

CHALLENGES

FOR

OFFSHORE WIND IN VIRGINIA

GOVERNOR'S CONFERENCE ENERGY- RICHMOND



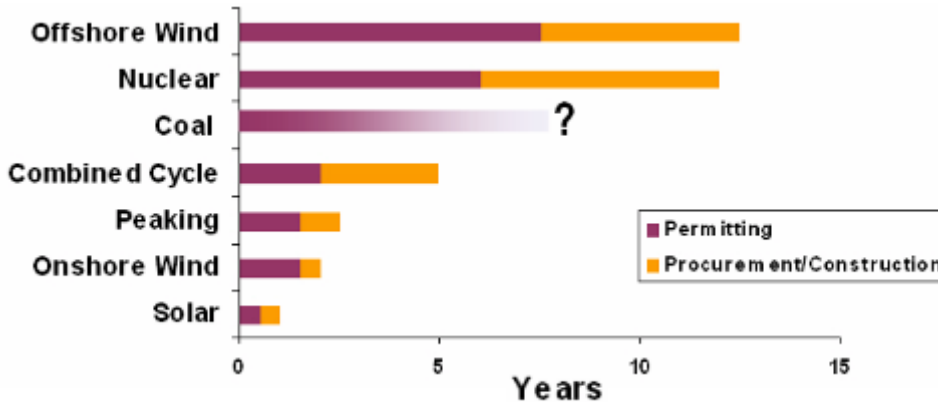
Introduction Seawind Renewable

- Seawind is an independent developer of offshore wind projects in the Mid-Atlantic region of the US
- Seawind's staff has an extensive track record in developing wind projects in US:
 - ▶ Co-Founder and CEO of Atlantic Renewable; installed more than 650 MW in NY, PA and WV; sold in 2005 to Scottish Power
 - ▶ Co-Founder of Midwest Renewable; installed more than 370 MW in Iowa; sold in 2007 to Iberdrola
- In 2003 Seawind's staff pioneered offshore wind on the East Coast by conducting a feasibility study for offshore wind in New Jersey under a contract with the NJ Board of Public Utilities
- In 2009 Seawind proposed an offshore wind project off the Virginia shoreline: The Seawind –Virginia project for which it filed an unsolicited application for commercial lease in the third quarter of 2009.



Challenges for offshore wind in VA

Regulatory



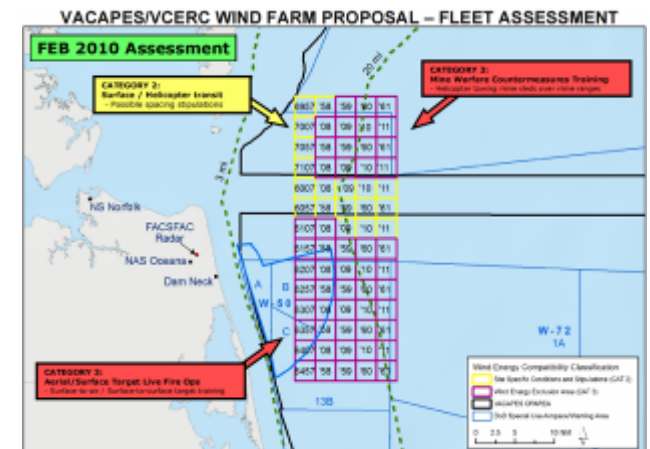
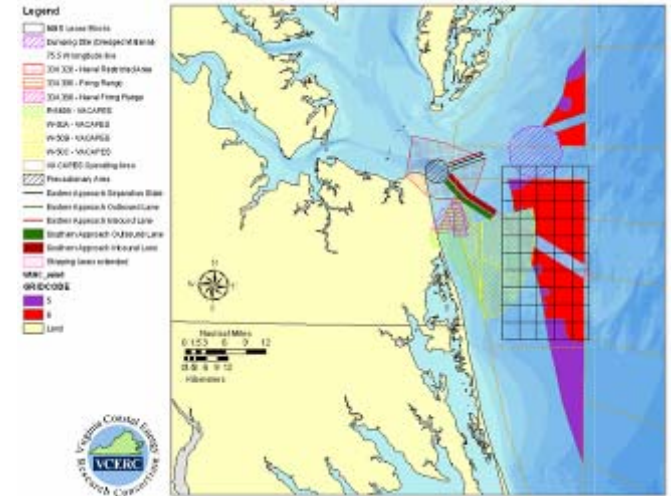
Generalized Permitting and Construction Timelines for Power Generation Projects

- Based upon the current MMS Offshore regulations it will take 7 to 10 years to go through the regulatory process
- Two subsequent NEPA permitting processes
- Complex process to obtain a lease: May take up to 3 years before actual development starts
- Regulatory reform required in order for the US offshore wind energy industry to emerge
- MMS (now called BOEMRE) in disarray (under reorganization) due to oil spill in gulf which results in delays on the short term
- Solutions:
 - Offshore renewable energy to be separated from oil & gas within MMS
 - Leadership by Atlantic Offshore Wind Consortium
 - Regulatory reform: Initially through pilot program under current regulations

Challenges for offshore wind in VA

Co-existence with DoD operations in VACAPES

- VCERC identified 25 MMS lease blocks feasible for near term offshore wind development (> 3000 MW)
- Following an unilateral process DoD approved 24 (36) MMS lease area blocks for offshore wind development, including less than 5 lease blocks that were identified by VCERC
- DoD's current position jeopardizes near-term offshore wind development and the emergence of an offshore wind supply chain in Virginia
- Solutions:
 - DoD and Offshore wind industry go through a thorough evaluation (and mitigation) process of possible impacts of offshore wind on DoD operations
 - Learn from European experience (as well as Cape Wind experience with Otis Air Force Base)
 - Technical solutions (Lockheed Martin TPS 77 Radar)
 - Wind project and turbine design considerations
 - Offshore wind is an opportunity for DoD's compliance with their internal Renewable Portfolio Standard requirements



Challenges for offshore wind in VA

Economics

- Offshore wind is (currently) not the low cost option
- Offshore wind should be a strategic energy resource for Virginia:
 - Fixed priced not depending on fossil fuels
 - Diversification in the energy mix
 - Grid reliability
 - Clean
- Cost of offshore wind is (and will be) coming down sharply due to:
 - Maturing industry
 - More offshore wind suppliers and contractors (no seller's market anymore)
 - Domestic supply chain
- Virginia needs to recognize and prioritize offshore wind as long-term strategic resource in order to attract the investments and commitments required for the emergence of an offshore wind industry in Virginia:

Offshore Wind is an Investment in the Future!



Questions

Offshore wind in Virginia: The question is when...

