Recent Developments in U.S. Offshore Wind Energy

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Meet the Speakers

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Industry Overview

Shay Kuperman
Industry Overview

US Offshore Wind Initiatives

• Commissions/Task Forces:
  – 2008: Maine Ocean Energy Task Force
  – 2017: Delaware Offshore Wind Working Group

• Reports/Assessments:

• Legislation:
  – 2010: New Jersey Offshore Wind Economic Development Act
  – 2016: Massachusetts Energy Diversity Act
Industry Overview

Certain Challenges to US Offshore Wind Development

• Construction, Development and Maintenance Costs
• Other US Energy Sources/Cost Competitiveness
• Energy Policy
• Permitting Process
• Interest group opposition
  − Coastal landowners
  − Fishing industry
• Wildlife impacts
  − Limiting the extent to which offshore wind turbines interact with avian and aquatic life
• Grid/Interconnection Issues
• Vessels/Ports
Political Landscape - Federal

- Section 207 of President Biden’s executive order on Jan. 27, 2021
  - Goal to double offshore wind by 2030
  - Full assessment of the siting and permitting process by the Department of the Interior, in coordination with Defense, Agriculture, Commerce, Energy departments, other relevant agencies, project developers and other interested parties
  - Newly created National Climate Task Force to analyze and make recommendations
- “Transforming the American electric sector to produce power without carbon pollution will be a tremendous spur to job creation and economic competitiveness in the 21st century, not to mention the benefits of our health and to our environment,” President Biden, before signing the order
Industry Overview

Political Landscape - States

- **Massachusetts (August 9, 2018)**
  - Government Baker signs bill to increase offshore wind capacity to an additional 1,600 megawatts

- **Maine (Jan. 25, 2021)**
  - Governor Mills action to advance floating offshore wind research in the Gulf of Maine

- **Louisiana (Nov. 9, 2020)**
  - Governor Edwards announces renewable energy initiative for Gulf of Mexico
  - Coordination with BOEM to establish a task force of federal, state and local officials to build a blueprint for renewable energy production in the Gulf of Mexico, “We already have an emerging offshore wind energy industry, and Louisiana’s offshore oil and gas industry has played a key role in the early development of U.S. offshore wind energy in the Atlantic Ocean.”

- **California (Feb. 15, 2021)**
  - Bill introduced in state legislature laying out plan to procure 10 gigawatts of offshore wind by 2040

- **Virginia (June 29, 2020)**
  - Governor Northam signs offshore wind legislation

- **Rhode Island (Oct. 27, 2020)**
  - Governor Raimondo starts RFP process to procure 600 megawatts for offshore wind

- **New York (July 21, 2020)**
  - Governor Cuomo announces RFP process to procure 2,500 megawatts in offshore wind, along with a multi-pot infrastructure investment of $400 million
Industry Overview

Projects in the Pipeline

• During 2020, both New York and New Jersey opened their second offshore wind capacity solicitations

• Approximately 25 proposed offshore wind projects in various stages of development in US waters
  – Various industry projections of 25-30 GW in operations by 2030

• BOEM has issued 16 leases within federal waters, with capacity around 28 gigawatts
  – All leased areas are on the US Atlantic Coast

• Vineyard Wind
  – Expected to be first utility-scale offshore wind farm in the US
Environmental Review and Permitting

Michael Wigmore
Environmental Review and Permitting

U.S. Maritime Zones

Source: NOAA
Environmental Review and Permitting

Overview of Permitting Jurisdiction

• OFFSHORE (*i.e.*, seaward of the 3-nautical mile* Submerged Lands Act limits)
  - Commonly referred to as the Outer Continental Shelf or OCS
  - Federal ownership of submerged lands
  - Almost exclusively subject to federal jurisdiction

• COASTAL ZONE (*i.e.*, between the mean high water mark and 3-nautical mile* limit)
  - State ownership of submerged lands
  - Overlapping federal and state jurisdiction

• UPLANDS (*i.e.*, landward of the mean high water mark)
  - Public and private ownership of lands
  - Primarily subject to state and local jurisdiction (except for federal lands and resources)

* 3 marine leagues (9 nautical miles) for Texas, West Coast of Florida, and Puerto Rico
Environmental Review and Permitting

Permitting on the Outer Continental Shelf

- Bureau of Ocean Energy Management (BOEM)
  - OCSLA Section 8(p) (lease, right of way, SAP, COP)
- U.S. Army Corps of Engineers
  - CWA Section 404
  - Rivers and Harbors Act Section 10
- National Marine Fisheries Service
  - Marine Mammal Protection Act IHA/LOA
- Environmental Protection Agency
  - CWA Section 402/NPDES
  - CAA OCS Permit
- U.S. Coast Guard
  - Private Aid to Navigation
- Federal Aviation Administration
  - Determination of No Hazard to Air Navigation (including DOD review)
Environmental Review and Permitting Process

Leasing and Development Process

1. **Initiate Leasing Process (RFI/Call)**
   - Area Identification: Wind Energy Areas
   - Publish Leasing Notices
   - NEPA/Environmental Reviews

2. **Lease Granted**
   - Pre-survey Meetings/Plan
   - Site Assessment & Surveys (maximum timeframe)

3. **Submit SAP**
   - BOEM Deems COP Complete & Sufficient
   - BOEM Environmental & Technical Reviews

4. **BOEM Decision on COP Approval**
   - Installation

5. **Auction**
   - BOEM Reviews & Approves SAP
   - Submit COP (with Project Design Envelope – optional)

6. **Submit Design & Installation Plans**
Environmental Review and Permitting

Environmental Reviews for Federal Authorizations

- National Environmental Policy Act
- Endangered Species Act Section 7
- Magnuson Stevens Act/Essential Fish Habitat
- National Historic Preservation Act/Tribal Consultation
- Migratory Bird Treaty Act
- Possibly others, depending on resources affected
Environmental Review and Permitting Process

Environmental Review and Approval Process for COP

~12 months

COP Submittal
- Completeness and sufficiency review

Public Scoping
- Publish Notice of Intent in Federal Register
- 30-day public comment period
- Hold public meetings
- Receive input on issues and alternatives

Draft Environmental Impact Statement
- Prepare with cooperating agencies
- Publish Notice of Availability in Federal Register
- 45-day public comment period
- Hold public hearings

Final Environmental Impact Statement
- Address public comments with cooperating agencies
- Publish Notice of Availability in Federal Register

Record of Decision
- Minimum 30-day wait period

~2 years or longer
Environmental Review and Permitting

Permitting in the Coastal Zone

• Overlapping federal and state jurisdiction, but no BOEM/OCSLA jurisdiction
  – Corps Section 10/404 Permit
  – All applicable permits under state law (and there may be many)

• Coastal Zone Management Act Consistency Determination
  – This can bring in local government permitting if included as Enforceable Policies in CMP
  – May require consistency determination from adjacent state(s)

• Clean Water Act Section 401 Water Quality Certification
  – Process and substantive requirements established under state law

• All federal environmental reviews identified above apply
• Additional reviews may be required under state law
• State real estate outgrant/right of way
Environmental Review and Permitting

Permitting in Uplands

- Primarily governed by state and local law, except for federal lands and resources
- Electric transmission line siting is subject to state jurisdiction (and possibly local jurisdiction, if provided under state law)
- Federal backstop siting authority in Energy Policy Act is fatally flawed
- Limited viable interconnection points
- Potentially very challenging energy regulatory issues
- Potentially significant local opposition

THE TRANSMISSION AND INTERCONNECTION ISSUES COULD ULTIMATELY BECOME THE MOST DIFFICULT TO RESOLVE.
“Jones Act” and Vessel Activities

John Michael
The “Jones Act”

- Section 27 of the Merchant Marine Act of 1920 – the “Jones Act” and related regulations requires the use of U.S.-flag vessels to (1) transport people and products between two U.S. points, and (2) engage in dredging and towing activities in U.S. waters.

- These U.S.-flag vessels must be:
  - Built in the U.S.;
  - Owned by U.S. citizens; and
  - Manned by U.S. citizens.

- The Jones Act applies within the navigable waters of the U.S.
  - Coastal waters generally within 3 nautical miles of shore (9 nautical miles for Texas, Western Florida, and Puerto Rico)

- U.S. Customs and Border Protection (CBP) is charged with determining which voyages or vessel movements are covered by the Jones Act.
  - Fines and penalties for Jones Act violations

Senator Wesley Jones (R-Wa.)
Photo source: www.govtrack.us
OCSLA does not explicitly mention the Jones Act, but it extends “[t]he Constitution and laws and civil and political jurisdiction of the United States … to the subsoil and seabed of the outer Continental Shelf.

In addition, OCSLA extends federal jurisdiction to “all installations and other devices permanently or temporarily attached to the seabed, which may be erected thereon for the purpose of exploring for, developing, or producing resources therefrom, including non-mineral energy resources” (emphasis added).

Two Recent “Jones Act” Rulings by CBP:
- Transportation of “scour protection” materials to protect wind turbine generator foundations (01/27/21)
- Transportation and installation of wind turbine generators by a foreign-flagged jack-up vessel (02/04/21)
Offshore Wind Installation in U.S. Waters Using a Jones Act-compliant Installation Vessel

Jones Act and Vessel Activities
Offshore Wind Installation in U.S. Waters Using a Foreign-Flag Installation Vessel and Jones Act Feeder Vessels

Source: GAO. | GAO-21-153
Tax

Debra Duncan and David Cole
Tax Incentives for Offshore Wind Projects

• Offshore wind projects located in U.S. waters are eligible for either production tax credits ("PTCs") or investment tax credits ("ITCs")
  – PTCs are calculated based on the kilowatt-hours of electricity produced and sold during the first 10 years of electricity generation from the project
    • PTCs are set to expire for wind projects that have not begun construction by the end of 2021
  – ITCs are a one-time credit available in the year in which the project begins commercial operations and are calculated as a percentage of eligible project costs
    • ITCs are generally available for offshore wind projects that have begun construction by the end of 2025 at a 30% rate
    • ITCs are subject to recapture if taxpayer disposes of project within 5 years of commercial operation date
  – Taxpayers can elect either regime but cannot claim both credits
• Offshore wind may also be eligible for state and local tax benefits, such as property tax abatements for onshore elements such as transmission property or sales and use tax exemptions
Eligibility Requirements for ITCs

• Beginning construction requirement
  - Two ways to establish that construction of a project has begun
    • Physical work test
      - Requires physical work “of a significant nature”
      - May be offsite work
    • Five percent safe harbor
      - Taxpayer must pay or incur at least 5% of the total cost of the project

• Continuity requirement
  - Once construction begins, taxpayers must demonstrate continuous efforts to complete the project
  - Under a safe harbor, an offshore wind project that is placed in service by the end of the 10th year after beginning construction is deemed to satisfy the continuity requirement
    • If the safe harbor is not satisfied, a facts and circumstances test will apply
Tax Equity Financing for Offshore Wind Projects

- Tax credits allow offshore wind projects to obtain capital in the form of tax equity financing
  - Project sponsors typically cannot use tax credits due to lack of sufficient taxable income
  - Tax equity investors are generally large corporate or institutional investors with capacity to use the tax credits that expect to earn a return on investment comprised of cash and tax benefits
- The “partnership flip” structure is the standard tax equity structure in the renewable market
  - Partnership between sponsor entity and tax equity investor
  - Tax equity investor is allocated 99% of tax credits and some cash until it receives a specified internal rate of return or five years have elapsed since COD, if later
  - Thereafter, allocations “flip” with tax equity investor’s share reduced to as low as 5%
  - Sponsor may have the right to buy out the tax equity investor after the flip occurs
**Tax Equity Financing – Typical Partnership Flip Structure**

- **Lender**: $\rightarrow$ Loan secured by Class B interest
- **Sponsor Member (Class B)**
  - Tax alloc: 99% pre-flip, 5% post-flip
  - Cash distrib: 90-95% pre-flip, 95% post-flip
- **Tax Equity Investor (Class A)**
  - Tax alloc: 99% pre-flip, 5% post-flip
  - Cash distrib: 5-20% pre-flip, 5% post-flip
- **Tax Equity Holdco**
  - Tax Credits
  - Depreciation
- **O&M Entity**: $\rightarrow$ O&M services
- **Offtaker**: $\rightarrow$ Electricity
- **Project Company**: $\rightarrow$ Tax Equity Holdco
- **Project**: $\rightarrow$ Offtaker
- **Electricity**: $\rightarrow$ Project
Project Documents
Overview + Key Considerations

- **Site Control** – Leases, Easements and ROWs
  - Offshore facilities – federal v. state waters
  - Onshore facilities

- **Offtake Agreements**
  - Power Purchase Agreements (PPAs)
  - Offshore Renewable Energy Credits (ORECs) Purchase and Sale Agreements

- **Interconnect Agreements**
  - Individual Generator Tie-In v. Grid / Hub System
  - Single or Multiple Interconnect Points / Jurisdictions
Project Documents

Overview + Key Considerations (Cont’d)

• EPC Contracts
  – Turbine Supply Agreement (TSA) + Balance of Plant Agreement (BOP)
  – Disaggregated Contract Approach
• O&M and Other Service Agreements
• Tax Equity Investment Documents
Project Finance

Eamon Nolan
Key Considerations for Project Finance Lenders

- Commitment Duration for Tax Equity Investors / Term Lenders
- Construction Risk
- O&M Replacement
- O&M / MMRA Reserves
- Sponsor Support
- Indemnity to Tax Equity Investors
- ITC Qualification and Technology Advances
- Transmission Lines
Questions?
THANK YOU

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