NJ CLEAN ENERGY CONFERENCE

October 22, 2009

DEEPWATERWIND

ABOUT DEEPWATER WIND

Rhode Island

- Selected by the State of Rhode Island to be RI's preferred offshore wind developer
- Seven companies participated in that RFP
- Developing two offshore wind parks:
  - Block Island Wind Farm (up to 8 turbines in state waters)
  - Rhode Island Wind Farm (up to 130 turbines in federal waters)

New Jersey

- Selected by the State of New Jersey (along with our partner, PSEG) to develop NJ's first (pilot) offshore wind farm
- Four companies participated in that RFP
- Selected by New Jersey to receive $4 million rebate, upon successful installation of offshore met mast (two other offshore wind developers to receive similar rebates) These awards supersede pilot project.

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ABOUT DEEPWATER WIND

New York

Developing project to meet goals of Long Island – New York City Offshore Wind Collaborative

Massachusetts

Developing project to meet goals of MA Green Communities Act of 2008

US Department of the Interior's Minerals Management Services (MMS)

Awarded Deepwater Wind two leases to develop met masts off New Jersey coast on Outer Continental Shelf

US Department of Energy

Awarded Deepwater Wind $300,000 for advanced bird and bat studies

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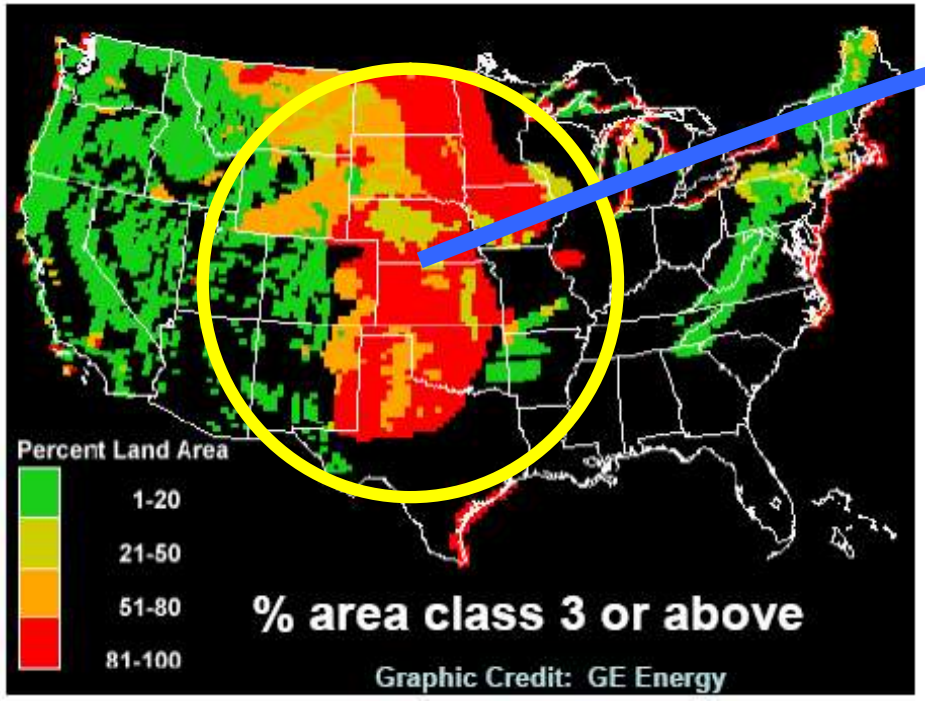
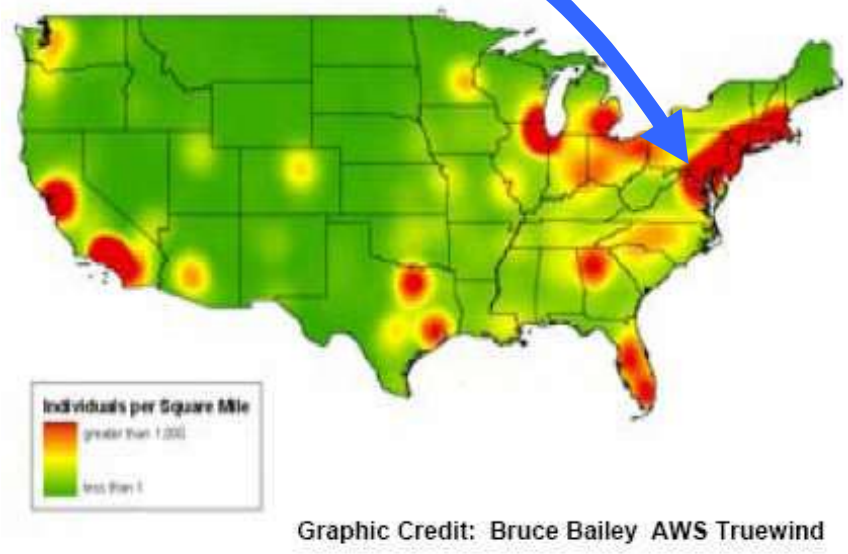
WHY OFFSHORE WIND?

Large-scale land-based wind power is not accessible to East Coast population centers

US Wind Resource



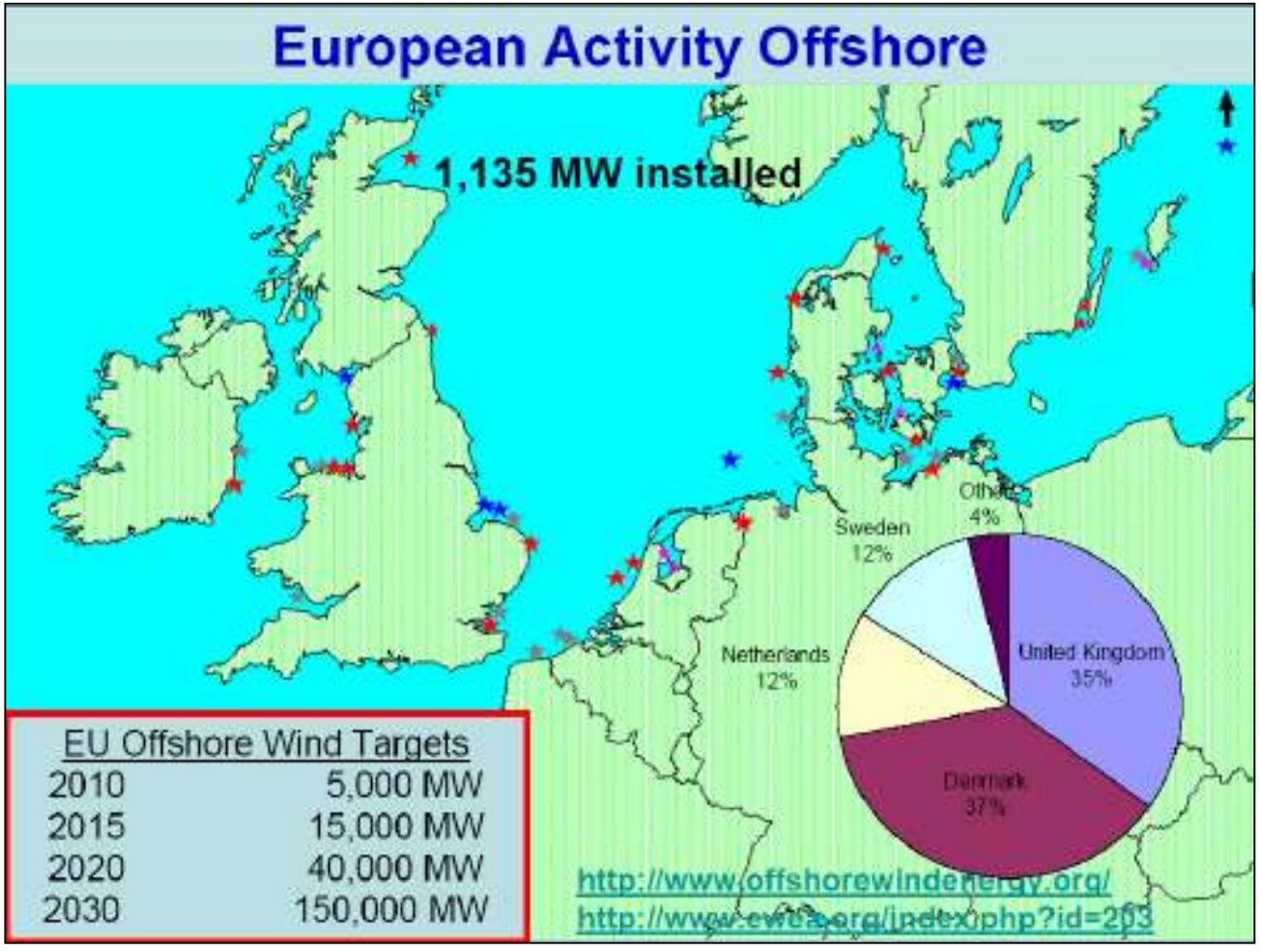
US Population Concentration



Massive transmission constraints limit the ability to move power

THE EUROPEAN EXPERIENCE

All Offshore Wind Projects To Date Are In Northern Europe



- Great Britain is planning to power its *entire residential sector* with offshore wind by 2020
- Germany is planning on 25,000 MW
  - Has Feed-in Tariffs
  - Utilities build cables
- Creating new economic development opportunities
  - Ports
  - Jobs
  - Exports
- US can build on European experience

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OFFSHORE WIND DEVELOPMENT INITIATIVES

Maine

Governor's Task Force on Wind Power Development and Maine Wind Energy Act: 300 MW

Massachusetts

Cape Wind: 420 MW

Potential additional project: 350 MW

Governor's goal: 2000 MW by 2020

Rhode Island

Deepwater Wind: State's Preferred Developer

400 MW – Block Island Wind Farm and Rhode Island Offshore Wind Farm

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OFFSHORE WIND DEVELOPMENT INITIATIVES

New York

NYPA: Great Lakes RFEI – 350 MW*

Long Island – New York City Offshore Wind Collaborative RFI: 350 – 700 MW

RFI mentions that total could reach 1,400 MW

New Jersey

Garden State Offshore Energy (Deepwater Wind and PSEG partnership): 350 MW

Bluewater Wind: 350 MW

Fishermen's Energy: 350 MW

3000 MW total by 2020

Delaware

Bluewater Wind: 350 MW*

Maryland

RFEI: 350 MW*

*For discussion purposes, a utility-scale 350 MW facility is assumed for NY (Great Lakes), DE, and MD.

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RELATIVELY NEAR-TERM TOTAL FOR OFFSHORE WIND DEVELOPMENT INITIATIVES

Maine	300 MW
MA	770 MW
RI	400 MW
NY	1,050 MW
NJ	1,050 MW
DE	350 MW
MD	350 MW
TOTAL MWs	**4,270 MW**

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OFFSHORE WIND – SUPPORTING THE EFFORTS TO FIGHT CLIMATE CHANGE AND SEA LEVEL RISE

- A 350 MW utility-scale offshore wind farm generates enough power to avoid the following emissions ***annually:***
  - 965,125 tons of CO2
  - 1,292 tons of S02
  - 1,132 tons of NOx
- An offshore wind farm produces only 2% of the carbon emissions of a coal-fired power plant, per MWh of power delivered
- 17 million barrels of oil imports avoided *annually*
- No fuel adjustment charges associated with wind, since our fuel, the wind, is always free

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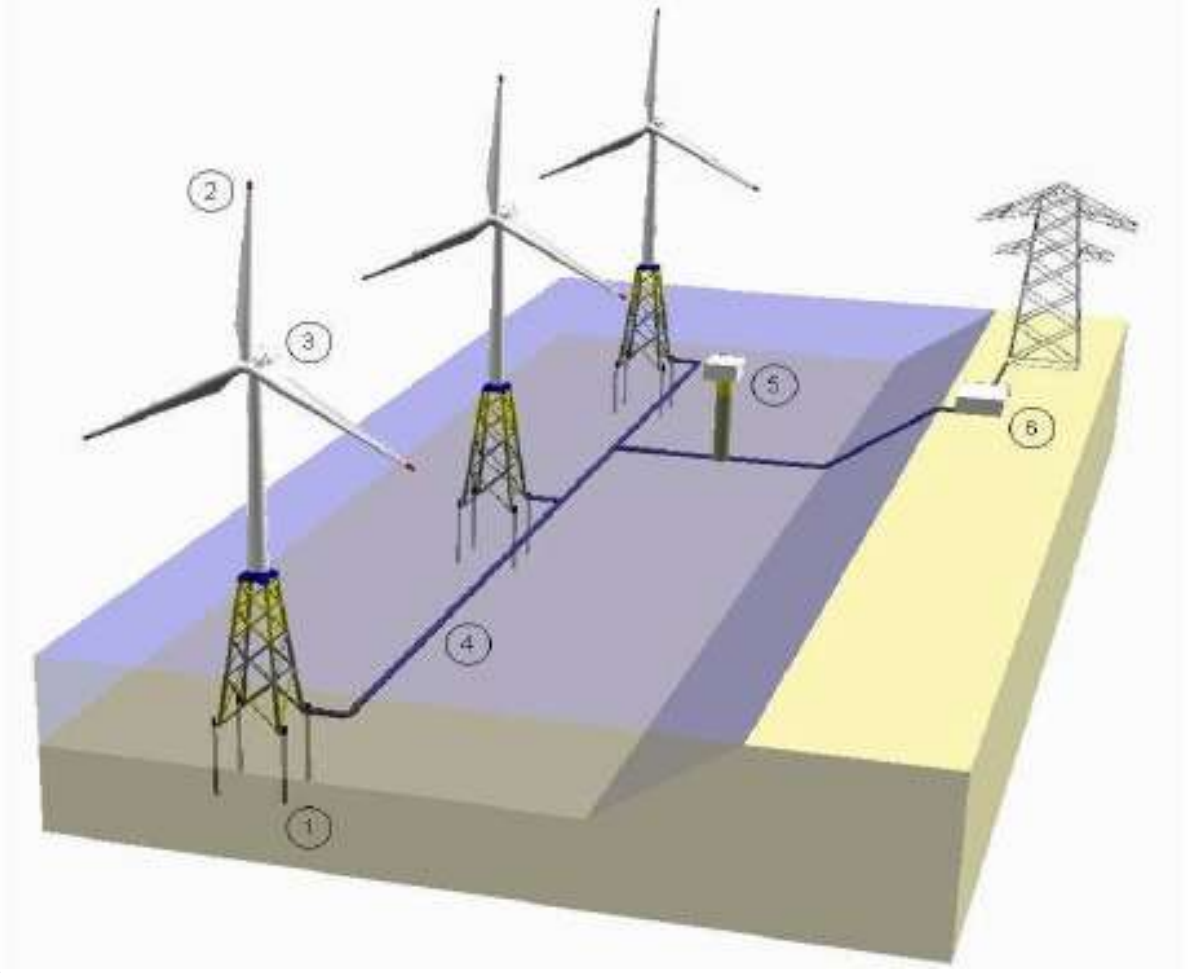
MIDDLEGRUND AND NYSTED, DENMARK

Copenhagen, Denmark - 40 MW

Nysted, Denmark - 165 MW

OFFSHORE WIND FARM BASICS



1. *Foundation*
2. *Wind Turbine Generator (WTG)*
3. *Nacelle*
4. *Inter-Turbine Submarine Cables*
5. *Offshore Sub-Station & Export Submarine Cable*
6. *On-Shore Grid Connection*

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ASSEMBLY ON LAND

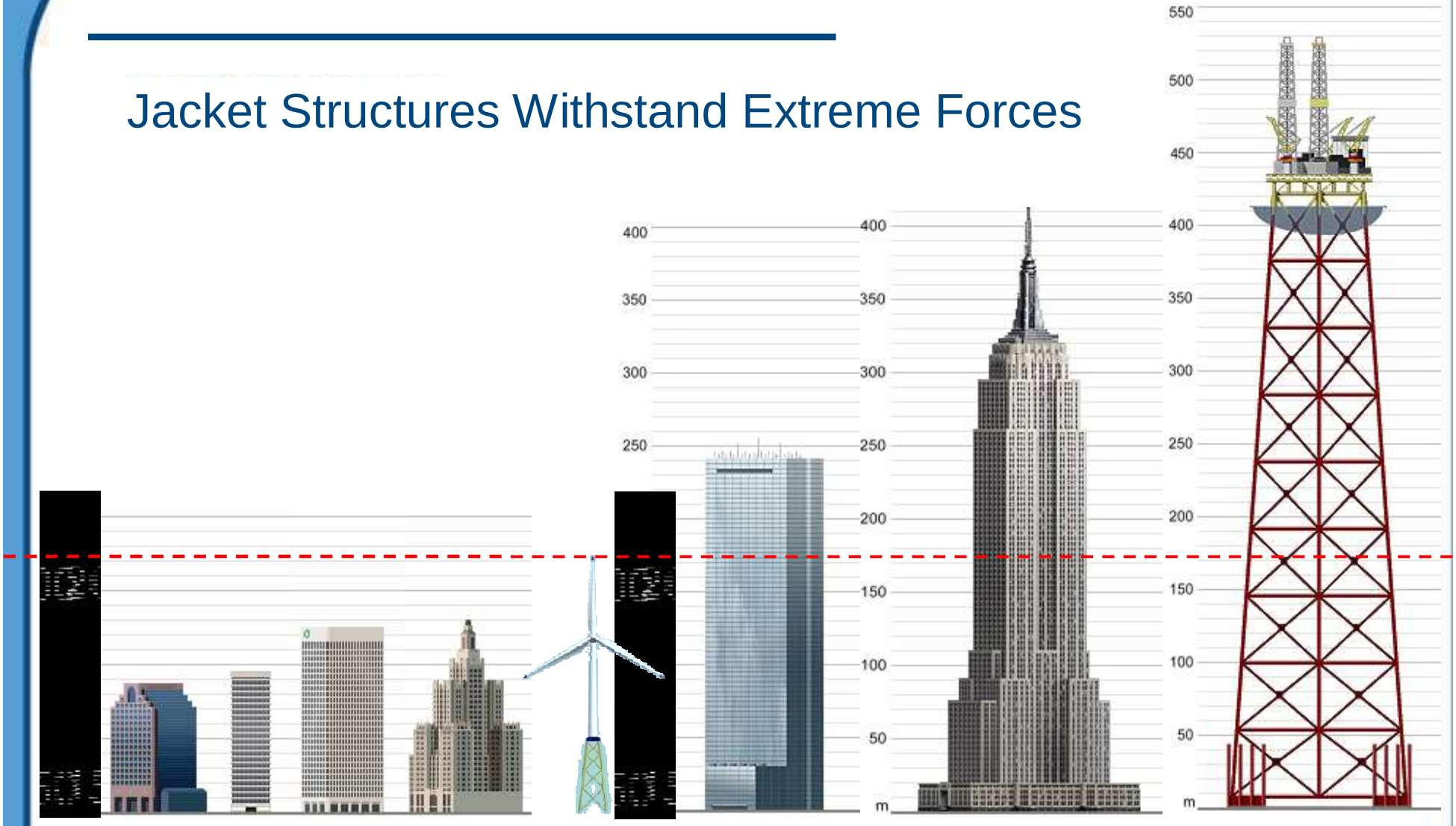
SUBMARINE CABLE INSTALLATION

OFFSHORE WIND CONSTRUCTION

OFFSHORE WIND CONSTRUCTION

CONSTRUCTION AT SEA

Jacket Structures Withstand Extreme Forces



50 Kennedy Plaza
Providence
Built 1985
86.9 m

Textron Tower
Providence
Built 1971
94.8 m

One Financial Plaza
Providence
Built 1973
125 m

Bank of America
Providence
Built 1927
130.4 m

Average DWW Turbine
80m hub

John Hancock Tower
Boston, MA
Built 1976
240.7 m

Empire State Building
New York City, NY
Built 1931
448.7 m

Bullwinkle Platform
Green Canyon Offshore
Built 1989
529.1 m

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OFFSHORE WIND IN THE U.S. – A SELECTED HISTORY

August 2005: Energy Policy Act of 2005

Congress mandated that regs come out in nine (9) months; it took 44 months

December 2008: End of prior administration – key issues unresolved

January 2009: New administration takes office, acts decisively

April 2009: MMS – FERC Jurisdiction Issue resolved

April 2009 (Earth Day): President announces MMS to release Final OCS Rule

May 2009: 23,000+ attend AWEA Annual Conference

European suppliers aggressively seek out offshore wind developers

June 2009: Mid-Atlantic Governors' Agreement on Ocean Conservation

June 2009: Executive Order creating Ocean Policy Task Force

OFFSHORE WIND IN NEW JERSEY

- Moratorium – Executive Order -- December 2004
- Blue Ribbon Panel – Final report -- May 2006
- RFP competition -- October 2007
- Developer selected -- October 2008
- Governor Corzine's "Critical Mass" Perspective -- Oct 2008
  - Garden State Offshore Energy
  - Bluewater Wind
  - Fishermen's Energy
- Leases for met mast -- June 2009
- Geophysical & geotechnical research -- Summer/Fall 2009
- Met mast install -- Summer 2010
- Utility-scale wind farms – 2013 or 2014

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MANAGING PROJECT COSTS

- Ocean survey work
- Engineering and design
- Environmental, avian, marine mammal, fish and archeological studies
- Installation of met mast, foundations
- Offshore wind turbines
- Armored submarine transmission cables
- Offshore power substation
- Vessel charter fees
- Mainland transmission upgrades
- Insurance
- O & M

FEDERAL -- STATE LEGISLATIVE AND REGULATORY OVERSIGHT

- Minerals Management Service (lead federal agency)
- U.S. Army Corps of Engineers (navigable waters and associated environmental values)
- U.S. Fish and Wildlife Service (migratory birds, endangered species and marine life)
- National Marine Fisheries Service (living marine resources and habitat)
- U.S. Environmental Protection Agency (air emissions during construction, water quality)
- U.S. Coast Guard (navigation)
- Federal Aviation Administration (low flying planes)
- U.S. Department of Homeland Security (consultation)
- U.S. Department of Defense (radar)
- Federal and State Historic Preservation Offices (cultural, historical and archeological assets)
- State Coastal Zone Management Agency (consistency of use)
- State land use agencies (landfall of the transmission cable)
- State environmental protection agencies
- State Public Utility Commissions
- Independent System Operators of the regional transmission grid
- Local land use authorities

APPLICABLE FEDERAL LAWS

- OCSLA – MMS
- Submerged Lands Act – MMS
- NEPA – CEQ and Other Agencies
- Marine Mammal Protection Act – FWS and NMFS
- Estuary Protection Act -- FWS
- National Marine Sanctuary Act -- NOAA
- Migratory Bird Treaty Act – FWS
- Endangered Species Act – CEQ
- Marine Protection, Research. and Sanctuaries Act – EPA, ACOE, NOAA
- Clean Water Act – EPA
- Rivers and Harbors Act -- ACOE
- Clean Air Act – EPA and MMS
- Federal Power Act – FERC
- Coastal Zone Management Act -- NOAA
- Federal Aviation Act – FAA
- National Historic Preservation Act – NPS
- Other Agency Involvement: DOD, Homeland Security, USCG

KEY FEDERAL INITIATIVE: MARINE SPATIAL PLANNING

Marine spatial planning is a process that results in the establishment of an operational framework to conserve the value of marine heritage while at the same time allowing sustainable use of the economic potential of the ocean. UNESCO.org

Existing federal laws and regulations will protect all ocean resources while a comprehensive and rational ocean use policy is developed

States' MSP-related activities can serve as models for a federal initiative

Ocean zoning for offshore wind farms: Initial MSP research

Offshore wind farms as laboratories to jump-start MSP research

Long-term – Will be informed by the near- and mid-term efforts

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BAN KI-MOON, SECRETARY GENERAL OF THE U.N.

"Climate change is the preeminent geopolitical issue of our time. It rewrites the global equation for development, peace, and prosperity. It threatens markets, economies and development gains. It can deplete food and water supplies, provoke conflict and migration, destabilize fragile societies and even topple governments."

International Herald Tribune, September 18, 2009

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CLEAN ENERGY IS JUST OVER THE HORIZON

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