

Virginia Offshore Wind Update

January 22, 2013

VIRGINIA OFFSHORE WIND DEVELOPMENT AUTHORITY



Created in 2010 and vested with the powers set forth in § 67-1201 for the purposes of facilitating, coordinating, and supporting the development of the offshore wind energy industry, offshore wind energy projects, and associated supply chain vendors, including:

- Collecting metocean and environmental data
- Identifying regulatory or administrative barriers
- Supporting efforts to upgrade port and other logistical facilities to accommodate the manufacturing and assembly of offshore wind energy project components and vessels
- Ensuring development is compatible with other ocean uses, including naval facilities and operations, NASA-Wallops Flight Facility operations, shipping lanes, recreational and commercial fisheries, and avian and marine species and habitats.

VIRGINIA OFFSHORE WIND DEVELOPMENT AUTHORITY



Offshore Wind Survey – Policy and Economic Driver Analysis

Demand - Policy Mandate for Offshore Wind

- RPS
 - Mandatory
 - Limited to VA Resources
- Feed-in Tariff/PPA
- Federal Energy Policy
- State Policy Finding Offshore Wind to be in the Public Interest

Project Cost - Cost reduction measures to lower CAPEX cost making offshore wind more competitive with conventional generation

- ITC/PTC
- Loan Guarantees
- Grants
- Installed Cost Reduction Study

Developer Cost - Lower Pre-development costs and initial investment risks

- Data
 - Wind
 - Weather
 - Avian and Marine Life
 - Environmental
- Met tower funds matching

Attract Supply Chain

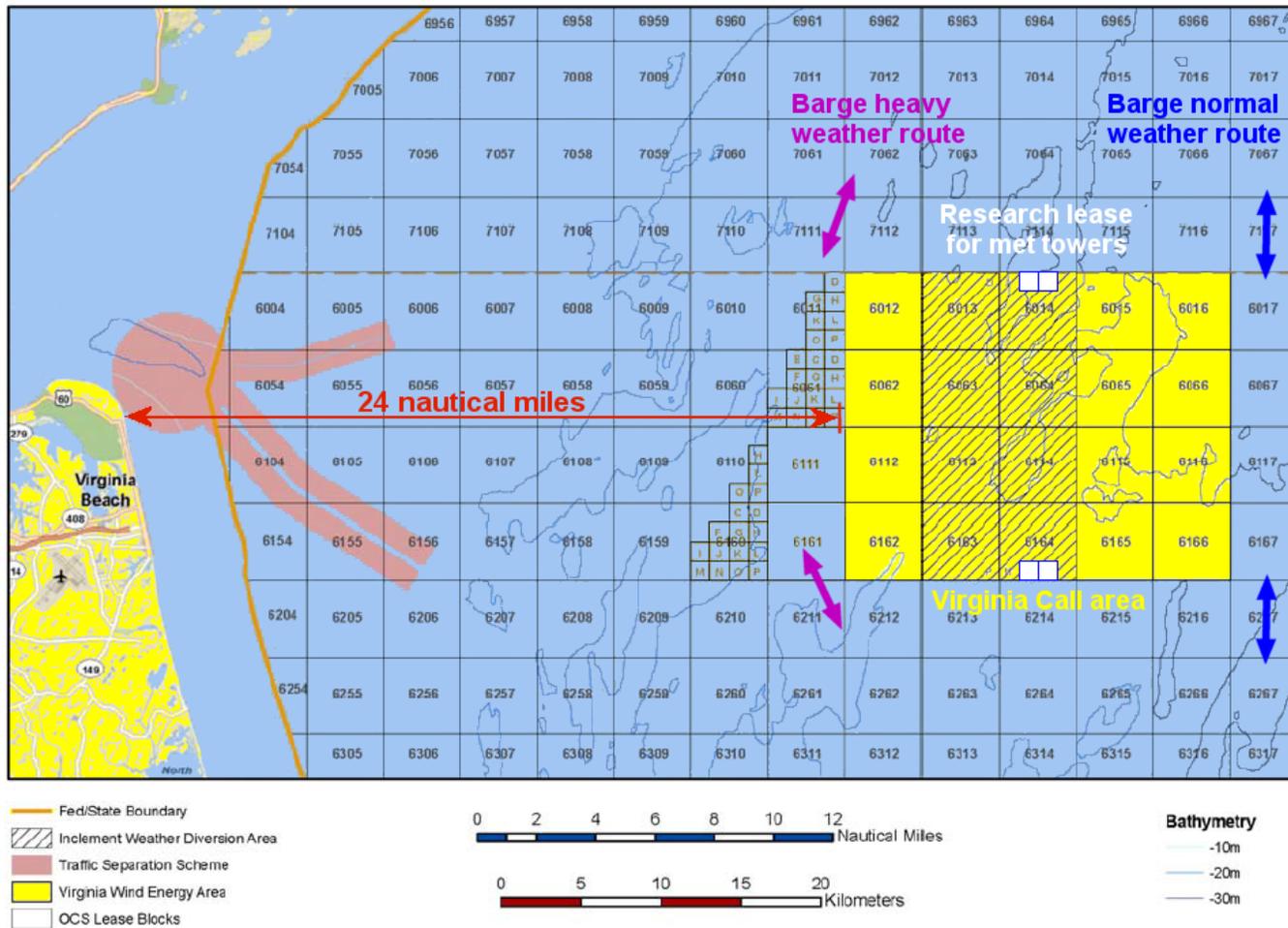
Workforce Training/ Test Turbines

Public Opinion Poll/ Study on willingness to pay for OSW

Study of Economic Impacts of OSW

Study – Job Creation/Economic Development Benefit

Virginia Wind Energy Area





Responses to BOEM Virginia Call

Commercial Nominations Received

- Apex Virginia Offshore Wind, LLC
- Arcadia Offshore Virginia, LLC
- Cirrus Wind Energy, Inc.
- Dominion Virginia Power
- enXco Development Corporation
- Fishermen's Energy, LLC
- Iberdrola Renewables Inc.
- Orisol Energy US, Inc.

Public Comments Received

- The Nature Conservancy
- The Sierra Club, Virginia Chapter
- Southern Environmental Law Center, Virginia Conservation Network, and Sierra Club
- Army Corps of Engineers, Norfolk District
- Mid-Atlantic Fishery Management Council
- U.S. Coast Guard, Fifth District
- Commonwealth of Virginia
- National Oceanic Atmospheric Administration

Current investment by the Commonwealth

- \$500,000 investment
 - \$100,000 in staffing, further R and D by Va Tech
 - \$100,000 to support DOE FOA respondents
 - \$300,000 - leveraged a \$300,000 match from BOEM for geophysical and oceanographic survey, scanning and mapping of potential Wind Energy Area (WEA) regions to:
 - a) Define optimal locations for met-asset installation,
 - b) Identify the significance and of potential archeological, hard-bottom benthic, and subsurface obstacles or hazards, and
 - c) Characterize bottom topography and subsurface geology.



Geotechnical and Geophysical Survey



DOE FOA

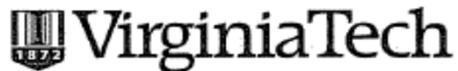
- DMME will apply for a research lease close to Virginia WEA and will best inform stakeholders (Industry, BOEM & DOE) on future development;
- The resulting demonstration project will:
 - provide data to reduce barriers including radar interference, environmental impacts, siting conflicts;
 - will test federal permitting or approval processes with bottom fixed foundations;
 - will collect and analyze performance, engineering, environmental monitoring, operations, and cost data of novel technologies used as part of the deployment strategy for up to five years.

Proven Team & Innovative Concept



KBR

ALSTOM



Next Steps

- Finalize Lease Application
- Publish Geotechnical and Geophysical Survey Data
- BOEM process for Proposed Sale Notice and Auction
- Consider funding for meteorological towers
 - Meteorological towers (met towers) are the most common means for measuring the wind speed and direction at a site.
 - Providing matching funds like other states could
 - further reduce costs for developers
 - expedite development off the Coast of Virginia
 - Attract associated supply chain and jobs to Virginia

