New York State Offshore Wind

Public Webinar

September 21, 2018

New York Clean Energy Standard

50% renewable energy by 2030

New York State will commit to building:

2,400 megawatts of offshore wind power by 2030, which will generate enough power for up to 1.2 million homes.

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January 2018

NEW YORK STATE OFFSHORE WIND MASTER PLAN

Charting a Course to 2,400 Megawatts of Offshore Wind Energy

NYSERDA Report 17-25

Offshore Wind Master Plan

- Roadmap for advancing the development of offshore wind in a **cost-effective** and **responsible** manner
  - Identifies the most favorable areas for potential offshore wind energy development
  - Describes the economic and environmental benefits of offshore wind energy development
  - Addresses mechanisms to procure offshore wind energy at the lowest ratepayer cost
  - Analyzes costs and cost-reduction pathways
  - Recommends measures to mitigate potential impacts of offshore wind energy development
  - Identifies infrastructure requirements and assesses existing facilities
  - Identifies workforce opportunities

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Master Plan Supporting Studies and Surveys

- Marine Wildlife Survey
- Analysis of Multibeam Echo Sounder and Benthic Survey
- Birds and Bats
- Environmental Sensitivity Analysis
- Fish and Fisheries
- Marine Mammals and Sea Turtles
- Preliminary Wind Resource Assessment
- Sand and Gravel Resources
- Consideration of Potential Cumulative Effects

Environmental

- Aviation and Radar Assets
- Health and Safety
- Shipping and Navigation
- Cultural Resources
- Cable Landfall Permitting
- Marine Recreational Uses
- Visual Threshold Study

Social and Regulatory

- Pipelines, Cable, and Other Infrastructure
- Ports and Supply Chain
- Workforce Opportunities in New York
- Jones Act Compliant Vessels
- Project Cost Projections
- Offshore Wind Injection Assessment

Economic and Infrastructure

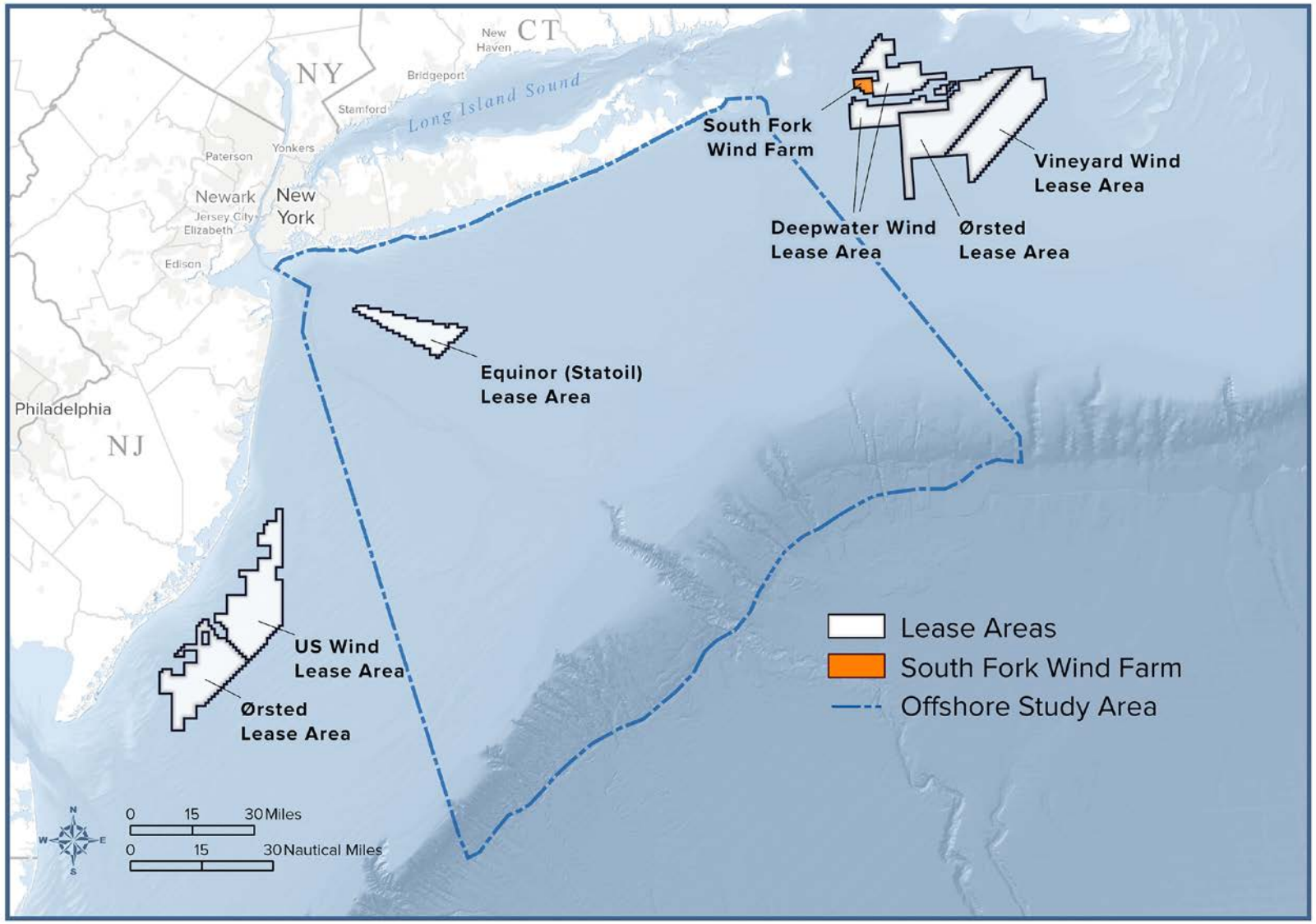
Presentation Outline

Activities since the release of the Master Plan:

1. Responsible Siting and Area Identification
2. Offshore Wind Standard and Upcoming RFP
3. Ongoing Outreach and Public Engagement
4. Studies and Research to Reduce Cost and Risk
5. Upcoming Events

Responsible Siting and Area Identification

Regional Context



The federal Department of Interior's Bureau of Ocean Energy Management (BOEM) regulates renewable offshore wind energy development in federal waters, which begin three nautical miles (approximately 3.5 miles) from the coast

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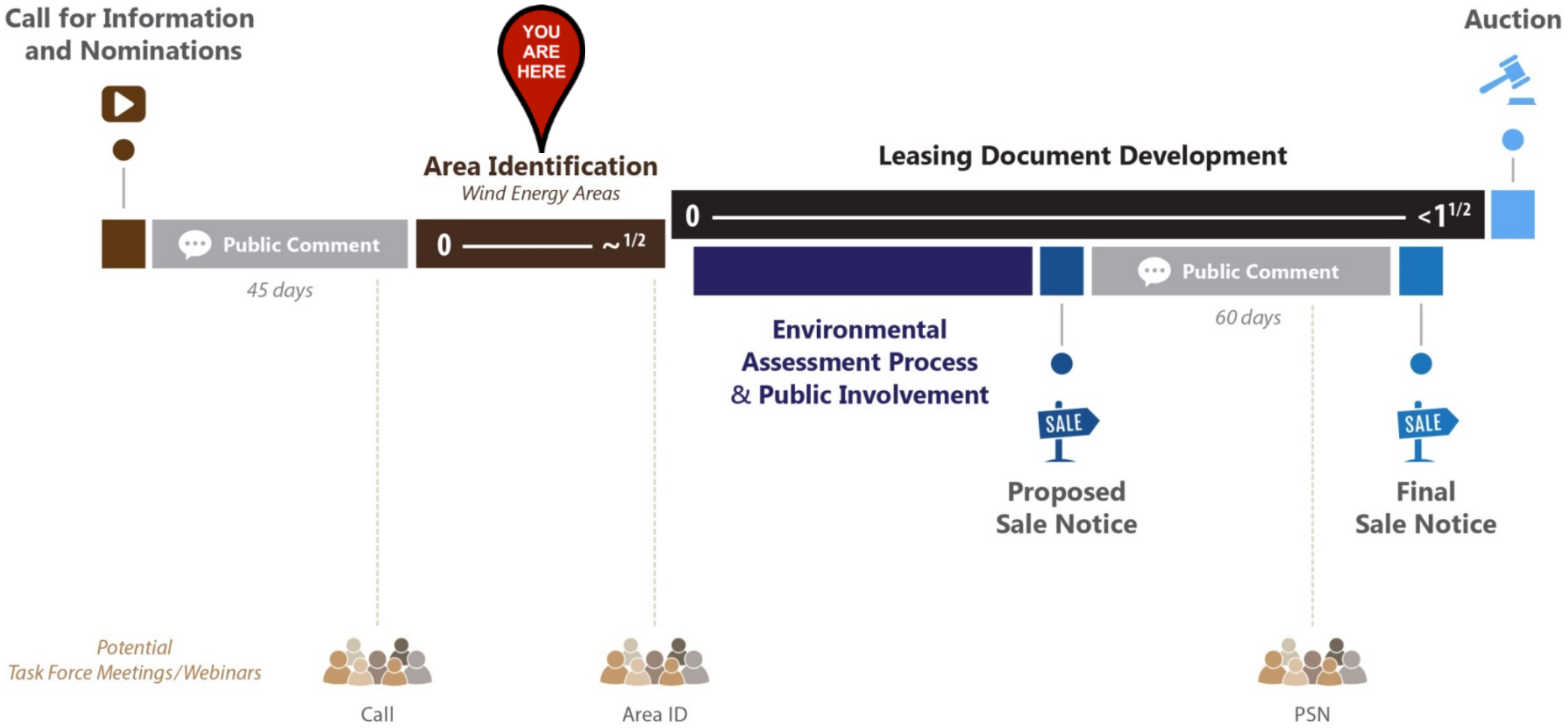
Renewable Energy Process: Call to Auction



Bureau of Ocean Energy Management / Department of Interior

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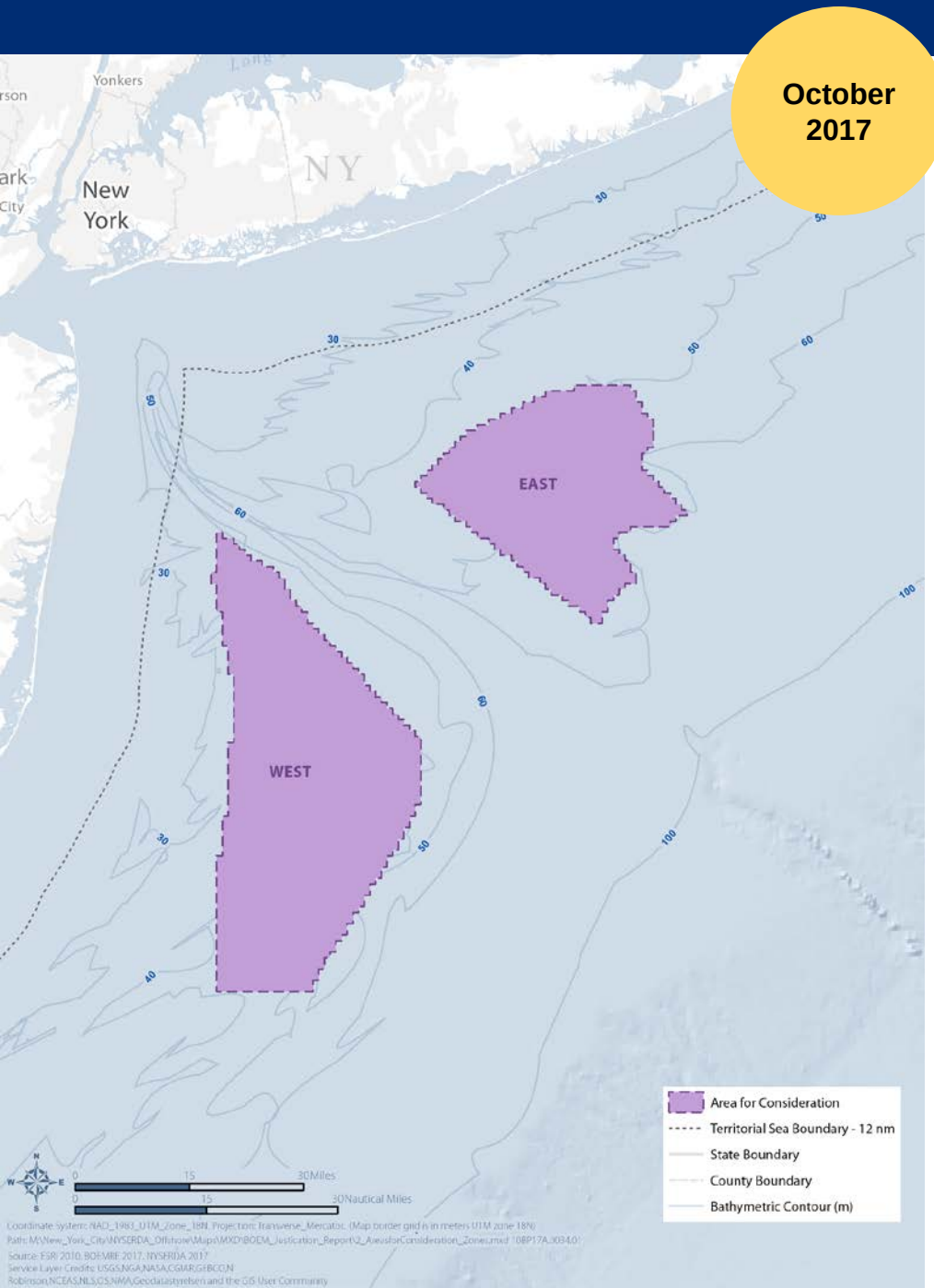

Area for Consideration

- New York State requested BOEM to identify and lease at least four new Wind Energy Areas within the Area, each capable of supporting at least 800 MW of offshore wind energy
- Refined from the original offshore study area to account for:
  - Visibility
  - Wake effects
  - Historic properties
  - Construction costs
  - Navigational concerns
  - Interconnection feasibility
  - Submarine cable costs and fishery concerns
  - Fishing industry concerns
  - Marine mammal impacts

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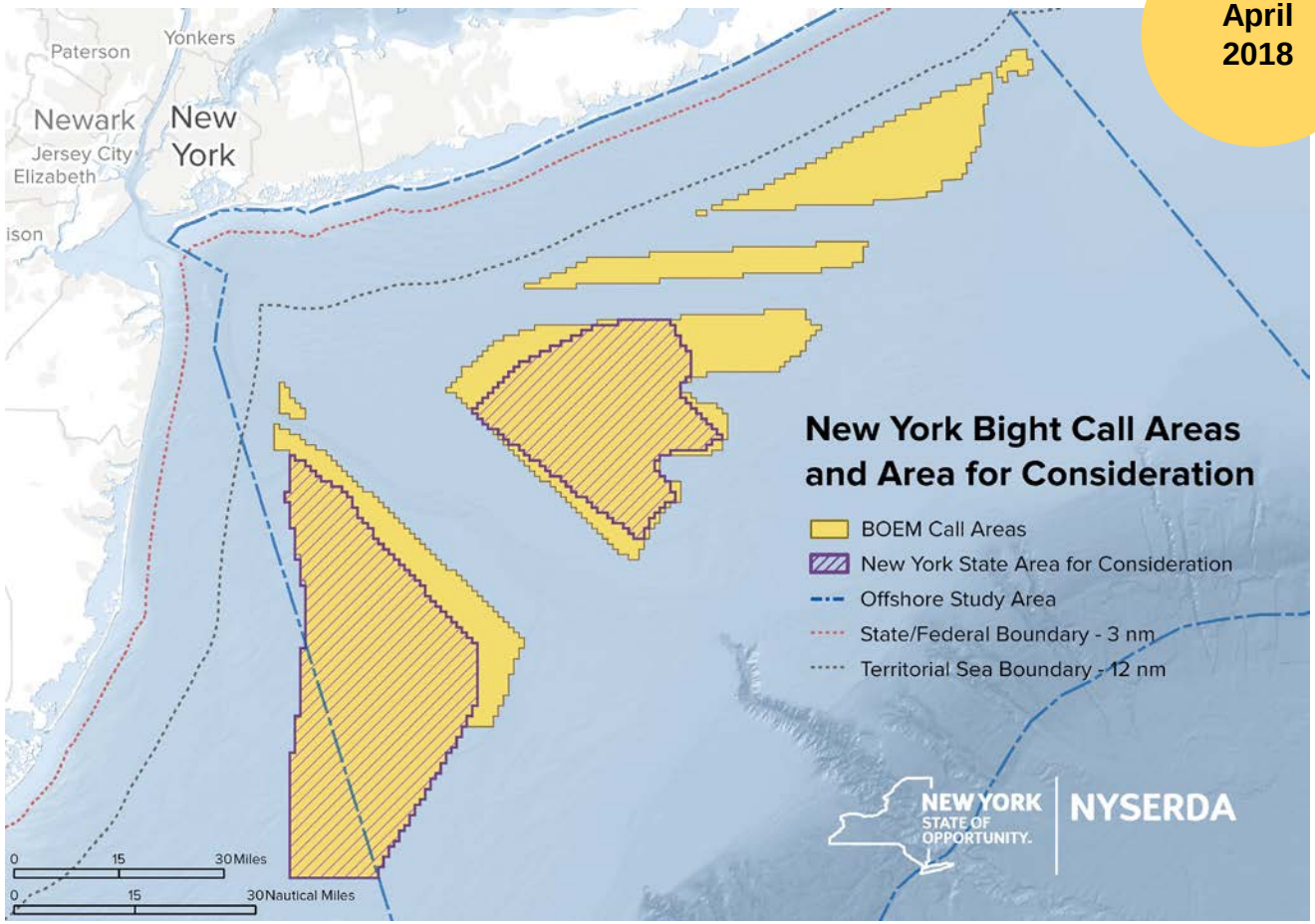
BOEM Call Areas and NYS Area for Consideration



- BOEM published a Call for Information and Nominations allowing stakeholders provide feedback on the potential for development of new wind energy areas in the New York Bight
- Geographic areas included in the Call Area fall outside of New York's recommended Area for Consideration

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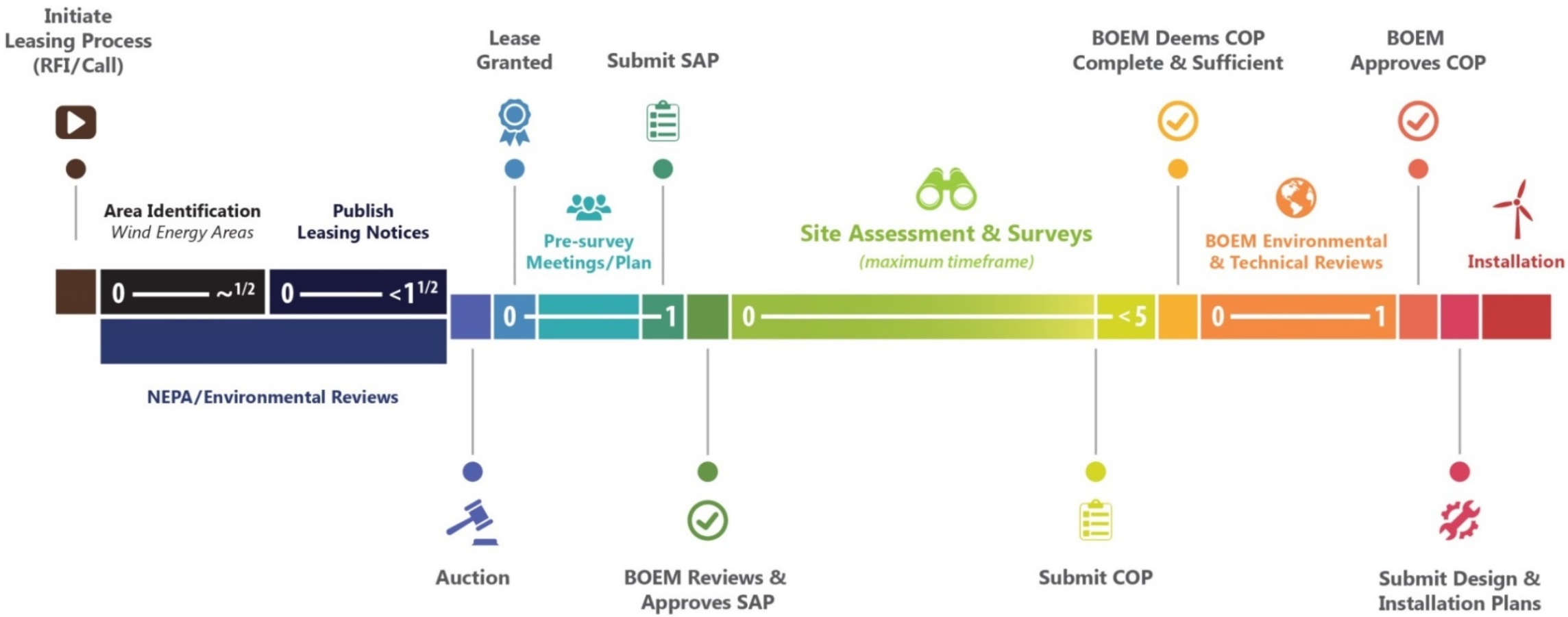
NYS Comments to BOEM

July 2018

- New York State submitted comments to BOEM in response to the Call for Information and Nominations
- Reaffirms the State's identification of the Area for Consideration as the most optimal area to develop offshore wind as it:
  - Presents the fewest conflicts with ocean users, resources, infrastructure, and wildlife
  - Has the greatest potential for the cost-effective development of offshore wind energy to meet the State's renewable energy goals
- Available online:
  - https://www.governor.ny.gov/sites/governor.ny.gov/files/atoms/files/NYS_BOEM_NY_Bight_Call_Comments.pdf

Renewable Energy Process: Leasing to Operations



Bureau of Ocean Energy Management / Department of Interior

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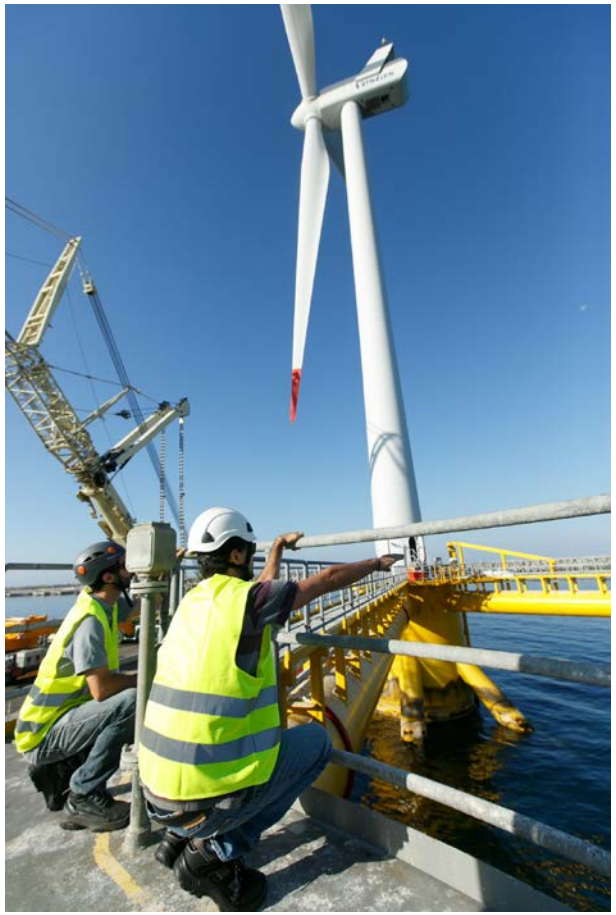
Offshore Wind Standard and Upcoming RFP

Environmental Benefits

- New York achieving its 2,400 MW offshore wind energy goal by 2030 would result in a number of significant environmental benefits
  - Greenhouse gas emissions reductions
    - Greenhouse gas emissions in New York State would be reduced by more than five million short tons – the equivalent of removing about 1 million cars from the road
    - Would result in approximately $1.9 billion in benefits
  - Improved air quality
    - Avoid more than 1,800 tons of NOx, 780 tons of SO2, and 180 tons of PM2.5
    - Over 20 years would provide over $1 billion in health benefits and avoid more than100 premature deaths

Jobs and Infrastructure Benefits

The Workforce Opportunity of Offshore Wind in New York study found that the State could benefit from more than $6 billion of investments and approximately 5,000 new jobs in installation, operations and maintenance, and manufacturing



January 2018

Offshore Wind Policy Options Paper

- Provides an assessment of alternatives for addressing a wide range of policy issues relevant to the successful deployment of a first phase (800 MW) of offshore wind energy
- Components include:
  - Procurement and contracting
    - Seven options for contract structures
    - Schedule of future procurements
    - Methods to ensure ratepayer protection
  - Funding mechanisms through load serving entity obligations
  - Transmission and interconnection strategies
  - Cost and benefit analysis

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Offshore Wind Standard

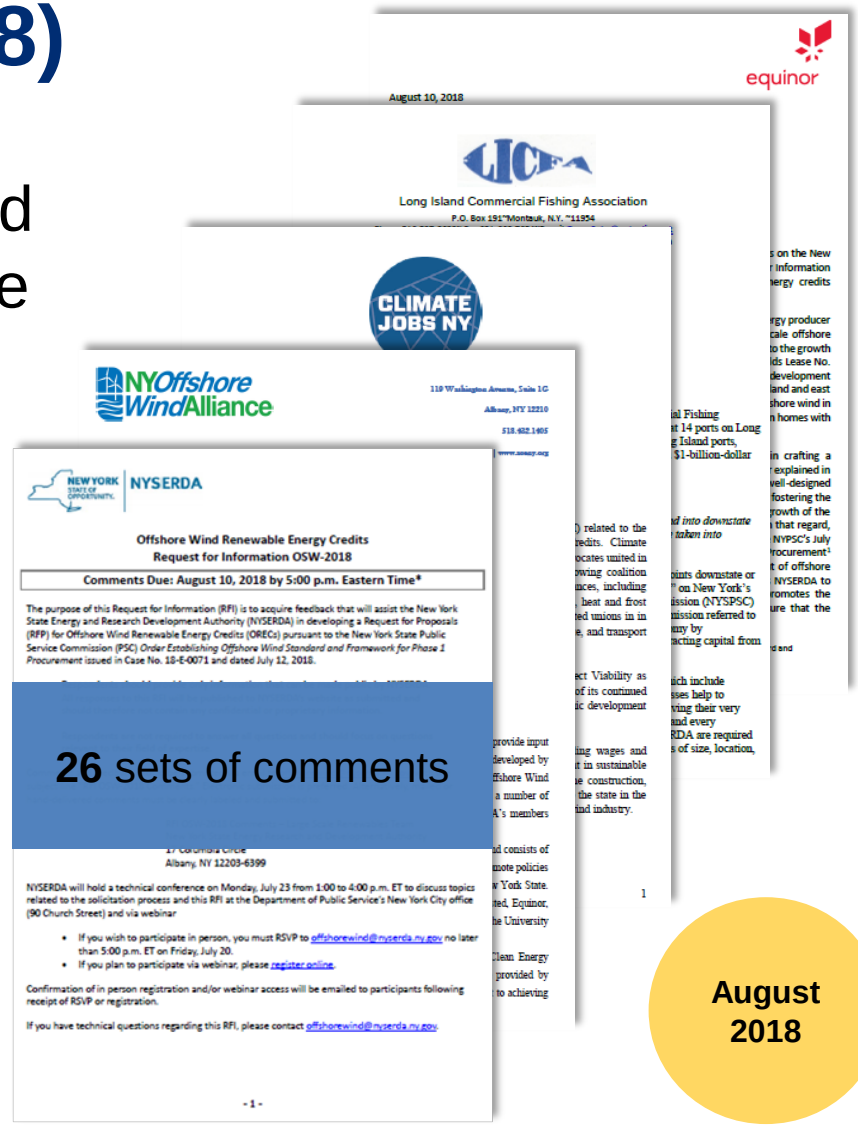
July 2018

- The Public Service Commission issued an Order directing NYSERDA, in consultation with NYPA and LIPA, to procure approximately 800 MW of offshore wind between 2018 and 2019
  - Public Service Commission Case **18-E-0071**
- Authorized NYSERDA to include certain provisions in its request for proposals (RFP) including:
  - Commitments to project labor agreements and prevailing wages as contract requirements for any awarded project
  - Provisions to ensure that awarded offshore wind projects consider the interests of ocean users such as commercial and recreational fishing, environmental stakeholders, and coastal communities

Request for Information (RFI OSW-2018)

- Issued in response to the Offshore Wind Standard to gather feedback from developers and other interested parties on the mechanics of NYSERDA's first offshore wind RFP
- Responses from a variety of stakeholders including:
  - Utilities
  - Project developers
  - Labor representatives
  - Government agencies
  - Community organizations
  - Commercial fishing industry
  - Environmental organizations
- Available online:

https://www.nyserda.ny.gov/All-Programs/Programs/Offshore-Wind/Offshore-Wind-Solicitations/Generators-and-Developers/Request-for-Information



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Request for Proposals – Draft Issued (Draft ORECRFP18-1)

Scoring Criteria

- 70% Bid Price
  - Same weighting as Renewable Energy Standard Tier 1
- 20% Economic Benefits
  - Must include a local content requirement, but has discretion in designing
- 10% Project Viability
  - Increase weight from Renewable Energy Standard Tier 1 solicitations to account for expiring federal tax credits

Contract Requirements

- Project labor agreement and prevailing wage requirement
- Submit a fisheries and environmental mitigation plan
- Participate in New York's technical working groups (TWGs)
- Consult with relevant State agencies around fishing, wildlife, and the environment
- Make environmental data collected during site assessment publicly available
- Implement lighting controls to minimize nighttime visibility
- Minimize visual impacts

Next Steps

- Fall 2018: Draft RFP issued
  - Now accepting public comments
  - Submit all responses to offshorewind@nyserda.ny.gov by **Friday, October 5, 2018 at 5:00 p.m. ET** with the subject "Draft ORECRFP18-1 Comments"
- *Fall 2018: Final RFP issued*
- *Winter 2019: RFP due*
- *Spring 2019: NYSERDA notifies awardees*
- *Summer 2019: Contract executed*

Draft RFP available online: https://www.nyserda.ny.gov/All-Programs/Programs/Offshore-Wind/Offshore-Wind-Solicitations/Generators-and-Developers/Draft-Request-for-Proposals

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Ongoing Outreach and Public Engagement

Public Engagement

4 public webinars
- February 2018 (2)
- May 2018
- September 2018

2 technical conferences
- September 2018
- July 2018

New York State continues to host public quarterly webinars and open house events in New York City and Long Island

LI Public Meetings, July 2017
- Melville
- Long Beach
- Southampton

NYC Public Meetings, August 2017
- Rockaway Beach
- Staten Island
- Brooklyn

Fishing Open Houses, August 2017
- Southampton
- Montauk

Master Plan Update, October 2017
- Riverhead

LI Public Meetings, May 2018
- Melville
- Southampton

LI/NYC Public Meetings, September 2018
- Rockaway Beach
- Long Beach

Stakeholder Outreach

- New York State is remaining actively engaged with a wide array of interested stakeholder parties including:
  - Commercial and recreational fishermen
  - Consumer advocates
  - Elected officials
  - Labor and business
  - Long Island and New York City communities
  - Non-governmental organizations
  - Offshore wind energy industry
  - State and federal agencies
  - Submarine cables and offshore infrastructure owners

Led by
NYS Department of Environmental Conservation

Commercial and Recreational Fishing Technical Working Group

- Comprised of fishing organizations and offshore wind developers; supported by State and federal regulators and regional states
- Will provide advice and guidance while protecting the State and region's valuable fisheries and fishing communities by:
  - Developing best management practices to avoid, minimize or offset potential impacts to fish and fisheries
    - → *Synthesis currently underway*
  - Identifying and supporting key fish/fishing and offshore wind related studies and research needs
    - → *New research solicitation planned for release this fall*
  - Developing a framework for understanding impacts to fishing and mitigation of these impacts
    - → *Fishing Mitigation Plans required in the procurement*
    - → *Developers required to consult with State on federal permitting*
  - Hiring a State Fisheries Liaison

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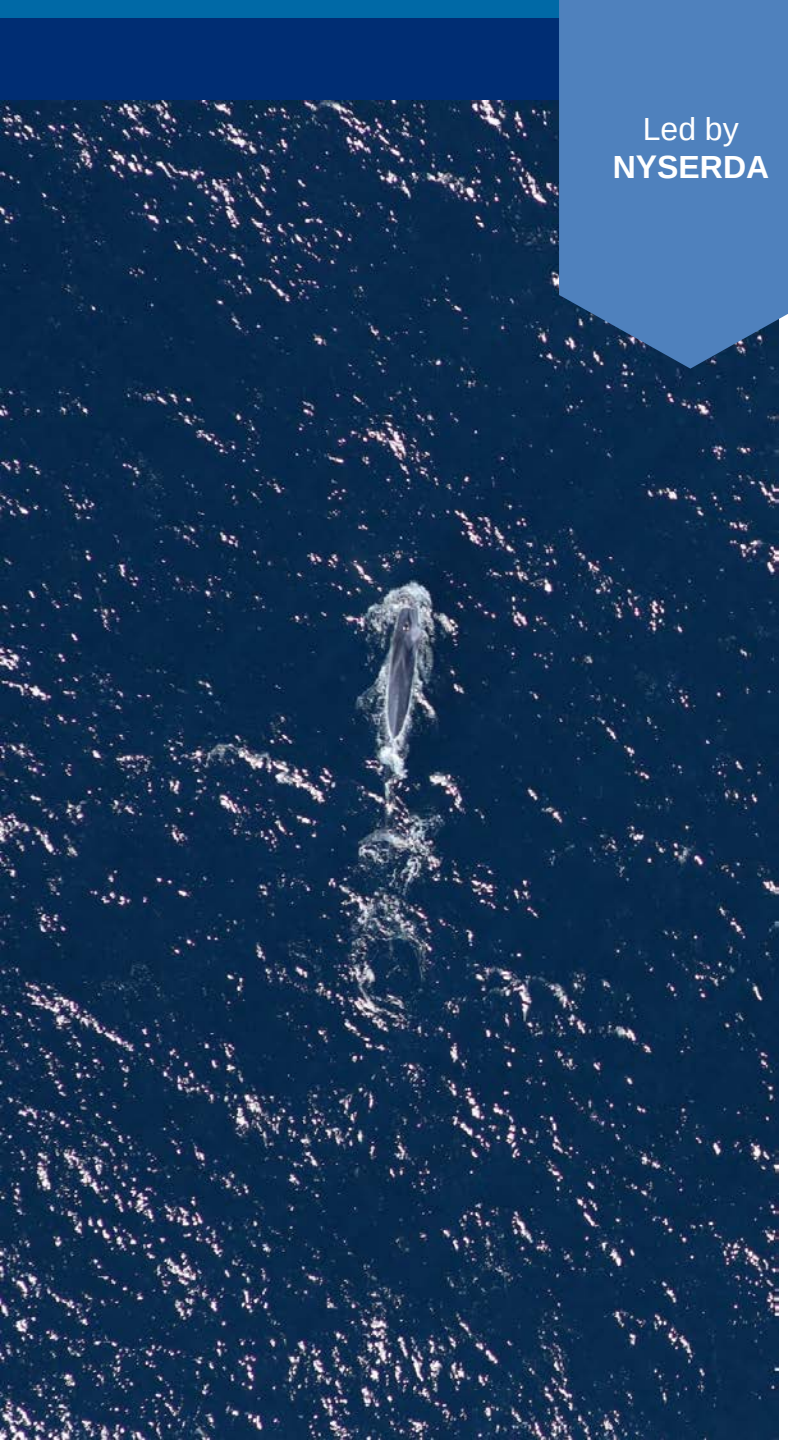

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Environmental Technical Working Group

- Comprised of eNGO's and offshore wind developers; supported by State and federal regulators and regional states
- Advising the State regarding the environmentally responsible development of New York's offshore wind energy resources by:
  - Developing a transparent process for identifying and addressing priority issues relating to wildlife monitoring and mitigation
    - → *Synthesis of best management practices underway*
    - → *Environmental Mitigation Plans required in the procurement*
  - Reducing permitting risk and uncertainty by improving clarity in expectations and processes for wildlife monitoring and mitigation
    - → *Developers required to consult with State on federal permitting*
    - → *Developers required to release environmental data after collection*
  - Improving understanding of potential effects of offshore wind energy development on wildlife
    - → *New research solicitation planned for release this fall*

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NYS Department of State

Maritime Technical Working Group

- Focusing on developing best management practices
  - Engaging members of the maritime industry
    - Pilots
    - Tug/barge operators
    - Others
  - Coordinating with State and federal agencies
    - Port Authority of New York and New Jersey
    - Department of Environmental Conservation
    - Department of Public Service
    - U.S. Coast Guard
    - BOEM
  - Soliciting input from offshore wind developers
- Committed to smart development
  - New ideas, lessons learned from Europe

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Economic and Infrastructure Opportunities for New York

Workforce

Ports

Vessels

Suppliers

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Jobs and Supply Chain Technical Working Group

- Connecting the local supply chain to the global offshore wind industry and original equipment manufacturers
  - → *Supply Chain Database currently being created*
  - → *Supply Chain Symposium being held in November*
- Advising as to the use of $5 million to support infrastructure advancement
  - → *Evaluating cost and feasibility of several port facilities in New York State through 2018 Ports Assessment*
- Advising as to the use of $10 million to fund OSW workforce training from 2018 to 2025
  - Vocational training
  - Training facilities
  - Certification programs
  - Union training
  - Apprenticeship opportunities
  - Curriculum development

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Studies and Research to Reduce Cost and Risk

New Studies and Analyses

Turbine Layouts and Spacing

- Provides information to support the siting and orientation of the Area for Consideration and Wind Energy Areas

Socio-economic Assessment of Shipping and Navigation

- Assesses the potential socio-economic impacts of re-routing commercial vessels around potential offshore wind farms

Inshore Feeder Barge

- Assesses the feasibility of using an inshore feeder barge system to augment the capacity of offshore wind staging ports in New York Harbor

Metocean

- Improve characterization of the wind, wave and ocean current environment
- Collect data on birds, bats, and marine mammals

+ New **Environmental Research Solicitation** in Fall 2018

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Ongoing Studies and Analyses

Best Management Practices

- Collect fishing and environmental best management practices relating to pre-construction, operation, and decommissioning phases of offshore wind energy development

Digital Aerial Survey

- Collaborate with federal and State agencies, universities and scientists to collect baseline data
- Map seasonal patterns to assist the identification of important habitat areas & predict future areas of high use

Supply Chain

- Collaborate with industry to study how New York can best support the OSW supply chain
- Analyze technical challenges to envision a path forward for the broader U.S. industry

Ports Assessment

- Build upon the 2017 Ports Assessment to identify facilities with the greatest feasibility for offshore wind use

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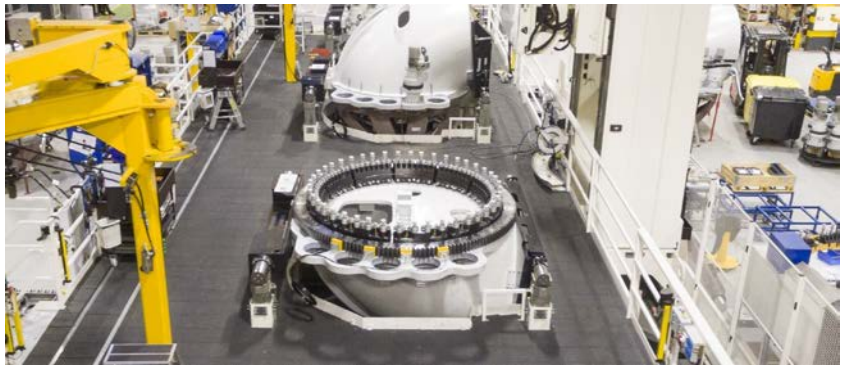
National Offshore Wind Research and Development Consortium

- The U.S. Department of Energy awarded NYSERDA a $18.5 million grant to lead the National Offshore Wind Research and Development Consortium, which will:
  - Prioritize, support, and promote research and development activities that reduce cost and risk of offshore wind projects throughout the U.S.
  - Support U.S.-based manufacturing and supply chain
- Technical objectives:
  - Advance offshore wind plant technology
  - Develop innovative methods for wind power resource and site characterization
  - Develop advanced technology solutions for installation, operation and maintenance, and supply chain



Transmission and Interconnection

- Offshore wind transmission and interconnection options are being explored by various State agencies/partners:
  - The New York Power Authority is leading a study to:
    - Learn from European infrastructure design
    - Identify best practices in connecting wind-generated power to transmission networks and grid
    - Reduce delivery costs to customers and consumers
  - The Department of Public Service is exploring transmission options for a second phase of offshore wind development
    - Transmission Technical Conference on September 25
  - The New York Independent System Operator is requesting information for transmission needs driven by Public Policy Requirements
    - Responses due by September 30, 2018 to: PublicPolicyPlanningMailbox@nyiso.com

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Upcoming Events

Upcoming Offshore Wind Events

Transmission Technical Conference

- September 25
  - 10:30 p.m. – 3:00 p.m.
  - Department of Public Service, 90 Church Street, New York City 10007

Long Island and New York City Public Information Meetings

- September 26
  - 6:30 p.m. - 8:00 p.m.
  - Long Beach City Hall, 1 West Chester Street, 6th Floor, Long Beach, NY 11561
- September 27
  - 7:30 p.m. - 9:00 p.m.
  - Peninsula Library, 92-25 Rockaway Beach Boulevard, Rockaway Beach, NY 11693

State of the Science Workshop

- November 13 – 14
  - 10:00 a.m. - 4:30 p.m.
  - The Inn at Fox Hollow, 7755 Jericho Turnpike, Woodbury, NY 11797

New York Offshore Wind Supplier Forum

- November 15
  - 9:00 a.m. - 5:00 p.m. (tentative)
  - The Roosevelt Hotel, 45 East 45th Street, New York, NY 10017

Questions?

Contact Us:

Website: nyserda.ny.gov/offshorewind
Email: offshorewind@nyserda.ny.gov

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