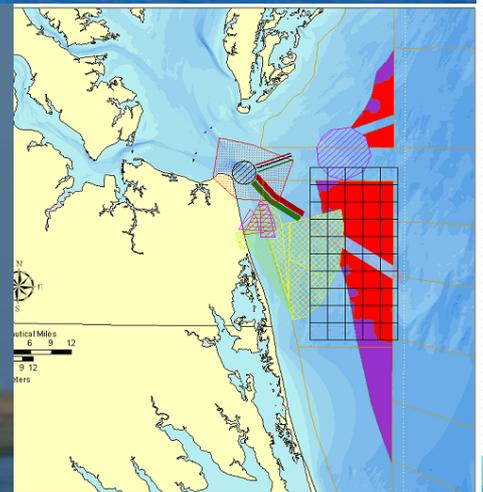




# THE VIRGINIA OFFSHORE WIND COALITION

## PROMOTING THE OFFSHORE WIND INDUSTRY IN VIRGINIA





## Current Status of Offshore Wind Energy

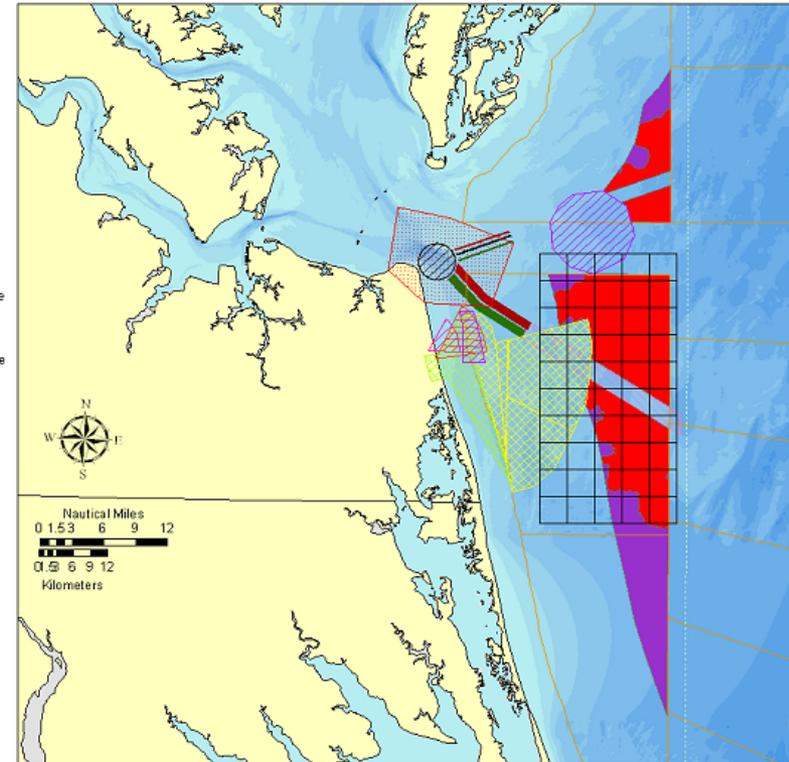
- Offshore wind energy has proven to be technically and commercially feasible with more than 25 operating projects in Europe with total capacity in excess of 2000 MW
- More than ten projects are under active development in the US, with a combined capacity in excess of 5000 MW
- The first pilot projects in New Jersey and Rhode Island to be installed as early as 2011
- The first commercial utility scale projects to be installed as early as 2012
- Procurement of wind turbines, installation vessels and other main components of first projects to occur in coming 6-12 months
- **Capital investment in the East Coast offshore wind energy industry for the coming ten years expected to be in excess of \$15 Billion**





# Offshore Wind Energy in Virginia

- Department of Energy estimates long term offshore wind energy potential off Virginia shoreline at 6572 MW
- Virginia Coastal Energy Research Consortium (VCERC) estimates the near term offshore wind energy potential at 3500 MW (capital investment up to \$10 Billion)
- Two companies (Apex and Seawind) have started the development of offshore wind projects off the coast of Virginia and submitted lease applications to Minerals Management Service
- Offshore wind energy will become an important part of Virginia's new electricity portfolio:
  - Reduce dependency on imports (Virginia 2<sup>nd</sup> largest importer after California)
  - Diversification of fuel mix
  - Clean energy source
  - Energy source adjacent to growing load
  - Substantial economic impact on Hampton Roads region
  - Keep premium for Renewable Energy and Carbon Credits within Virginia (instead of importing renewable energy from Midwest and building transmission lines)



Source:





# Economic Development Opportunity

- VCERC estimates a \$685 investment in the local economy per installed kilowatt (3500 MW potential in VA equates to \$2.4B potential economic investment)\*
- The National Renewable Energy Laboratory (NREL) estimates that construction employment would total 39 job-years per cumulative installed megawatt (job-yr/MW). Operation and maintenance requirements create an additional 1.1 to 1.7 local jobs per cumulative installed megawatt, sustained for the 20- to 30-year service life of the project.\*
- Industry opportunity –
  - One offshore wind turbine (5 MW) installation uses more than 800 tons of heavy, complicated steel structures.
  - Due to economic and logistical reasons it is expected that more than 50% of offshore wind energy scope of supply will be manufactured locally.
- Concrete opportunities for marine industry in Hampton Roads region:
  - Engineering and fabrication of installation and service vessels
  - Fabrication of towers and foundation monopiles
  - Fabrication of heavy wind turbine components
  - Manufacturing and assembly hub for US offshore wind turbines



\*Source:





# The Virginia Offshore Wind Coalition

- Virginia Offshore Wind Energy Coalition is an organization that unites the stakeholders that support offshore wind energy projects off the coast of Virginia, and the creation of an East Coast offshore wind energy manufacturing hub in the Hampton Roads region.
- Members Include:
  - Marine industry in the Hampton Roads region.
  - Offshore wind energy developers.
  - Virginia Economic development organizations.
  - Environmental groups.
- Activities:
  - Legislative Strategy with the objective to create a support platform for the offshore wind energy industry similar to or better than other East Coast states.
  - General outreach to the global offshore wind energy industry to promote the Hampton Roads region as a manufacturing hub.





## VOW and Legislative Strategy

The Virginia Offshore Wind Coalition will promote an aggressive legislative strategy during the 2010 General Assembly session to increase Virginia's competitiveness among other East Coast states.

- Incentives to attract investment in manufacturing of offshore wind energy equipment:
- Incentives to purchase electricity from offshore renewable energy credits (ORECs)
- Establishment of Virginia Offshore Wind Energy Authority (“VOWEA”) who would manage and administer programs:
  - Public-Private partnerships for data collection and environmental studies for offshore wind energy project developments.
  - VOWEA would evaluate and implement (in cooperation with Virginia utilities) the improvement of the transmission system in the Hampton Roads region in order to create an interconnection hub that will accommodate 3500 MW of offshore wind energy projects. VOWEA would manage the interconnection hub.
  - VOWEA's program will be budget-neutral by charging offshore wind projects a nominal fee per produced MWH for utilizing the interconnection hub. Based upon this revenue and federal loan guarantees, VOWEA will raise long term debt service for above-mentioned programs.





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