



## Kickoff of Joint Industry Project to Investigate Inter-Array Wake Effects in U.S. Offshore Wind Farms

[August 29, 2023] – The National Offshore Wind Research and Development Consortium (NOWRDC) is pleased to announce a collaboration with the U.S. Department of Energy’s National Renewable Energy Laboratory (NREL) and Cornell University to launch a groundbreaking Joint Industry Project (JIP) aimed at understanding and optimizing power production in U.S. offshore wind farms. As offshore wind project sizes continue to increase and the number of lease areas expands, there is a crucial need for numerical tools and control strategies to predict and optimize power generation.

The unprecedented scale of proposed offshore wind arrays in the United States and Europe raises questions about wake-induced power losses within and between wind farms, especially considering different wind farm layouts, spacing, and meteorological conditions. Furthermore, the dynamic nature of the coastal zone and specific meteorological phenomena present challenges for assessing wake losses, optimizing lease area siting, and designing wind farm mitigation strategies.

The JIP will focus on studying inter-array wake effects, considering both the impact of adjacent wind farms on neighboring projects and the aggregate generating capacity of lease areas along the U.S. East Coast. This research is essential as current lease areas may not be sufficient to meet the growing energy demands of densely populated Atlantic States, necessitating the identification and assessment of future wind energy areas.

By bringing together offshore wind developers, regulators, and research organizations, this exclusive project aims to deepen our understanding of inter-array impacts, enhance assessment tools, and develop guidance for the spacing of new wind energy areas. The collaboration between stakeholders is crucial for ensuring the long-term optimization of offshore wind-based power production.

The project objectives include:

1. Understanding and quantifying regional meteorological conditions leading to downstream propagation and long-distance propagation of cluster wakes on the Atlantic Outer Continental Shelf (OCS).
2. Developing advanced multi-fidelity analytical methods to assess wake effects within wind farms and over the Atlantic OCS.
3. Assessing the potential impacts of offshore wind energy development under different scenarios for existing Atlantic lease areas.
4. Establishing metrics for array spacing to aid in the site selection of future Atlantic lease areas.



This collaboration marks an important milestone in the development of offshore wind in the United States. Interested parties are encouraged to join the JIP to actively contribute to the future of sustainable wind energy production on the Atlantic OCS. Through state-of-the-art modeling tools, participants will contribute to a deeper understanding of inter-array wake effects specific to the U.S. North Atlantic region and advance computational capabilities.

*For more information about the project and participation details, please contact NOWRDC Senior Program Manager - [Kori Groenveld](#).*

**About NOWRDC:**

The National Offshore Wind Research and Development Consortium (NOWRDC) is a nonprofit organization dedicated to advancing offshore wind technology in the United States. NOWRDC funds research and development activities that lower the cost of offshore wind energy.

**About Cornell University:**

Cornell University is a private and statutory Ivy League research university located in Ithaca, New York. The university is a renowned center for research and innovation across various disciplines, including engineering and renewable energy.