BLUEGREEN ALLIANCE

CREATING GOOD JOBS, A CLEAN ENVIRONMENT, AND A FAIR AND THRIVING ECONOMY

WRITTEN TESTIMONY

Jason Walsh
Executive Director, BlueGreen Alliance
Before the 117th United States Congress, House Committee on Natural Resources, Subcommittee on Energy and Mineral Resources
Building Back Better: Reducing Pollution and Creating Jobs Through Offshore Wind
Tuesday, April 20, 2021

Thank you Chairman Lowenthal, Ranking Member Stauber, and distinguished members of the committee. My name is Jason Walsh, and I am the Executive Director of the BlueGreen Alliance. On behalf of my organization, our partners, and the millions of members and supporters they represent, I want to thank you for convening this important hearing today.

The BlueGreen Alliance unites labor unions and environmental organizations to solve today's environmental challenges in ways that create and maintain quality jobs and build a stronger, fairer economy. Our partners strongly believe that Americans should not have to choose between a good job and a clean environment—we can and must have both.

The expansion of offshore wind is a clear example of the potential to achieve this goal. These projects are an opportunity to not only drive the nation's clean energy future, but to create quality, family-sustaining jobs and strong regional economies at the same time.

This hearing comes at a critical time for our climate and a pivotal moment for the offshore wind industry.

The International Renewable Energy Agency (IREA) recognizes that achieving the goals of the Paris Agreement is only possible by greatly scaling up wind capacity, including offshore wind capacity, in the next three decades.[i] Reaching ambitious domestic clean energy targets will require substantial offshore wind development as well.[ii]

At the same time, America's offshore wind industry is poised for a dramatic expansion. President Biden's administration recently released a plan that sets a goal to, "deploy 30 gigawatts (GW) of offshore wind in the United States by 2030, while protecting biodiversity and promoting ocean co-use." An industry assessment estimates that a deployment at this scale will trigger billions in capital investment and create tens of thousands of quality jobs.[iii]

Choices we make now on workforce development, supply chain development, and project labor agreements (PLAs) and community benefits will shape whether or not we are able to maximize the job growth potential and positive domestic economic impact of offshore wind.

America's first offshore wind project at Block Island is a great model of the industry's potential. This project was the result of years of collaboration between labor, environmental organizations, industry, and key government officials and entities. Its five turbines began generating power off the coast of Rhode Island at the end of 2016. They produce enough clean, local energy to power 17,000 homes.

This project was built with the highest standards of wildlife and environmental protection, and demonstrates the type of diverse, highly skilled workforce needed in the offshore wind industry. Though it was comparatively small, Block Island put more than 300 people to work and employed electricians, welders, ironworkers, pipefitters, pile drivers, engineers, scientists, and vessel operators.

Beyond Block Island, larger projects are in development along the Eastern Seaboard from Massachusetts to North Carolina, and two offshore wind demonstration projects are planned in waters off Ohio and Maine. These state level commitments have the potential to dramatically expand both clean energy and job creation in a relatively untapped sector. As states lead the way and more follow suit, the need for a qualified workforce will grow.

By supporting a wide variety of workforce development strategies targeted at this burgeoning sector, including union training and apprenticeship programs, the Offshore Wind Jobs and Opportunity Act will help ensure that workers have access to the skills training they need to take advantage of this important and emerging industry.

Offshore Wind Development in the United States

The potential for responsible offshore wind development in the United States is substantial. Through offshore wind, the United States has the technical potential to produce almost double the amount of electricity the nation consumed in 2019.[iv] According to the U.S. Department of Energy, if we utilized even one percent of the nation's technical potential offshore wind capacity, we could power nearly 6.5 million homes. We have the technology to harness wind power off the coasts of at least half of our states, and the industry is rapidly expanding both domestically and internationally. [v]

In line with the Biden administration's goal, market analysts project that "20,000 to 30,000 megawatts (MW) of offshore wind capacity will be operational by 2030."[vi] The University of

Delaware's Special Initiative on Offshore Wind (SIOW) states in its recent white paper that the United States is now projected to create 18.6 GW of clean and cost-effective offshore wind power in seven Atlantic states within the next decade. In New York State—home to some of the most energy-demanding cities in the nation—offshore wind generation has the potential to provide up to 39,000 MW of clean power for the state. That is enough to power 15 million homes.[vii]

While the concept of harnessing wind to produce energy is not new, Atlantic coast states have ramped up their interest in building out their offshore wind capacities in recent years. More and more state governments have begun passing laws to mandate the development of offshore wind. For example, Massachusetts has set a goal of 5,600 MW by 2027;[viii] New York has mandated 9,000 MW by 2035;[ix] New Jersey requires 7,500 MW by 2035;[x] and Rhode Island[xi] and Connecticut[xii] have also set similar (though smaller) commitments.

Offshore Wind Job Creation Potential

With this industry expansion comes tremendous potential to create and sustain quality, union jobs.

Jobs in the offshore wind industry include designing the wind farm; constructing the onshore substations; laying cable interconnections; erecting the turbines; permitting; manufacturing rotor and nacelle controls, gearboxes, drive trains, generator and power electronics, steel towers, electrical wiring, advanced polymers, and coatings; construction; and operations and maintenance. Trades included in these various stages include operating engineers, pile drivers, millwrights, welders, electrical workers, utility workers, ironworkers, steelworkers, and machinists.

The National Renewable Energy Laboratory (NREL) estimates that the Atlantic coast states could create $200 billion in new economic opportunity, as well as over 43,000 high-paying, permanent jobs, by developing just 54 GW of their 1,283 GW offshore wind energy potential.[xiii]

Ensuring Quality Job Creation

In order to truly capture the full benefits and potential of these projects, it is critical that they are built by skilled workers who are paid family-sustaining wages, with PLAs in place, and with materials manufactured here in the United States.

Offshore wind projects rely heavily on skilled labor for construction, installation, maintenance, and operations. For example, the Block Island project—a comparatively small, demonstration

project—created more than 300 jobs in the state alone[xiv] for local unionized craftsmen in ten different building trades locals, working for 30 unionized contractors and subcontractors.[xv] This was thanks—in large part—to the PLA in place for Block Island.

PLAs have been utilized for almost a century and are collective bargaining agreements between contractors and building trades unions, which set out the terms and conditions of employment for all workers on the construction project—whether or not they belong to the union.[xvi] PLAs ensure that projects are completed on time and on budget, require that employees are properly trained, and encourage that public investment benefits local communities. In this way, PLAs benefit workers, contractors, communities, and taxpayers.[xvii]

PLAs are particularly critical in these projects because they bring coordinated, proactive planning to complex projects; provide crucial benefits to local communities in terms of skills training, employment opportunities, and future workforce development; and ensure that the most productive and skilled craft labor is available to work on a project.

Last November, the North America's Building Trades Unions (NABTU) and Ørsted, currently the developer with the largest pipeline of domestic offshore wind projects, announced a deal to train union construction workers for the offshore wind industry.[xviii] This agreement is a model of cooperation between labor and management on workforce development that should set the standard for the industry.

Growing the Manufacturing Supply Chain

In addition to the construction phase of these projects, a critical component of the job creation potential for the offshore wind sector is the vast manufacturing supply chain that offers major opportunities for growth in a variety of sectors. While Block Island's PLA resulted in significant quality job creation through the construction of the project, it largely missed the mark when it came to the materials that went into the project. The major parts and components of the Block Island farm—with the exception of the foundation—were manufactured outside the United States. The nacelles for the project came from France, the towers from Spain, and the blades from Denmark.[xix]

Maximizing the number of jobs created by the offshore wind industry will require growing a domestic supply chain. According to one report, the offshore wind industry can support between 45,000 to 83,000 jobs by 2030, "depending on installation levels and supply chain growth."[xx]

As the industry grows, sourcing components domestically represents a significant opportunity to help revitalize American manufacturing. SIOW's recent white paper predicts an almost $70 billion buildout of U.S. offshore wind supply chain by calculating growth in a number of sectors,

which include wind turbines and towers; turbine and substation foundations; upland, export, and array cables; onshore and offshore substations; and marine support, insurance, and project management.[xxi]

Focusing on Operation & Maintenance

The operation and maintenance of the components will be crucial and will create and maintain jobs. As wind farms and their components age, skilled workers will continue to prove necessary to the operation of the farms. Since 80% of offshore wind turbines were built in the last ten years, every year up to 20,000 turbines worldwide will enter the second half of their 20-year design life.[xxii]

A report released by Zion Market Research valued the global wind operations and maintenance market at $12 billion in 2018, and has predicted that market to rise to $21 billion by 2025.[xxiii] As the need grows for an operations and maintenance workforce, we must ensure that jobs throughout the life cycle of a wind farm are quality, family-sustaining jobs.

Effect of High-Road Labor Practices and Increased Domestic Content on Offshore Wind Costs

A recent study by researchers at Princeton University found that high-road labor practices have a minimal effect on the cost of offshore wind developments.[xxiv] Domestic content requirements, important for securing domestic manufacturing jobs, are unlikely to influence wind power capital costs.[xxv] A 20% increase in domestic labor costs increases installed capital costs for wind by 2-4% and operations and maintenance costs by approximately 3-6%. These modest cost increases may be offset by increases in labor productivity: union labor is historically associated with higher productivity rates and higher wages tend to allow for greater worker retention, which also increases productivity.[xxvi]

Ensuring Responsible Development and Community Benefits

As the offshore wind industry grows, it is equally important to ensure that projects are developed responsibly, with strong protections in place for coastal and marine wildlife.
We therefore support the development of science-based best management practices for offshore wind development, and believe that environmental mitigation must be a key priority for any project.

The development of wind energy off our coasts can also provide important and much-needed support to local communities in our coastal states. Community benefit agreements, designed in coordination with organized labor and local community organizations, help maximize a project's

contribution to local communities, and provide a basis for durable local support for these projects and the industry as a whole.

The Offshore Wind Jobs and Opportunity Act

The Offshore Wind Jobs and Opportunity Act would create opportunities to educate and train a new generation of workers in a burgeoning sector. The bill creates a new federal grant program to assist colleges and universities, state and local governments, nonprofits, and unions to develop health and safety programs, curricula, apprenticeships, internships, and other necessary activities in order to bolster a robust offshore wind energy workforce. Critically, the legislation prioritizes grants in economically distressed communities, and for displaced workers and individuals with barriers to employment. This will help ensure that good-paying jobs are created in the communities that need them the most and accessible to a broad range of workers.

By supporting a wide variety of strategies to encourage workforce development in the growing sector of offshore wind, the Offshore Wind Jobs and Opportunity Act lays a foundation for high-quality, inclusive middle-class jobs in this expanding energy market.[xxvii]

The offshore wind industry holds great potential for creating quality, family-sustaining jobs while producing clean, renewable energy. As more wind farms spring up off America's coasts, demand for the highly skilled workers needed to complete these innovative projects will grow as well. We need our workers to be ready to embrace this opportunity.

The Offshore Wind Jobs and Opportunity Act will play a significant role in providing the skills needed for workers to break into this growing field. We look forward to working with this committee to advance this important legislation.

Thank you again for the opportunity to testify.

End Notes

[i] International Renewable Energy Agency, *Future of Wind: Deployment, investment, technology, grid integration and socio-economic aspects*, October 2019. Available online: https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2019/Oct/IRENA_Future_of_wind_2019.pdf

[ii] Massachusetts Executive Office of Energy and Environmental Affairs, *Massachusetts 2050 Decarbonization Roadmap*, December 2020. Available online: https://www.mass.gov/doc/ma-decarbonization-roadmap-lower-resolution/download

[iii] American Wind Energy Association, *U.S. Offshore Wind Power Economic Impact Assessment*, March 2020. Available online: https://supportoffshorewind.org/wp-content/uploads/sites/6/2020/03/AWEA_Offshore-Wind-Economic-ImpactsV3.pdf

[iv] Frontier Group & Environment America Research & Policy Center, *Offshore Wind for America: The promise and potential of clean energy off our coasts*, March 2021. Available online: https://frontiergroup.org/sites/default/files/reports/Offshore%20Wind%20Print.pdf

[v] U.S. Department of Energy (DOE), Office of Energy Efficiency & Renewable Energy, "Computing America's Offshore Wind Energy Potential,", September 9, 2016. Available online: https://www.energy.gov/eere/articles/computing-america-s-offshore-wind-energy-potential

[vi] American Wind Energy Association, U.S. Offshore Wind Power Economic Impact Assessment, March 2020. Available online: https://supportoffshorewind.org/wp-content/uploads/sites/6/2020/03/AWEA_Offshore-Wind-Economic-ImpactsV3.pdf

[vii] New York State Energy Research and Development Authority, "New York Offshore Wind." Available online: https://www.nyserda.ny.gov/All%20Programs/Programs/Offshore%20Wind

[viii] Commonwealth of Massachusetts, *Governor Baker Signs Climate Legislation to Reduce Greenhouse Gas Emissions, Protect Environmental Justice Communities*, March 26, 2021. Available online: https://www.mass.gov/news/governor-baker-signs-climate-legislation-to-reduce-greenhouse-gas-emissions-protect-environmental-justice-communities

[ix] New York State Energy Research and Development Authority "Getting to 2035." Available online: https://www.nyserda.ny.gov/all-programs/programs/offshore-wind#:~:text=About%20Offshore%20Wind,-Offshore%20wind%20energy&text=The%20State%20is%20well%20on,growing%20offshore%20wind%20energy%20industry

[x] State of New Jersey Department of Environmental Protection, Air Quality, Energy & Sustainability. "Offshore Wind." Available online: https://www.nj.gov/dep/aqes/offshorewind.html

[xi] State of Rhode Island Office of Energy Resources "Governor's 1,000 by '20 Clean Energy Goal." Available online: http://www.energy.ri.gov/renewable-energy/governor-clean-energy-goal.php

[xii] State of Connecticut Department of Energy & Environmental Protection, "Gov. Malloy and DEEP Announce Selection of 250 MW of Renewable Energy Projects," June 13, 2018. Available online: https://www.ct.gov/deep/cwp/view.asp?A=4965&Q=603300

[xiii] National Renewable Energy Laboratory (NREL), *Large-Scale Offshore Wind Power in the United States*, September 2010 Available online: https://www.nrel.gov/docs/fy10osti/49229.pdf

[xiv] Deepwater Wind, "Block Island Wind Farm." Available online: *http://dwwind.com/project/block-island-wind-farm/*.

[xv] Deepwater Wind, "Block Island Wind Farm begins commercial operations," December 12, 2016. Available online: www.dwwind.com/press/americas-first-offshore-wind-farm-powers/

[xvi] AFL-CIO, "Project Labor Agreements." Available online: https://aflcio.org/what-unions-do/empower-workers/project-labor-agreements

[xvii] LiUNA!, "Project Labor Agreements." Available online: www.liuna.org/project-labor-agreements.

[xviii] North America's Building Trades Unions (NABTU), *North America's Building Trades Unions (NABTU) and Ørsted Sign Landmark MOU for U.S. Offshore Wind Workforce Transition*, November 18, 2020. Available online: https://nabtu.org/press_releases/nabtu-orsted-sign-landmark-mou/

[xix] General Electric, *My Turbine Lies Over The Ocean: It Takes Herculean Labor To Build America's First Offshore Wind Farm*, July 6, 2016. Available Online: https://www.ge.com/news/reports/my-turbine-lies-over-the-ocean-it-takes-herculean-labor-to-build-americas-first-offshore-wind-farm

[xx] American Wind Energy Association, U.S. Offshore Wind Power Economic Impact Assessment, March 2020. Available online: https://supportoffshorewind.org/wp-content/uploads/sites/6/2020/03/AWEA_Offshore-Wind-Economic-ImpactsV3.pdf

[xxi] Stephanie A. McClellan, *Supply Chain Contracting Forecast for U.S. Offshore Wind Power*, March 2019. Available online: https://www.ceoe.udel.edu/File%20Library/About/SIOW/SIOW-White-Paper---Supply-Chain-Contracting-Forecast-for-US-Offshore-Wind-Power-FINAL.pdf.

[xxii] WindPower Monthly, "The innovations that are changing the face of the O&M market," May 31, 2019. Available online: https://www.windpowermonthly.com/article/1585424/innovations-changing-face-o-m-market

[xxiii] Zion Market Research, "Wind Turbine Operations and Maintenance Market by Application (Offshore and Onshore): Global Industry Perspective, Comprehensive Analysis, and Forecast, 2018-2025," April 25, 2019. Available online: https://www.zionmarketresearch.com/report/wind-turbine-operations-maintenance-market

[xxiv] Erin N. Mayfield and Jesse D.Jenkins, *Working Paper: Influence of High Road Labor Policies and Practices on Renewable Energy Costs, Decarbonization Pathways, and Labor Outcomes*, April 13, 2021. Available online: https://www.dropbox.com/sh/ad9pzifo9w1a49u/AAC2milGD44MlwXo1Sk7EAgsa?dl=0&preview=Working_Paper-High_Road_Labor_and_Renewable_Energy-PUBLIC_RELEASE-4-13-21.pdf

[xxv] Ibid.

[xxvi] Ibid.

[xxvii] Utility Workers Union of America, "UWUA Applauds Introduction of the Offshore Wind Jobs and Opportunity Act," March 15, 2018. Available online: https://uwua.net/news/uwua-endorses-offshore-wind-jobs-opportunity-act/