

## T28 – National Offshore Wind Research and Development Consortium

National Offshore Wind Research and Development Consortium

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NYSERDA

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# FY21 Peer Review - Project Overview

## Project Summary:

- The National Offshore Wind Research and Development Consortium was created as a cooperative innovation hub that brings together industry, academia, government and other stakeholders to advance offshore wind technologies aiming to reduce the cost of LCOE.
- Programs cover the following 3 pillars:
  - Plant Technology Advancement
  - Power Resource and physical site characterization
  - Installation, O&M, supply chain solutions
- Key project partners
  - Carbon Trust; The Renewables Consulting Group; NREL
  - Maryland Energy Administration; Massachusetts Clean Energy Center; Virginia Department of Mines, Minerals and Energy; Maine State.

Project Start: October 2018  
Expected Completion: September 2025  
Period of Performance: 7 years

DOE Share: \$18.5M, plus \$2M AOP  
Cost Share: \$20.5M  
Total Project Budget:\$39M, plus \$2M AOP

Key Project Personnel: Haiyan Sun, Scott Egbert, Carrie Hitt

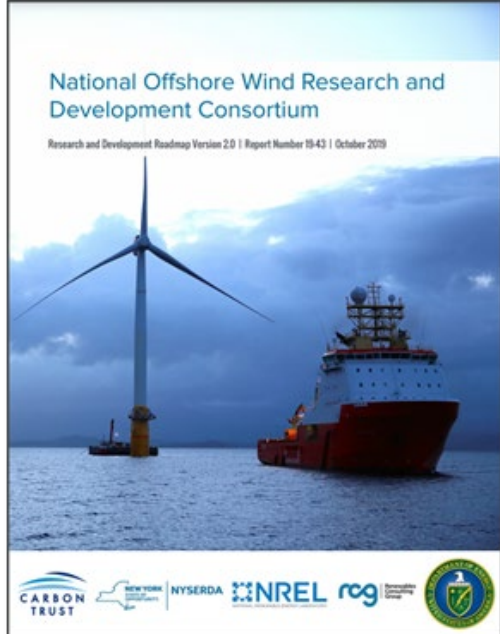
Key DOE Personnel: Michael Carella, Nate McKenzie

## Project Objective(s) 2019-2020:

- Establish and administer the Consortium led by NYSERDA and key industry stakeholders, with defined structure and procedures.
- Define membership operating principles and grow members
- Develop and maintain offshore wind R&D roadmap
- Manage competitive solicitation, contracting, and project management.
- Minimum of thirteen (13) Research and Development projects across pillars awarded and contracted by end of 2020

## Overall Project Objectives (life of project):

- Promote research and development that reduce cost of offshore wind while supporting U.S.-based manufacturing and supply chain.
- Fund and Execute \$34.5M in Research and Development Projects across defined pillars by September 30, 2025



# Project Impact

- A **nonprofit offshore wind developer-led organization** has been created with **national focus**, established operating structure and procedures, and **growing membership**.
- Investing in innovations that are directly responsive to the technical and supply chain barriers faced by offshore wind project developers in the U.S., covering **broad technical challenge areas**.
- Drawing on **expertise across the country**. The 40 awarded projects to date covers > 25 states in U.S, including industry developers, national labs, universities, OEMs, etc.
- Advancing national interests by investing in solutions to **increase US content** and job opportunities.
- Building **strong networks** connecting technology innovators, investors, and industry.
- Frequent engagement activities, and **public information sharing** through webinars, technical conferences, social media, website, etc.
- Leveraging **broad spectrum of stakeholders** from public agencies, private developers, OEMs, technical innovators, etc.





# Program Performance – Scope, Schedule, Execution

**1st**

**Solicitation**

PON 4124

Closed

12/31/2019

**\$17.5M**

**2nd**

**Solicitation**

PON4476

Closed

10/19/2020

**\$10.7M**

**\$28 million**

- ✓ Total 150+ proposals received
- ✓ Total 40 projects (\$28M+) selected for award
- ✓ Remaining Research and Development budget: \$7M

**Pillar 1:** Plant Technology Advancement

**Pillar 2:** Power Resource and Physical Site Characterization

**Pillar 3:** Installation, O&M and Supply Chain Solutions

# Program Performance – Accomplishments & Progress

## OSW Research and Development Awards (To Date)

### Pillar 1

\$16.2 M

#### Offshore Wind Plant Technology Advancement

- 1.1 Array Performance and Control Optimization **4**
- 1.2 Cost-Reducing Turbine Support Structures for the U.S. Market **8**
- 1.3 Floating Structure Mooring Concepts for Shallow and Deep Waters **7**
- 1.4 Power System Design and Innovation **6**

### Pillar 2

\$3.7M

#### Offshore Wind Power Resource and Physical Site Characterization

- 2.1 Comprehensive Wind Resource Assessment **1**
- 2.2 Development of a Metocean Reference Site **1**
- 2.3 Solutions to O&M challenges
- 2.4 Safety System Innovation **1**

### Pillar 3

\$8M

#### Installation, O&M and Supply Chain Solutions

- 3.1 Heavy Lift Vessel Alternatives **3**
- 3.2 Offshore Wind Digitization Through Advanced Analytics **4**
- 3.3 Technology Solutions to Accelerate the US Supply Chain **2**
- 3.4 Technology solutions to mitigate use conflicts **3**

# Project Performance - Upcoming Activities

## Webinars & Events

- March 19, 2021: Grid Interconnection
- March 23, 2021: Research Portfolios in Europe, the UK, and the US
- April 8, 2021: Challenges and Opportunities for the OSW Supply Chain with the Investment Tax Credit
- June 28, 2021: MSSC Pitch Session: connecting innovative supply chain actors in OSW
- November 8-10, 2021: Annual Technical Symposium

## Roadmap

- June 29, 2021, Release roadmap 3.0

## Solicitation & Contracting

- Q3, 2021 & Q2, 2022 new solicitations (~ \$7M total)
- Q3, 2021 Continue contracting of selected projects

## Other Activities

- May 6, 2021, State Network kickoff with MD, VA, ME, MA, CA, NY
- Continuous: Advisory Board Meetings for individual projects

# Stakeholder Engagement & Information Sharing

## Events & Conference

### Webinars

- ✓ Mar 23, 2020: Manufacturing, Services, and Supply Chain Advisory Group
- ✓ Mar 31, 2020: OSW Energy and Future Power Systems
- ✓ June 4, 2020: OSW Port Readiness - Supply Chain Solutions in the State of Virginia
- ✓ June 23, 2020: Oil & Gas Crossover
- ✓ July 14, 2020: Gulf of Mexico

Average >300  
Participants

### 1<sup>st</sup> Technical Conference: Nov. 9, 10, 12

- 1,000+ registration
- 845 attendees watched livestream across 3 days
- On-demand video: <https://eventscribe.com/2020/rd-symposium/>



### Other activities

- ✓ Website launched since May 2019: <https://nationaloffshorewind.org/>
- ✓ Social media accounts launched in 2020: LinkedIn, Twitter
- ✓ Friday features: bi-weekly social media to highlight key projects
- ✓ Various outreach meetings to grow membership, such as with NJ Wind Institute, etc.

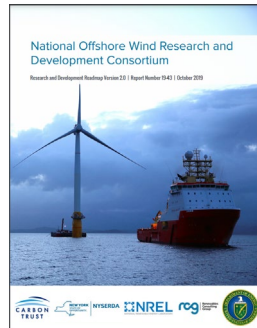


# Stakeholder Engagement & Information Sharing

## Roadmap, Membership

### Roadmap

- ✓ November 2018: Roadmap 1.0
- ✓ November 2019: Roadmap 2.0
- ✓ Broad input from stake holders from members, research and development advisory group
- ✓ Survey and focused group discussions



HITACHI ABB POWER GRIDS

### Board of Directors

Private Sponsor Members

Public Sponsor Members

Independent members

Developer Members

Executive Director

Consortium Staff

### Consortium Advisory Group Members

R&D Advisory Group

Strategic Advisory Network

Tech to Market Group

Manufacturing Supply Chain & Service Provider Council

### Membership

- ✓ Members include public sponsors, developers, OEM, etc.
- ✓ Members engaged in operation and strategic decision
- ✓ 3 new members joined since Q1 2019