



RUTGERS

Exploring Workforce Opportunities in the Emerging Offshore Wind Industry

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Credit: Lissa Eng/BOEM

Economic Development Opportunities

- Gov Murphy – 100% Clean Energy by 2035
- Job creation
 - Local jobs in the areas most impacted by offshore wind energy
- Supply chain development – new businesses
- Revitalize working waterfronts
 - Vessels to support staging, installation and surveys
- Decarbonize the U.S. electric grid
 - Repurpose oil and gas manufacturing facilities

Source: NREL (2022), U.S. Offshore Wind Workforce Assessment

Investments in Manufacturing Facilities Needed To Establish a Supply Chain by 2030

 **\$3.5 billion**
Wind turbines

 **\$1.3 billion**
Substructures

 **\$1.8 billion**
Electrical components

 **\$3.5 billion**
Installation vessels

 **\$8 billion**
Ports

 **\$3 billion**
Steel plates

\$1.3 billion
Other components

Career Opportunities

- Offshore wind energy projects are complex and require an extensive, varied, and well-trained workforce.
- To meet the target of 30 GW by 2030, average annual employment levels are estimated at 58,000/year (for 100%)



Source: NREL (2022), U.S. Offshore Wind Workforce Assessment

Career Opportunities

- **Development** – site assessment, plant design, permitting, financing, project management
- **Manufacturing and supply chain** – engineering and design, production of materials
- **Ports and staging** – terminal crews, logistics, port management
- **Maritime construction** – marine crew, engineers, installation crews
- **Operations and maintenance** – wind technicians, plant managers
- **Environmental and Marine Science** – fisheries monitoring, ocean modeling
- ***NREL identified 113 distinct roles in the workforce!***

Career Opportunities

- Manufacturing and supply chain will be the largest sector
- ***NREL identified 44 training and education programs, but more are needed!***
 - Skilled workers needed from trade schools through university
 - Leverage workers' transferable skills

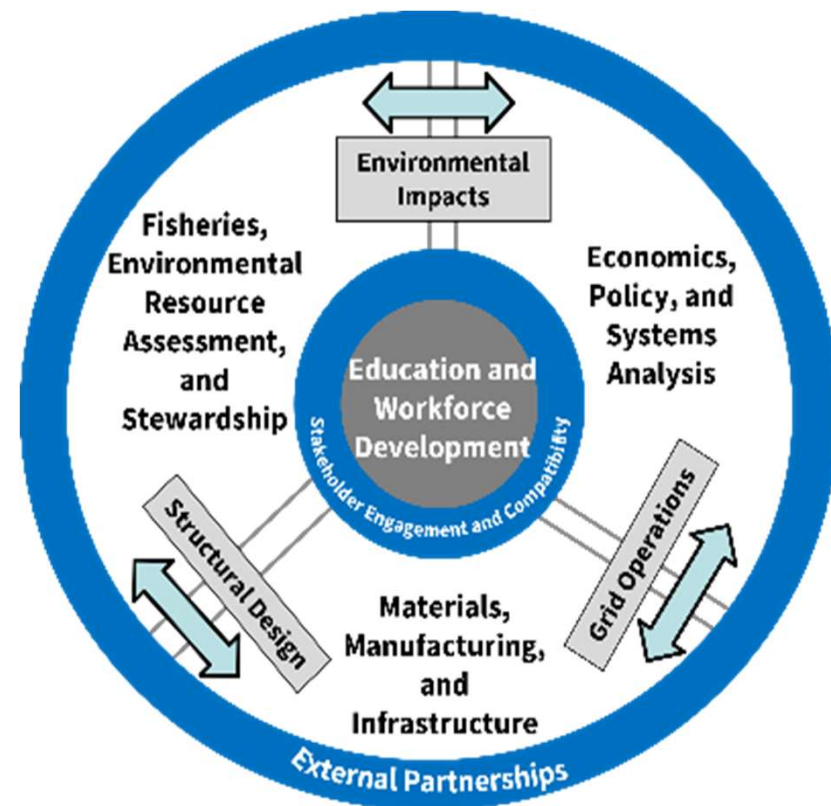


Source: NREL (2022), U.S. Offshore Wind Workforce Assessment

Rutgers Offshore Wind Energy Collaborative

Consists of over 50 faculty from across Rutgers New Brunswick, Newark, and Camden!

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NJ-EDA Wind Institute

University Initiative Program

Goal: Build long-term, industry valued expertise and support offshore wind research and learning, develop wind-relevant curriculum, and create partnerships to support pathways to employment in the offshore wind industry.

PI – Peggy Brennan-Tonetta - NJAES

Co-PI- Josh Kohut – DMCS

Co-PI – Wade Trappe, SOE

1. Educational Modules
2. Community Events and Shared Learning
3. Offshore Wind Energy Symposium



Credit: Jeffrey Arban/Rutgers University

Educational Modules

- 11 faculty involved from engineering, environmental, and social science disciplines
- 25 modules developed, topics include:
 - Wind Turbine Modeling and Design Optimization
 - Offshore Wind and Fisheries
 - Life Cycle Assessment of Offshore Wind Energy
 - Economics of Wind Generation/ Supply Chain
 - Psychological Dimensions of OSW Development
- Spring '23 – Pilot, Fall '23 – Full Launch
- Certificate/badging program being considered



Photo by Dennis Schroeder, NREL 40472

Offshore Wind Energy Symposium

- Held on January 12, 2023 at Rutgers-New Brunswick
- Over 140 attendees from academia, industry, non-profits, and government
- Keynote – Kris Oleth, Director, Special Initiative on Offshore Wind
- 22 lightning talks on offshore wind research at Rutgers
- White paper outlining recommendations for policy and academia is underway



Credit: Jeffrey Arban/Rutgers University

Community Events and Shared Learning

Engage and connect with local communities and businesses on offshore wind energy development; careers in Offshore Wind Energy, environmental health, sustainability; training needs; networking

1. Rutgers-Camden, in-person – May 2
2. Rutgers-Newark, virtual – Fall 2023
3. Rutgers Environmental and Occupational Health Sciences Institute (New Brunswick), in-person – June 20



Credit: Jeffrey Arban/Rutgers University



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