



Lake Erie Energy Development Corporation

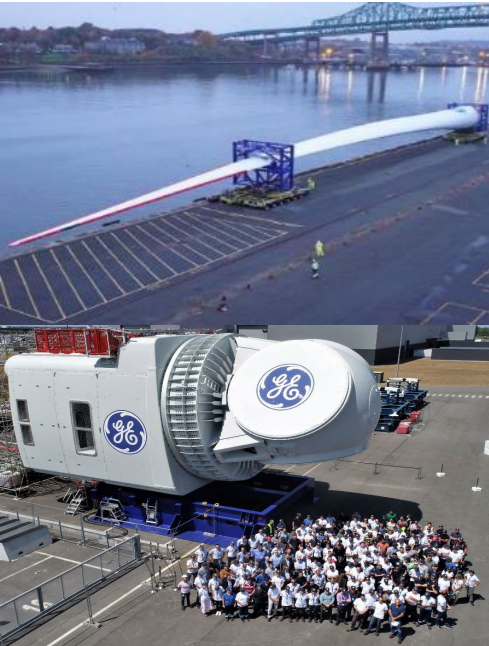
T02 – Icebreaker Wind

Program – Advanced Offshore Wind Technology
Demonstration Project, Award No. DE-EE0005989

David Karpinski

Lake Erie Energy Development Corporation

August 2, 2021



FY21 Peer Review - Project Overview

Project Summary: Offshore Wind Demonstration Project in Lake Erie: Icebreaker Wind

- Two current challenges facing the project:
 - Ohio Power Siting Board (OPSB) permit and National Environmental Policy Act (NEPA) Finding of No Significant Impact (FONSI) have both been appealed by opponents
ACTIONS: defending the OPSB appeal; US Dept. of Justice is defending the NEPA appeal
 - Securing off-take for the output of the project
ACTIONS: seeking policy solution(s) by the State of Ohio to achieve Power Purchase Agreements (PPA) for the balance of the offtake
- Key project partners: Dickinson Wright (project's OPSB counsel)

Project Start: Feb 2013
Expected Completion: Dec 2025
Period of Performance: 12 years

DOE Share: \$43,705,333
Cost Share: \$150,175,164
Total Project Budget: \$193,880,497

Key Project Personnel: David Karpinski, PI

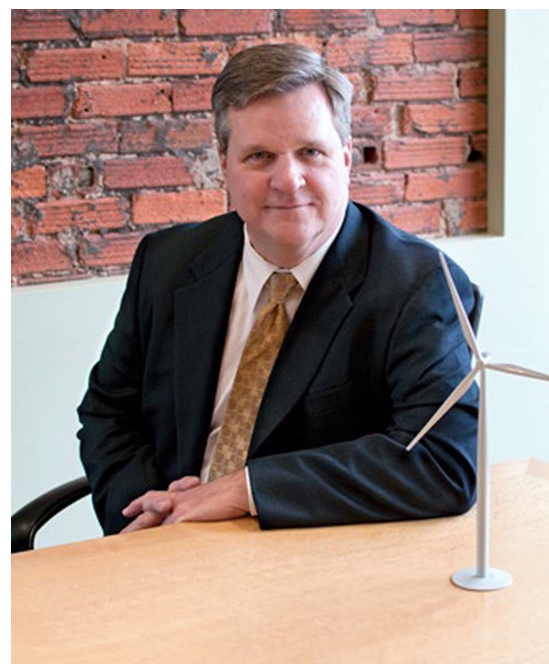
Key DOE Personnel: Michael Carella, PM;
Nathan McKenzie, Technical Lead

Project Objective(s) 2019-2020:

- Obtain all seven (7) permits required for construction and operation of the project
- Secure PPAs for 100% of the project's offtake

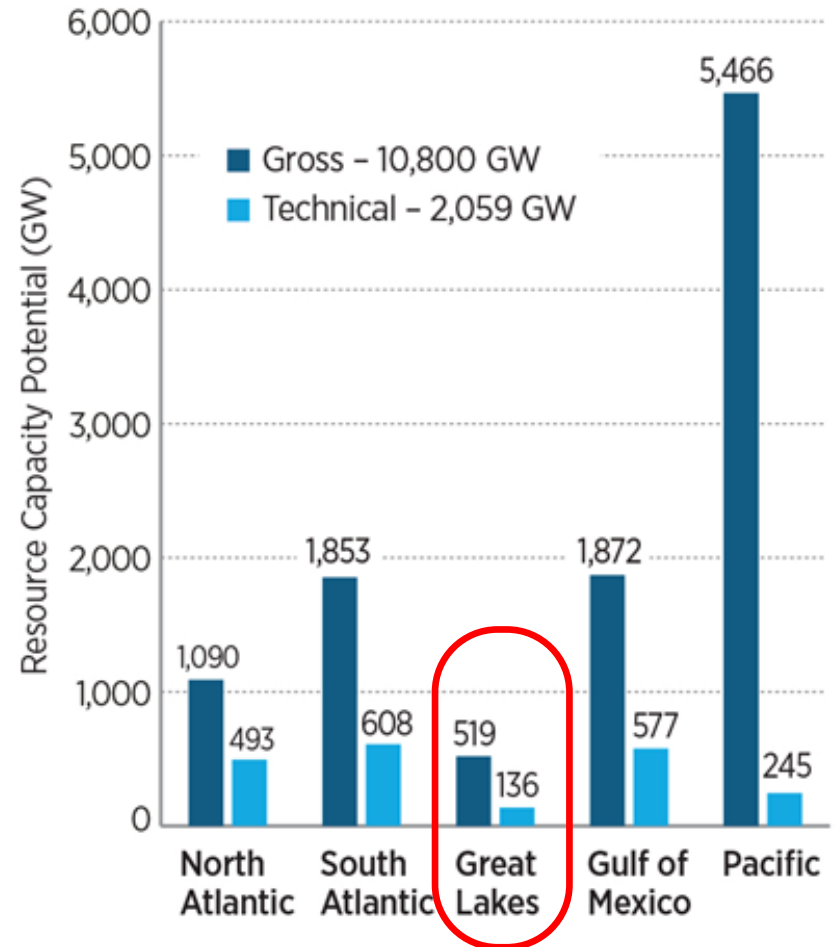
Overall Project Objectives (life of project):

- Complete development and construction of Icebreaker Wind, a six-turbine offshore wind demonstration project in Lake Erie



Project Impact

- The Great Lakes represent significant potential – 136 gigawatts according to NREL – in a region heavily dependent on fossil fuel power generation
- This resource has gone untapped
- A demonstration project in the Great Lakes will serve to unlock this vast potential
- A robust offshore wind industry in the Great Lakes states will create thousands of new jobs and displace thousands of megawatts of fossil fuel based power



Source: 2016 Offshore Wind Energy Resource Assessment for the United States, Walt Musial, Donna Heimiller, Philipp Beiter, George Scott, and Caroline Draxl, National Renewable Energy Laboratory

Program Performance – Scope, Schedule, Execution

- In December 2020, Icebreaker Wind achieved a major milestone:
 - Obtained the final permit required for construction and operation**
 - Certificate of Environmental Compatibility and Public Need from the Ohio Power Siting Board
- Opponents filed an appeal before the Ohio Supreme Court in Feb-2021
 - Case is expected to be decided by Dec-2021 to Mar-2022
- Opponents filed suit in federal court challenging the NEPA process executed by DOE and US Army Corps of Engineers
 - US Dept. of Justice defending the lawsuit

		2013	2014	2015	2016	2017	2018	2019	2020
Submerged Lands Lease	ODNR	█							
Determination of No Hazard to Air Navigation	FAA				█				
NEPA - Finding of No Significant Impact	US DOE USACE USCG				█	█	█		
Compliance with Boundary Waters Treaty	US State Dept.				█				
Certificate of Environmental Compatibility and Public Need	OPSB					█	█	█	█
Section 408 Permit	USACE					█			
Section 404/Section 10 Permit	USACE					█	█		
Water Quality Certification	OEPA						█		

- Icebreaker Wind is seeking Ohio State policy to facilitate offtake of the project's power
- Other project activities on hold pending:
 - Ohio Supreme decision
 - Federal court decision re. NEPA
 - Offtake commitments

Program Performance – Accomplishments & Progress

- Icebreaker Wind is one of only a handful of offshore wind projects in the US to be fully permitted – the only one in the Great Lakes
- Faced extreme challenges before the Ohio Power Siting Board that required significant efforts to overcome
- Secured the bipartisan support of 25% of the entire Ohio General Assembly
 - Thirty-two Members signed on to a joint letter to OPSB urging a reversal of their decision
- Achieved a reversal of an initial negative OPSB decision in October 2020



July 29, 2020

Chairman Sam Randazzo
Ohio Power Siting Board
180 E. Broad Street
Columbus OH 43215

Re: Icebreaker - OPSB Case No. 16-1871-EL-BGN

Dear Chairman Randazzo,

As members of the Ohio General Assembly from Northeast Ohio, we write to object to the Ohio Power Siting Board's recent Order in the Icebreaker case. Unfortunately, the Order includes a last-minute "poison pill" provision that upended the agreement reached among LEEDCo and the technical staffs of the Board and the Ohio Department of Natural Resources over a period of many months—and renders the project commercially infeasible. As such, we ask that the Board immediately grant LEEDCo's request for "reconsideration" and remove the poison pill.

Specifically, the Order requires Icebreaker's turbines to be indefinitely "feathered," (i.e., prohibited from rotating and producing any electricity) all night long for eight months of the year. This Shutdown Order and its resulting lost productivity deprives Icebreaker of the critical revenue stream required to repay a construction loan and is therefore a project-killer.

We have reviewed the facts in the case, and we remain puzzled the Board would re-insert the evening Shutdown Order that its own technical staff had determined was not necessary to meet the statutory standard of "minimum adverse impact." We further believe the highly unusual Shutdown Order is unlawful for the following reasons.

- It contradicts the evidence on the record that led the technical staffs at both the Siting Board and the Department of Natural Resources to approve the project without the Shutdown Order in light of the extensive wildlife protections included.
- The Order offers no compelling evidence to override the technical staffs at OPSB and ODNR's favorable recommendation. It also contradicts the formal finding by the federal US Fish and Wildlife Service that the project is low risk.
- The Order essentially requires zero impact every night for 8 months, but the statutory standard is merely "minimum" impact, considering economics and technology.

Project Performance - Upcoming Activities

FY2021 ACTIVITIES *(not funded by DOE funds)*

- Coordinate with the OPSB to defend the case before the OH Supreme Court
 - File a reply brief in response to the opponent's brief
 - Cooperate with OPSB to develop strategy for oral arguments before the Court
- Support efforts to enact State policy to support offtake
- Pursue PPAs once appropriate State policy is in place

PLANNED WORK

- Resume activities after the Court decision and State policy for offtake is enacted
 - Complete the FEED – foundation engineering
 - Confirm WTG model and pricing with OEM
 - Update the submarine cable package and re-bid
 - Solicit competitive bids for foundation fabrication and installation
 - Update the onshore electrical works package and re-bid

Stakeholder Engagement & Information Sharing

- Long list of supporting stakeholders
 - Elected officials
 - Labor
 - General public
 - Environmental groups
 - Local municipalities
 - City of Cleveland
 - Cuyahoga County
 - Port of Cleveland
 - Businesses
- Stakeholders have been engaged for a long period of time
 - Public meetings / presentations
 - Door-to-door and phone surveys
 - Social media
 - Private meetings / presentations
- Strong support from state and local elected officials
 - Bipartisan support of 25% of the entire Ohio General Assembly
 - Their support was critical in overturning the OPSB negative decision
- Developed effective relationships with media
 - Achieved significant earned media placements