

OFFSHORE WIND POWER for North Carolina

Peter Mandelstam - June 3, 2010

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- This Presentation contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Forward-looking statements are subject to certain risks, uncertainties and assumptions and typically can be identified by the use of words such as “expect,” “estimate,” “should,” “anticipate,” “forecast,” “plan,” “guidance,” “believe,” “will” and similar terms. Such forward-looking statements include information relating to Bluewater Wind, an NRG Company, and NRG’s offshore wind development strategy and projects. Although NRG believes that these expectations are reasonable, it can give no assurance that these expectations will prove to have been correct, and actual results may vary materially. Factors that could cause actual results to differ materially from those contemplated above include, among others, general economic conditions, hazards customary in the power industry, weather conditions, construction delays, competition in wholesale power markets, the volatility of energy and fuel prices, failure of customers to perform under contracts, changes in the wholesale power markets, changes in government regulation of markets and of environmental emissions, the condition of capital markets generally, and the inability to implement value enhancing improvements to plant operations and companywide processes.
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NRG BLUEWATER WIND OVERVIEW

Overview

- **Leading offshore wind developer**
 - 293 MW contracted under long term PPAs with Delmarva, DEMEC and State of Maryland (only commercial offshore wind PPAs in the U.S.)
 - 350 MW preferential development right and \$4 MM met tower rebate in New Jersey
 - Over 3,300 MW in additional development
- **Wholly-owned subsidiary of NRG Energy Inc.**
- **NRG Energy Inc.**
 - Added to S&P 500 group Feb 2010
 - Platt's 2007 Recipient of Energy Company and Industry Leader of the Year
 - Fortune 500- Ranked 12th Fastest Growing Company (2009)
 - Fortune 500- Ranked in top 10% for "Best Investment" (2008)
 - Listed: NYSE (NRG)
 - Market Cap.: ~\$6 billion
 - Employees: ~4,500
 - Generating Assets: ~23,000 MW, primarily in four U.S domestic regions

Significant Milestones

- 2006-2007: Bid DE, beating coal and gas to win right to negotiate 200 MW PPA
- Sept. 2007: B&B purchased controlling interest in Bluewater
- June 2008: Signed first U.S. offshore PPA with Delmarva Power
- July 2008: Began lease and permitting process for 2 met towers
- Jan. 2009: Secured \$4 MM met tower rebate in NJ
- April 2009: MMS regulations from Department of Interior issued
- June 2009: Received 2 met tower leases for NJ and DE projects
- November 2009: NRG Energy buys Bluewater Wind
- December 2009: won 55 MW expansion of DE from University of Maryland/MEA

OFFSHORE WIND WORKS

- Offshore wind parks: 38 in 9 countries
- Operational: Since 1991
- Current installed capacity: 2,056 MW

- Parks under construction: 17 Wind Parks with 3,500 MW
- Order book of Turbines, December 2009: 5,900 MW

- UK Round 3: 34,000 MW Awarded
- Received permits in Europe: 52 Wind Parks with 16,000 MW

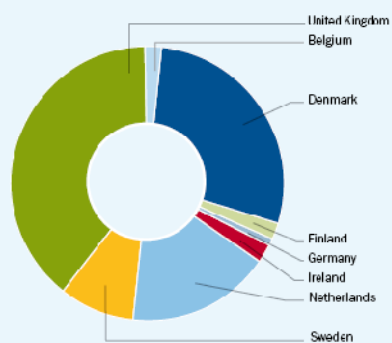
- Global wind total: 157,900 MW generates 340 TWh/ year, eliminating 204 million tons of CO2.

- U.S. = 35,000 MW or equivalent of 100% of electricity of more than 9.7 million households in the US, with 39% average annual growth rate, 2005-9

OFFSHORE WIND MARKET - EUROPE

European Installations

Operational offshore wind farms

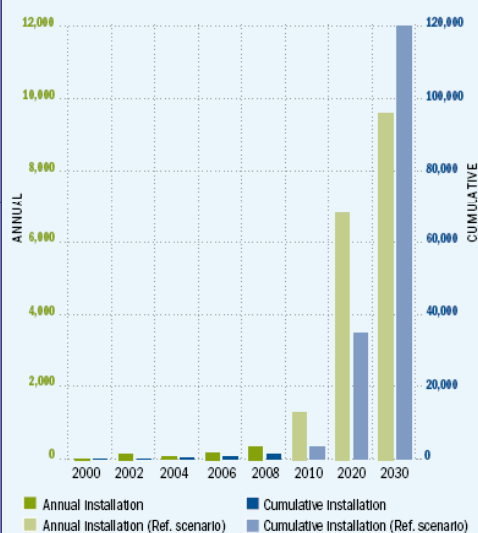


United Kingdom	33%	590.80 MW
Denmark	28%	409.15 MW
Netherlands	17%	246.80 MW
Sweden	9%	133.30 MW
Belgium	2%	30.00 MW
Ireland	1%	25.20 MW
Finland	2%	24.00 MW
Germany	1%	12.00 MW
TOTAL		1,471.33 MW

1471 MW installed by end of 2008
2056 MW installed by end of 2009

European Market Projection

Offshore wind market development in the EU up to 2008 and EWEA's scenarios up to 2030 (MW)



40 GW by 2020
120 GW by 2030

Oceans of Opportunity

September 2009
EWEA Report

over 100 GW planned

Oceans of opportunity

Europe's offshore wind potential is enormous and able to power Europe seven times over.

Huge developer interest

Over 100 GW of offshore wind projects are already in various stages of planning. If realized, these projects would produce 10% of the EU's electricity.

Repeating the onshore success

EWEA has a target of 40 GW of offshore wind by 2020, an average annual market growth of 28%.

The EU market for onshore wind grew an average 32% per year from 1992-2004.

Source: EWEA

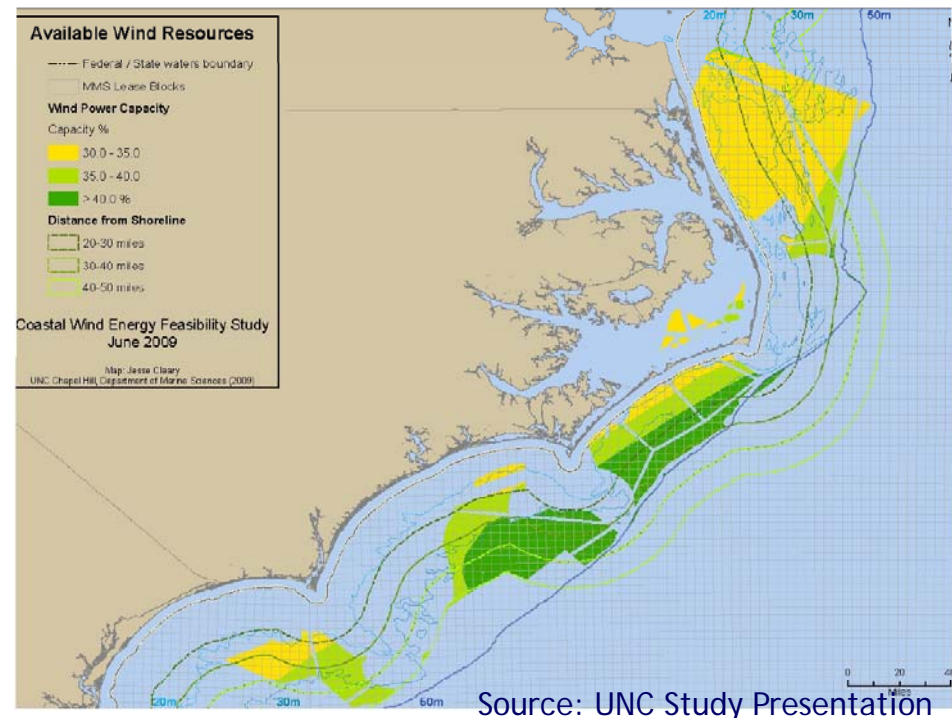
NORTH AMERICAN ANNOUNCED PROJECTS

Project	State	MW
Cape Wind	MA	420
Hull Municipal	MA	15
Buzzards Bay	MA	300
New England	RI, MA	400-850
NYPA Great Lakes	NY	500
NYPA, LIPA, Con Ed, EDC, MTA	NY	700
NJBPU	NJ	1,050
Bluewater Wind	DE	293-450
Southern Company	GA	10
W.E.S.T.	TX	150-300
Deepwater	RI	+/- 400
Canada, Ontario	ON	500+
Cuyahoga County	OH	20+
TOTAL MW		4,258 – 5,015



NC OFFSHORE WIND RESOURCE

- UNC Study identified over 55,000 MW of potential, *after* excluding areas with significant conflict - over 130% of the State's electricity demand.
- Suitable interconnection points at Morehead City, Southport, and Kitty Hawk (upgrades likely required).
- Port facilities at Morehead City and Wilmington.



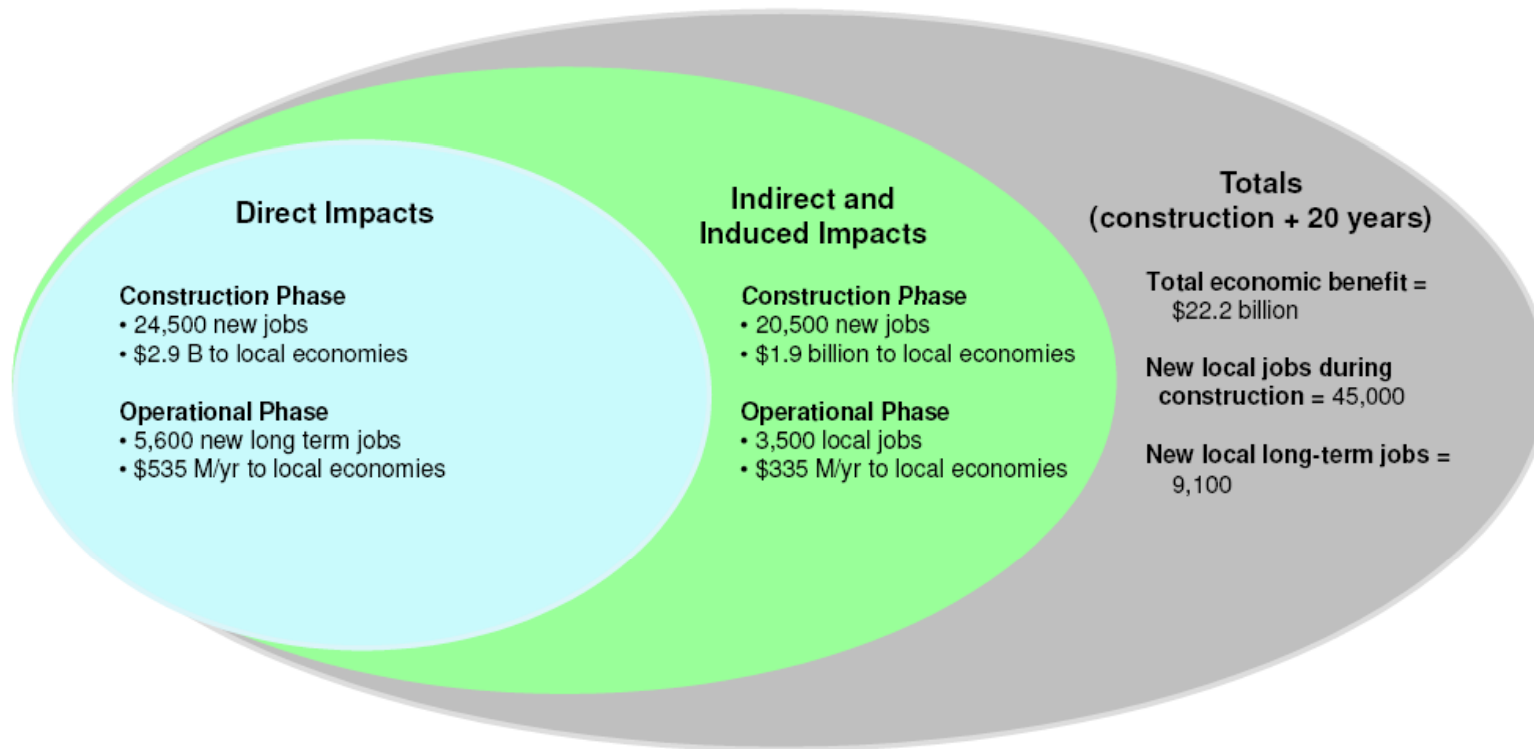
NC LEGISLATIVE EFFORTS

- State RPS (Senate Bill 3) Passed in August 2007 requiring 12.5% from renewable sources by 2021
- Wind Permitting Bills (S1068 and H809) Proposed
- Coastal Resources Commission Water Dependent Use Designation, June 2009
- UNC Coastal & Offshore Wind Study completed June 2009
- UNC / Duke Energy Pilot Project in Pamlico Sound ongoing
- Offshore Wind Advisory Sub-Group Established
- NCTPC planning for 3,300 MW of offshore wind in NC
- Several Policies Being Considered

NC ECONOMIC DEVELOPMENT

- Well-paying, clean energy jobs for local economies.

10,440 MW New Offshore Development



Source: UNC Study Presentation & NREL Wind Powering America 2030

LOCAL SUPPLY CHAIN MAKES SENSE

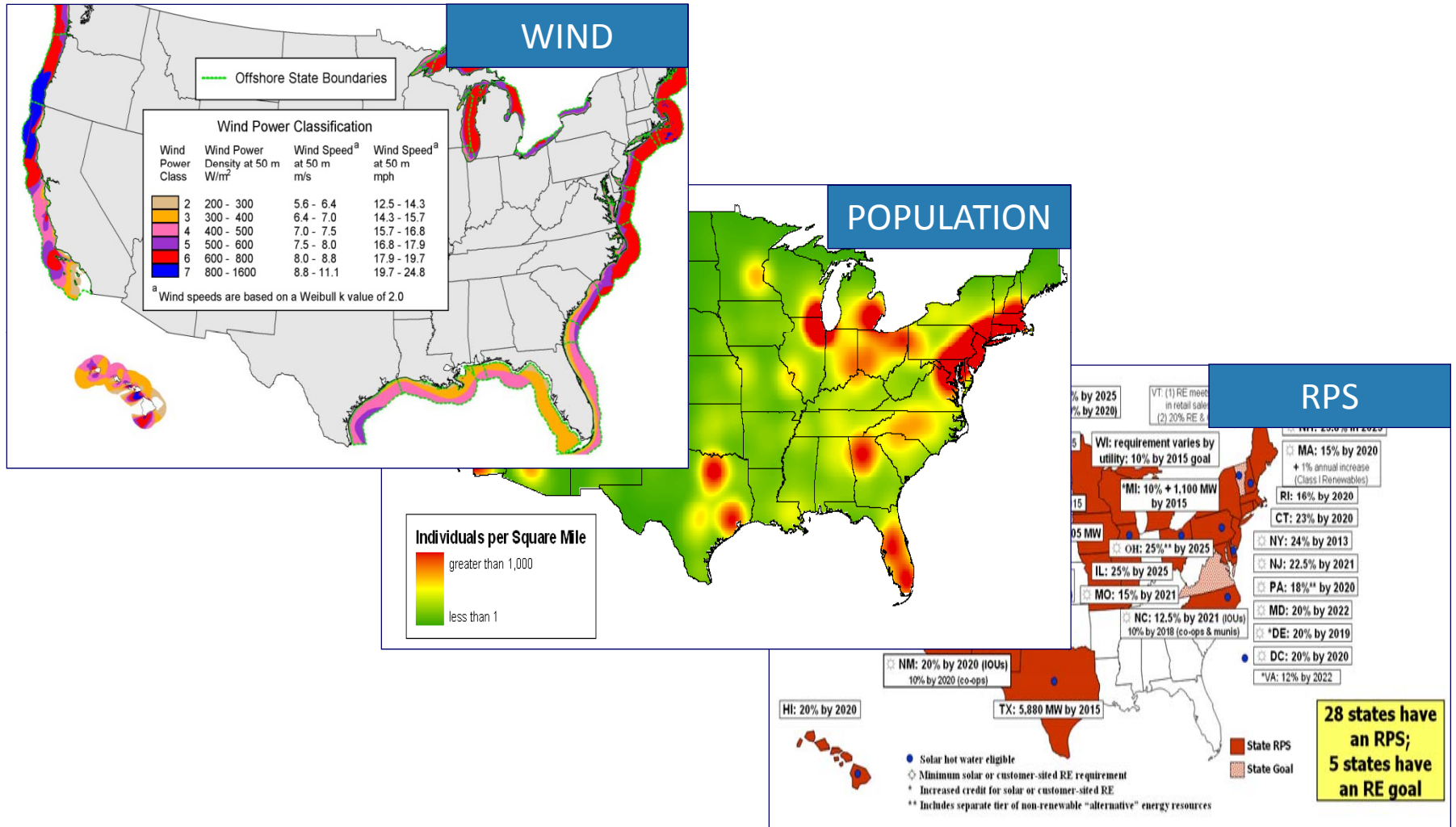
- Components are very large, expensive to ship
- In wind, “Supply chain follows development”
 - EU Onshore, EU Offshore, US Onshore
 - Next is US Offshore...



CANADA FOLLOWS EUROPE: FEED-IN TARIFF

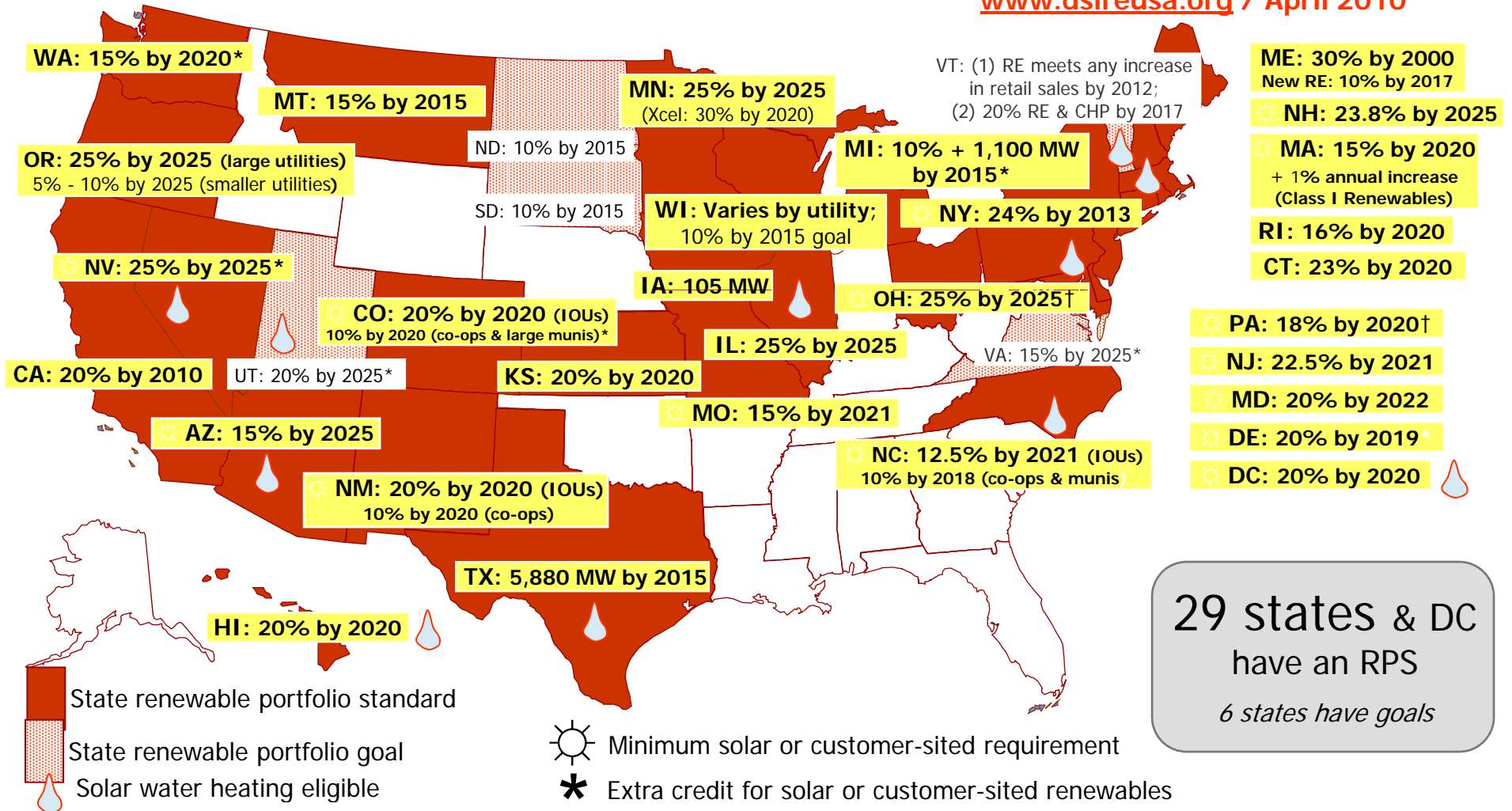
- Ontario Premier Dalton McGuinty has first North American feed-in tariff
- Ontario estimates **10,000 MW installed by 2015**, leading to the creation of 50,000 new direct & indirect jobs in next 3 years. Provisions for local content being pursued.
- All public-private tensions removed
- Feed-in has been market driver in Europe for last decade
- Market certainty attracts manufacturers from Europe to locate in Ontario
 - Ontario feed-in tariff enacted May 14, 2009
 - **\$190 Canadian/MWh plus inflation**
 - Samsung investment - Samsung C&T and the Ontario government signed a **\$6.6 billion investment** deal under which the Korean industrial conglomerate will build 2,500 megawatts of wind and solar power in the province, as well as establish manufacturing facilities that will build the equipment.

WHY GO OFFSHORE WITH POWER PRODUCTION?



RENEWABLE PORTFOLIO STANDARDS

www.dsireusa.org / April 2010



29 states & DC have an RPS
6 states have goals

SUPPORT FROM NATIONAL ECONOMIC POLICIES

- New Industry of Well-paying, Green Collar, Clean Tech Jobs and RPS (Focus Today)
- State and Local Economic Stimulus: Cannot Outsource Wind Development
- National Energy Security Enhanced
- Reduce Imports and Improve Balance of Payments, Important for Congress
- Stabilize Electricity Prices: Focus in 2006-2008

MARKET DRIVERS; LEVELING ENERGY PLAYING FIELD

- Offshore Avoids On Land Transmission Challenges of Distance & Cost
- Coastal States RPS: Now Meaningful Numbers Spurring Projects
- RGGI: Regional Carbon Price; Ongoing Auctions Providing \$ for Wind and Energy Efficiency
- National Cap and Trade Legislation Unlikely
- EPA Carbon Regulation Possible
- Life Cycle Benefit/Cost Accounting Frames Debate

ADDITIONAL MARKET DRIVERS

- Offshore Resources
 - Stronger, more consistent winds near load centers
 - Decreased access to high wind land-based sites
 - Fewer wildlife barriers far offshore (avian and bat)
- Market Signals
 - Clean Tech Green Jobs Incentives, Federal & State
 - Volatile and increasing fossil fuel prices
 - Climate change considerations; emissions reduction requirements
 - Economies of scale; investors want bigger projects

VARIED POWER PURCHASE METHODS

- Developers required by equity & debt providers to pre-sell power and Renewable Energy Credits
- States have differing approaches to encouraging renewable energy development
 - Delaware - PPA for long-term contract after PPP RFP
 - New Jersey - Carve out for offshore RECs (ORECs)
 - Maryland - Solicitation to supply government facilities
 - New York - RFPs for offshore wind energy announced from public power authorities, utility in PPP
 - Ontario - European-style Feed-In Tariff, preference to interconnect wind, expedited permits

PUBLIC-PRIVATE PARTNERSHIPS: FAIRNESS AND EFFICIENCY

- Delaware:
 - RFP, four State Agencies, Legislature, private utility, and developers
- New Jersey:
 - RFP, NJBPU, Executive branch, private utilities, and developers
- New York:
 - RFP, LIPA & NYPA public power authorities, private utility, NYC, NYSERDA, Port Authority, MTA, and developers

PUBLIC PRIVATE PARTNERSHIPS: COMPETITIONS WORK

- Delaware
 - Originated as Price Stability and In-State Generation Focus in Legislation and PSC Docket 2006-2008.
 - Focus Became Spurring Clean Tech, Domestic Economic Development and Local Job Creation
 - Bluewater Wind Park Effort Shifted To Legislature Who Passed 350% REC Multiplier To Force BWW To Take Market Risk On Revenues While Protecting Ratepayers And Limiting Utility Exposure Under Smaller Project: 600 MW Proposed → 450 MW Revised Bid → 200 MW Signed 25 Year PPA
- New Jersey
 - Corzine Focus On Climate Change Mitigation
 - Belief In In-state Renewables Subsidies i.e. Solar Carve-out
 - RGGI, RPS, Climate Change Executive Order as Policy Drivers
 - Christie focus on NJ Economic Development and Jobs
- New York
 - LIPA 2001-2008 RFP/PPA 140 MW with State handling Transmission Cable Completely
 - LIPA/ConEd/NYPA 2010: Larger “Collaborative” 700 MW with Likely Similar Cable Ownership and PPA
 - NYPA RFP Response due June of 2010: 500 MW in Great Lakes with PPA

PUBLIC-PRIVATE PARTNERSHIPS: NEW JERSEY

- Developers filed proposals with NJBPU, March 08
- Three preferred developers selected: Bluewater, Deepwater, Fisherman's
- Proposed OREC in lieu of PPA
- Governor Corzine's / now Christie's Energy Master Plan: 1,050 MW by 2012; 3,000 by 2020
- \$12 Million for three met towers to promote development
- On-going State environmental baseline studies
- OREC rule anticipated to be final in mid 2010

PUBLIC-PRIVATE PARTNERSHIPS: NEW YORK

- LIPA, Con Edison, NYPA, NYC EDC, Port Authority, & MTA Joint Project Announced April 09.
- RFP due out Summer 2010
- 700 MW South of Long Island: Likely PPA & Publicly-Owned Cable
- NY RPS increased by Governor Paterson to 30% Renewables; NYSERDA Expertise Used
- NYPA Great Lakes RFP Response Due June 1, 2010: 500 MW in Fresh Water, First Ever
- Existing Long Island Environmental Studies As Base

COMPLEMENTARY POLICIES

- REC Multipliers
- Met Tower Subsidies
- Proactive Transmission Planning
- Transmission Infrastructure Upgrades
- Port Facility Upgrades
- Manufacturing Tax Credits
- MMS Revenue Sharing to the State
 - 27% if project is <15 miles from coast



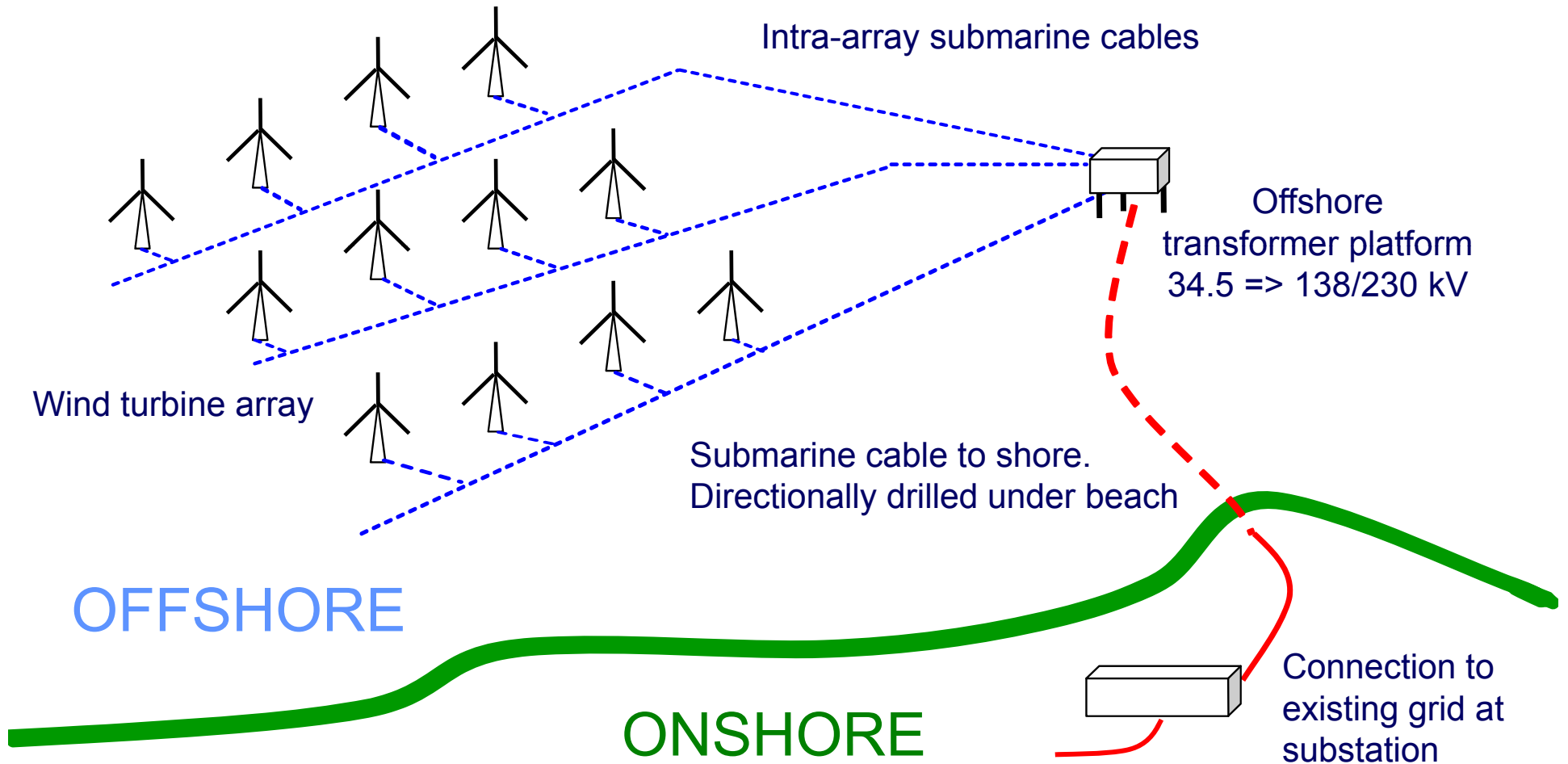
PROJECT FINANCE ELEMENTS

- Balance Sheet vs. Non-Recourse Project Finance
- DOE Loan Guarantee: Removes Risk
- Treasury Grant: Market needs program as tax appetite for PTCs nearly eliminated in current Recession and Net Operating Losses by financial firms
- REC multipliers in RPS Statutes
- Public siting/financing/ownership of transmission cable to shore 2003-2008(LIPA RFP): Good public policy and reduces overall CapEX

PROVING PROJECT VIABILITY TO FINANCIERS

- Turn-Key, Full-Wrap EPC Contract + Turbine Supply/Commissioning: Preferred Risk Mitigation Structure
- On-Site Hub Height Met Measurements with Bank-reputable Firms
- Correlation with Long-term Buoy Measurements
- Lowest Technology Risk with Proven Turbines
- Vessel Build Program in Place: 3 Years Before Construction Start
- Experienced, Robust Balance Sheet EPC Contractor on Team
- Permits Fully in Place?
- Avoid West Texas Plague of Curtailments: Do all Grid Upgrades
- Regulatory Certainty over the life of the project
- Financeable Offtake Agreements with Credit-worthy Counter-party

OFFSHORE WIND PARK LAYOUT



TURBINE INSTALLATION VESSELS

EXISTING IN EUROPE



OFFSHORE WIND: THE GREEN ECONOMY GENERATOR

- Immediate Jobs Can Be Created to Lay the Foundation for this Industry:
 - Vessel construction
 - Electric grid upgrades
 - Port upgrades
 - Turbine equipment & other supply chain manufacturing in East Coast states
- Project Jobs in 2-3 years in Delaware, Maryland, New Jersey, Rhode Island & New York: Focused on Job Creation and Training: Bluewater funding training in DE & MD
- Supply chain will follow projects

DELAWARE ECONOMIC DEVELOPMENT

- \$1 to 2.5 Billion private investment
- \$200+ Million direct wages for Delaware workers
- Regional economic development: Delaware as offshore staging hub
- Brings up to 500 construction and up to 50 to 60 direct/indirect O&M jobs to Delaware
- Brings large contracts to Delaware ports
 - Construction
 - Operations and maintenance
- Wind technician training at DeITech funded by Bluewater
- Project is full union job with Project Labor Agreement
- New Delaware businesses will locate where electricity is affordable and stable-priced
- Increased tourism by 2.5% (University of Delaware)
- Fishing enhanced by structure/reefs in the water

FIVE PILLARS OF SUCCESSFUL DEVELOPMENT

- Wind Resource
- Site Evaluation & Control
- Permits
- Interconnection to Grid
- Power Purchaser



NC Secretary of Commerce Keith Crisco
at wind tower section manufacturer in
Rostock, Germany, 2010

OFFSHORE WIND INFORMATION

- American Wind Energy Assoc: awea.org
- British Wind Energy Assoc: bwea.org
- Danish Wind Power: windpower.dk
- Utility Wind Integration Group: uwig.org
- University of Delaware:
ocean.udel.edu/windpower

Thank You

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