

## **SPINNING THE MID-ATLANTIC OFFSHORE WIND INDUSTRY INTO ECONOMIC OPPORTUNITY**

*C2ES Regional Roundtable—October 27, 2022*

### *Key Takeaways*

#### **Overarching Themes**

- Supply chain, workforce, and expedient federal project permitting are all interrelated and must be developed to both anticipate and provide certainty to the coming project pipeline.
- Global competitiveness is key to the U.S. offshore wind industry's success. Offshore wind is a global industry, and U.S. developers and manufacturers must compete and cooperate with global players. Until it can build a full-fledged domestic supply chain, the U.S. must also compete with the more developed offshore wind markets in Europe and Asia for foreign investment, vessels, and components.
- Inter-state cooperation, rather than competition, will be essential to develop a comprehensive regional supply chain and transmission investments for offshore wind in a way that does not duplicate efforts and that suits the competitive advantage of each state.
- A reliable offshore wind project pipeline (i.e., several regional utility-scale offshore wind projects being developed in succession over decades) is essential to ensure the reliability and sustainability of a domestic offshore wind supply chain as well as local workforce development initiatives (including apprenticeships, training, and upskilling programs), and to enable prerequisite investments in infrastructure.
- Many companies have net-zero or 100 percent carbon-free power goals, and will consider access to clean power when they select new locations for projects. These companies can leverage their economic power to put pressure on states to accelerate the deployment of clean energy, including offshore wind.

#### **Supply Chain and Infrastructure**

- The offshore wind supply chain is not limited geographically to coastal areas, and inputs can be sourced from the entire region, including inland areas of coastal states, as well as other inland states, creating broad access to the economic benefits of scaling the industry.
- In areas like Hampton Roads, with a maritime industrial history, companies in industries adjacent to the offshore wind industry may be well suited to produce inputs, often with minimal retooling. However, these companies may be unaware of the opportunity or unwilling to invest in retooling without outreach from developers and a guaranteed project pipeline.
- Preparing infrastructure at ports and other sites for manufacturing is capital-intensive; yet, these investments must occur before the facilities can support the offshore wind industry. Having a reliable project pipeline is crucial to enabling investments in infrastructure, providing certainty that investments will have a positive return.
- To attract major investment from developers and manufacturers of inputs, states and municipalities must invest capital up front in preparing sites—preferably redeveloped brownfields—for new manufacturing and support facilities. Early investments can demonstrate readiness and help regions successfully compete for grant applications to make further improvements.
- Few sites across the coast exist with the necessary combination of deepwater port infrastructure and sufficient acreage to support the construction process; these sites should prepare now for

the—often temporary—influx of workers and components for the construction phase of nearby offshore wind projects.

- Due to the timing of the project pipelines, some sites like the port of Baltimore will experience waves of construction uptime and downtime rather than continuous uptime. Preparing ahead of time for this cycle can position companies and sites to export resources to other parts of the country.
- The vessels necessary for offshore wind installation, including heavy lift vessels, wind turbine installation vessels, and electrical cable laying vessels, are in short supply globally and currently no U.S.-flagged vessels of these kinds exist. The United States needs greater access to these vessels, and in a greater supply.

### ***Permitting and Transmission***

- Technological solutions to protect ecosystems can be developed at the lowest cost and with the greatest flexibility if regulators set performance standards based on target protections and enable the market to innovate to meet them.
- Integrating offshore wind into the grid at scale will require the construction of a coordinated offshore transmission network, which, if planned properly, can minimize the coastal impacts of new transmission lines coming ashore. Long-term planning can help minimize costs, the total infrastructure required, and its environmental impact on critical habitats, ecosystems, and endangered species (e.g., birds, fish, and whales); transmission planning should occur congruently with or in advance of project development planning or projects risk becoming stranded with no infrastructure to connect to the onshore grid.
- Permitting reform can and should meaningfully reduce project approval timelines while integrating adaptive management, including monitoring, that can ensure new information about environmental impacts can be incorporated into decision-making processes.
- Issues like transmission planning impact regions irrespective of state lines, making interstate coordination in the transmission planning process central to the success of the offshore wind and other clean energy industries. For example, investments in stronger onshore transmission could support congestion relief throughout the PJM territory.
- The urgency of climate change requires expediency in bringing large-scale carbon-free generation online to reach mid-century decarbonization goals. Transmission planning must both keep pace with and anticipate the project pipeline so there is no delay in connecting new projects as they are constructed, and capital- and labor-intensive projects are not left stranded. Additionally, more leasing for offshore wind projects is needed to create a reliable project pipeline.
- The nascent nature of offshore wind technology in the United States may pose a challenge to the permitting process, particularly at the local level, as government officials expand their own knowledge and explore the nuances of how to balance support for a thriving offshore wind industry alongside other concerns.
- Given the globally competitive nature of the offshore wind market, American projects often rely on equipment and labor from foreign companies, producing limited timing windows for project construction; delays in the federal permitting process can cause cascading and ultimately fatal project delays as global companies move resources to other contracts.

## **Workforce**

- Companies within the offshore wind industry and its supply chain should act now to identify skills needed in the future workforce and help high school students and recent graduates develop the necessary skills to qualify for jobs in this growing industry.
- There is a shortage of eligible workers with the necessary skills to meet the current and anticipated needs of the offshore wind industry; currently, many companies struggle to fill open positions.
- In the Virginia Beach area, the offshore wind industry has significant human resources, in particular its ability to recruit from a large, existing and skilled pool of U.S. military veterans.
- Companies can attract and retain workers by supporting access to training and certifications, as well as providing services that support employees' ability to work, like onsite childcare and healthcare benefits.
- Equitable opportunities for employment across underserved communities are essential to ensuring all communities can take part in the economic development benefits of the manufacturing pipeline for the offshore wind industry. Jobs in and adjacent to the offshore wind industry offer a significant economic mobility opportunity, as manufacturing jobs often have high average salaries and relatively low barriers to entry.
- Businesses hoping to attract more diverse talent should partner with institutions that specialize in serving diverse populations, such as historically Black colleges and universities (HBCUs). Companies hoping to recruit from underserved communities should consider their unique needs and address them proactively.
- The nature of the work associated with the construction phase of the offshore wind industry is such that it may not provide long-term jobs on the same project, or even in the same location, depending on the project pipeline; but the skills used to construct turbines are transferrable to other projects around the country or even to other industries (e.g., welding).
- Developers and communities benefit when most of the workforce for projects is local; companies benefit from communities' local knowledge and buy-in, and communities receive economic benefits from working to build up the local industry.
- Operations and maintenance (O&M) can comprise around 25-35 percent of a project's lifetime cost, and in contrast to many other phases of the project, O&M provides long-term/permanent job opportunities.
- The O&M workforce is highly unionized, providing workers with access to educational training and other union resources; non-union companies may struggle to compete for top talent.
- The growing U.S. offshore wind industry presents an opportunity for workers in the oil and gas industry to transfer skills to new opportunities in offshore wind; project developers and operators can recruit from an existing, highly-skilled talent pool of oil and gas workers.

## **Environment**

- Port and terminal improvements can have a significant, detrimental impact on the local environment. Such improvements should be sited and implemented responsibly to minimize damage to already precarious ecosystems.
- The urgency of climate action requires rapidly building out offshore wind generation capacity, but this cannot be done at the expense of coastal ecosystems and marine wildlife. States should

set minimum standards for responsible development relating to the local environmental context to expedite the permitting process while protecting vulnerable ecosystems and communities.

- Baseline environmental requirements for project approvals should include monitoring to collect baseline data on impacts on wildlife and meaningful engagement with local communities, including specific emphasis on underserved communities and Native American communities.
- Responsible project design is needed to protect ecosystems, and communicating the elements of a project that limit its environmental impacts is necessary to build support among communities that might otherwise oppose the project and prevent it from moving forward.
- Siting of offshore wind projects to avoid birds' migratory paths, timing their construction or even operation to avoid peak migratory times for birds and marine mammals, and other wildlife-first design mechanisms can help projects coexist with wildlife, particularly endangered species.
- Impacts across geographically dispersed wildlife populations are difficult to judge at the project level, particularly for migratory species. State and federal collaboration on designing protections can provide a more complete picture of impacts and are an essential part of the policy toolkit to protect wildlife populations.

### ***Community and stakeholder engagement***

- Local legislators and municipal leaders are pivotal to the development of the offshore wind industry. They are often the best voices to advocate for and recruit offshore wind developers and suppliers because they are the most deeply connected to the local community and its workforce and/or infrastructure offerings. At the same time, they are also the best ambassadors to the community for the benefits the offshore wind industry will bring because they are invested in and incentivized to assure economic success.
- Different phases of offshore wind projects produce different conditions for opposition or support among different communities. Some communities that may be supportive of project development are activated in opposition when they are chosen as the site for transmission lines. Outreach to communities and coalition building should cover all aspects of the project so communities can be informed and prepared.
- Project developers should engage with the community early and often throughout the process. Empowering community members to help make critical decisions (i.e., siting transmission lines) and providing education on the value of the project to the community can help produce buy-in and build long-term community support for the project.
- Mobilizing communities to support offshore wind projects requires engaging a broad range of stakeholders; trusted local policymakers can help spur meaningful discussions to further develop projects.
- A successful community engagement strategy should include a variety of approaches to engage different segments of the population, whether through digital means, in-person convenings and conversations, or direct mail; non-traditional communication channels like social gatherings can help produce more meaningful, authentic, accessible engagement. Demonstrable, good-faith collaboration between companies and grassroots organizations advocating for community interests can help to build trust in the community.
- Outreach to allies as well as opposition groups are equally important; engagement with opposition groups helps to address concerns from likely detractors early and reach positive,

collaborative solutions, while engagement with allies helps to build third-party credibility and buy-in.

- Continuous monitoring and revision of community engagement strategies is necessary to ensure the effectiveness of these interventions and continuously integrate feedback from local communities.