

Charting Your Career in Offshore Wind & Renewable Energy

Opportunities in a Growing Industry

New Jersey's offshore wind industry is here and growing with demand for employees in New Jersey and beyond. With training, apprenticeships, and education, you can position yourself for success in offshore wind and other clean energy industries.

Why Work in Offshore Wind and Clean Energy?

Offshore wind offers tremendous opportunities for employment in New Jersey and nationally. As the world shifts toward cleaner, more sustainable energy, the demand for renewable energy solutions like offshore wind continues to grow. Although there are challenges, clean energy continues to expand rapidly.

The Deloitte Research Center for Energy & Industrials reported that clean energy jobs made up over half of all new jobs in the energy sector in 2023. Forbes states these jobs pay 21% more than the average salary. Wind turbine technician is the fastest-growing job in the U.S., reflecting the demand for skilled professionals.

A Career in Clean Energy: More Than Just a Job

A career in offshore wind is a journey of exciting opportunities and growth. Whether just starting your career, transitioning from another field, or advancing your existing skills, the offshore wind industry offers paths for everyone.

Offshore wind development spans four key phases — **Planning and Development, Manufacturing and Assembly, Construction and Installation, and Operations and Maintenance** — each offering diverse career opportunities.

About This Brochure

This brochure can help you match your skills with job types, identify areas for growth, and connect to resources to build your career in offshore wind and other clean energy industries.

New Jersey's expanding offshore wind industry offers countless opportunities to build a rewarding career in this high-growth sector

Offshore wind careers offer a variety of entry points, including for high school graduates, military veterans, experienced tradespeople, and college students—**whatever your background, there's a way in.**



Skills Self-Assessment

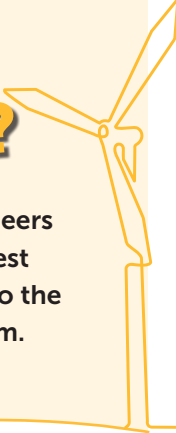
Instructions

1. **Self-Assessment** – Rate yourself in each skill from 1 (weak) to 5 (strong).
2. **Skill Scoring** – Check off your top-rated skills (3s, 4s, or 5s) in each skill group.
3. **Job Matching** – Compare your top-rated skills to the job skill requirements listed in the jobs list.
4. **Gap Analysis** – Identify areas where you need improvement.
5. **Training Plan** – Develop a plan to strengthen weak areas through targeted training or certification.

DID YOU KNOW?

Renewable energy engineers are one of the top fastest growing jobs according to the World Economic Forum.

(Future of Jobs Report 2025)



Weak 1 2 3 4 5 Strong



Cognitive & Analytical Skills

Check here if you rated 3, 4, or 5 for Cognitive and Analytical Skills: ☐

- Do you regularly seek out new information to improve your skills or knowledge? (Active Learning)
- Can you analyze a complex situation and identify effective solutions? (Complex Problem Solving)
- Do you often evaluate information carefully before deciding? (Critical Thinking)
- Can you analyze how a system works and identify possible improvements? (Systems Analysis)
- Can you evaluate a system's performance and identify needed changes? (Systems Evaluation)



Technical & Mechanical Skills

Check here if you rated 3, 4, or 5 for Technical and Mechanical Skills: ☐

- Can you identify and perform basic maintenance tasks for equipment you use? (Equipment Maintenance)
- Are you comfortable choosing the right tools or equipment for a task? (Equipment Selection)
- Can you confidently operate machinery or technical systems? (Operation and Control)
- Can you diagnose and fix basic problems with equipment or systems? (Repairing)
- Can you identify and fix problems when something isn't working correctly? (Troubleshooting)



Weak 1 2 3 4 5 Strong



Communication & Interpersonal Skills

Check here if you rated 3, 4, or 5 for Communication and Interpersonal Skills: ☐

- Do you pay close attention to what others are saying and respond thoughtfully? (Active Listening)
- Do you feel confident explaining how to do something to others? (Instruction)
- Are you comfortable convincing others to see things your way? (Persuasion)
- Can you interpret others' emotions through words or body language? (Social Perceptiveness)
- Do you feel comfortable speaking in front of others or explaining your ideas clearly? (Speaking)
- Do you actively look for ways to help others? (Service Orientation)



Decision-Making & Judgment Skills

Check here if you rated 3, 4, or 5 for Decision-Making and Judgment Skills: ☐

- Do you carefully weigh the pros and cons before deciding? (Judgment and Decision Making)
- Can you break down a process and identify ways to improve it? (Operations Analysis)
- Do you notice when something is not working properly during a task? (Operations Monitoring)
- Do you routinely check the quality of your work or the work of others? (Quality Control Analysis)



Learning & Cognitive Skills

Check here if you rated 3, 4, or 5 for Learning and Cognitive Skills: ☐

- Are you comfortable working with numbers and performing basic calculations? (Mathematics)
- Do you understand written instructions and information easily? (Reading Comprehension)
- Do you apply scientific methods or principles in your work or problem-solving? (Science)
- Do you feel confident writing reports, emails, or other documents clearly and effectively? (Writing)
- Are you comfortable writing or modifying code to accomplish a specific task? (Programming)



Organizational & Time Management Skills

Check here if you rated 3, 4, or 5 for Learning and Cognitive Skills: ☐

- Do you regularly check your progress and adjust your approach if necessary? (Monitoring)
- Do you effectively manage your time to meet deadlines and stay organized? (Time Management)
- Are you able to adjust your actions based on the actions of others? (Coordination)

Job Matching

THE BEST PART?

Many of these roles do not require a four-year degree, and you can gain hands-on training and certifications to get started.

Phases

Offshore wind development consists of four main stages:

- Planning & Development
- Manufacturing & Assembly
- Construction & Installation
- Operations & Maintenance

Each phase offers exciting career opportunities in varied settings and includes jobs from entry-level to advanced career professionals. *Here are some of the key areas where you can get involved:*



PHASE 1

The **Planning and Development** phase requires professionals like engineers, analysts, scientists, administrative staff, and legal experts to get projects off the ground.



PHASE 2

Manufacturing and Assembly needs machine operators, assemblers, engineers, and logistics professionals to build the necessary components for offshore wind turbines.



PHASE 3

In **Construction and Installation**, construction workers, machine operators, and maintenance professionals are critical to bringing offshore wind turbines to life.



PHASE 4

The **Operations and Maintenance** phase requires ongoing expertise from engineers, technicians, deckhands, and scientists to ensure turbines continue to operate efficiently.

Now that you know which are your strongest skills, you can compare them to the skills that are needed for different jobs. Simply find the skill name below the job titles. For each group of jobs, you can also see how to go into more experienced and advanced job roles as you gain more experience.

Job Matching

*Career path illustrations encompass broad categories of jobs. Experienced and advanced titles may vary based on specialization and may depend on training or education.



WORKING the WINDS NJ



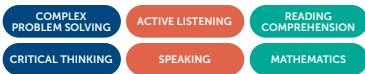
ENGINEER

PHASES 1,2,3,4

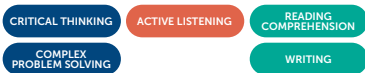
Aerospace Engineer



Civil Engineer



Electrical Engineer



Electronics Engineer, Except Computer



Environmental Engineer



Engineer, All Other



Health & Safety Engineer, Except Mining Safety and Inspectors



Industrial Engineer



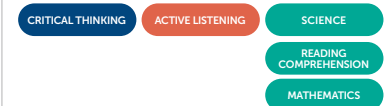
Marine Engineer & Naval Architect



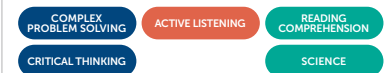
Mining & Geological Engineer, Including Mining Safety Engineer



Mechanical Engineer



Materials Engineer



ENTRY-LEVEL

Career Path for Engineer

EXPERIENCED

Lead Engineer

ADVANCED

Director



ENGINEER TECH

PHASES 2,3,4

Calibration Technologists and Technicians & Engineering Technologists & Technicians, Except Drafters, All Other



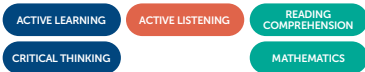
Drafters, All Other



Electrical & Electronic Engineering Technologists & Technicians



Mechanical Drafters



Mechanical Engineering Technologists & Technicians



Surveying and Mapping Technicians



ENTRY-LEVEL

Career Path for Engineering Tech leads to Engineer

EXPERIENCED

Lead Engineer leads to Supervisor

ADVANCED

Director



MAINTENANCE WORKER

PHASES 1,2,3,4

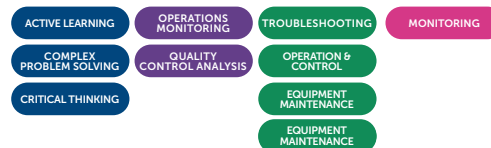
Electrical Power-Line Installer & Repairer



Helpers-Installation, Maintenance, and Repair Worker



Maintenance & Repair Workers, General



ENTRY-LEVEL

Career Path for Maintenance Worker

EXPERIENCED

Electrician leads to General and Operations Manager or Supervisor

ADVANCED

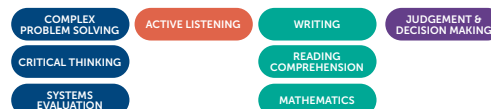
Electrician leads to Master Electrician; Others lead to Director



OPERATIONS RESEARCH ANALYST

PHASE 1

Maintenance & Repair Workers, General



Public Relations Specialist



ENTRY-LEVEL

Career Path for Operations Research Analyst

EXPERIENCED

Supervisor

ADVANCED

Director

Job Matching

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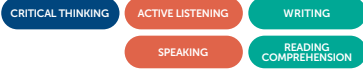


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PARALEGAL & LEGAL ASSISTANT

PHASE 1

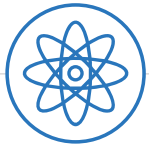


ENTRY-LEVEL

Career Path for Paralegal & Legal Assistant

EXPERIENCED

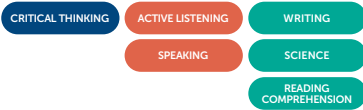
Lawyer



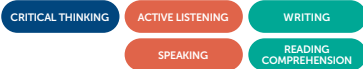
SCIENTIST

PHASE 1

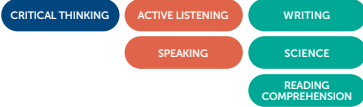
Atmospheric & Space Scientist



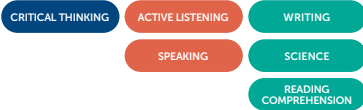
Anthropologist & Archeologist



Environmental Science & Protection Technician, Including Health



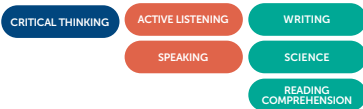
Environmental Scientist & Specialist, Including Health



Geoscientist, Except Hydrologist & Geographer



Zoologist & Wildlife Biologist



ENTRY-LEVEL

Career Path for Scientist

EXPERIENCED

Supervisor,
Lead Scientist

ADVANCED

Director



COMPUTER OCCUPATIONS

PHASE 1

Computer Occupations



Computer Numerically Controlled Tool Programmer



ENTRY-LEVEL

Career Path for Computer Occupations

EXPERIENCED

Supervisor

ADVANCED

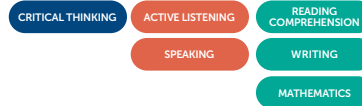
Director



ADMINISTRATIVE ASSISTANT

PHASES 1,2

Bookkeeping, Accounting, & Auditing Clerks



Human Resources Assistant, Except Payroll & Timekeeping



Office Clerk



Secretaries & Administrative Assistants, Except Legal, Medical, & Executive



ENTRY-LEVEL

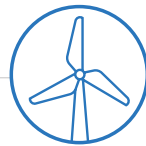
Career Path for
Administrative Assistant

EXPERIENCED

General and Operations
Manager, Supervisor

ADVANCED

Director



WIND TURBINE SERVICE TECHNICIAN

PHASES 2,3,4



ENTRY-LEVEL

Career Path for Wind Turbine
Technician leads to Machine
and Systems Operator

EXPERIENCED

Electrician leads to General
and Operations Manager or
Supervisor

ADVANCED

Electrician Leads to
Master Electrician,
Others lead to
Director

DID YOU KNOW?

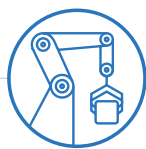
New Jersey is home to over 100 training opportunities for careers in offshore wind. These programs offer hands-on learning and real-world experience to prepare you for success. See the resource section for more information.

Job Matching

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WORKING the WINDS NJ



MACHINE & SYSTEMS OPERATOR

PHASES 2,3,4

Chemical Equipment Operator & Tender



Drilling and Boring Machine Tool Setter, Operator, and Tender, Metal and Plastic



Excavating & Loading Machine & Dragline Operator, Surface Mining



Metal-Refining Furnace Operator and Tender



Rigger



Crane & Tower Operator



Hoist and Winch Operator



Stationary Engineer & Boiler Operator



Cutting, Punching, & Press Machine Setter, Operator, & Tender, Metal & Plastic



Power Plant Operator



Separating, Filtering, Clarifying, Precipitating, and Still Machine Setter, Operator, and Tender



Crushing, Grinding, & Polishing Machine Setter, Operator, & Tender



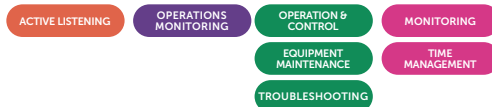
Molding, Coremaking, & Casting Machine Setter, Operator, & Tenders, Metal & Plastic



Plating Machine Setter, Operator, & Tender, Metal & Plastic



Operating Engineer & Other Construction Equipment Operator



Coating, Painting, & Spraying Machine Setter, Operator, and Tender



Continuous Mining Machine Operator



Plant and System Operator



ENTRY-LEVEL

Career Path for Machine & Systems Operator

EXPERIENCED

Electrician

ADVANCED

Master Electrician



SALES REPRESENTATIVE

PHASE 2

Sales Representative, Wholesale & Manufacturing



ENTRY-LEVEL

Career Path for Sales Representative

EXPERIENCED

Supervisor

ADVANCED

Director



DECKHAND

PHASES 3,4

Captains, Mates, & Pilots of Water Vessels



Sailors & Marine Oilers



Commercial Pilots



ENTRY-LEVEL

Career Path for Deckhand

EXPERIENCED

Supervisor,
Ship Engineer

ADVANCED

Director

Job Matching

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WORKING the WINDS NJ



MATERIAL TRANSPORTATION WORKER

PHASES 2,3,4

Laborer and Freight, Stock, & Material Mover, Hand



Inspector, Tester, Sorter, Sampler, & Weigher



Shipping, Receiving, & Inventory Clerk



Commercial Diver



Material Moving Worker, All other



Stocker and Order Filler



Industrial Truck & Tractor Operator



ENTRY-LEVEL

Career Path for Material Transportation Worker

EXPERIENCED

General & Operations Manager, Supervisor

ADVANCED

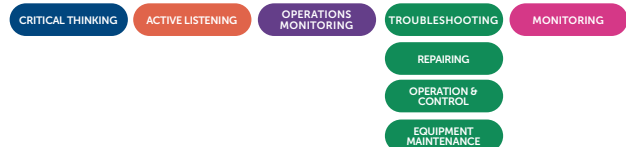
Director



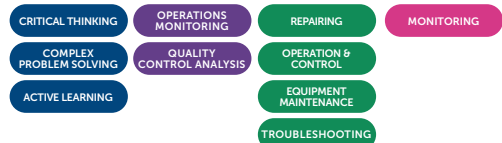
CONSTRUCTION WORKER, MAINTENANCE WORKER

PHASES 3,4

Helper-Installation, Maintenance, & Repair Worker



Sales Representative, Wholesale & Manufacturing



Bus and Truck Mechanic & Diesel Engine Specialist



Electrical Power-Line Installer & Repairer



Elevator & Escalator Installers & Repairers



Industrial Machinery Mechanic



ENTRY-LEVEL

Career Path for Maintenance Worker

EXPERIENCED

Construction Manager

ADVANCED

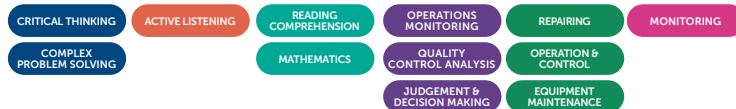
Director



ASSEMBLER & FABRICATOR

PHASE 2

Metal Worker & Plastic Worker, All Other



Production Worker, All Other



Engine & Other Machine Assembler



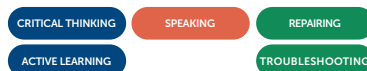
Team Assembler



Electrical, Electronic, & Electromechanical Assembler, Except Coil Winders, Tapers, & Finishers



Assembler & Fabricator, All Other



Structural Metal Fabricator & Fitter



Welder, Cutter, Solderer, & Brazier



ENTRY-LEVEL

Career Path for Assembler & Fabricator

EXPERIENCED

Production Manager, Supervisor

ADVANCED

Director



Growth in New Jersey's Clean Energy Industry

Wind and solar energy are currently leading the way as the most promising sources of renewable energy. Other growing sectors, such as hydropower, geothermal, biomass, and ocean energy, are also contributing to this shift. As clean energy grows, energy storage technologies like pumped storage hydropower, hydrogen conversion, flywheels, and lithium-ion batteries will become increasingly important in securing the future of energy.

From foundational training programs to hands-on apprenticeships, and certifications to college degrees—there are numerous ways to build your skill set and advance in the offshore wind industry.

Training and Certification Opportunities

Did You Know...?

- New Jersey offers opportunities for education, training, and apprenticeships at over 100 different schools and organizations for careers in offshore wind and other renewable energy sectors.
- Pre-employment training programs are available to help build or improve basic skills for entry into the industry.
- Paid apprenticeship programs allow you to earn while you learn, offering a chance to gain hands-on experience and start your career in offshore wind right away.

NJ & NY Training Opportunities

Visit www.offshorewindtraining.org for additional resources and career guidance.

Resources

New Jersey's public colleges and universities offer two-year, four-year, and graduate degrees in fields that are in high demand in offshore wind and renewable energy. There are also numerous technical schools and apprenticeship programs available for those seeking practical, on-the-job training.

<https://www.nj.gov/highereducation/colleges>

<https://www.njcommunitycolleges.org>

The NJ Offshore Wind Hub website provides information, news, and resources for the offshore wind industry.
www.nj.gov/offshorewind

READY TO TAKE THE NEXT STEP?

Explore training opportunities, apprenticeship programs, and resources to launch your career in offshore wind today.

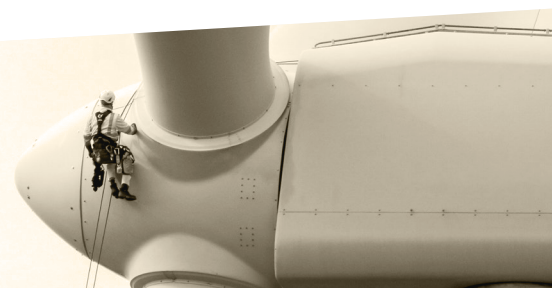


Chart Your Course

Power Your Future



WORKING the **WINDS NJ**

Made possible through a grant award from
the Ocean Wind Pro-NJ Grantor Trust