Spence, *The Regulatory Contract in the Marketplace*, 69 VAND. L. REV. 141, 171–73 (2016).

48. *What Is the Utilities Commission? What Does It Do?*, N.C. UTILS. COMM’N, <https://www.ncuc.net/Consumer/faq.html> [<https://perma.cc/WJ9H-WY7P>].

49. *Id.*

50. See *id.*

51. N.C. UTILS. COMM’N, CONSOLIDATED RULES, <https://www.ncuc.net/ncrules/ncucrules.pdf> [<https://perma.cc/UXY2-9X7J>].

52. N.C. GEN. STAT. § 62-2(b) (LEXIS through Sess. Laws 2020-97 of the 2020 Reg. Sess. of the Gen. Assemb.).

53. N.C. Exec. Order No. 80, 33 N.C. Reg. 1103 (Dec. 3, 2018), <https://files.nc.gov/governor/documents/files/EO80-%20NC%27s%20Commitment%20to%20Address%20Climate%20Change%20%26%20Transition%20to%20a%20Clean%20Energy%20Economy.pdf> [<https://perma.cc/8CF8-CJC8>].



Quality (“DEQ”) to engage in a series of stakeholder meetings to create a clean energy plan.<sup>54</sup> In October 2019, DEQ released the Clean Energy Plan<sup>55</sup>: an aspirational document that puts out thirty-nine goals related to reducing greenhouse gas emissions from the electric power sector in the state by seventy percent from 2005 levels by 2030 and achieving carbon neutrality by 2050.<sup>56</sup> All of these goals identify particular stakeholders that will be required to take action in order for the goals of the plan to be fully implemented.<sup>57</sup>

However, the Clean Energy Plan itself technically holds no legal effect. Because EO 80 only directed DEQ to create the Clean Energy Plan—not implement it—the document itself exclusively relies on the affirmative action of these key players.<sup>58</sup> The Clean Energy Plan is, in effect, a transition document that outlines the necessary steps to achieve carbon neutrality. But much like DEQ’s stakeholder process for generating the Clean Energy Plan’s recommendations, its execution will require cooperation between numerous government entities and the state’s utilities.

However, some of the Clean Energy Plan’s goals require the Commission to implement stricter environmental requirements on North Carolina’s investor-owned utilities.<sup>59</sup> This could prove problematic, as the Commission is not an environmental regulator, and its statutory imperatives, while often overlapping with environmental goals,<sup>60</sup> are in tension with initiatives that are untethered from the least-cost economic model. Moreover, the Commission is prohibited from acting in a manner that infringes on the jurisdiction of other agencies.<sup>61</sup> Thus, for these recommendations to be implemented, it is important to consider whether the particular goal would sufficiently fit within the Commission’s enumerated statutory duties and, if so, whether the Commission would be willing to leverage its agency latitude to enforce it.

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54. *Id.*

55. CLEAN ENERGY PLAN, *supra* note 4 at 1.

56. *Id.* at 12.

57. *Id.* at 13–17.

58. *Id.* at 12 (“This plan is intended to guide the direction North Carolina takes in adapting to a changing economy, climate, and market and help shape what change looks like, the timeframe in which change happens, and how changes impact ratepayers.”).

59. *See id.* at 63, 78.

60. *See* N.C. GEN. STAT. § 62-2(a)(5) (LEXIS through Sess. Laws 2020-97 of the 2020 Reg. Sess. of the Gen. Assemb.); 2019 Integrated Res. Plan Update Repts. & Related 2019 REPS Compliance Plans (N.C. Utils. Comm’n Jan. 30, 2020), 2020 WL 551840, at \*1 (“IRP considers conservation, efficiency and load managements, as well as supply-side alternatives, in the selection of resource options.”).

61. § 62-2(b) (LEXIS).

## II. THE SOCIAL COST OF CARBON DOES NOT FIT WITHIN THE NORTH CAROLINA UTILITIES COMMISSION'S STATUTORY ROLE

The Clean Energy Plan divides its policy recommendations into discrete categories. Section A of the Clean Energy Plan is targeted at reducing carbon emissions by decarbonizing the electric power sector.<sup>62</sup> Within this section, recommendation A-2 would require all public utilities in North Carolina to include the social cost of carbon<sup>63</sup> in their IRPs.<sup>64</sup> IRPs are roadmap documents that outline a utility's plan to address demand over a longer period of time.<sup>65</sup> Unlike rate cases, which are initiated when a utility needs to increase revenue to cover costs that have already been actualized, IRPs are forward looking.<sup>66</sup> These documents help facilitate a public utility's imperative to provide fair and just rates to consumers by affirmatively anticipating future needs.<sup>67</sup>

In North Carolina, the Commission is statutorily obligated to request IRPs from electric public utilities.<sup>68</sup> Under this statutory guideline, the Commission has chosen to request an IRP every other year.<sup>69</sup> Additionally, the Commission has set its own guidelines stating that the IRP must forecast: load requirements fifteen years into the future and account for the potential power purchased from outside suppliers; alternative fuel sources such as solar, wind, or biomass; and the potential energy efficiency efforts that could reduce demand.<sup>70</sup> In evaluating these resource options, the Commission has required the IRP to prescribe a plan that represents "the least cost combination (on a long-term basis) of reliable resource options for meeting the anticipated needs of its system."<sup>71</sup> The assessment can account for anticipated future variations such as fuel costs and the cost of complying with environmental regulations.<sup>72</sup>

### A. *History as a Guidepost: Clean Energy in Prior IRPs*

As outlined above, the Commission is statutorily obligated to require public utilities to submit an IRP. However, the Commission is not an environmental regulator and has directed that IRP provisions must be made through a least-cost lens.<sup>73</sup> Likewise, while courts do not substitute their

62. CLEAN ENERGY PLAN, *supra* note 4, at 13.

63. *See supra* note 12 and accompanying text.

64. CLEAN ENERGY PLAN, *supra* note 4, at 55.

65. Girouard, *supra* note 11.

66. *See id.*

67. *Id.*

68. N.C. GEN. STAT. § 62-110.1(c) (LEXIS through Sess. Laws 2020-97 of the 2020 Reg. Sess. of the Gen. Assemb.).

69. 4 N.C. ADMIN. CODE 11.R8-60 (Westlaw through rules received through Oct. 2, 2020).

70. *Id.* at R8-60(h)(2).

71. *Id.* at R8-60(g) (emerging from the statutory requirements set out in N.C. GEN. STAT. § 62-110.1(c) (LEXIS)).

72. *Id.*

73. *Id.*

judgment for a utility commission's as to what the public interest is, they do look to whether the end result of the decision accurately balances investor and consumer interests—in financial terms alone.<sup>74</sup> Thus, where the Commission's decision ventures into environmental regulation and is not justified in least-cost terms, it runs the risk of being struck down.<sup>75</sup>

If the Commission can successfully require utilities to include the social cost of carbon into their IRPs, they must do so in a manner that carefully walks the line between the least-cost mandate and environmental regulations so as to avoid judicial challenges. Moreover, even if an IRP requirement is legally permissible, the Commission must also decide that it is willing to accept the social cost of carbon as an appropriate IRP consideration. It must do so by considering whether the concept fits within the Commission's goals as an agency. In this regard, it is helpful to examine ways in which the Commission has required utilities to account for various clean energy and environmental goals in the past and what justifications permitted these considerations.

### 1. Carbon Regulations in Prior IRPs

Discussions regarding carbon regulations are not new territory for North Carolina's utilities. In fact, in Dominion Energy's 2019 update to its 2018 IRP, the company noted its "belief that regulation of carbon dioxide emissions from electric generating plants is imminent."<sup>76</sup> Dominion Energy pointed to Virginia's recently passed law directed at capping emissions.<sup>77</sup> Virginia is one of numerous states that has adopted an emission reduction plan,<sup>78</sup> and its geographical proximity certainly heightened the company's suspicions that North Carolina would follow suit in the future. Dominion Energy also noted that the federal government had recently released the Affordable Clean Energy Rule, which provides guidance for how states can reduce emissions from existing coal-fired plants via certain specified "technologies, equipment upgrades, and best operating and maintenance practices."<sup>79</sup> The Affordable Clean Energy Rule would increase costs associated with running coal plants.

74. See *State ex rel. Utils. Comm'n v. Mebane Home Tel. Co.*, 298 N.C. 162, 173, 257 S.E.2d 623, 632 (1979).

75. See *generally id.* (evaluating, by cost alone, the fairness of a decision by the Commission).

76. 2019 Integrated Res. Plan Update Repts. & Related 2019 REPS Compliance Plans (N.C. Utils. Comm'n Apr. 6, 2020), 2020 WL 1820258, at \*5 [hereinafter 2019 Integrated Res. Plan Update], <https://starw1.ncuc.net/NCUC/ViewFile.aspx?Id=86f15be3-7617-4910-aeae-d8568c4d0983> [<https://perma.cc/2U8P-AL64>] (accepting filing of 2019 update reports and accepting 2019 REPS compliance plans).

77. *Id.*

78. *State Climate Policy Maps*, CTR. FOR CLIMATE & ENERGY SOLS., <https://www.c2es.org/content/state-climate-policy/> [<https://perma.cc/X5FM-N6SW>].

79. ENV'T PROT. AGENCY, FACT SHEET: THE AFFORDABLE CLEAN ENERGY RULE (ACE) 2 (2020), [https://www.epa.gov/sites/production/files/2019-06/documents/bser\\_and\\_eg\\_fact\\_sheet\\_6.18.19\\_final.pdf](https://www.epa.gov/sites/production/files/2019-06/documents/bser_and_eg_fact_sheet_6.18.19_final.pdf) [<https://perma.cc/63T6-B7DX>].

Both of these indicators led to Dominion Energy's "uncertainty" regarding if, when, and how carbon regulations might emerge, thus changing its strategy as to what types of fuel sources would be the most affordable. In response to this uncertainty, Dominion Energy created additional alternative forecasting plans that accounted for these various additional costs that might be imposed on their carbon-emitting resources.

Duke Energy Carolinas and Duke Energy Progress (collectively, "Duke Energy") updated its 2018 IRP in 2019 to include modeling based on an assumption that carbon emissions would be taxed in some form starting in 2025.<sup>80</sup> The Commission noted the prudence of the modeling as a placeholder for a scenario in which carbon emissions were taxed and noted the Commission's requirement that utilities "plan for scenarios that both include and exclude costs associated with carbon regulation."<sup>81</sup>

## 2. Other Clean Energy Resources in Prior IRPs

In 2019, the Commission challenged some of the assumptions upon which Duke Energy based its IRP.<sup>82</sup> Specifically, the Commission noted that Duke Energy did not fully incorporate solar battery storage as part of its supply side resources modeling, which did "not necessarily align with recent trends in the industry."<sup>83</sup> The Commission identified multiple other states that had incorporated solar batteries into their systems in ways that created economic efficiencies, challenging the singular modeling system in which Duke Energy downplayed the future role of batteries.<sup>84</sup> The Commission specifically directed Duke Energy to account for the potential use of battery storage in "catastrophic events like hurricanes" when other traditional resources would be slower to come back online,<sup>85</sup> pointing again to instances where other regions had relied on solar power to alleviate grid fluctuations immediately following a hurricane.<sup>86</sup> In addition to pinpointing specific justifications for why the IRP should have better accounted for the future role of solar power, the Commission noted that "creating a resilient electric grid that integrates clean energy resources is a factor discussed in Executive Order No. 80."<sup>87</sup> Both the 2019 IRP

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80. 2019 Integrated Res. Plan Update, 2020 WL 1820258, at \*5–6.

81. *Id.* at \*6.

82. 2018 Biennial Integrated Res. Plans & Related 2018 REPS Compliance Plans, No. E-100, Sub 157, at 7 (Feb. 4, 2019) [hereinafter 2018 Biennial Integrated Res. Plan], <https://cleanenergy.org/wp-content/uploads/NCUC-2018-IRP-Order-E-100-Sub-157.pdf> [<https://perma.cc/5J6T-GKXR>] ("However, the Commission does not accept some of the underlying assumptions upon which DEC's and DEP's IRPs are based . . .").

83. *Id.* at 56.

84. *Id.* at 55.

85. *Id.* at 56.

86. *Id.*

87. *Id.* at 57.

updates and the Commission's directive to reconsider solar battery storage are examples of how the Commission appears to permit or instruct electric utilities to prioritize clean energy goals. However, the next section explores why these examples are dissimilar from the Clean Energy Plan's social cost of carbon goal.

B. *Does the Social Cost of Carbon Align with the Commission's Imperatives?*

While the Commission has required utility companies to consider broader clean energy and environmental goals in its past IRPs, the social cost of carbon is arguably distinct from these past considerations because (1) the connection between social cost of carbon and concrete market trends is more attenuated, and (2) the social cost of carbon, as the Clean Energy Plan would implement in IRPs, has not been articulated as an anticipation of future regulatory compliance requirements.

1. The Social Cost of Carbon Is Not a Concrete Economic Factor

As explored earlier, the least-cost principle is the central tenet around which all of the Commission's decisions revolve,<sup>88</sup> and the Commission has shown that it is amenable to accounting for all resources that follow the least-cost model, irrespective of their renewable or nonrenewable attributes.<sup>89</sup> For example, the Commission's 2019 order that directed Duke Energy to account for battery storage was specifically tied to an articulable and concrete economic foundation.<sup>90</sup> Notably, the cost of solar has drastically decreased over the last few years,<sup>91</sup> and storage technology has become more readily available.<sup>92</sup> Duke Energy did not appropriately account for these economic changes and erroneously ruled them out as significant sources of future power.<sup>93</sup> While the Commission's 2019 order can be seen as forcing Duke Energy to be more environmentally conscious, in reality the critique was that Duke Energy's IRP did not align with concrete market conditions. These indicators align with the preexisting least-cost requirement.

Additionally, while the Commission's 2019 order made an explicit reference to EO 80 and the policy goal of creating a resilient electricity grid when requiring consideration of solar,<sup>94</sup> "resilient" and "carbon-free" are not interchangeable. The reference to EO 80 was made in conjunction with addressing the need to prepare for severe weather events like hurricanes.<sup>95</sup>

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88. *See supra* notes 42–46 and accompanying text.

89. *See supra* Section II.A.

90. 2018 Biennial Integrated Res. Plan, *supra* note 82, at 51–57.

91. *Id.* at 57.

92. *Id.*

93. *Id.* at 7.

94. *Id.* at 57.

95. *Id.* at 56.

While an increase in severe weather can be directly tied to climate change,<sup>96</sup> this was not the justification that the Commission provided. The interaction between clean energy and resiliency, then, is arguably tangential. The Commission's critique focused on solar because it had specific attributes that made it beneficial during times of severe outages, not because it contributed to overall carbon reduction goals.<sup>97</sup>

Similarly, Duke's voluntary inclusion of an IRP modeling path that incorporated a potential carbon tax is distinct from the Clean Energy Plan's social cost of carbon proposal. The modeling that accounted for a potential carbon tax was completed as one of *numerous* load forecasting models.<sup>98</sup> Some of the alternative models did not involve a scenario in which carbon emissions were taxed because, as it exists now in North Carolina, there is not a carbon tax.<sup>99</sup> Thus, if all modeling scenarios artificially heightened the cost of carbon-emitting resources without concrete facts pointing to the existence of these price hikes, the Commission would violate its statutory duty. Duke Energy is free to affirmatively create an alternative future forecast in which carbon resources are taxed, but the Commission is confined by the least-cost principle.

Moreover, unlike Dominion Energy's reference to the federal government's Affordable Clean Energy Rule or the Commission's directive that Duke Energy had to account for the falling costs of solar, which were clearly articulable in financial terms, the social cost of carbon is significantly more theoretical in its application. This theoretical ambiguity becomes apparent when examining the wide variance in how it is calculated across different political parties. The Obama Administration calculated the social cost of carbon to be \$51 per ton of carbon dioxide,<sup>100</sup> whereas the Trump Administration estimates it as between \$1 and \$7.<sup>101</sup> Similarly, states across the United States

96. Alina Bradford & Stephanie Pappas, *Effects of Global Warming*, LIVE SCI. (Aug. 12, 2017), <https://www.livescience.com/37057-global-warming-effects.html> [<https://perma.cc/KD7W-NWTX>].

97. 2018 Biennial Integrated Res. Plan, *supra* note 82, at 56.

98. 2019 Integrated Res. Plan Update, 2020 WL 1820258, at \*7 (“An additional case assuming no carbon legislation was also developed in both Companies’ 2018 IRPs . . . While the timing and form of potential future carbon legislation is unknown, it is prudent to continue to plan for a scenario in which carbon emissions are taxed or otherwise regulated, as well as other potential future scenarios.”); DUKE ENERGY PROGRESS, INTEGRATED RESOURCE PLAN UPDATE REPORT 11–12, 74 (2019), <https://starw1.ncuc.net/NCUC/ViewFile.aspx?Id=7f4b3176-95d8-425d-a36b-390e1e57a175> [<https://perma.cc/P33L-RP42>].

99. DUKE ENERGY PROGRESS, *supra* note 98, at 11–12.

100. DENISE A. GRAB, ILIANA PAUL & KATE FRITZ, INST. FOR POL’Y INTEGRITY, N.Y. UNIV. SCH. OF L., OPPORTUNITIES FOR VALUING CLIMATE IMPACTS IN U.S. STATE ELECTRICITY POLICY 9–10 (2019), [https://policyintegrity.org/files/publications/Pricing\\_Climate\\_Impacts.pdf](https://policyintegrity.org/files/publications/Pricing_Climate_Impacts.pdf) [<https://perma.cc/P79V-WX8H>].

101. Chelsea Harvey, *Should the Social Cost of Carbon Be Higher?*, SCI. AM. (Nov. 22, 2017), <https://www.scientificamerican.com/article/should-the-social-cost-of-carbon-be-higher/> [<https://perma.cc/MFW5-DG4W>].

that account for the social cost of carbon do so in a variety of ways.<sup>102</sup> Although calculations are conducted using sophisticated modeling systems, determining the social cost of carbon is inherently a political process. Each factor addressed in the calculations has a significant impact on the outcome.<sup>103</sup> While the cost of solar panels can be identified with an objective and particularized number, and the installation of technology to improve the efficiency of coal plants involves a definite sticker price, any calculation for the social cost of carbon will be subject to debate on whether it appropriately accounts for various concerns.<sup>104</sup>

Further, the social cost of carbon not only exists outside the traditional economic focus of IRPs but its use in calculations would contradict the central tenet of utility regulation—least-cost. The social cost of carbon heightens the relative price of carbon-intensive resources, meaning that fuel sources that would normally not be competitive become viable, raising the least-cost threshold.<sup>105</sup> The additional costs imposed via the social cost of carbon would be passed on to consumers.<sup>106</sup> While the social cost of carbon is designed to simply shift the cost of carbon impacts so that they are directly addressed in the inherent competitiveness of a resource, this shift makes electricity rates bear the impact. The Commission is expressly mandated to protect the public interest in electricity rates.<sup>107</sup> The economic differences between the Clean Energy Plan’s conception of the social cost of carbon and the other ways that preferences for clean energy have been incorporated into the IRP process lend support to the conclusion that the Commission will not permit this kind of consideration.

## 2. The Social Cost of Carbon Is Not Sufficiently Tied to Anticipated Regulatory Compliance

Alternatively, the Commission has required that IRPs address potential regulatory compliance costs and fit within the stated policy goals of Section 62-

102. At a state level, many states that consider the social cost of carbon use the calculations developed by the federal government’s Interagency Working Group on the Social Cost of Greenhouse Gases, which operated during the Obama Administration, but others use different metrics or calculate their own number. GRAB ET AL., *supra* note 100, at 14–15. For example, Illinois values social cost of carbon at \$23.33 per metric ton. *Id.* at 14.

103. See Brad Plumer, *Trump Put a Low Cost on Carbon Emissions. Here’s Why It Matters.*, N.Y. TIMES (Aug. 23, 2018), <https://www.nytimes.com/2018/08/23/climate/social-cost-carbon.html> [<https://perma.cc/JBS6-X9N9> (dark archive)]. President Trump’s estimates only accounted for climate impacts within U.S. borders and placed less weight on how climate change would impact future generations. *Id.*

104. For a discussion on what policymakers consider when creating a price on carbon, see generally NAT’L ACADS. OF SCIS., ENG’G, & MED., VALUING CLIMATE DAMAGES: UPDATING ESTIMATION OF THE SOCIAL COST OF CARBON DIOXIDE (2017).

105. See *supra* notes 12–13 and accompanying text.

106. See *supra* notes 26–40 and accompanying text (discussing the utility rate structure).

107. N.C. GEN. STAT. § 62-2(a)(1) (LEXIS through Sess. Laws 2020-97 of the 2020 Reg. Sess. of the Gen. Assemb.).

2 of the North Carolina General Statutes.<sup>108</sup> The 2018 IRPs furnished by Duke Energy and Dominion Energy, as well as their 2019 update, adhere to this principle, whereas imposing a uniform requirement that IRPs account for the cost of carbon would not.

In its 2019 update, Dominion Energy explicitly stated its perception that carbon regulations, at the state or federal level, were imminent.<sup>109</sup> This concern stemmed from the Environmental Protection Agency's ("EPA") newly promulgated Affordable Clean Energy Rule, as well as the proximity of other state-level regulations<sup>110</sup> Duke's decision to include a potential price on carbon within one of its modeling scenarios<sup>111</sup> was almost certainly based on its credible belief of some sort of regulation as well.

However, imposing a homogenous dollar amount across all modeling scenarios, as is the prescribed solution in the Clean Energy Plan, is distinct from accounting for potential emissions regulations as part of a comprehensive forecasting system. This is because requiring this added cost in all scenarios is not done in anticipation of regulation, but rather assumes certainty.

All statistical models are inherently uncertain because they presume particular factors, such as consistent access to fuel, static construction costs, or stable regulatory regimes. Thus, the purpose of presenting multiple forecast documents to the Commission is to anticipate any number of potential changes. These documents are inherently predictive in nature but are also guided by the Commission's legal duty to protect consumers by approving the least expensive resources. Therefore, anticipating multiple future scenarios permits utilities to more accurately plan their future investments according to the least-cost principle. However, if the Commission were to require all statistical models to include the social cost of carbon, it would undermine the entire premise of IRPs. This requirement would remove the social cost of carbon from the realm of statistical variable as a potential future regulatory requirement and transform it into a concrete, ascertainable fact. Not only does this fail to reflect the reality of the status of the social cost of carbon in North Carolina and the federal government alike, but the Commission would also violate the least-cost principle by falsely indicating the relative cost of fuel resources.

At the time of the 2018 IRP, it was unknown if EO 80 would result in concrete compliance requirements mandated by state law. So, factoring this into forecasting analysis was not unreasonable.<sup>112</sup> We now know that EO 80 has not

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108. *Id.*; see also N.C. UTILS. COMM'N, *supra* note 51, at 63; 4 N.C. ADMIN. CODE 11.R8-60(g) to (h) (Westlaw through rules received through Oct. 2, 2020).

109. 2019 Integrated Res. Plan Update, 2020 WL 1820258, at \*6.

110. *Id.*

111. See *id.* at \*7.

112. Duke Energy North Carolina filed its IRP in May 2018, and Duke Energy Carolinas and Duke Energy Progress collectively filed their IRP in September 2018. The Clean Energy Plan was not



resulted in legal mandates, and while the Clean Energy Plan includes elements to be implemented by the Commission, goals are not laws. In fact, the Clean Energy Plan itself even acknowledges that some of these objectives will require legislation to become workable.<sup>113</sup>

Moreover, the Clean Energy Plan's requirements of including the social cost of carbon in IRPs is not tied to any anticipated state or federal law.<sup>114</sup> While it was argued in the Clean Energy Plan that it is reasonable to assume that the cost of carbon-intensive fuel sources might increase over time,<sup>115</sup> the social cost of carbon as it exists now in North Carolina is distinct from regulatory compliance. Regulatory compliance costs impose actual costs to running fuel sources, whereas it is unclear if and when the social cost of carbon would increase the cost of energy resources or what the exact cost would be.<sup>116</sup> If the Commission were to require utilities to include the social cost of carbon in their IRPs it would essentially bypass state and federal legislatures and emissions regulators by taxing particular resources.

Further, the Commission has specifically avoided requiring utilities to include "unknown and uncertain" calculations for environmental externalities in other types of proceedings<sup>117</sup> because it is "inappropriate for ratepayers to shoulder such costs" until they become more concrete.<sup>118</sup> In contrast to other proceedings, IRPs do not impose direct costs on consumers because they are roadmap documents. But it is not clear that the Commission would impose a requirement it has directly repudiated in other situations, particularly because,

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released to the public until October 2019. 2018 Biennial Integrated Res. Plan, *supra* note 82, at 4; CLEAN ENERGY PLAN, *supra* note 4, at 1.

113. CLEAN ENERGY PLAN, *supra* note 4, at 69.

114. *See id.* at 62. The Clean Energy Plan references past Duke IRPs that have contemplated costs on carbon such as the 2018 IRP mentioned above, but this is distinct from imposing a requirement that the social cost of carbon be considered. *See id.* at 62–63; *see also supra* note 80 and accompanying text. Moreover, the Clean Energy Plan is unclear as to whether it anticipates the social cost of carbon will be included in EPA regulations, simply stating that the EPA may be considering fossil fuel regulations generally. *See* CLEAN ENERGY PLAN, *supra* note 4, at 62.

115. CLEAN ENERGY PLAN, *supra* note 4, at 62.

116. *See supra* notes 100–04 and accompanying text.

117. Biennial Determination of Avoided Cost Rates for Elec. Util. Purchases from Qualifying Facilities–2014, No. E-100, Sub 140 (N.C. Utils. Comm'n Dec. 31, 2014), <https://starw1.ncuc.net/NCUC/ViewFile.aspx?Id=4d85c17b-ef0a-4dc4-a0fd-c84d4f39ef80> [https://perma.cc/GA4R-RCQM] (order setting avoided cost rate parameters). In 2014, the Commission denied the request to include a cost of carbon in avoided cost calculations for qualifying facilities because "quantifying actual out-of-pocket avoided costs is problematic enough without introducing unknown environmental cost costs into the equation, particularly if such costs would not be out-of-pocket costs to the utility." *Id.* (quoting Biennial Determination of Avoided Cost Rates for Electric Utility Purchases from Qualifying Facilities-1994, No. E-100, Sub 74 (N.C. Utils. Comm'n June 23, 1995), <https://starw1.ncuc.net/NCUC/ViewFile.aspx?Id=d905c6bb-6f83-4efd-8ce4-ada06d12a640> [https://perma.cc/J7S5-ZQO2]). Including these costs was a response to potential regulation under the Clean Air Act, but this did not sufficiently justify the actual burden it would place on ratepayers. *Id.*

118. *Id.*

as outlined above, a uniform requirement to include the social cost of carbon undermines the least-cost principle and would not reflect an actual anticipated regulation.<sup>119</sup> Moreover, IRPs do not exist in a vacuum—their purpose is to guide financial planning. In fact, the Commission has explicitly acknowledged the role of IRPs in its decision to grant a utility’s request to invest in a new fuel option.<sup>120</sup> While the relationship between costs imposed on ratepayers and the documents themselves are a step removed, an IRP is of no value to utilities if it utilizes cost calculations that are not permitted in their actual rate case proceedings.

Finally, the Clean Energy Plan goes beyond a proposal to increase the relative costs of each source as a function of their carbon emissions. The Clean Energy Plan states that the calculation should account for “the costs of carbon emissions associated with the construction and use” of natural gas pipeline infrastructure.<sup>121</sup> More so than the traditional notion of the social cost of carbon—which, while inconsistently calculated and subject to debate, has been broadly understood as a concept leveraged to reach carbon reduction goals<sup>122</sup>—this approach would force IRPs to account for entirely new aspects of their business in the IRP process.<sup>123</sup> This is uncharted territory for the Commission and would require regulation of a process never before accounted for in its proceedings.

### III. ALTERNATIVE IMPLEMENTATION—THE NEED FOR A STATUTORY IMPERATIVE

If the Commission elects not to pursue this recommendation due to legal constraints or agency preference but policy leaders feel this is a critical component of clean energy goals that demands action, leaders will need to pursue other avenues of implementation. Using the Commission as the catalyst for this goal is undoubtedly the simplest avenue due to the Commission’s independence, wide latitude of policy implementation, and the significant

119. See *supra* notes 100–07 and accompanying text.

120. N.C. GEN. STAT. § 62-110.1(c) (LEXIS through Sess. Laws 2020-97 of the 2020 Reg. Sess. of the Gen. Assemb.) (“The Commission shall develop[] . . . an analysis of the long-range needs for expansion of facilities for the generation of electricity in North Carolina . . . and shall consider such analysis in acting upon any petition by any utility for construction.”).

121. CLEAN ENERGY PLAN, *supra* note 4, at 62. While the Clean Energy Plan explicitly references the Atlantic Coast Pipeline, which was scrapped in July 2020, the suggested language in the Clean Energy Plan would account for all future natural gas pipelines as well. *Id.* at 24–25; see Ivan Penn, *Atlantic Coast Pipeline Canceled as Delays and Costs Mount*, N.Y. TIMES (July 5, 2020), <https://www.nytimes.com/2020/07/05/business/atlantic-coast-pipeline-cancel-dominion-energy-berkshire-hathaway.html> [<https://perma.cc/C8DY-6QRQ> (dark archive)].

122. See *supra* notes 12–13 and accompanying text (describing how the social cost of carbon operates).

123. As noted above, this Recent Development does not seek to comment on the desirability of this policy, but rather the feasibility of it. See *supra* Section I.A.

deference afforded to it by the courts. However, legislative action, while a more lengthy and difficult process, is arguably the more realistic path for implementation.

A. *Other States as Models: The Social Cost of Carbon Is Primarily Incorporated Through the Legislative Process*

PUCs in Minnesota, Colorado, and Nevada have all required that public utilities account for the social cost of carbon in their IRPs.<sup>124</sup> Minnesota's PUC required utilities to include the social cost of carbon in IRPs in 2018 and asserted that its authority emerged from statutory language that requires its commission "to the extent practicable, [to] quantify and establish a range of environmental costs associated with each method of electricity generation."<sup>125</sup> Similarly, Nevada's PUC is statutorily instructed to account for the social cost of carbon.<sup>126</sup> In 2017, the Nevada legislature passed Senate Bill 65, requiring the PUC to give preferences to fuel sources that "reduce customer exposure to the price volatility of fossil fuels and the potential costs of carbon."<sup>127</sup>

Much like Minnesota and Nevada, twenty of the twenty-one states that have had state PUC proceedings, in which the PUC has accorded value and consideration to environmental attributes, have explicit statutory language permitting the consideration of environmental externalities.<sup>128</sup> Thus, it seems unlikely that North Carolina will diverge from this path. So, although the Commission is afforded latitude in its methods for implementing environmental consideration statutes, explicit legislative requirements are a sure way to ensure the Commission will veer into these uncharted waters.

Finally, if North Carolina enacts an explicit environmental prioritization statute concerning IRPs, it need not contradict current public interest requirements. For reference, of the twenty-one states whose PUCs require environmental considerations in IRPs, seventeen have a "just and reasonable" standard and fifteen have a public interest mandate.<sup>129</sup> This seems to indicate that a statutory addition does not necessitate the abandonment of other key principles in the IRP development process but merely adds a layer of consideration.

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124. GRAB ET AL., *supra* note 100, at 14–15.

125. *Id.* at 20, 46; MINN. STAT. § 216B.2422(3) (2019).

126. GRAB ET AL., *supra* note 100, at 20.

127. S.B. 65, 2017 Leg., 79th Sess. (Nev. 2017).

128. GRAB ET AL., *supra* note 100, at 3–4.

129. *Id.*

B. *Can the North Carolina General Assembly Pass Environmentally Focused Legislation To Alter the Commission's Statutory Duties?*

While not explicitly stated, the fact that the Clean Energy Plan creators designated the Commission as the vehicle for implementing the social cost of carbon was almost certainly done out of concern for the feasibility of alternative implementation routes. The legislative process is inherently more difficult, if not simply because the Commission is composed of seven detached appointees and the GA is composed of 170 representatives with varying commitments and attitudes towards climate goals.<sup>130</sup> In addition, both wings of the GA are majority Republican—the party most divided on the issue of climate change, including what causes climate change and whether fossil fuel production should be encouraged.<sup>131</sup>

However, while the Commission has more unilateral power than the GA, the GA is the exclusive source of the Commission's power and obligations. Hence, the GA furnishes any latitude that the Commission enjoys. An enumerated statutory duty removes any question as to whether the Commission will leverage its agency power to achieve carbon reduction goals—they will be legally obligated to. Additionally, policy goals implemented via the legislative process are also more likely to withstand judicial scrutiny because courts look to whether the Commission's processes upheld statutory imperatives.<sup>132</sup> Importantly too, utilizing the legislative process would grant this policy goal more legitimacy in the eyes of the GA, which holds the authority to revoke any power it feels the Commission uses inappropriately.

There are two potential legislative routes that advocates could pursue. First, stakeholders could lobby the GA for a specific statutory provision that would explicitly require the Commission to include the social cost of carbon in the IRP process. Second, as an alternative, interested parties could lobby for a broader statutory provision that instructs the Commission to consider emissions as part of its stated policy objectives.<sup>133</sup> The former route's precision would

130. N.C. UTILS. COMM'N, *supra* note 51; *Structure of the North Carolina General Assembly*, N.C. GEN. ASSEMBLY, <https://www.ncleg.gov/Help/Topic/232> [<https://perma.cc/B9BY-UEKR>].

131. See Cary Funk & Meg Hefferson, *U.S. Public Views on Climate and Energy*, PEW RSCH. CTR. (Nov. 25, 2019), <https://www.pewresearch.org/science/2019/11/25/u-s-public-views-on-climate-and-energy/> [<https://perma.cc/7NDF-M9CT>].

132. See, e.g., *State ex rel. Utils. Comm'n v. Mebane Home Tel. Co.*, 298 N.C. 162, 173, 257 S.E.2d 623, 632 (1979) (affording deference to the Commission's evaluation of evidence).

133. Currently, North Carolina's declaration of policy for electric utilities, which guides the Commission's decisions, includes the priority "[t]o encourage and promote harmony between public utilities, their users and the environment." N.C. GEN. STAT. § 62-2(a)(5) (LEXIS through Sess. Laws 2020-97 of the 2020 Reg. Sess. of the Gen. Assemb.). Instead, this Recent Development proposes a more specific statutory provision that would declare a policy of prioritizing carbon-neutral resources for the purpose of lowering the North Carolina's overall carbon emissions. An unequivocal reference to lowering carbon emissions using resources with lower carbon footprints does not connote the same kind of priority balancing as the policy of "promot[ing] harmony" does.

ensure success on this singular policy goal but would fall short of encouraging the Commission to focus on emissions concerns in a wider variety of contexts, such as rate cases. The latter approach, because of its breadth of application and lack of specificity, means that incorporating the social cost of carbon in the IRP process is not certain. However, this Recent Development argues that this latter approach more accurately addresses the Clean Energy Plan's purpose.

1. A Lobbying Effort Focused Exclusively on the Social Cost of Carbon Would Probably Fall Short of Its Intended Goal

The process for implementing specific legislation focusing on the social cost of carbon poses an uphill climb for stakeholders in today's political environment because the social cost of carbon inherently attacks the fossil fuel industry. However, history shows that even in Republican majorities, policies promoting renewable energy adoption are not entirely doomed, but the distinctions of the policy at hand still heighten the potential barriers advocates might face.

For example, in 2017, House Bill 589 ("HB 589"),<sup>134</sup> which permits the competitive procurement of renewable resources,<sup>135</sup> was passed under a majority Republican assembly and signed by Democratic Governor Cooper.<sup>136</sup> At the time, North Carolina had the highest avoided cost rate in the southeast for facilities that qualified under the Public Utilities Regulatory Policies Act of 1978 ("PURPA"),<sup>137</sup> resulting in heightened consumer costs as utilities passed on the added expense.<sup>138</sup> HB 589 adjusted the system for selecting renewable

134. H.B. 589, 2017 Leg., 2017–2018 Sess. (N.C. 2017), ch. 192, 2017 N.C. Sess. Laws 1340 (codified as amended in scattered sections of ch. 62 of N.C. GEN. STAT. (LEXIS through Sess. Laws 2020-97 of the 2020 Reg. Sess. of the Gen. Assemb.)).

135. § 62-2(a)–(b) (LEXIS).

136. Karen Kemerait, *NC Legislature Restructures State Renewable Energy Policy*, N.C. BAR ASS'N (July 18, 2017), <https://www.elementsforgrowth.com/2017/07/18/nc-legislature-restructures-state-renewable-energy-policy/> [<https://perma.cc/MW4P-MPM8>]; Krysti Shallenberger, *North Carolina Governor Signs Solar Bill, Targets Wind Moratorium with Executive Order*, UTIL. DIVE (July 27, 2017), <https://www.utilitydive.com/news/north-carolina-governor-signs-solar-bill-targets-wind-moratorium-with-exec/448091/> [<https://perma.cc/7S38-XDP3>]; see also § 62-2(a) (LEXIS).

137. Pub. L. No. 95-617, 92 Stat. 3117 (codified as amended at 16 U.S.C. §§ 2601–2645 (2020)). PURPA is a federal law that requires state utilities to purchase renewable resources at the utility's avoided cost rate, which is the rate the utility would have alternatively paid had it chosen another resource option. *Id.* Avoided cost rates are set by state utility commissions. A high avoided cost rate means that renewable sites are making more money for their energy supply but that customers are forced to pay higher rates to compensate for the mandate that public utilities buy this power. See Jon Sanders, *What Would House Bill 589 Mean for Energy Consumers?*, JOHN LOCKE FOUND. (June 20, 2017), <https://www.johnlocke.org/update/what-would-house-bill-589-mean-for-energy-consumers/> [<https://perma.cc/U87T-RC8Z>].

138. David Fountain, Opinion, *Viewpoint: Solar Policies Need To Change To Benefit Customers*, CHARLOTTE BUS. J. (Apr. 25, 2017, 1:03 PM), <https://www.bizjournals.com/charlotte/news/2017/04/25/viewpoint-solar-policies-need-to-change-to-benefit.html> [<https://perma.cc/6HSF-MS7Z>].

sites by implementing a competitive procurement system.<sup>139</sup> This required renewable systems to bid into a new auction system and mandated that Duke Energy add an additional 6,800 megawatts of renewable energy into its system from these bids.<sup>140</sup> This was a win for consumers and renewables advocates alike, but it also involved concessions—such as a moratorium on permits for wind energy facilities.<sup>141</sup>

However, the social cost of carbon is distinct from HB 589 and arguably requires significant bargaining across the political aisle. Namely, HB 589 served to lower costs for consumers,<sup>142</sup> while the social cost of carbon raises prices by artificially subsidizing resources.<sup>143</sup> In addition, HB 589 made renewables more accessible by requiring Duke Energy to secure 6,800 megawatts of solar energy.<sup>144</sup> While the social cost of carbon also increases the competitiveness of renewables, it does so at the direct expense of fossil fuels.<sup>145</sup> These are key distinctions that will undoubtedly make the legislative process a difficult battle for stakeholders. However, HB 589 is demonstrative that the GA is not entirely risk averse to climate-related legislation. While it is clear that the social cost of carbon is inherently more political than HB 589's competitive procurement for renewables, the difficult work of garnering support in the GA to codify an explicit environmental consideration provision would secure this policy goal in the most concrete way possible, simply because future efforts aimed at repealing the environmental consideration from statutes would require just as much work as it would to implement it. HB 589 also shows that an all-or-nothing approach to encouraging renewable development in North Carolina might not be a winning strategy. Advocates for incorporating the social cost of carbon into the IRP process would need to be flexible and willing to take noncritical concessions, just as the authors of HB 589 did.

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("Over the next 12 years, we estimate customers will be spending more than \$1 billion extra compared to the market prices that the same power could be purchased for today.").

139. N.C. GEN. STAT. § 62-110.8(a) (LEXIS through Sess. Laws 2020-97 of the 2020 Reg. Sess. of the Gen. Assemb.).

140. Sanders, *supra* note 137.

141. H.B. 589, 2017 Leg., 2017–2018 Sess. (N.C. 2017), ch. 192, § 13(b), 2017 N.C. Sess. Laws 1340, 1358 (codified as amended in scattered sections of ch. 62 of N.C. GEN. STAT. (LEXIS through Sess. Law 2020-97 of the 2020 Reg. Sess. of the Gen. Assemb.)).

142. See Sanders, *supra* note 137.

143. See *supra* notes 12–13 and accompanying text.

144. Sanders, *supra* note 137.

145. See *supra* notes 12–13 and accompanying text.

2. A General Statutory Revision That Instructs the Commission To Consider Emissions in All of Its Adjudications Would Be Better Used To Address the Clean Energy Plan's Policy Goals

Although the social cost of carbon as a specific concept will probably face significant barriers in achieving statutory codification, clean energy stakeholders would have an advantage if they sought to pursue a broader statutory revision. Specifically, Duke Energy has a vested interest in the expansion of the Commission's duties and could leverage its political power and prominence to partner with environmental advocates to achieve legislative action.

Duke Energy has set its own clean energy goal of achieving carbon neutrality by 2050,<sup>146</sup> which will undoubtedly require investments in new, and potentially expensive, clean energy technologies.<sup>147</sup> However, as outlined above, the Commission decides what investments Duke Energy can financially recoup via electricity rates.<sup>148</sup> As the Commission's statutory obligations stand now, Duke Energy would have to foot the bill itself to make investments in clean energy resources aimed at reaching its internal goal that did not fully adhere to the least-cost principle. Thus, it is certainly in Duke Energy's financial interest to ensure that its investors can retrieve a rate of return on its clean energy efforts rather than forcing it to cut its own profits to fulfill this goal. Stakeholders should take advantage of Duke Energy's position and partner with the company to lobby the GA.

Further, Duke Energy's interest in changing the Commission's statutory duties is more significant than just the inclusion of the social cost of carbon in IRPs, and a broader statutory revision not only better serves Duke Energy's goals but also more broadly supports the Clean Energy Plan's purpose to reduce emissions in the electricity sector. IRPs as roadmap documents only forecast the future and do nothing to allow Duke Energy to invest in innovative clean energy technologies. Instead, Duke Energy would want the Commission to have a statutory duty to prioritize approving investments that benefit the environment or reduce carbon emissions. Thus, it is advantageous for stakeholders to leverage Duke Energy's position and lobby for a more comprehensive statutory change rather than simply expanding the Commission's ability to consider more factors in IRPs.

A lobbying effort that was bolstered by both environmental advocates and Duke Energy—North Carolina's largest utility company—could garner more

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146. *Duke Energy Aims To Achieve Net-Zero Carbon Emissions by 2050*, DUKE ENERGY NEWS CTR. (Sept. 17, 2019), <https://news.duke-energy.com/releases/duke-energy-aims-to-achieve-net-zero-carbon-emissions-by-2050> [<https://perma.cc/KL4A-GPVB>].

147. CLEAN ENERGY PLAN, *supra* note 4, at 12.

148. *See supra* notes 27–36 and accompanying text.

bipartisan support than an effort made by each group on its own. Moreover, because Duke Energy's motivation would be financial while the environmentalists' end goal would be decarbonization, these differing interests would be more likely to result in a proposal that appeals to a broader range of legislators and would include nuance and compromise that a unilateral bill would not.

#### CONCLUSION

The utility regulatory model evolved as a solution to vast social inequality. Now, this twentieth-century invention has the opportunity to address one of the twenty-first century's most pressing concerns: climate change. Like electricity access, the impacts of climate change find their roots in the shortcomings of capitalism.<sup>149</sup> In addition, as was the case with early twentieth-century electricity access, the impacts of climate change are often disparately felt by those with little means to address it.<sup>150</sup> When decisions are based purely on economic efficiencies, health and social concerns bear the impact.<sup>151</sup>

The Clean Energy Plan is a step in the right direction for mitigating climate change in North Carolina. Incorporating the social cost of carbon within the IRP process is a definitive way of requiring public utilities to better consider the carbon impact of their fuel decisions, but the likelihood of this happening via unilateral action by the Commission is meager. The Commission is directed to consider the financial impacts of resource use, and the social cost of carbon, by design, is a tool to alter these calculations. When compared to the Commission's prior decisions that have promoted the use of carbon-free sources, a social cost of carbon calculation would lack sufficient similarity because it is not tied to existing market conditions, is subject to persistent

149. See CHRISTOPHER WRIGHT & DANIEL NYBERG, *CLIMATE CHANGE, CAPITALISM, AND CORPORATIONS: PROCESSES OF CREATIVE SELF-DESTRUCTION* 4 (2015); Prudham, *supra* note 3, at 1599–1601 (criticizing the green capitalism movement for being inherently contradictory because capital accumulation and sustainability are mutually exclusive).

150. See, e.g., Robert Mendelsohn, Ariel Dinar & Larry Williams, *The Distributional Impact of Climate Change on Rich and Poor Countries*, 11 ENV'T & DEV. ECON. 159, 173–74 (2006) (finding that poor countries tend to experience harsher impacts from global warming because of their geography). See generally S. Nazrul Islam & John Winkel, *Climate Change and Social Inequality* (Dep't of Econ. & Soc. Affs., DESA Working Paper No. 152, 2017), [https://www.un.org/esa/desa/papers/2017/wp152\\_2017.pdf](https://www.un.org/esa/desa/papers/2017/wp152_2017.pdf) [<https://perma.cc/767J-77WL>] (explaining ways in which climate change further aggravates social inequality).

151. See, e.g., *Climate Impacts on Society*, U.S. ENV'T PROT. AGENCY (Dec. 22, 2016), [https://19january2017snapshot.epa.gov/climate-impacts/climate-impacts-society\\_.html](https://19january2017snapshot.epa.gov/climate-impacts/climate-impacts-society_.html) [<https://perma.cc/9AAY-T66B>] (stating that climate change impacts are more harshly felt by children and the elderly, whose health and immune systems are less equipped to manage the impacts). See generally Solomon M. Hsiang, Marshall Burke & Edward Miguel, *Quantifying the Influence of Climate on Human Conflict*, 341 SCIENCE 1235367-1, 1235367-12 (2013) (finding that increases in global temperatures are causally linked to increases in interpersonal conflict).



debate, and will not be implemented as an anticipation of future regulatory compliance.

As an alternative method of implementation, stakeholders should focus their lobbying efforts on the GA. In the past, a Republican majority GA has been amenable to renewable energy legislation, albeit with required concessions. However, environmentalists have an important advocate on their side—Duke Energy. Expanding the Commission’s statutory duties to explicitly permit it to consider environmental impacts makes it easier for North Carolina’s largest utility to pursue its internal carbon emissions goal. Stakeholders should take full advantage of their aligned interests to create a permanent legal avenue to change the way climate change is approached in North Carolina.

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