

seCTer Offshore Wind Industry Cluster

VISION: The Southeastern Connecticut Enterprise Region (seCTer) is the federally designated Economic Development Organization of the Economic Development District of southeastern Connecticut (EDD). With seCTer as the lead institution, the Build Back Better Regional Challenge (BBBRC) coalition members will develop an Offshore Wind Industry Cluster (OWIC). When combined with existing strengths in defense-based advanced manufacturing, available industrial land, nationally recognized equitable workforce development, and top research and higher education facilities, the OWIC will catalyze and diversify the region's economy to establish southern New England as the leading global center of Blue Economy. The Hub and Spoke approach will center in the EDD, with a spoke in Bridgeport, Connecticut, and will provide opportunities to collaborate in Phase 2 with Rhode Island and Massachusetts on integration across their respective Blue Economy initiatives.

The BBBRC projects align well with the EDD's Comprehensive Economic Development Strategy (CEDS), nationally recognized by NADO as a best-practice CEDS:

- Build the capacity, systems and networks necessary to successfully and continuously adapt to future disruptions in the economy, and create and support a more resilient economy*
- Reposition SECT Region as one Innovation Economy by continually transforming our current systems, structures and physical landscapes into those that are highly connected, self-reinforcing and innovative.*

seCTer envisions the Regional Economic Competitiveness Officer (RECO) as a seCTer staff member focused on the projects for a two-year time frame and has identified an individual with significant EDA project management experience. The RECO will serve to proactively mitigate barriers to implementation, manage awards within communities, liaison with EDA, communicate with stakeholders throughout the OWIC, and provide technical assistance to build capacity among coalition members to bolster the wind ecosystem in southern New England, all through the lens of broadening the distribution of wealth to all residents.

OPPORTUNITY: Due to the geographic value of their ports and subsequent public/private investments, the burgeoning offshore wind industry in CT is focused on New London (NL) and Bridgeport. New London's harbor is home to General Dynamics/Electric Boat, the Navy's submarine builder, and the Navy's SUBASE NL. The deep-water port of New London lies within 32 nautical miles of the federal lease area on which at least 10,000 MW of offshore wind power can be generated. Additional lease areas are expected.

Revolution Wind, a partnership of Danish power company Ørsted and New England's largest energy provider Eversource, have committed \$75 million toward a \$235 million expansion of the State Pier in NL. The state's quasi-public CT Port Authority (CPA) has committed \$160 million. The expansion work, under a Project Labor Agreement, is expected to create 400 construction jobs and 80-120 post construction jobs. When completed in 2023 the State Pier will be one of only three sites on the U.S. East Coast that will be able to assemble and ship wind towers to the offshore wind farms, the closest to the federal lease sites off southern New England, and the only site with bridge-free passage. The other two deep-water ports are in New Jersey and Virginia. The State Pier is on a U.S. Department of Transportation designated Marine Highway.

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Park City Wind, an Avangrid company, has leased land along Bridgeport's waterfront to use as a storage and assembly area for turbine parts. They are expected to contribute \$890 million in direct economic development in CT.

When an inflection point is reached for the towers and turbines to be built with American-made parts and to support operation and maintenance (O&M), CT is uniquely positioned to create an OWIC with O&M activities alone creating 917-1748 jobs per 1.6 megawatts¹ of offshore wind generation, indicating up to 5,500 supporting jobs for the 25-year lifecycle of the wind farms supporting the 5,000 MW already contracted by New England states. A supply chain of advanced manufacturers supporting General Dynamics /Electric Boat (EB) submarine building exists in the region to provide both skilled labor and precision quality manufacturing standards. President Joe Biden recently announced plans to deploy 30 gigawatts of offshore wind energy in the U.S. by 2030, creating 77,000 jobs and indicating the exponential growth of the offshore wind industry. NL's State Pier is critical to the success of these climate goals.

The Connecticut Data Collaborative show New London with 9.7% unemployment and 25% of the population living below the poverty level, with Bridgeport at 9.7% and 21.2%, respectively. All are significantly above CT's 6.1% and 9.8%, respectively. The EDD is heavily dependent on hospitality which was devastated by the pandemic. The EDD and Bridgeport have populations of 283,547 and 145,639, respectively. In the EDD, an average annual wage for a hospitality job pays \$31,008 while an annual average manufacturing job pays \$106,743. The goal of this proposal is to create actionable and intentional programming to move as many marginalized residents as possible from low wage jobs to manufacturing careers. The EDD has a track record of success with which to build upon.

PROJECTS: seCTer and coalition members propose six projects which align to diversify and expand the supply chain, provide waterfront industrial sites for development, build a green business park, leverage a successful and replicable workforce development model, support blue tech research and development, and bring innovative new products to production.

1. Supply Chain Connection: Coalition Member Connecticut Center for Advanced Technology (CCAT), based in East Hartford, has partnered with Park City Wind to create an Offshore Wind Supply Chain database and portal. Currently, the database has 3,800 companies entered, of which 1,336 are CT's. CCAT will continue to build the OWIC through hosting a series of supply chain exchange forums, and surveying the needs of the offshore wind energy developers and their Tier 1 and Tier 2 suppliers. Through these forums, etc. CCAT will be able to determine the gap in what is available from the regional supply chain, and what additional parts will need to be produced regionally to fully support the Tier 1 and Tier 2 suppliers. By understanding the gaps, CCAT can then encourage companies in the supply chain to expand their operations, and invest in technologies, to make these additional parts. This research will also inform the other projects within the OWIC.

seCTer is the host organization for the CT Procurement Technical Assistance Center (CT PTAC). CT PTAC works closely with CCAT. CT PTAC provides no-charge technical assistance to companies that are ready to sell their goods or services to governments and assists them to

¹ Massachusetts Clean Energy Center, 2018 Massachusetts Offshore Wind Workforce Assessment, Page 38

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gain their socioeconomic statuses to qualify for government set asides, such as Women Owned Small Business and Veteran Owned Small Business. seCTer also contracts for a Small Business Development Center Counselor for the EDD, keeping outreach to the supply chain consistent, helpful, and free-of-charge.

Matching Funds: \$125,000 Park City Wind
Metrics: # forums held, # registrants, \$ contracts
Timetable: Functional for entire project period

2. Thames River Offshore Epicenter: Coalition Member Southeastern Connecticut Council of Governments (SCCOG) will help build the OWIC by determining feasible sites for the Thames River Offshore Epicenter, a collection of industrial sites along the shoreline and the Thames River in the City of New London, Waterford, Montville, City of Norwich, Preston, Ledyard and Groton. Norwich, New London and Montville are in the top ten of CT's Distressed Communities list, which is based on poverty, unemployment, and education attainment. Bringing available waterfront industrial properties back into use will allow wind supply chain manufacturers and others to relocate and expand in the region in highly sought waterfront sites which also have rail access. SCCOG will be responsible working with the municipalities for the identification, cataloguing, and determination of feasibility of waterfront properties in the EDD. In BBBRC Phase 2, environmental assessment funds for Phase 1, 2 and 3 Environmental Studies will be requested.

Matching Funds: \$500,000 Proposed CT brownfield assessment grant
Metrics: # Phase 1 Studies per town, # sites with environmental studies complete
Timetable: Assessments and feasibility determination complete in Year 3

3. Business Park North: Coalition Member Norwich Community Development Corporation, non-profit economic development arm of the City of Norwich at the head of the Thames River, developed and manages the City's existing business park. NCDC has a purchase and sale agreement for a greenfield site with 185-acres of developable greenfield. The new Business Park North (BPN) has the City Council's unanimous support and approval of match funding for permitting. Municipally owned Norwich Public Utilities is a BPN partner. With an achievable goal for full permitting of early 2023, BPN has the potential to be the first site ready to house the new or expanded supply chain companies, as well as further diversify the region's industrial and manufacturing base, all in a green-friendly park. Norwich is among the most diverse municipalities in the EDD with 11.1% Black, 8.2% Asian, 9.2% two or more races, and 6.2% Veteran. The median income is \$20,392 lower than CT's, and 13.1% are below poverty.

Matching Funds: \$1,350,000 City of Norwich, \$400,000 Norwich Public Utilities
Metrics: 1,000 and 1,500 jobs both on and off site with multiplier effect of an additional 800 to 1,950 jobs.
Timetable: 2,000 feet of road and utilities complete in Year 2
BPN complete by Year 4 of the project period

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4. Offshore Wind Pipeline Initiative (OWPI): Coalition Member Eastern Connecticut Workforce Investment Board (EWIB) will replicate its nationally recognized Manufacturers' Pipeline Initiative (MPI) that was developed in response to EB's ramp up of submarine production for the U.S. Navy. The MPI, and future OWPI, meets needs of area manufacturers to develop industry-ready talent, and to attract and transform inexperienced, underserved workers for entry-level jobs that offer pathways to higher-wage careers. The MPI and OWPI will leverage the American Job Center (AJC) system, including core features such as industry-specific assessment, short-term customized training, support services, job placement support, and on-the-job training as well as significant community outreach with community-based organizations such as Thames Valley Center for Community Action and EASTCONN. Institutions of higher education, especially the community colleges, support the MPI and expansion to the OWPI. The MPI has proven that the community colleges can be nimble and adapt curriculums to Global Wind Organisation (GWO) standards.

Development of the OWPI will be based on the creation of the original MPI in April 2016. The Eastern Advanced Manufacturers Alliance (EAMA) members were instrumental in joining with EB to create curriculums which were then assimilated in the local community college system. Similarly, in Bridgeport, Park City Wind has committed to development of an education and training program, Building Pathways, providing GWO training through Housatonic Community College and the University of Bridgeport. These programs will inform each other.

During the Phase 2 Application period, these efforts will be jointly planned with EWIB's counterparts in Rhode Island and could potentially include a cross-state workforce education center, integrating job-placement services across state lines, and planning for state reciprocity for certain certifications and degrees. EWIB and Rhode Island workforce development programs have worked successfully in the past. In the previous five years, the MPI a) placed 1,890 people (80% with no previous manufacturing experience) into employment; b) placed 92% into jobs with > 250 manufacturing companies; c) cut new hire training time and time-to-productivity in half; and d) halved EB's new-hire attrition rate compared to those hired via traditional channels.

Matching Funds: \$5 million Park City Wind, \$250,000 Ørsted
Metrics: # participants, % job placement rate, % demographic goals, time to productivity, attrition rates
Timetable: Designed in Year 1, Fully functional during Years 2 – 5

5. Blue Tech Research and Development Center (Blue Tech R&D): Coalition Member University of Connecticut (UConn) The Blue Tech R&D is envisioned as a collaboration of the research capacity of UConn with innovation efforts of the offshore wind developers and original equipment manufacturers of undersea vehicles in a new building on UConn's Avery Point Campus, with waterfront on the Thames River. The purpose of the Blue Tech R&D is to support the development, acceleration, and commercialization of both offshore wind and undersea vehicle technologies. There are many areas of dual applications of technologies into these industries. In this center, cross-pollinated innovation will occur as collisions between innovative thinkers create synergies in a waterfront, marine sciences-focused, world-class university setting. This proposed state-of-the-art facility will be 48,000 square feet.

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UConn has a strong research portfolio in areas that will support the development and innovation of the OWIC including collaborative research projects with Eversource to forecast wind energy generation; programs geared to robotics and undersea vehicles through the National Institute for Undersea Vehicle Technology (NIUVT); atmospheric and oceanographic sensors; materials science and engineering; and energy storage. In each of these key research program areas, UConn already has an outstanding list of industry and national lab partners.

Matching Funds: UConn in-kind, private sector support, CT funding through UConn
Metrics: # companies engaged in research, # & \$ private investment, # intellectual property patents applied for
Timeline: Permitted and built within the 5-year project period

6. Blue Tech Incubator and Accelerator: Coalition Member UConn will co-locate a business incubator within the Blue Tech R&D at Avery Point to expand on their successful work in entrepreneurship and technology development in Storrs, the Technology Commercialization Services. Tied directly to the Blue Tech R&D, this strong commercialization program will allow new businesses which graduate from the applied research center to stay in the region and receive support for their growth particularly when owned by women, people of color, or other historically marginalized persons. Work toward developing this commercialization program is already underway and funds from Phase 1 will be used to complete EDA's required feasibility study and market research.

UConn recently created the Vergnano Institute for Inclusion with a \$3 million investment by alumni. The project aims to encourage female participation in engineering by outreach and STEM education to 6th – 12th grade students. In the fall of 2021, 45% of UConn's Class of 2024 were students of color. Both represent UConn's commitment to equity for these projects.

Matching Funds: Private sector support and UCONN in-kind services
Metrics: Success rate of companies, private and public investment, jobs created
Timeline: Feasibility Study by Year 2

BARRIERS AND MITIGATION: Offshore wind energy is new to the U.S. Issues related to permitting, connection to the electric grid, impact on fisheries and fish, bird and mammal migration, public inputs, and interstate coordination are all current challenges. With significant federal and state commitments to clean energy, along with aggressive timelines, it is in everyone's best interest to address and solve these challenges early. The RECO will lead an OWIC Roundtable to bring all stakeholders, including all levels of government, to the table to work through barriers collectively. seCTer's RECO will maintain communication with governments and partners to assist all parties to navigate the challenges and collaborate towards shared goals.

SUMMARY: seCTer's OWIC proposal leverages the unique opportunity which the offshore wind industry presents to the EDD and similar areas to attain equitable job and wage growth while promoting clean energy. seCTer and coalition members are poised to succeed in all measures including lowering unemployment and underemployment, increasing median incomes of marginalized groups, increasing GDP, and assisting the U.S. in reaching climate goals.