# BEFORE THE NORTH CAROLINA UTILITIES COMMISSION DOCKET NO. E-100, SUB 179

	)	
In the Matter of Duke Energy Progress, LLC,	)	
and Duke Energy Carolinas, LLC, 2022	)	PARTIAL PROPOSED ORDER
Biennial Integrated Resource Plans and Carbon	)	OF AVANGRID RENEWABLES,
Plan	)	LLC
	)	

BY THE COMMISSION: Based on the entire record in this proceeding, the Commission now makes the following:

#### FINDINGS OF FACT

## Ownership

- 1. The Commission finds that Duke Energy Carolinas, LLC and Duke Energy Progress, LLC's (the Companies) position that the Companies must directly and fully own any offshore wind (OSW) resources in their service territory is not supported by statute or applicable law.
- 2. The Commission finds that third-party ownership of OSW resources is supported by statute and is an acceptable legal outcome which may enable least cost compliance with HB 951.

# **Timing**

- 3. It is not appropriate to approve a Carbon Plan portfolio or action plan at this time that does not meet the 2030 interim deadline set by HB 951.
  - 4. Timely offshore wind generation additions can assist meeting the interim deadline.

## **Offshore Wind**

- 5. The Companies' request for approval of development costs associated with offshore wind resources, including approval for the costs associated with procuring the Carolina Long Bay East wind lease area, is inappropriate at this time.
- 6. The procurement of the Carolina Long Bay East wind lease area proposed by the Companies is not supported by evidence as the least cost path for offshore wind resource development.
- 7. The Commission finds that it would be inappropriate to determine the Companies' particular offshore wind investment in the manner requested by the Companies.

- 8. The Commission finds that further work must be done to determine the best offshore wind development pathway to ensure best outcome for ratepayers.
- 9. Offshore wind is a scalable long-term resource, and the Commission will prioritize it as a potential generation resource to include in the Companies' generation portfolio subject to the results of the wind study detailed below and availability.
- 10. It is reasonable and appropriate for an independent, objective third party study to be conducted to evaluate and prioritize each wind lease offshore off North Carolina and determine the best pathway to incorporate offshore wind generation resources into the Companies' planning portfolio.
- 11. The study shall be designed to incorporate certain metrics, including at a minimum, net capacity factor (NCF), potential maximum capacity, and viewshed and hurricane risks, to enable the Commission to determine the least cost compliance pathway for offshore wind.
- 12. The study will examine and explain all three North Carolina offshore wind lease areas to determine each wind lease area's ability to provide electric generation to the Companies.
- 13. The study will evaluate a variety of ownership or contractual options to leave open options for least cost compliance.
- 14. Upon completion of the study, the offshore wind leaseholders will be given an opportunity to provide a pricing suite reflecting different ownership or contractual options that the developers are willing to consider and to provide the Commission with information necessary to determine which wind lease area ownership structure is the best option for North Carolina.
- 15. It is reasonable and appropriate for the Commission, following the completion of the study and price offerings by the offshore wind developers who choose to participate, to select for the Carbon Plan offshore wind resource additions in a prioritized order, beginning with the project with the best overall combination of reliability, schedule, and cost, in order to accomplish the requirements of HB 951 including meeting the interim 2030 deadline.
- 16. The Companies' future modeling for the purposes of generation planning will incorporate in its inputs the specific characteristics of the three offshore wind lease areas, or, if using unique wind lease areas characteristics for each site is impossible or unduly burdensome, the Companies will utilize a combined profile of wind lease areas that matches the average likely nameplate capacity, LCOE, and NCF, among other inputs, of the three wind lease areas.
- 17. If new wind lease areas are auctioned off the coast of North Carolina, the known physical characteristics of the existing wind lease areas change following additional studies, or one or more of the existing wind lease areas become unavailable for inclusion in the future resource planning dockets, the Companies' future modeling shall incorporate those changes

with the same directive to reflect the unique characteristics of the applicable wind lease areas or for a combined profile of the projections for the unique wind lease areas.

#### EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 1 AND 2

The evidence supporting these findings and conclusions is contained in the non-hearing track comments, testimony and exhibits of the witnesses, and the entire record in this proceeding.

## Non-Hearing Track Comments

Numerous intervenors briefed on the issue of third-party ownership of generation resources in the Carbon Plan. Duke's brief argued that, generally, HB 951 is unambiguous and the plain language states that Duke must own generation resources selected in the Carbon Plan. Duke did not specifically address offshore wind but made a general argument about ownership under HB 951. Duke Pre-Hearing Comments on Non-Expert Track Legal and Policy Issues, pp. 19-23. Duke further argued that contrary interpretation is impossible under the traditional principles in reviewing statutory construction and that utility ownership and least cost compliance can coexist. Duke Pre-Hearing Comments on Non-Expert Track Legal and Policy Issues, pp. 23-28. Duke stated that contrary interpretation would yield "absurd" results and that the other existing law does not conflict with HB 951. Pre-Hearing Comments on Non-Expert Track Legal and Policy Issues, pp. 28-31. Duke did not specifically address offshore wind as a unique resource in its ownership argument in its Pre-Hearing Comments on Non-Expert Track Legal and Policy Issues.

The Public Staff similarly did not brief on the ownership issue specific to offshore wind as a unique resource. The Public Staff stated that where there is a specific statutory provision – such as ownership and the method of cost recovery – it overcomes potentially conflicting statutory provisions such as the general guidance for least cost compliance. Comments of the Public Staff, pp. 7-11. CPSA briefed the ownership issue, saying that the plain language of HB 951 required utility ownership except as specifically carved out and that Duke is barred from relying on new out-of-state generation resources. CCEBA Comments, pp. 6-7.

Walmart, Kingfisher, CIGFUR, AGO, and CLEAN intervenors, each briefed on the issue of ownership generally. Kingfisher reiterated its arguments from its initial comments where it argued that competitive marketplace structures, such as a competitive procurement or similar third-party contractual procurement would enable least cost compliance with HB 951. Kingfisher Comments, pp. 2-6. Walmart adopted the arguments of Kingfisher that competitive procurement or PPA style options would assist in keeping costs low. Walmart Comments, pp. 5-6. CIGFUR took a similar position, noting the broad discretion of the Commission in implementing a least cost compliant carbon plan. CIGFUR Comments, p. 7. The AGO argued that purchasing energy from a third-party was not barred by statute because the clean energy would be then owned by the utility upon purchase and recovered on a cost-of-service basis. AGO Comments, pp. 11-12. Additionally, the AGO argued that traditional state practice and the resource planning statute in place allow for third-party purchases of energy. AGO Comments, p. 12-13. The CLEAN Intervenors also argued that third-party ownership may enable least cost compliance with HB 951 and that other statutory provisions and past utility practice point toward purchased clean power as being allowable under HB 951. CLEAN Intervenor Comments, pp. 8-10.

Tech Customers briefed the ownership issue and included specific provisions regarding offshore wind. The Tech Customers argued that the Commission has authority to include the purchase of third-party power in its carbon plan and the plain language of section 62-110.9(2) authorizes purchased power to be used as a component of the Commission's carbon plan. Tech Customers Comments, pp. 2-4. Tech Customers further argued that Duke relied on purchased power in its own carbon plan proposal, including generically modeling offshore wind rather than being specific to CLB East. Tech Customer Comments, pp. 7-10. Tech Customers further argued that the optimal resource mix includes purchased power and intentionally omitting it raises constitutional issues and will disable the ability to meet the least cost requirements of HB 951. Tech Customer Comments, pp. 11-14.

CCEBA briefed the issue as well and noted that limiting offshore wind ownership to Duke would limit the ability of the state to meet its own statutory goals and the goals of the executive orders recently signed by Governor Cooper. CCEBA Comments, pp. 4-6.

Avangrid Renewables briefed on the issue of ownership generally and specific to offshore wind resources. Avangrid Renewables argued that HB 951 is ambiguous as to ownership of generation because the statute is inconsistent on the matter. Non-Hearing Track Comments of AGR, p. 9. Avangrid Renewables pointed out that HB 951 does not supplant existing North Carolina law regarding out of state resources such as OSW. The IRP statute contemplates, and past practice shows, utility reliance on out-of-state generation resources owned by third parties. Non-Hearing Track Comments of Avangrid Renewables, pp. 9-11. Avangrid Renewables further argued that the intent, ambition, and scope of HB 951 would allow for third-party ownership of OSW. Non-Hearing Track Comments of Avangrid Renewables, pp. 11-14.

#### <u>Testimony</u>

Duke Witness Pompee testified that Duke's modeling did not assume that OSW would come from a particular wind energy lease. Tr. vol. 17, 115. However, he testified that it is Duke's position that legally it must own any OSW selected by the Commission as part of the Carbon Plan. Tr. vol. 17, 116. Duke argues that this requires sole ownership, precluding a joint venture and other options. Tr. vol. 17, 175. Duke is willing to purchase wind energy leases from other entities. Tr. vol. 17, 116-17. However, unless Avangrid Renewables or Total Energies Renewables USA, LLC (Total) expresses a clear desire to sell their respective wind energy leases, Duke will pursue affiliate approval to transfer the wind energy lease owned by Duke Energy Renewables Wind, LLC (Duke Wind) to Duke. Tr. vol. 17, 117. Witness Repko testified that, as he understands an affiliate transfer, it is a legal transaction between Duke and a commercial affiliate and would need to be accepted by the Commission and later approved by BOEM. Tr. vol. 17, 154-55.

Avangrid Renewables Witness Gallagher stated that Avangrid Renewables is willing to sell the Kitty Hawk wind energy lease. Tr. vol. 22, 192.

#### Discussion and Conclusion

The question of utility ownership of generation requires careful consideration of HB 951, and the other provisions of Chapter 62. Duke, the Public Staff, and CPSA note that the plain language of N.C.G.S. § 62-110.9 appears to show that the resources selected by the Commission in the carbon plan shall be owned by Duke and recovered on a cost-of-service basis. However, as noted by Walmart, Kingfisher, CIGFUR, AGO, and CLEAN intervenors, there is ample evidence in this record and in historical practice that third-party purchased power can, at times, be less costly than utility development of generation resources and reduce ratepayer risk.

As noted by the Tech Customers, the Commission is afforded ample discretion in determining the planned generation mix for the regulated utilities. Moreover, Tech Customers point out that Duke relied upon purchased power in their carbon plan proposal and Duke has repeatedly acknowledged that they will be required to rely upon third parties to supplement their power mix. Finally, Avangrid Renewables notes correctly that the intent of HB 951 is not for the utility to have the sole ability to build up new technologies, such as offshore wind, and the statute contemplates a least cost pathway to reducing emissions.

The Commission concludes that HB 951 restricts generation resources selected in the carbon plan to utility ownership, to be cost recovered on a cost of service basis, except for in the case where there is ambiguity regarding the underlying generation resource within the statutory framework. OSW is unique as it is not sited in North Carolina (or any state). Duke argues that it is not subject to CPCN review. There are too many uncertainties regarding OSW as a resource for the Commission to make a finding that the best path for North Carolina requires utility ownership. The Commission, in its discretion, determines that OSW may be owned by a third-party where such ownership structure is proven, as otherwise provided herein, to be the least cost path towards HB 951 emissions reduction requirements.

## EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 3 AND 4

The evidence supporting these findings and conclusions is contained in the testimony and exhibits of the witnesses, and the entire record in this proceeding.

## Testimony

Witness Pompee testified that he understands that Avangrid Renewables has submitted a Site Assessment Plan (SAP) that was accepted and a Construction and Operations Plan (COP) that has not yet been approved. Tr. vol. 17, 157. He agrees that Duke Wind has had less time to do its SAP and COP than Avangrid Renewables has had and that the Carolina Long Bay wind energy lease permitting has not been completed. Tr. vol. 17, 158, 163. Witness Repko testified that if 2030 is the deadline the Commission chooses to comply with under HB 951, then a parcel that is further along in development would be the most likely course of action, and that parcel would be the Kitty Hawk wind energy lease. Tr. vol. 17, 160; see id. 163. He testified that the Carolina Long Bay wind energy lease could be developed if the Commission chose a deadline of 2032 or later. Tr. vol. 17, 160-61.

Public Staff witness Thomas testified that Duke prevented the selection of OSW prior to 2030, although Avangrid Renewables has stated that it can achieve commercial operation as early

as 2029. Tr. vol. 21, 61. The Public Staff views 2029 as a reasonable first year of operation for OSW. Tr. vol. 21, 62.

## **Discussion and Conclusion**

The Commission sees no need to extend the deadline for 2030 compliance at this time. Kitty Hawk or another OSW resource timely developed can provide a significant bulk generation clean energy resource that compliments the heavy solar profile the state will likely have. The Commission therefore declines to approve the portfolios that Duke has proposed which do not meet the 2030 deadline. The Commission will revisit this issue when it is ripe.

Kitty Hawk is clearly ahead of CLB East in permitting work, though, because Duke's wind affiliate was not a party to the proceeding, it is unclear how much further the Kitty Hawk work is. As noted above, due, in part, to the complementary nature of OSW to North Carolina's heavy solar profile, OSW can provide a meaningful vehicle for meeting the interim emissions reduction deadline. The Commission finds good cause to move forward expeditiously as detailed further herein with OSW development for that reason.

#### EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 5-17

The evidence supporting these findings and conclusions is contained in the testimony and exhibits of the witnesses, and the entire record in this proceeding.

## **Testimony**

Duke witness Pompee testified that OSW is relatively new to the U.S., with two projects in operation and 30 GW of projects with leases in place and has a 25-year record globally. Tr. vol. 17, 110. Witness Pompee testified that there are currently three siting possibilities, or wind energy leases, in the Carolinas: the Kitty Hawk parcel of approximately 127,000 acres approximately 27 miles offshore from Corolla, purchased by Avangrid Renewables in 2017; and the Carolina Long Bay lease areas comprising approximately 55,000 acres each, located approximately 20 miles offshore from Cape Fear, one of which was purchased by Total and the other of which was purchased by Duke Wind, both in May 2022. Tr. vol. 17, 111. He testified that all lease areas would require cabling from the wind farm to shore and network upgrades and new transmission infrastructure. Tr. vol. 17, 111-12.

Witness Pompee testified that OSW could provide resource diversity to a future system likely to be heavily reliant on solar because its generation profile complements the generation profile of solar both daily and seasonally. Tr. vol. 17, 112. As more solar is added, the summer peak planning hour shifts to the early evening as solar generation decreases and offshore winds increase. Tr. vol. 17, 112. In winter, OSW is especially valuable because the peak planning hour for the system is currently the early winter morning and OSW's highest seasonal generation is in the winter mornings. Tr. vol. 17, 112. In addition, OSW has a high capacity factor and low intermittency relative to other zero-carbon resources. Tr. vol. 17, 112. Locating OSW at any of the three leases above, more than 20 miles offshore, allows for very large wind farms, large

turbines, and tall towers, all of which increases the capacity and capacity factor of OSW. Tr. vol. 17, 112.

Witness Pompee testified that OSW leasing is managed by the Bureau of Ocean Energy Management (BOEM), which is part of the U.S. Department of the Interior. Tr. vol. 17, 113. He testified that it typically takes approximately eight (8) to ten (10) years from wind lease initiation to commercial operation. Tr. vol. 17, 113, 123; Tr. vol. 18, 80. He recommended beginning development of OSW in order to refine Duke's cost estimates and to preserve the potential for OSW to be available on a timeline matching Duke's modeling. Tr. vol. 17, 114-15. He testified that OSW could reduce Duke's reliance on other technologies, new gas pipelines, and solar. Tr. vol. 17, 115.

Witness Repko later explained that Duke had not received an explicit statement from Avangrid Renewables that it was willing to sell. Tr. vol. 17, 168. He stated that Avangrid Renewables' testimony that it was open to any manner of transaction that is on reasonable terms and fairly values the Kitty Hawk wind energy lease included too many subjective terms and did not provide certainty that Avangrid Renewables would sell. Tr. vol. 17, 170-71. Witness Repko testified that build-own-transfer is an option but Duke believes it is appropriate that it develop the Carolina Long Bay parcel due to ease, simplicity, and timeframe. Tr. vol. 17, 174; Tr. vol. 18, 61. Duke's position is that if Duke does not own the lease, then there is no guarantee that it will be developed on a pace to meet the necessary timeline. Tr. vol. 18, 59. Duke proposes that DEP would develop the OSW under HB 951, although DEP has never developed OSW. Tr. vol. 18, 82.

Witness Pompee testified that the near-term activities associated with OSW development include paying rent to BOEM, development of an SAP, various site surveys, and preliminary engineering, followed by development of a COP and later by transmission. Tr. vol. 17, 117-19. BOEM requires these activities of any OSW leaseholder. Tr. vol. 17, 133.

Duke estimated the following near-term development costs: \$155,000,000 to purchase the lease from unregulated affiliate Duke Wind, \$62,000,000 in development expenses, and \$100,000,000 in transmission construction. Tr. vol. 17, 119-20. Duke's cost figures are specific to Duke Wind's wind energy lease. Tr. vol. 17, 151-52. Duke Wind purchased its wind energy lease for \$155,000,000 and Avangrid Renewables purchased Kitty Hawk wind energy lease for approximately \$9,000,000. Tr. vol. 18, 62-63. Witness Pompee explained that these are highlevel estimates based on indicative pricing, industry data, and multiple sources, and that uncertainty could be mitigated through front-end design and would be updated over time. Tr. vol. 17, 125. He later testified that the estimates were not precise, and Duke did not have indicative pricing and had not done procurements. Tr. vol. 17, 166. Witness Repko testified that the cost of OSW should be evaluated as part of the whole portfolio. Tr. vol. 18, 81. Duke has not studied whether wind leases might be less expensive in light of the removal of the moratorium on OSW in the Southeast under the IRA. Tr. vol. 18, 83.

On cross examination by counsel for Avangrid Renewables, Witness Pompee testified that the higher the capacity factor of an OSW asset the more energy you can get out of the wind energy lease. Tr. vol. 17, 145. He did not know the relative NCFs available at the different Carolinas

wind energy leases because the currently available wind data is for coastal waters outside of the wind energy leases, making further meteorological study necessary. Tr. vol. 17, 145-46. He disagreed that wind speed is the most important factor in determine a facility's NCF because another factor is optimizing the turbine for the given wind speed. Tr. vol. 17, 146-47. However, he testified that according to publicly available data the Kitty Hawk wind energy lease has higher wind speed than the Carolina Long Bay wind energy leases and he would therefore expect it to have a higher NCF. Tr. vol. 17, 147-48.

Public Staff witness Metz recommended that the Commission deny Duke's request to begin near-term resource development activities for OSW because supplemental model portfolios SP5 and SP6 did not include OSW resources in the next ten (10) years but recommended that Duke reevaluate OSW in its proposed 2024 Carbon Plan. Tr. vol. 21, 127; Tr. vol. 21, 383-84. Witness Thomas explained that the reason for this position is that the Public Staff does not think the Commission should approve DEP to spend \$155,000,000 to acquire a lease plus another \$156,000,000 on development when the resource might not be needed until 2040, particularly when a lot of the development work could be done by entities that are not DEP. Tr. vol. 22, 333-35.

Witness Metz testified that waiting until the 2024 Carbon Plan to reevaluate the need for OSW absolutely would not mean that the earliest time OSW would be available for North Carolina customers would be 2034, because Duke Wind presumably would be continuing to develop its lease. Tr. vol. 22, 332. Witness Thomas added that he expected Avangrid Renewables and Total would do the same. Tr. vol. 22, 332-33.

Witness Thomas testified that it would have value in the 2024 Carbon Plan to look at all three wind energy leases. Tr. vol. 21, 226. Witness Thomas testified that portfolios SP5 and SP6 did not select OSW prior to 2040 because it was not a least-cost resource because the model was evaluating a suite of alternatives. Tr. vol. 21, 274. He would not say necessarily that OSW is not part of a least-cost solution. Tr. vol. 21, 275. He testified that it can be an expensive resource, but it provides benefits in terms of its output profile. Tr. vol. 22, 352-53.

Witness Thomas explained that modeling thus far modeled OSW as a generic resource, whereas if the Commission were to order a third-party study that could receive information from each of Avangrid Renewables, Total, and Duke Wind related to key inputs such as capacity factors and output profiles and network upgrades, including confidential information, it could come up with a least-cost option, and the information also could go into the 2024 Carbon Plan. Tr. vol. 22, 347-50. Participation in the study by the three unregulated entities could be voluntary. Tr. vol. 22, 350-51. Witness Thomas testified that with a competitive market—albeit limited to three competitors—it would be inappropriate to simply pick Duke Wind's Carolina Long Bay lease as a winner. Tr. vol. 22, 352. Witness Thomas also opined that based on the results of the study the Commission could order Duke to open a competitive procurement for OSW that would be open to the three leaseholders and through an independent administrator or independent evaluator DEP could pick the most competitive regardless of who owns it. Tr. vol. 22, 352.

Witnesses Michael Starrett and Becky Gallagher testified for Avangrid. Tr. vol. 23, 159. Witness Starrett testified that OSW provides a benefit in terms of the shape of its generation, both

daily and annually, and has a high capacity factor. Tr. vol. 23, 166-67. He also testified that OSW's different supply chain from other renewables can be a benefit. Tr. vol. 23, 168. He disagreed with Duke's assumption that OSW necessarily requires a 500kV grid expansion. Tr. vol. 23, 169. He testified that the Vineyard Wind 1 project, which is 50% owned by Avangrid Renewables, is on track to come online within nine (9) years. Tr. vol. 23, 176. Avangrid Renewables has been developing its Kitty Hawk wind energy lease since its purchase in 2017. Tr. vol. 23, 179.

### Discussion and Conclusion

Offshore wind is a commercially available zero-carbon resource that likely can form part of a least-cost path to compliance with the 2030 carbon-reduction requirement as part of a portfolio of resources due primarily to its daily and annual generation profile and high capacity factor, which complements solar generation particularly well. The Commission is mindful that optionality with regard to the ownership of offshore wind regarding ownership or contractual relationships is paramount to achieving timely, least cost compliance with the 2030 emissions reduction goal.

There is evidence that the Kitty Hawk wind energy lease likely has a net capacity factor than the Carolina Long Bay leases due to its higher wind speed, although other factors such as transmission costs could weigh in favor of Carolina Long Bay and offset the difference. The modeling to date, relying on a generic OSW resource, is not sufficiently granular to allow the Commission to determine the relative values of the lease areas in terms of energy production, nor are the transmission costs, both to bring power onshore and any necessary upgrades, sufficiently clear. Accordingly, the Commission cannot decide at this time as to which lease area would provide North Carolina customers with the best value. Further, the Commission does not have the benefit of an analysis of the effect of the IRA's lifting the OSW leasing moratorium in the Southeast, nor its other effects on the cost of OSW and other zero-carbon resources.

There is a relatively long development timeline for OSW from leasing to commercial operation and the Commission recognizes the need to move expeditiously if OSW is to play a role in meeting the 2030 carbon-reduction requirement. However, there is evidence in the record that OSW at one or more of the three Carolinas lease areas could be operational before 2030, and in any case the Commission simply does not have sufficient information to select a lease area at this time. Accordingly, in recognition of the tight timeline the Commission will commission a third-party study of the three Carolinas OSW lease areas, which will be conducted on an expedited schedule as otherwise described herein. The third-party study will allow for unbiased results and the opportunity for the wind developers to propose pricing suites which provide the Commission the opportunity to meet the 2030 emissions reduction goal. Depending on the results of the study and other factors, the Commission will then direct Duke to take further action such as to have DEP initiate a competitive procurement of OSW, overseen by an independent administrator, or to require that the results of the study inform Duke's proposed 2024 Carbon Plan.

#### IT IS THEREFORE ORDERED as follows:

1. Duke is not required to directly and fully own offshore wind as a generation resource contributing to the emission reductions requirements set forth in HB 951 and Duke's

- request for approval of development activities of OSW as set forth in their Carbon Plan proposal is denied
- 2. The Commission recognizes that there are multiple ownership or contractual structures, including joint ownership, third-party PPA, and build-own-transfer among others, which are permissible pathways to OSW that may meet the least cost compliance requirement and should be further explored.
- 3. Offshore wind will be prioritized by the Commission in future generation planning and will be utilized, as cost effective, to meet the interim and ultimate emissions reductions requirements of HB 951.
- 4. In order to timely move forward with offshore wind development, the Commission, within thirty (30) days of the issuance of this Order, shall appoint a neutral, third party wind consultant to conduct a study of the Carolina Long Bay lease areas and the Kitty Hawk lease area.
- 5. Upon appointment of the wind consultant and notice to the parties to this proceeding, interested parties and the wind consultant will have thirty (30) days to determine what metrics the study shall employ.
- 6. The Commission directs that those metrics shall at a minimum include the attributes of the wind lease areas, including specifically accounting for weather, turbine positions and projected NCFs, costs associated with reaching an interconnection point and upgrading grid infrastructure, among other things.
- 7. The study shall be completed by the end of June 2023 to provide optimal ability to move forward with development of offshore wind in order to meet the HB 951 interim deadline requirement.
- 8. The Commission further directs the study define the myriad of eligible ownership and contractual options that might serve to minimize rate impact and, with assistance from interested wind leaseholders, lead to the production of an offshore wind pricing suite.
- 9. Upon completion of the study, offshore wind leaseholders will have the opportunity to file with the Commission a pricing suite proposal commensurate with the ownership and contractual relationships options set forth in the study.
- 10. Consistent with the findings and evidence contained in this Order and with Commission approval, the Companies shall make an offer to secure the offshore wind project or lease area with the best overall combination of reliability, schedule, and cost. The offer made through this action shall be consistent with the ownership structure and contractual relationships determined as most cost-effective through the study and shall be overseen by an independent third party.

11. In future carbon plan proceedings, Duke shall update their modeling assumptions and future inputs to reflect the unique characteristics of the available offshore wind lease areas.

ISSUED BY ORDER OF THE CON	AMISSION
This the day of December, 2022.	
	NORTH CAROLINA UTILITIES COMMISSION
	Shonta Dunston, Chief Clerk

## **CERTIFICATE OF SERVICE**

I, Benjamin W. Smith, certify that on this date I served the foregoing document upon all parties of record by hand delivery, electronic mail and/or depositing a copy thereof in the United States mail, postage prepaid and addressed.

This 24th day of October, 2022.

/s/ Benjamin W. Smith
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