

Pacific Northwest
NATIONAL LABORATORY

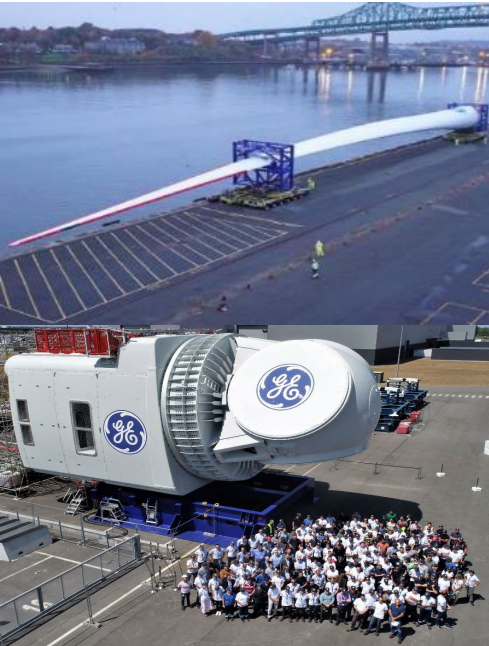
A02 – Distributed Wind R&D Analysis and Support

Program – Analysis & Modeling

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FY21 Peer Review - Project Overview

Project Summary:

- Deliver market, cost, and performance data and fact-based, data-driven analysis to
 - Support and prioritize WETO's research and development activities to achieve program goals
 - Guide stakeholders' future investments and help them understand and access potential market opportunities
 - Educate stakeholders through strategic and technical partnerships
- Key project partner
 - National Renewable Energy Laboratory
 - Federal Energy Management Program

Project Start Year: 2018

Expected Completion Year: FY22

Total expected duration: 4 years

FY19 - FY20 Budget: \$1,381,297

Key Project Personnel: Alice Orrell, Lindsay Sheridan, Kamila Kazimierczuk, Alex Dávila, Danielle Preziuso, Juliet Homer

Key DOE Personnel: Patrick Gilman

Project Objective(s) 2019-2020:

Project objectives are met by

- Producing and disseminating annual market report
- Providing data, analysis, and expertise to other WETO activities
- Engaging with stakeholders through trainings and workshops

Overall Project Objectives (life of project):

Provide and disseminate independent, fact-based distributed wind market research, data, and analysis in a variety of formats to educate stakeholders and to support the identification and prioritization of WETO's research and development efforts that advance the program's goals .



Project Impact

- **Addressing Key Stakeholder Challenges**

- Industry

- The Distributed Wind Market Report is the only market assessment that specifically looks at wind as a distributed energy resource.
- The market ranges from large-scale turbine deployment (e.g., multimegawatt turbines installed behind the meter for an industrial end user) to small wind deployment (up through 100 kW in size).
- Stakeholders have provided testimonials on how impactful this fact-based, data-driven analysis is for them.

- Federal Agencies

- PNNL created an online, on demand training called “Selecting, Implementing, and Funding Distributed Wind in Federal Facilities.”
- PNNL initially scoped this task in FY19 under this WETO project. It was completed as a Federal Energy Management Program-funded project in FY20.

The training includes myth busting!

Project Impact

- **Supporting the Advancement of Sustainable, Equitable Wind Energy**

- PNNL facilitated the Distributed Wind Research Program Workshop for WETO in August/September 2020.



Word cloud from workshop breakout session.

- **Subject Matter Expertise to Produce Useful Outputs**

- Review of The National Standard Practice Manual for Benefit-Cost Analysis of Distributed Energy Resources
- Provided empirical data and expertise for NREL’s levelized cost of energy estimates for distributed wind in its 2019 Cost of Wind Energy Review
- Assessed distributed wind potential for U.S. correctional facilities

Program Performance – Scope, Schedule, Execution

- **Scope & Schedule**

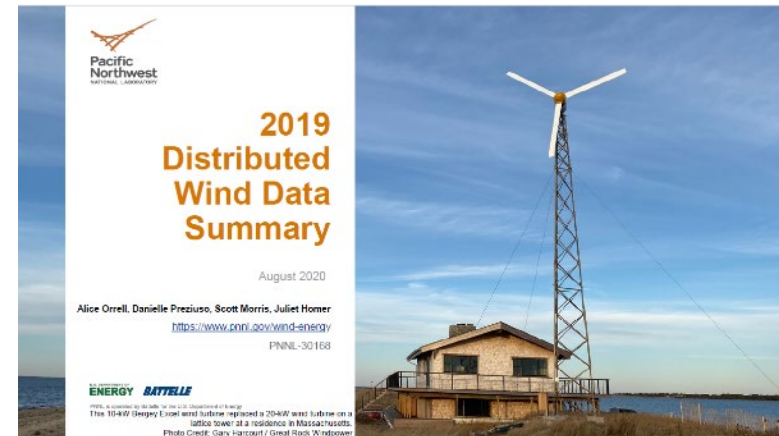
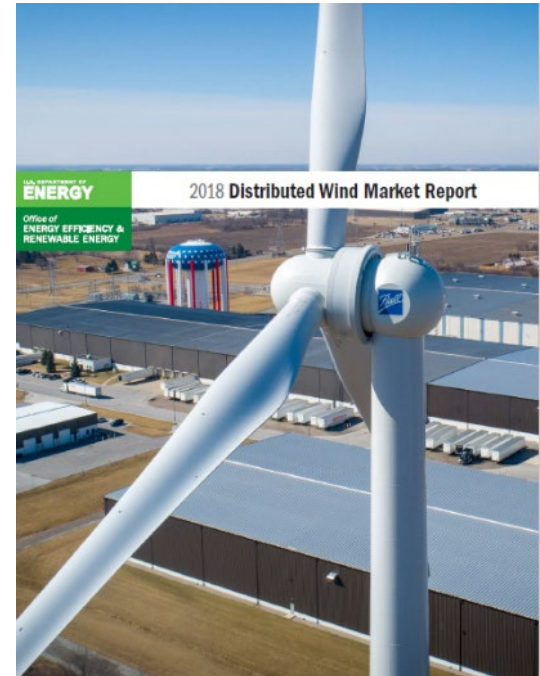
Task	FY2019				FY2020			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Q1 Milestone: Outline and Data Plan	█	█						
Q2 Milestone: Training scoping for FEMP	█	█						
Q3 Milestone: 2-Page Overview			█	█				
Q4 Milestone: Market Report		█	█	█				
Q1 Milestone: Outline and Data Plan					█	█		
Q2 Milestone: IEA Wind Task 41 reports						█	█	
Q3 Milestone: LCOE and Data Campaign						█	█	
Q4 Milestone: Market Report						█	█	█
Other: Distributed Wind Workshop								█

- **Execution**

- Extensive data collection and interview process for market reports
- Data are compiled, cross-referenced, verified, and estimated (when needed)

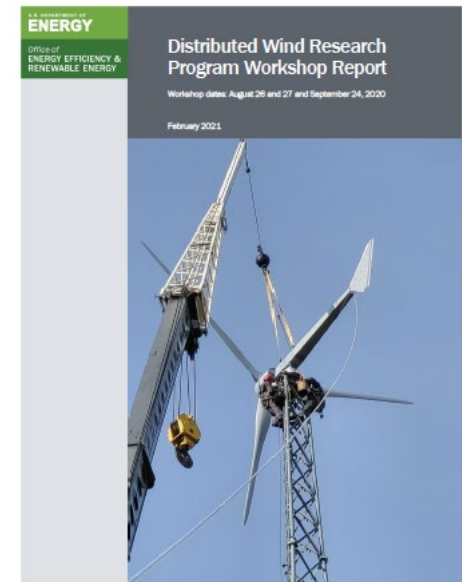
Program Performance – Accomplishments & Progress

- **Fiscal Year 2019**
 - 2018 Distributed Wind Market Report 2-page Overview
 - 2018 Distributed Wind Market Report
 - Federal Energy Management Program training scoping
- **Fiscal Year 2020**
 - 2019 Distributed Wind Data Summary
 - Distributed Wind Research Program Workshop & Report
 - Data Collection Campaign scoping



Project Performance - Upcoming Activities

- **Accelerating wind energy deployment**
 - Small wind performance
 - The inability to predict small wind performance consistently and accurately can negatively impact customer confidence in distributed wind, as well as access to financing.
 - Having direct access to small wind performance data will allow WETO to research these performance concerns that may be limiting deployment.
 - In FY20, PNNL initiated a small wind performance data collection campaign. After initial scoping in FY20, this campaign is an FY21 effort.
 - Wind Systems Integration Workshop
 - Following the success of the Distributed Wind Research Program Workshop, PNNL is facilitating another workshop on behalf of WETO in FY21 for the Distributed Wind and Systems Integration programs.



Stakeholder Engagement & Information Sharing

- **Dissemination Strategies**
 - PNNL and WETO press releases and news alerts, webpages and social media accounts, and email newsletters
 - Free hard copies of the reports
 - External peer review opportunity
 - Presentations at Distributed Wind Energy Association Business Conferences in 2019 and 2020
- **Stakeholder Engagement**
 - Workshops
 - FEMP Training
 - Market Report data collection