

# Welcome to the Rutgers University Offshore Wind Energy Symposium!

January 12, 2023

*[osw.rutgers.edu](http://osw.rutgers.edu)*

*Please use the hashtag  
**#RutgersOSW** in your  
social media posts.*

Video credit: Lissa Eng/BOEM



## Welcome

***Peggy Brennan-Tonetta,***  
*Director of Resource and Economic  
Development  
Senior Associate Director, New Jersey  
Agricultural Experiment Station*

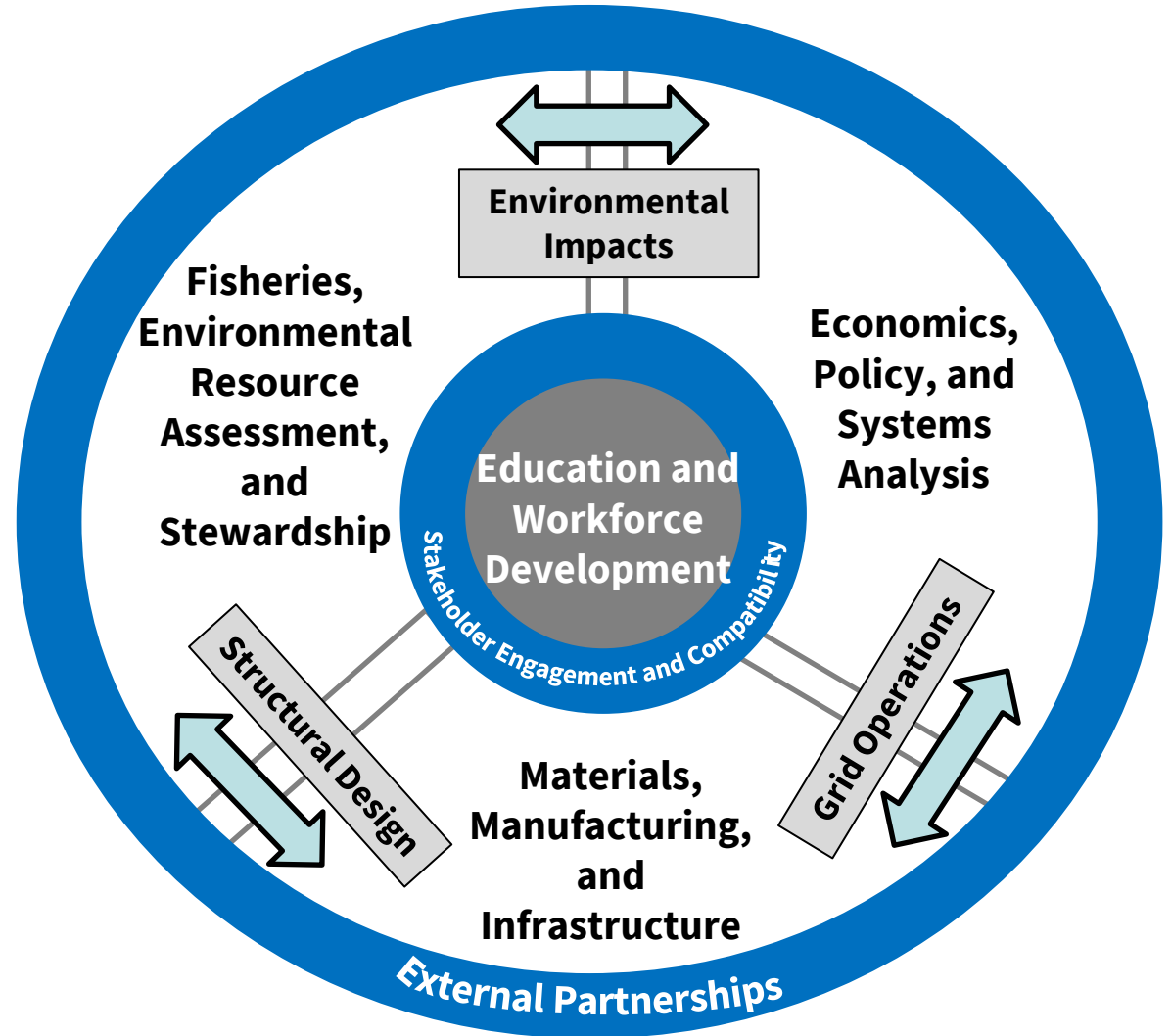
[mbrennan@rutgers.edu](mailto:mbrennan@rutgers.edu)



# Rutgers Offshore Wind Collaborative

Over 40 faculty  
from across New  
Brunswick, Newark  
and Camden!

[osw.rutgers.edu](http://osw.rutgers.edu)



## Welcome

***Denise Hien***, Vice Provost for  
Research, Chancellor-Provost's Office,  
Rutgers – New Brunswick

[denise.hien@smithers.rutgers.edu](mailto:denise.hien@smithers.rutgers.edu)



## Welcome

***Senator Bob Smith, Chair, New Jersey  
Senate Environment and Energy  
Committee***

[senbsmith@njleg.org](mailto:senbsmith@njleg.org)



## Keynote Speaker

***Kris Ohleth***, Director, Special Initiatives  
*on Offshore Wind*

[kris@offshorewindpower.org](mailto:kris@offshorewindpower.org)





Special Initiative on  
Offshore Wind

# Offshore Wind: The Opportunities and Challenges of Our Nation's Next Big Thing

Rutgers Symposium

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Special Initiative on  
Offshore Wind

## About the Special Initiative on Offshore Wind (SLOW)

- Rely on fact-based research and multi-sector collaboration to provide expertise, analysis, information sharing, and strategic solutions to advance the responsible and sustainable development of US offshore wind
- Guided by a Steering Committee of diverse interests
- Not a trade organization - funded by private foundations, which supports our objectivity and unique approach to our work.



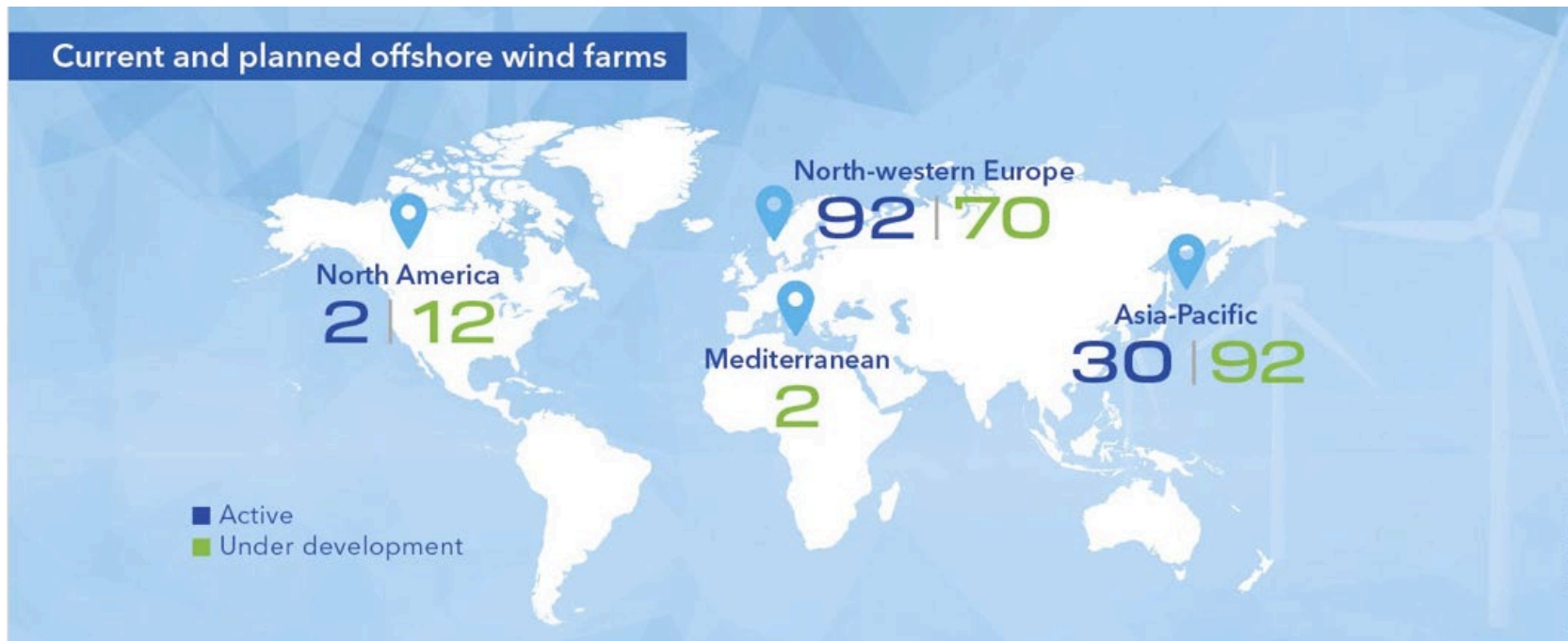
# Embracing offshore wind as a solution



## Why offshore wind

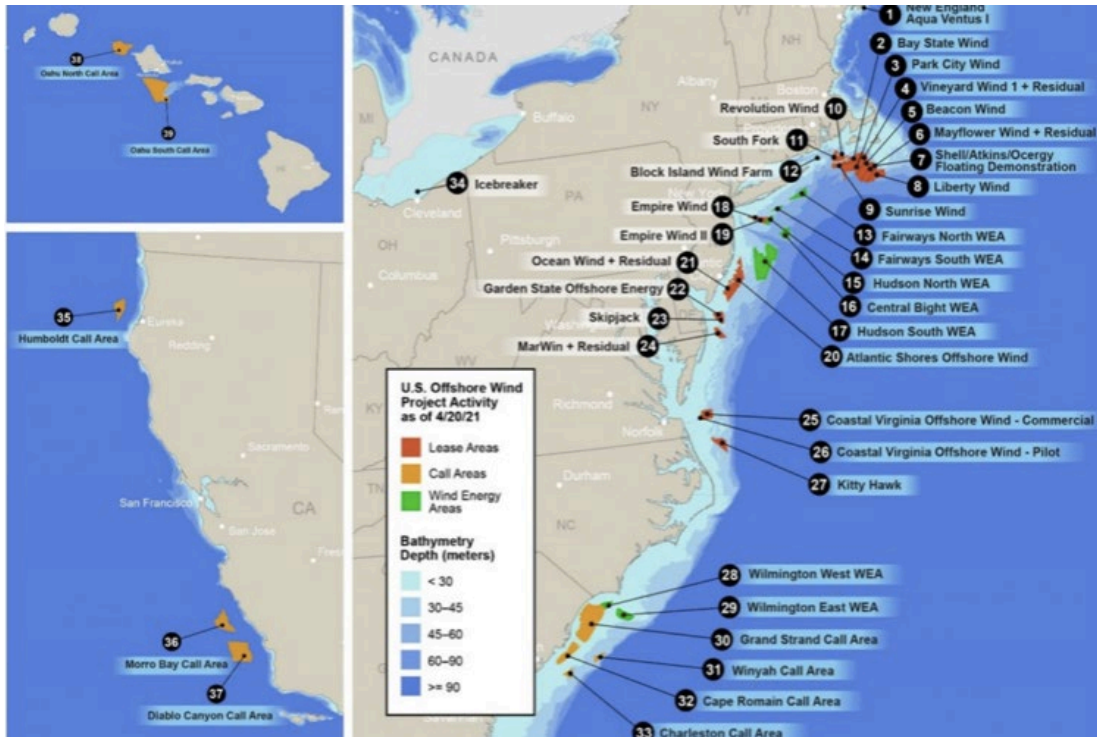
- Environmental
- Economic
- Energy system

# The global perspective



Source: DNV

# The national perspective: 30G by 2030

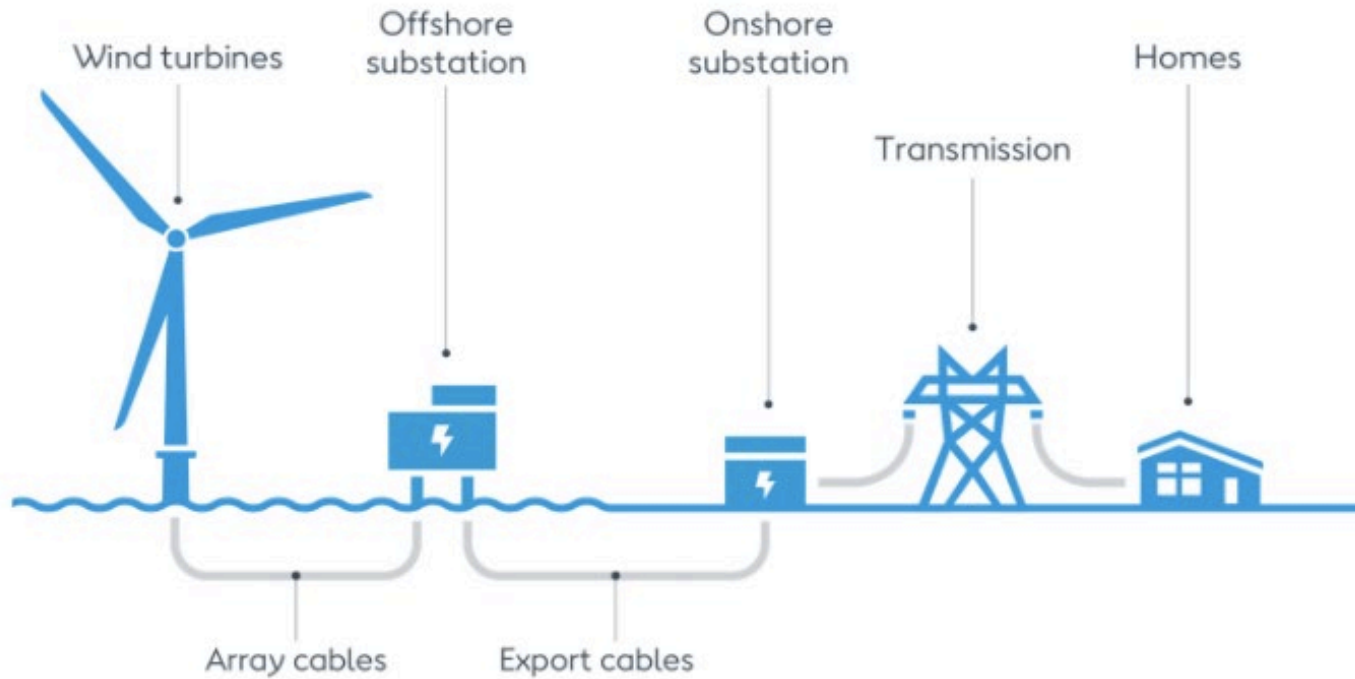


**Currently operating: 42 MW**

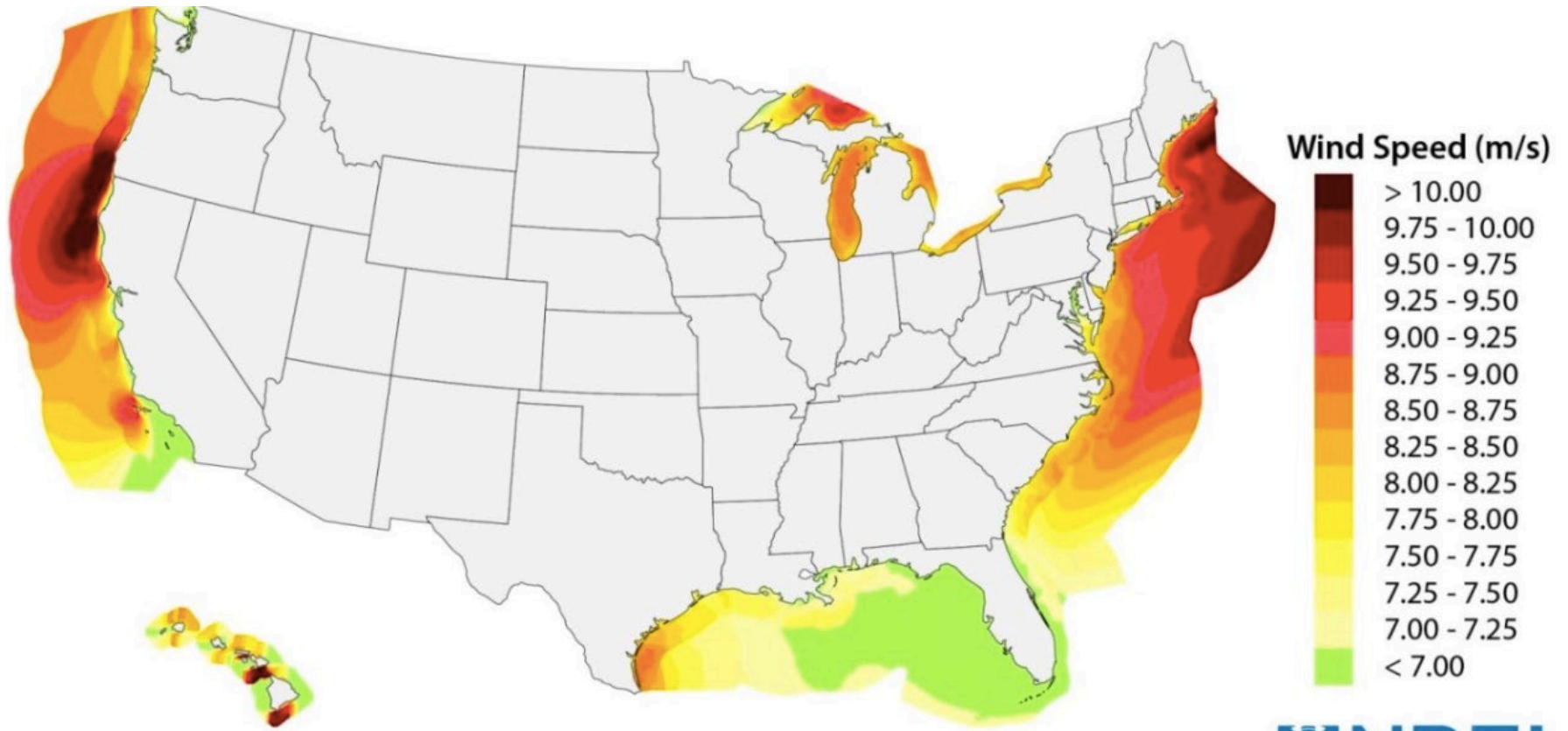
- Block Island Wind Farm
- Coastal Virginia Project

Source: NREL

# How offshore wind farms work



# Why offshore wind here?



Data Source: AWS Truepower 0-50nm; NREL WIND Toolkit beyond 50nm.

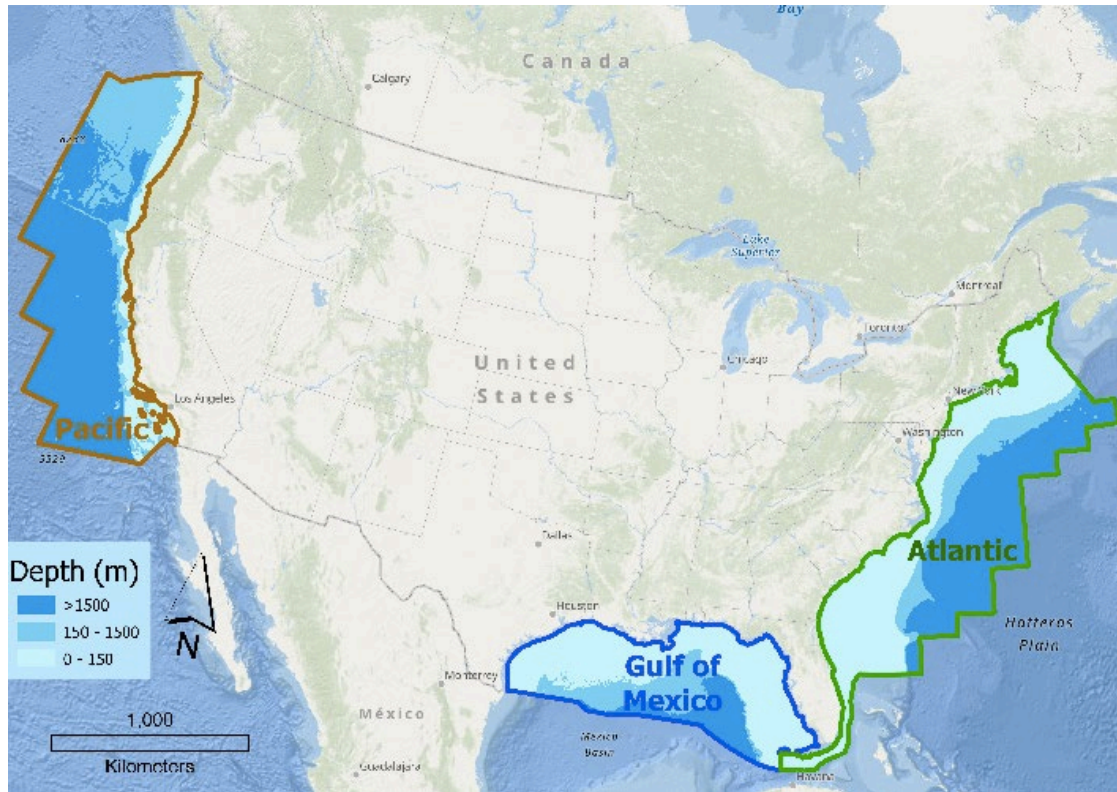
# Why offshore wind here?



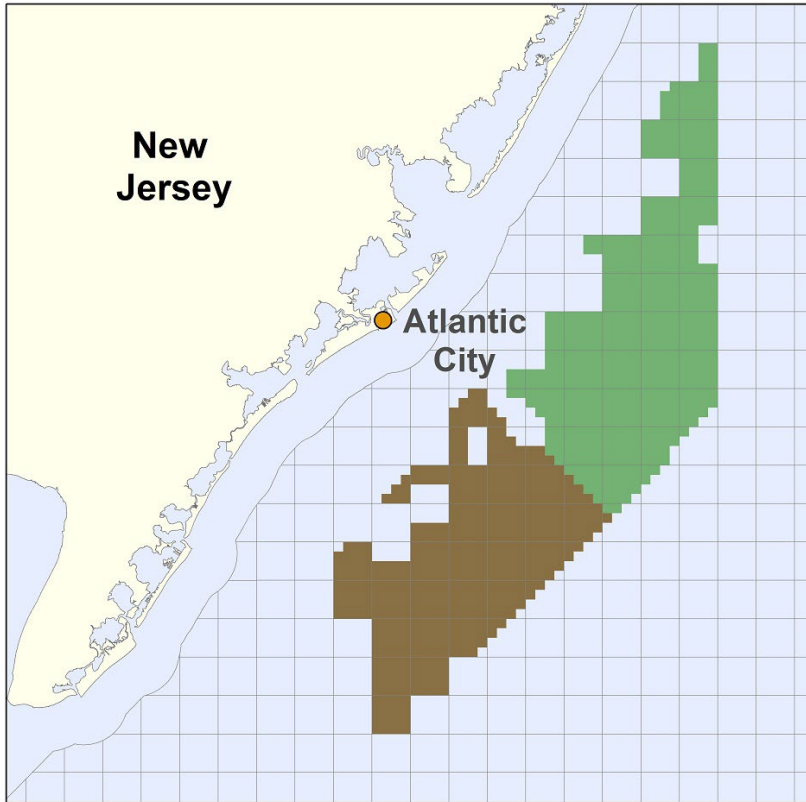
Special Initiative on  
Offshore Wind



# Why offshore wind here?



# New Jersey leases and procurements



**North Lease Area:**

Atlantic Shores

**South Lease Area:**

Ørsted

**New Jersey State Goal:**

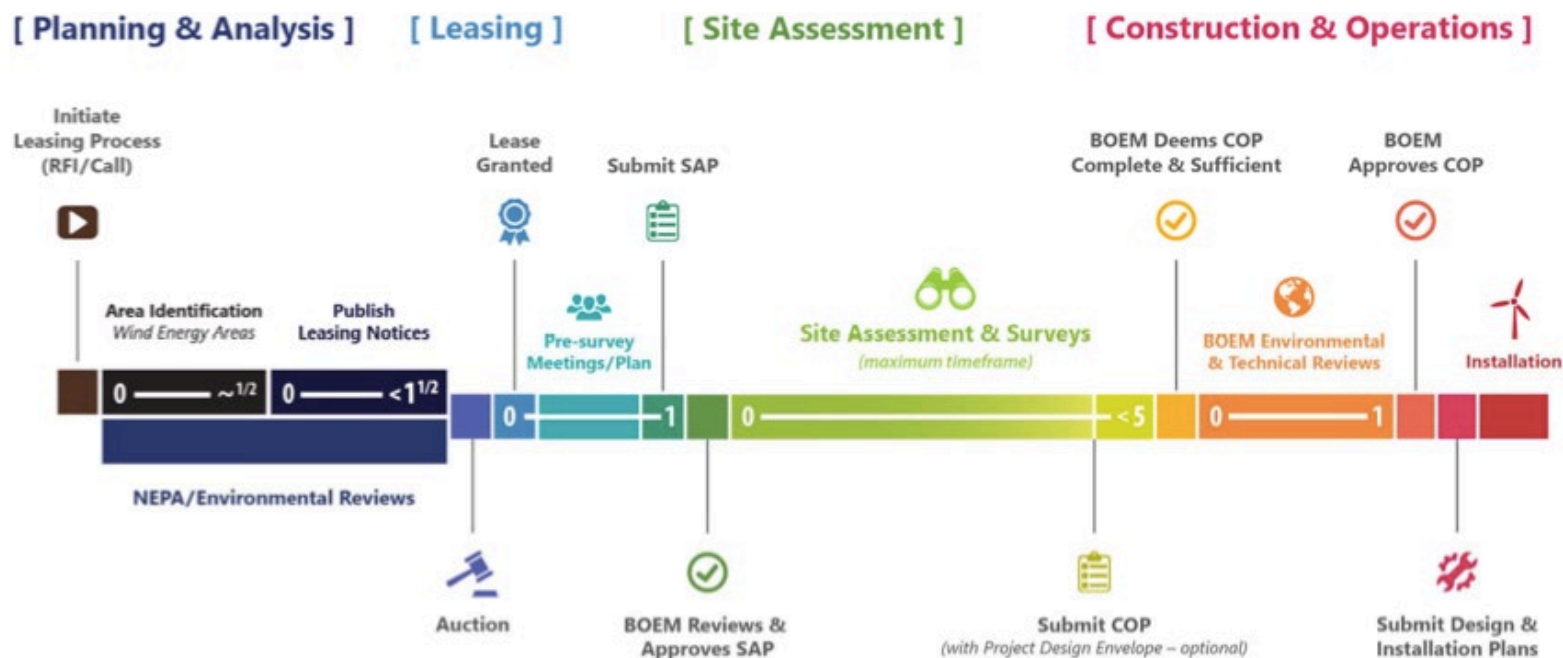
11G by 2040

**Procurement awards to date:**

Over 3.7G



# Offshore wind: regulations and permitting



Source: BOEM

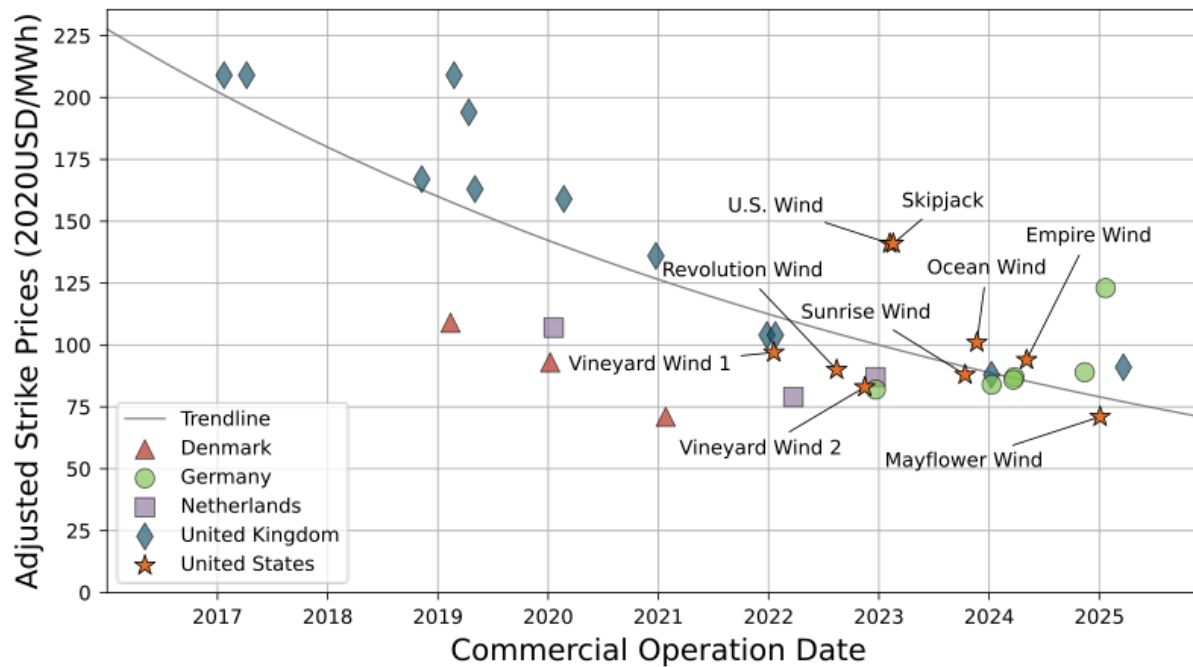
## Opportunities

- Economic development
- Environmental benefits
- Climate change mitigation
- Reliable energy supply

## Challenges

- Interconnection
- Stakeholder concerns
- Supply chain constraints and costs

# The falling cost of offshore wind



Source: NREL

# Why the cost of offshore wind is falling



- Costs have dropped over 60% in the last five years in Europe
- Technology development, including larger turbines
- Experienced supply chain, including specialized vessels and handling
- In the US, a project pipeline assuring payoff of supply chain investments





- Job creation, through the development and construction and then operation of the wind farm system itself (turbines, foundations, cables, substations), but also:
  - Manufacturing facilities
  - Ports
  - Vessels
- SLOW's study: \$109 billion revenue opportunity to businesses in the offshore wind power supply chain by 2030
- American Wind Energy Association's study in 2020: 83,000 jobs by 2030

# New Jersey's ports are perfect for offshore wind



Public and private sector spending that will propel New Jersey forward as a regional hub for offshore wind.

# Port of Paulsboro



# New Jersey Wind Port, Salem County



The nation's first purpose-built offshore wind marshaling port, furthering New Jersey's position as a hub for the U.S. offshore wind industry.



- Technical
- Environmental
- Social
- Economic





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Offshore Wind



**WE NEED  
YOU**



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Offshore Wind

**Kris Ohleth**

Director

[Kris@OffshoreWindPower.org](mailto:Kris@OffshoreWindPower.org)

(201) 850-3690

## World Café Overview

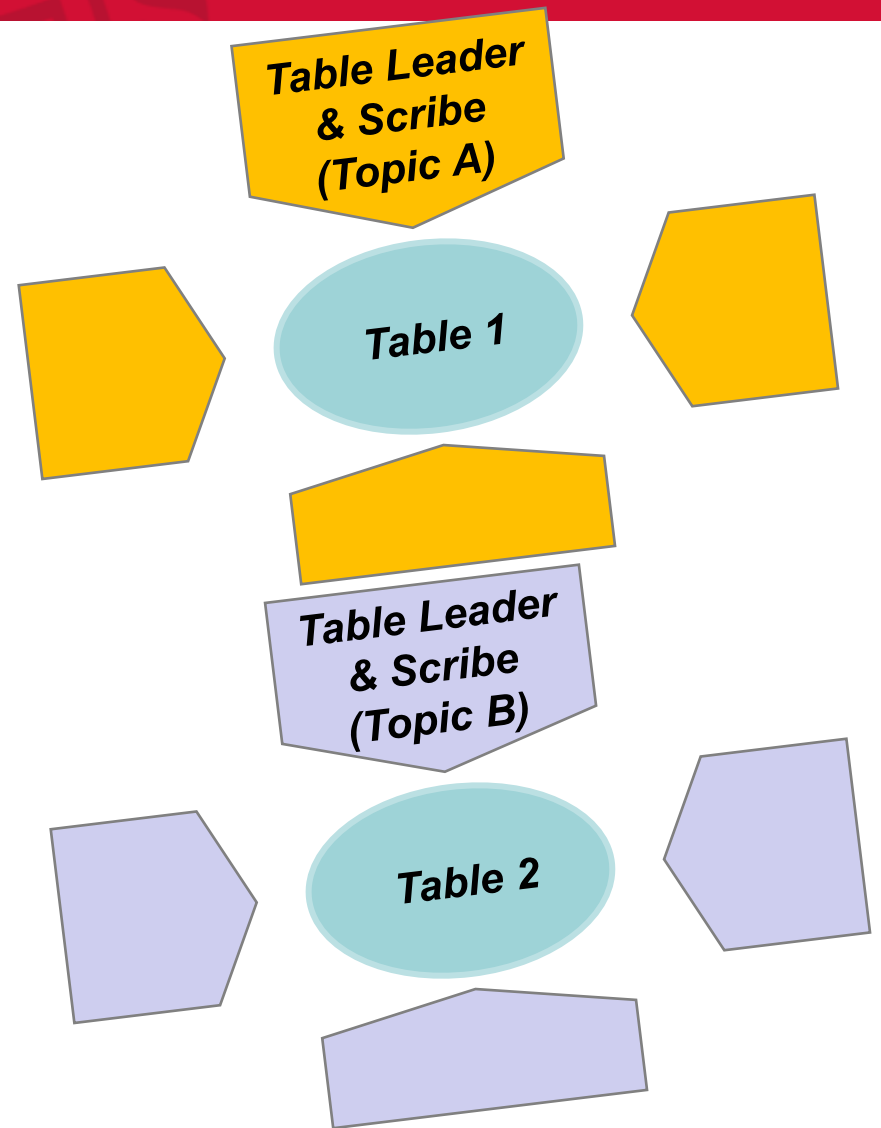
**Wade Trappe**, Professor and  
Associate Dean for Academic  
Programs, School of Engineering

[trappe@soe.rutgers.edu](mailto:trappe@soe.rutgers.edu)



## World Café

- You probably Googled it... so what is the “World Café?”
  - It is a conversational process to generate ideas through multidisciplinary group discussion
  - The café part: tables provide the ambience of a “café”
- Operationally:
  - The Table Leader and Scribe will move from table to table
  - For each round, the Table Leader will guide the discussion and the Scribe will take notes
  - Each round is 20 minutes



## World Café

- The information that is gathered at the World Café will be compiled into a white paper report after the Symposium
- The Table Leader is critical! This person...
  - Will guide the discussion
  - Pose questions
  - Ensure that new ideas are uncovered
- The Scribe is important too! This person...
  - Will stay with their assigned Table Leader
  - Listen to the table conversation and take notes



# Topic A: Benefits and Risks of Offshore Wind

## *Upsides and downsides associated offshore wind energy (OSW)*

- What are the potential benefits associated with OSW?
  - Energy contributions
  - Environmental
  - Social
  - New spinoff business/industries?
- What are the potential negative aspects associated with OSW?
  - Regularity of energy generation
  - Environmental and ecological
  - Societal and infrastructure
- How do these benefits and risks compare with traditional energy technologies?

## Topic B: Hurdles Facing Offshore Wind

*What are the technical, economic, and social hurdles that OSW faces?*

- What are the technical hurdles?
  - Transmission and energy storage
  - Durability of platforms
- What are the economic hurdles?
  - Investments
  - Pricing structures
- What are the social hurdles?
  - Equity
- Other hurdles? What are various legacy energy technologies that will be impacted by adoption of OSW?
- What pushback can be expected from legacy energy industry?
  - Will we need to offer safeguards to legacy energy to smooth transition and adoption of OSW?
- Can man-made and nature-provided energy co-exist easily on the grid?
- Should legacy and sustainable energy ultimately co-exist?



## **Topic C: Partnerships Needed for Social and Economic Viability of Offshore Wind**

*Partnerships needed for social and economic viability of OSW?*

- What are types of partnerships and agreements are needed in the next 5 to 10 years to grow this new industry?
- Who “needs to talk to” who in order for this to work?
- How do we encourage investment and deployment?
- How do we encourage social buy-in?
- Do we need to create “standards” for OSW?

# Topic D: Offshore Wind Workforce Development

## *Issues surrounding Workforce Development*

- What kinds of job opportunities will OSW generate?
  - Which occupations? What skills are needed for these occupations?
- How prepared are we to train and build a diverse workforce for the workforce for the industry?
  - Are there existing programs in NJ that can help prepare a diverse workforce and advance equity?
  - What is missing from the current workforce development landscape?
- Are there certain models of workforce development that are best suited for the design, construction, operation, and maintenance phases of OSW?
- What types of investments are needed to build these solutions?

## World Café

- Please check your name badge for your table number and assigned room
  - Tables 1, 2, 3, 4 will report to 1<sup>st</sup> Floor Concepts Lab
  - Tables 5, 6, 7, 8 will report to Room 206
  - Tables 9, 10, 11, 12 will report to Room 208
  - Tables 13, 14, 15, 16 will report to Room 402