Emerging New Industries & the Impact on Occ Health: State of the Science

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8:55-9:15am

Disclosures

- None

What's Happening in New England?

Emerging Industries

- Clean energy
  - Wind
  - Solar
  - Geothermal
  - Biofuels
  - Hydropower

Offshore Wind Energy

US has only one offshore wind energy farm, but a $70 billion market is on the way

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Bob Woods

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KEY POINTS

- Offshore wind has the potential to generate more than 2,000 GW of capacity per year — nearly double the nation's current electricity use, according to the DOE.
- GE Renewable Energy recently introduced the Haliade-X 12 MW, an 850-ft-tall turbine with three rotors, each spanning more than 720 ft, that can power up to 16,000 homes.
- Maine is experimenting with floating wind energy tech, which may allow for deepwater projects.
- By one estimate, there will be a $70 billion offshore wind business pipeline in the U.S. by 2030.

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Rhode Island sees offshore wind hub as piece of growing 'blue tech' sector

WRITTEN BY

Lisa Prevost
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Dennis Schroeder / NREL

https://energynews.us/2020/02/07/northeast/rhode-island-sees-offshore-wind-hub-as-piece-of-growing-blue-tech-sector/

Blue Tech

- Blue tech refers to ocean-related innovations, many of which are aimed at the challenges posed by climate change and at improving the health of the seas.

Blue Tech

"Rhode Island is the Ocean State. We believe that our state has claim to the distinction of serving as the center of the blue economy for the U.S. I believe we are en route to in fact serving in that capacity."

-Rhode Island's Secretary of Commerce Stefan Pryor

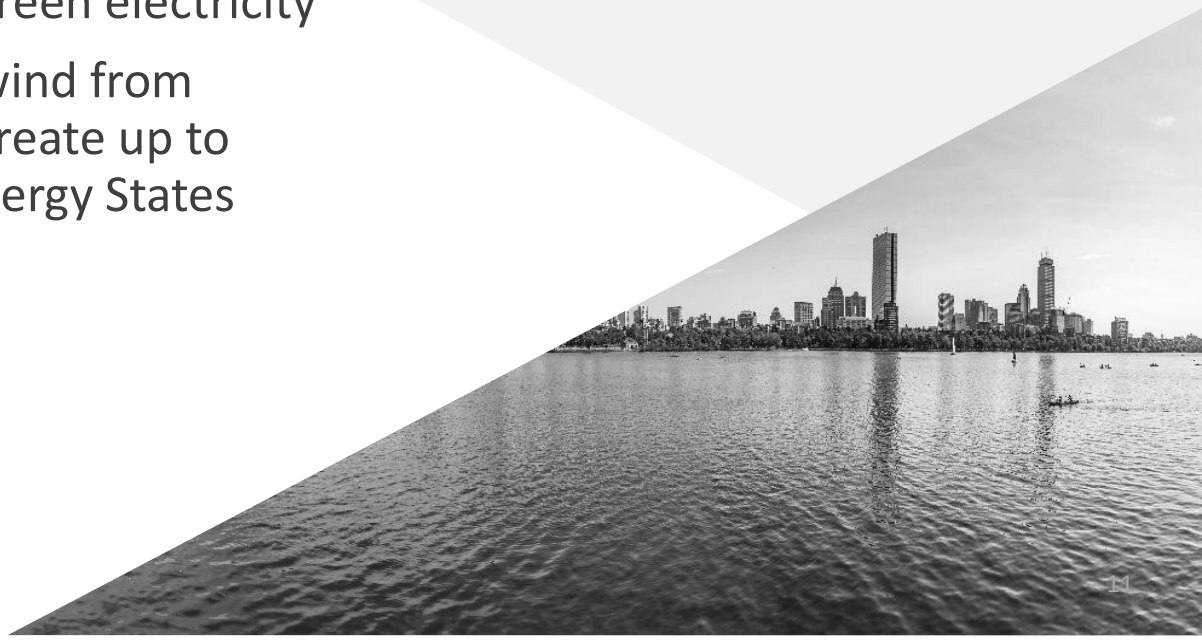
https://energynews.us/2020/02/07/northeast/rhode-island-sees-offshore-wind-hub-as-piece-of-growing-blue-tech-sector/

2022

Work Related Injuries Workshop

Wind Energy Revolution

- States along the Eastern Seaboard (including New England) are poised to join a renewable-energy revolution that can provide clean, green electricity
- Developing 8,000 MW of offshore wind from Maryland to Maine by 2030 could create up to 36,000 full-time U.S. jobs. (Clean Energy States Alliance)



https://www.cnbc.com/2019/12/13/us-has-only-one-offshore-wind-farm-but-thats-about-to-change.html

New England Potential

- Northeast states hold the most offshore wind potential.
- A 2017 report from the DOE's National Renewable Energy Laboratory estimated that by 2027, New England could reach 144 GW of offshore wind capacity, with Maine and Massachusetts leading the way at 65 GW and 55 GW, respectively.

https://www.cnbc.com/2019/12/13/us-has-only-one-offshore-wind-farm-but-thats-about-to-change.html

Past Mass Experience

- Massachusetts has come a long way since the debacle known as “Cape Wind”
- Original proposal: erect 130 turbines in Nantucket Sound, within eyeshot of Cape Cod, Nantucket and Martha’s Vineyard
- The project was ultimately scuttled in 2017 following a series of legal and financial setbacks and “not-in-my-backyard” protests from wealthy homeowners

https://www.cnbc.com/2019/12/13/us-has-only-one-offshore-wind-farm-but-thats-about-to-change.html

Next in Wind Energy in Mass

- Current projects in the Bay State by Vineyard Wind (partnership of Copenhagen Infrastructure Partners and Avangrid Renewables)
- Based in New Bedford, Massachusetts.
- Vineyard Wind 1: original plan to set up 84 turbines off the coast of Martha's Vineyard by 2022
- Aug 2019: Department of Interior's Bureau of Ocean Energy Management slammed the brakes on the $2.8 billion project – citing "cumulative impacts"

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Occupational Hazards with Wind Energy

Occupational Hazards

- Many incidents in this sector involve:
  - Falls
  - Severe burns from electrical shocks and arc flashes/fires
  - Crush injuries
  - Fatal electrocution
  - Offshore: weather, marine conditions

https://www.osha.gov/dep/greenjobs/windenergy.html

OSHA Regs

- Wind farm employers are covered by the *Electric power generation, transmission, and distribution* standards and, therefore, are required to implement the safe work practices and worker training requirements of OSHA's Electric Power Generation, Transmission and Distribution standard, 29 CFR 1910.269.

https://www.osha.gov/dep/greenjobs/windenergy_electrical.html

Future of Offshore Wind Energy

- Lot of positives: generate more green jobs in New England, reduce dependency on fossil fuels, reduce carbon emissions
- Negatives: Have to take into account environmental impact assessments: how will these turbines impact marine life, people living along the coasts

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Additional Resources

- Work Hazards and Safety Practices in the Electric Power Industry
- OSHA Assistance for the Electric Power Generation, Transmission, and Distribution Industry
- NIOSH's Electical Safety Topics Page
- National Academies Publication "*Worker Health and Safety on Offshore Wind Farms*"

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THANK YOU!

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