Exploring Workforce Opportunities in the Emerging Offshore Wind Industry

Peggy Brennan-Tonetta, Ph.D.
Director, Office of Resource and Economic Development
Senior Associate Director, New Jersey Agricultural Experiment Station
mbrennan@rutgers.edu
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 water fronts
  - 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
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!*

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

OSW.rutgers.edu
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
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
Thank you!

OSW.Rutgers.edu