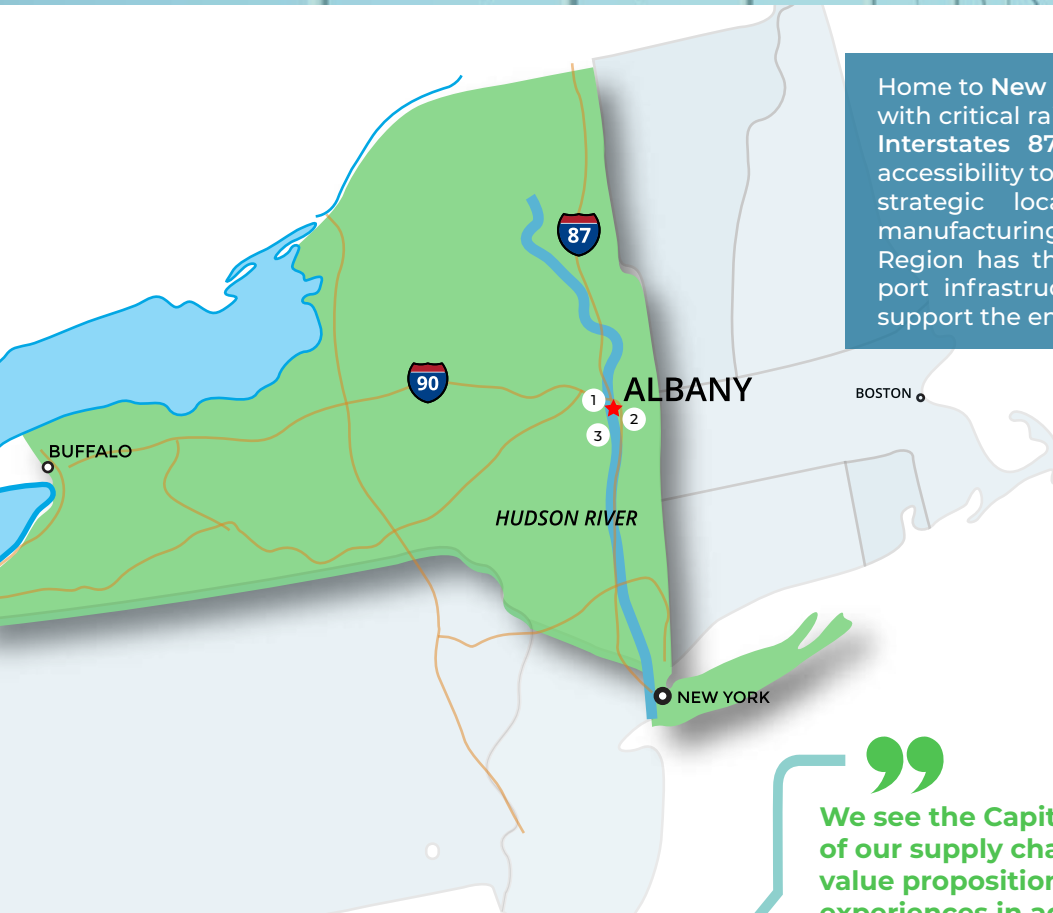


OFFSHORE WIND OPPORTUNITIES

in New York's Capital Region



Home to New York's northern-most, year round seaport with critical rail connections and located at the nexus of Interstates 87 and 90, the Capital Region provides accessibility to multi-state supply chains, and stands as a strategic location for offshore wind component manufacturing. Anchored by Albany, New York's Capital Region has the manufacturing capability, R&D assets, port infrastructure, adaptable workforce and sites to support the emerging offshore wind industry.



Hudson River
 Navigable Depth: 9.8 m (32 ft)
 Limiting Air Draft: 40.8 m (134 ft) [Mid-Hudson Bridge]
 Distance to NY WEA: 194 miles



Albany to Boston, MA: ~ 170 miles
 Albany to New York, NY: ~ 150 miles

PORTS & SITES

“
 We see the Capital Region as a critical element of our supply chain... the region has an excellent value proposition to the industry with incredible experiences in advanced manufacturing, research and development, and on top of that a very experienced and skilled workforce.
 ”
 - Grant Van Wyngaarden,
 Sr. Supply Chain Development Manager, Orsted/Eversource

Port of Albany

- ▶ Developing the Nation's First Offshore Wind Tower Manufacturer [Equinor, Marmen/Welcon]
- ▶ Facilities in Albany, Rensselaer & Bethlehem
- ▶ 400 Acres of Land & Deep-Water Facilities
- ▶ 4,200' Wharf (Albany)
- ▶ 1,200' Wharf (Rensselaer)
- ▶ 500' Wharf (in design, Bethlehem)
- ▶ 32' Draft
- ▶ Heavy Lift Capabilities 1,000 and 2,000 PSF and 6,000 PSF (in design)

NYS Offshore Wind Port

- ▶ Greenfield Development Opportunity +/- 90 Acres
- ▶ Located on the Hudson River in proximity to other Ports
- ▶ 3,900' Riverfront
- ▶ 31' Draft
- ▶ Electric & Gas
- ▶ Rail Siding & Spur



1 Port of Albany

Port of Coeymans

- ▶ 450 Acre Marine Terminal
- ▶ 300' Inlet Channel
- ▶ 30' Draft
- ▶ Dock Capability for Ships up to 750'
- ▶ Heavy Lift Capabilities 4,000 PSF



3 Port of Coeymans

COMPETITIVE ENVIRONMENT

NYS Average Industrial Electric Rate:
5.61 cents/kWh*

- ▶ Incentives may be available to lower electric costs
- ▶ **Top 10 lowest** industrial electric cost in U.S.

Tax Benefits for Qualified NYS Manufacturers Include:

- ▶ No state corporate income tax
- ▶ No inventory/real personal property tax
- ▶ No sales tax on production or R&D equipment

11,726 Capital Region Jobs in Industries Relevant to OSW Components (2020)

Competitive Wages:
(median hourly earnings)

- ▶ Welders, Cutters, Solderers & Brazers: **\$22.28**
- ▶ Electricians: **\$29.69**

* Source EIA

RESEARCH & TALENT PIPELINE ASSETS

With 24 higher education institutions, the region is a major talent generator

Center for Future Energy Systems, Rensselaer Polytechnic Institute - Troy

- ▶ OSW R&D Projects with TenneT, NYSERDA, GE, National Offshore Wind Research and Development Consortium, Electric Reliability Council of Texas
 - ▶ HVDC transmission system for OSW
 - ▶ High-fidelity simulators of quad-rotor wind turbine dynamics, aerodynamics, acoustics and failure modes
 - ▶ Grid integration of large-scale wind

Atmospheric Sciences Research Center, University of Albany - Albany

- ▶ OSW-related R&D funded by NYSERDA and US DOE
 - ▶ Outage prediction modeling
 - ▶ Threshold wind speed and wind gust forecasting
 - ▶ Buoy based flux measurement system
 - ▶ Clisea breeze circulation studies

GE Research/GE Renewable Energy - Niskayuna/Schenectady

- ▶ \$4M ARPA-E project for the design and development of advanced controls floating OSW turbines
- ▶ \$20.3M US DOE project for R&D of a prototype high-efficiency ultra-light low temperature superconducting OSW generator

WRI Energy - Glens Falls

- ▶ Provides weather forecasting, weather downtime reports, ship routing and data analysis for OSW development and operations
- ▶ Lightning detection and tropical alerts for offshore installation and O&M
- ▶ Access online SmartWind portal to view dashboards, and on demand weather charts going out 10 days
- ▶ Offshore historical data that can be evaluated for long term planning in pre-operational phases

Hudson Valley Community College - Troy

- ▶ Micro-credential, certificate and associates programs in construction technology, manufacturing, overhead electric line worker, welding, etc.

Welding Programs

- ▶ Modern School of Welding, Capital Region BOCES, Hudson Valley Community College, United Brotherhood of Carpenters and Joiners of America

Center for Economic Growth - Albany

- ▶ Pathways Program, Manufacturing Apprenticeship Program, Business Growth Solutions

Workforce Development Institute

- ▶ State non-profit that works to grow and keep good jobs in New York State

REGIONAL ASSETS

INFRASTRUCTURE

RAIL SERVICE



- CSX Corp.
- CP Rail Systems
- Amtrak

GOVT ASSETS



- NYS Capital
- NYISO
- NYSERDA

RAW MATERIALS



- Cement
- Aggregates
- Concrete

SUPPLY CHAIN

With a robust manufacturing base and transportation infrastructure, the Capital Region has opportunities to establish and grow the offshore wind supply chain. As the region's federally designated Manufacturing Extension Partnership, the Center for Economic Growth has dedicated staff with deep expertise to provide one-on-one assistance and funding opportunities.

SITES

Numerous shovel ready sites and buildings to meet your specific needs within 30 miles of ports assets.

The Center for Economic Growth (CEG) leads business attraction and expansion activities for New York's Capital Region. Our team can provide assistance with site selection, incentive coordination, market research, access to workforce, supply chain connections, and more.

Visit ceg.org or contact Katie Newcombe, Chief Economic Development Officer at katien@ceg.org
Center for Economic Growth | 41 State Street, Suite 705 | Albany, NY 12207 | 518.465.8975 | ceg.org

