AWEA AMERICAN WIND ENERGY ASSOCIATION

U.S. Offshore Wind Power Economic Impact Assessment

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Prepared By **American Wind Energy Association**

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Executive Summary

The offshore wind industry is poised for exponential growth in the United States. Market projections anticipate between 20,000 to 30,000 megawatts (MW) of offshore wind capacity will be operational by 2030[1], representing between $28 – $57 billion of investment in the U.S. economy. In addition to delivering customers with clean, affordable, and reliable power, the offshore wind industry will also contribute a variety of economic benefits to the U.S. economy, including supporting tens of thousands of jobs, billions in economic output, and investment in critical coastal infrastructure.

AWEA conducted the following analysis to estimate the potential economic impacts of offshore wind development off the East Coast of the United States through 2030. The analysis considers two scenarios— 1) a base scenario of 20 GW of operating offshore wind power by 2030 and modest local content; and 2) a high scenario of 30 GW of operating offshore wind power by 2030 and increased local content. Our analysis finds that in a high build and high domestic content scenario, offshore wind could support up to 83,000 jobs and deliver $25 billion annually in economic output by 2030.

Specifically, this analysis estimates:

- The offshore wind industry will invest $28 to $57 billion in the U.S. economy between now and 2030[2], depending on installation levels and supply chain growth within the U.S.
- Offshore wind project development, construction, and operations will support 19,000 to 45,000 jobs by 2025 and 45,000 to 83,000 jobs by 2030.
- Investment in the U.S. offshore wind industry will deliver $5.5 to $14.2 billion per year by 2025, and $12.5 to $25.4 billion per year by 2030 in economic output.

Summary Results

	2025	2030
Operating Offshore Wind Capacity	9 – 14 GW	20 – 30 GW
Offshore Wind Jobs	19,000 – 45,000	45,000 – 83,000
Annual Economic Output	$5.5 – $14.2 billion	$12.5 – $25.4 billion

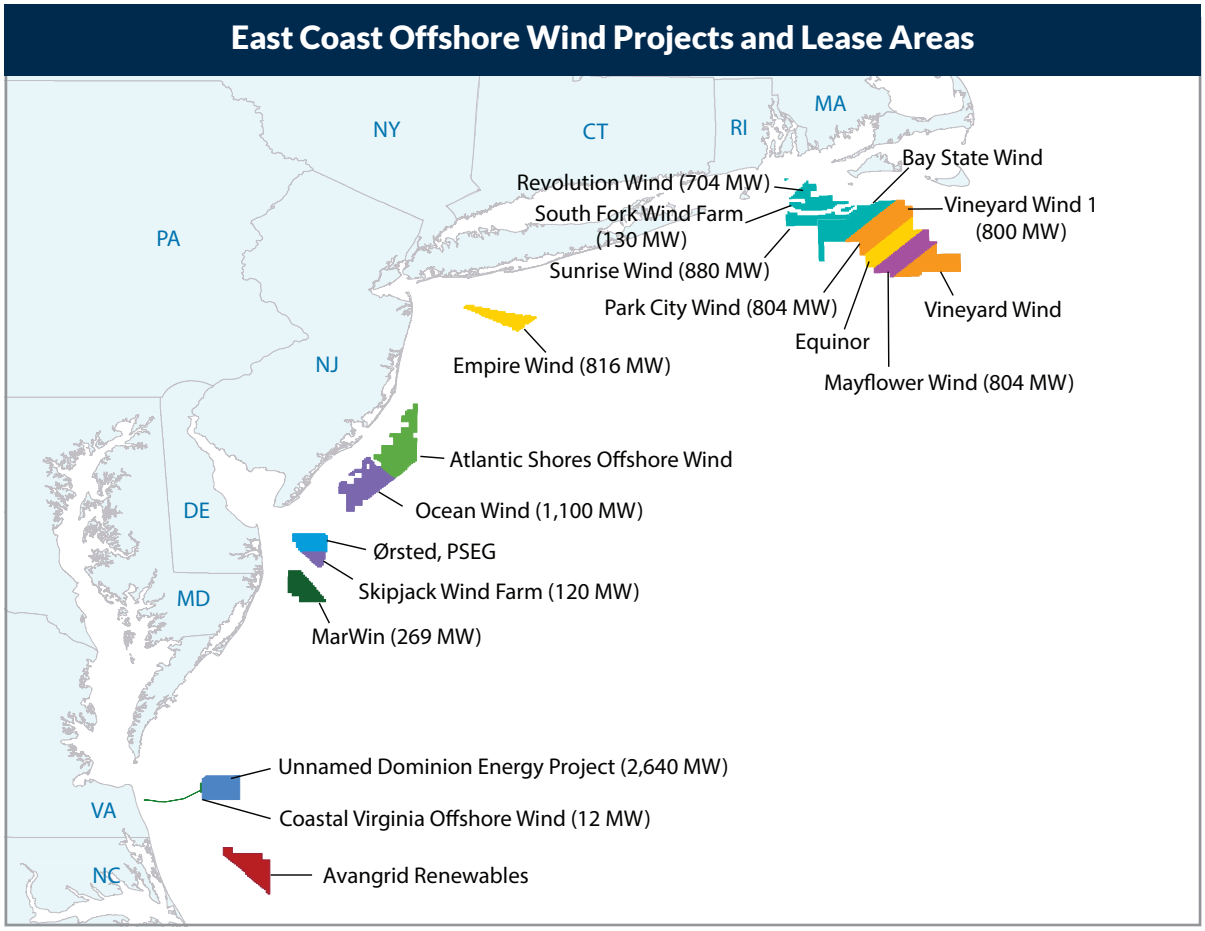
Introduction

The United States has vast offshore wind energy resources. The areas off our coasts possess an offshore wind potential of more than 2,000 gigawatts (GW)[3], or nearly double the nation's current electricity use.[4] This potential presents an enormous opportunity to deliver large amounts of clean, reliable electricity to the country's largest population centers along the coasts. Harnessing America's offshore wind resources will also create thousands of jobs, draw new investment to the U.S., revitalize ports and coastal communities, and create opportunities for American manufacturing.

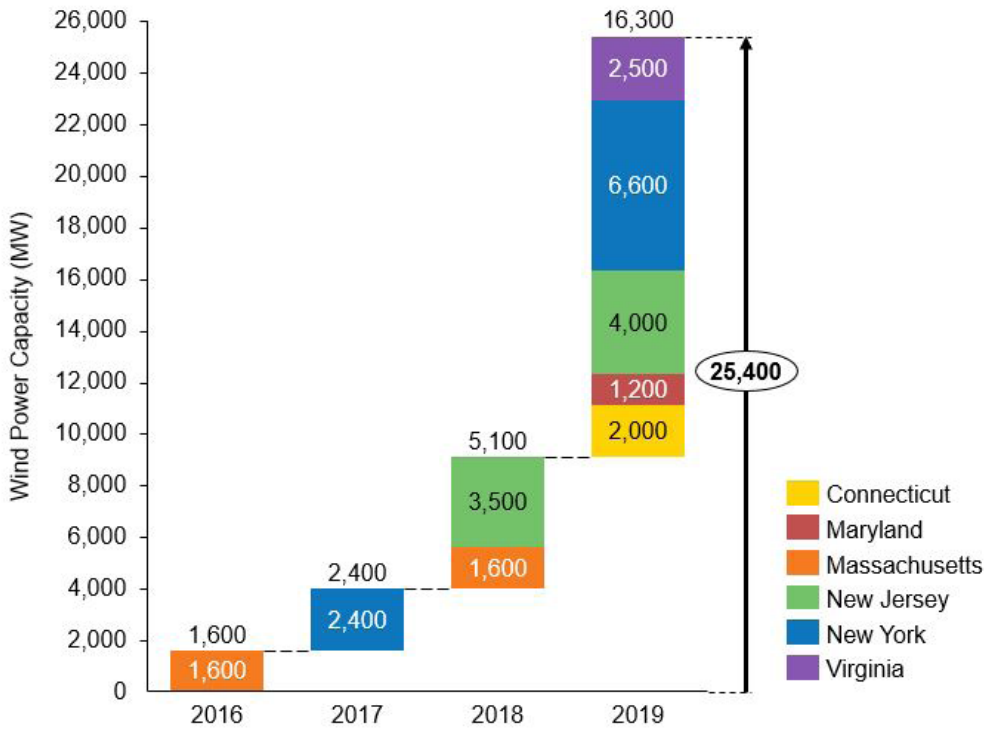
Current Status of U.S. Offshore Wind

The U.S. currently has one operational offshore wind project with many more on the way. The nation's first commercial offshore wind project, the Block Island Wind Farm, came online in December 2016. Developed by Deepwater Wind, the Block Island Wind Farm is a 30 megawatt (MW) project with five turbines located three miles off the coast of Block Island, Rhode Island.

Looking forward, several projects are now in various stages of development across 15 offshore wind energy leases issued by the Department of Interior's Bureau of Ocean Energy Management (BOEM). In a December 2018 offshore wind lease auction, three separate wind energy leases each sold for a record $135 million, underscoring robust competition and market interest. In total, all offshore wind lease auctions to date have totaled over $472 million. BOEM is now in the planning stages for areas off California, Hawaii, New York, and South Carolina.



State Offshore Wind Targets



States along the East Coast are driving demand for offshore wind. Connecticut, Maryland, Massachusetts, New Jersey, New York, and Virginia have established targets to procure a total of 25,400 MW of offshore wind by at least 2035 and have selected over 6,000 MW of projects as of February 2020 to help meet these goals. These policies provide certainty for the industry that will enable investment and lead to the creation of an American supply chain.

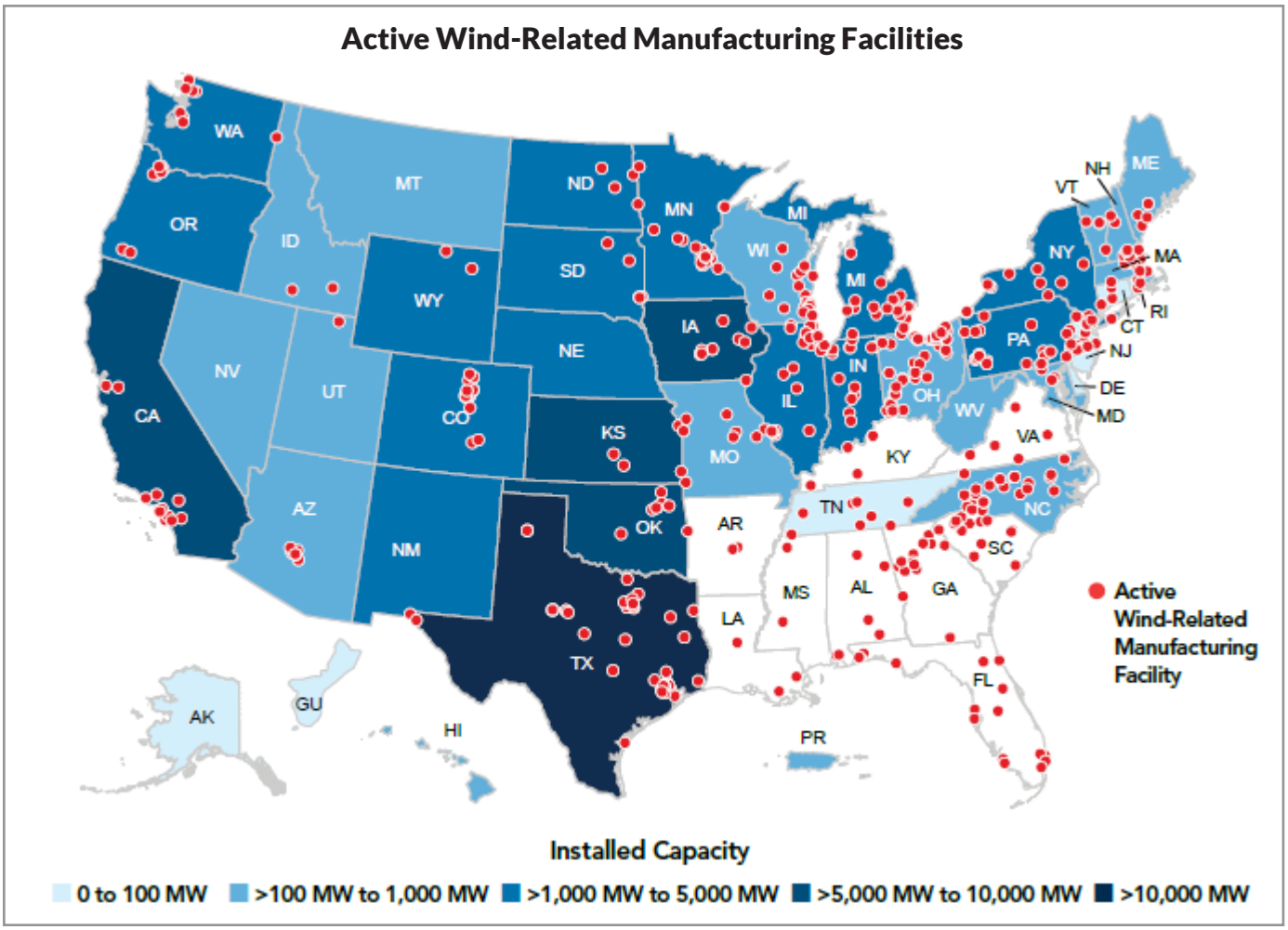
States along the East Coast are driving demand for offshore wind.

Lessons from Land-based Wind

The history of the land-based wind industry in the U.S. can provide important insights for how the offshore wind industry may grow. Thanks to technology improvements and cost reductions, land-based wind capacity grew from 2,500 MW in 2000 to over 105,500 MW at the end of 2019. As wind farms spread across the country, so did wind-related jobs and manufacturing. In the early days of the U.S. wind industry, many products were imported from Europe and other global manufacturing centers.

However, component manufacturers began investing heavily in domestic manufacturing facilities to serve the new, growing wind industry. By 2007, 100 domestic facilities served land-based wind energy. Today, there are over 500 facilities across 42 states manufacturing parts for land-based wind projects and employing a workforce of over 25,000. While larger components are manufactured in states with strong wind resources, hundreds of wind-related manufacturing facilities across the rest of the country make subcomponents for wind turbines. For example, the Southeast is home to over 100 facilities serving the wind industry despite having minimal wind power installations.[5]

The growth of the offshore wind industry holds similar promise for U.S. job growth, project construction and operations, and domestic manufacturing. It will also create new opportunities for port revitalization and vessel construction. To date, project developers and manufacturers have announced planned investments totaling more than $1.3 billion across a variety of projects including ports and new manufacturing facilities. While offshore wind projects will be concentrated on the East Coast in the early years of the industry, there is an opportunity for economic benefits to spread to other parts of the country, such as the Gulf Coast.



Gulf Coast manufacturers and service providers have already been working to support the offshore wind industry. The jacket foundations for the Block Island wind farm were manufactured in Louisiana by Gulf Island Fabrication, and vessels operated by Louisiana-based liftboat operator Falcon Global were used as feeder vessels for Block Island. Gulf Island Fabrication also has a contract with US Wind to build a foundation for an offshore met tower.

Developing, building, and operating offshore wind projects offers the promise of job creation and a chance for skilled workers to apply their craft to a new industry. Offshore wind jobs are good, well-paying jobs requiring a diverse technical workforce spanning an estimated 74 occupations. A sample of jobs the industry will create include electricians, welders, turbine technicians, longshoremen, truck drivers, crane operators, ironworkers, pipefitters, pile drivers, engineers, mechanics, scientists, and offshore equipment and vessel operators.

The offshore wind industry is well-positioned to achieve significant growth and deliver jobs and economic benefits along the East Coast and throughout the rest of the country. The speed at which the industry builds projects and the degree to which manufacturing and supply chains migrate to the U.S. will be key determinants of the industry's impact on economic output and job support. If the U.S. offshore wind industry follows in the same general footsteps of land-based wind, the results will be significant.

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Announced Investments in Domestic Infrastructure

Project developers and manufacturers have been active in announcing investments to support the development of the emerging offshore wind industry in the United States. So far, companies have announced investments of $307 million in port-related infrastructure, $650 million in transmission infrastructure, and $342 million in U.S. manufacturing facilities and supply chain development. Many other announcements have been made to establish offshore wind hubs and factories along the coast that have not yet listed a specific dollar amount but represent millions of dollars of additional investment. Companies have also signed contracts to build four new U.S.-flagged crew transfer vessels to support offshore wind project development. In addition to physical infrastructure investments, offshore wind companies are investing in new U.S. offices, workforce development and training, technology research and development accelerator programs, U.S.-based engineering and permitting support services, and wildlife research.

The development of local supply chains has been an integral component of state energy policies supporting offshore wind development. Most, if not all, states with active offshore wind procurement plans explicitly treat the development of an in-state supply chain as one of the key non-price decision criteria. Thus, state-level renewable energy policy is creating enormous competitive pressure focusing developer attention on maximizing long-term job growth and economic development.

A large focus of many U.S. investment announcements has been improvements to port infrastructure, which are needed to ensure ports can serve as staging areas for manufacturing, assembly, and transportation of large offshore wind components. Companies including Ørsted, Eversource, Vineyard Wind, Equinor, and US Wind are planning to establish offshore wind assembly hubs and operations and maintenance hubs across ports from Maryland up to Massachusetts. For example, Ørsted and Eversource have a public-private partnership with the state of Connecticut to invest $157 million in upgrades to State Pier's infrastructure and heavy-lift capabilities in New London. In New York, Equinor, Ørsted, and Eversource have announced combined investments of $70 million for port improvements across the state. In addition, in the event that offshore wind project developers do not build sufficient onshore transmission assets, transmission company Anbaric has announced that it may spend up to $650 million to convert the former Brayton Point coal plant in Massachusetts into an offshore wind facility with a high voltage direct current converter, onsite battery storage, and manufacturing and storage space for large turbine components.

Domestic manufacturing represents another major investment opportunity. In addition to manufacturing the blades, towers, and nacelles of the turbines themselves, there is a huge opportunity for manufacturing of foundations, substations, cables, steel, and other subcomponents, as well as critical logistics infrastructure such as transport and installation vessels and equipment. To highlight a few announcements, in 2019, developer Ørsted and manufacturer EEW signed an agreement to establish a factory for steel foundations in Paulsboro, New Jersey. In October 2019, Vineyard Wind announced a partnership with Marmon Utility to upgrade and build out its manufacturing facilities to become the first U.S.-based supplier of inter-array cable cores. Early in 2020, Siemens Gamesa Renewable Energy stated they are "actively considering" a $200 million blade manufacturing facility in Virginia. Meanwhile, Welcon and Marmen have agreed to build a new manufacturing facility in the Northeast to manufacture towers and fixed and floating foundations.

Project developers and manufacturers have announced planned investments totaling more than $1.3 billion across a variety of projects including ports and new manufacturing facilities.

New vessels are also needed to support offshore wind development in the U.S. and transport crews and components to and from wind farms. Last year, contracts were signed for four new crew transfer vessels to support the offshore wind industry. Ørsted has partnered with WindServe Marine LLC to build two crew transfer vessels for its planned offshore wind farms. Atlantic Wind Transfers, an offshore wind support company that owns the only crew transfer vessel currently operating in the U.S., signed a multi-million-dollar contract for two new crew transfer vessels that will be built by Blount Boats in Rhode Island.

These announced investments are likely only a fraction of the total investments to be made by the industry, as many projects are still in early stages of development and states have only completed a handful of competitive solicitations.

Table 1: Announced Domestic Infrastructure Investments to Support Offshore Wind Industry

Investment Type	Amount	Company(s)	Location	Year Announced
Manufacturing: Steel	$76,000,000	US Wind & Ørsted	Maryland	2017
Manufacturing: Foundations	Not specified	Ørsted & EEW	Paulsboro, New Jersey	2019
Manufacturing: Foundations	Not specified	Equinor	Port of Coeymans, New York	2019
Manufacturing: Towers & Foundations	Not specified	Marmen & Welcon	Northeast US	2019
Manufacturing: Blades	$200,000,000	Siemens Gamesa	Virginia	2020
Manufacturing: Cables	$4,000,000	Marmon Utility	Seymour, Connecticut	2019
Manufacturing: Cables	Not specified	Nexans	Not specified	2019
Ports; Transmission infrastructure	$650,000,000	Anbaric	Brayton Point, Somerset, Massachusetts	2019
Ports	$157,000,000	Ørsted & Eversource, CT Port Authority	New London, Connecticut	2020
Ports	Not specified	Vineyard Wind	Bridgeport, Connecticut	2019
Ports	$13,200,000	Ørsted	Tradepoint Atlantic, Maryland	2019
Ports	$26,400,000	US Wind	Tradepoint Atlantic, Maryland	2017
Ports	$50,000	Vineyard Wind	New Bedford, Massachusetts	2019
Ports	Not specified	Ørsted	Atlantic City, New Jersey	2019
Ports	$60,000,000	Equinor	New York (Multiple Ports)	2019
Ports	$10,000,000	Ørsted & Eversource	New York (Multiple Ports)	2019
Ports	Not specified	Ørsted & Eversource	Port Jefferson, New York	2019
Ports	$40,000,000	Ørsted & Eversource	Port of Providence and North Kingston, Rhode Island	2018
Supply chain	$15,000,000	Ørsted	New Jersey	2019
Supply chain	$1,500,000	Ørsted & Eversource	Rhode Island	2019
Supply chain	$10,000,000	Vineyard Wind	Massachusetts	2018
Turbine testing facility	$35,000,000	MHI Vestas	Clemson University, South Carolina	2017
Vessel construction: Crew transfer vessel	Not specified	Ørsted & WindServe Marine	North Kingstown, Rhode Island	2019
Vessel construction: Crew transfer vessel	Not specified	Ørsted & WindServe Marine	North Kingstown, Rhode Island	2019
Vessel construction: Crew transfer vessel	Not specified	Atlantic Wind Transfers & Blount Boats	Warren, Rhode Island	2019
Vessel construction: Crew transfer vessel	Not specified	Atlantic Wind Transfers & Blount Boats	Warren, Rhode Island	2019

*Announcements as of February 20, 2020. This list may not capture all announcements.

Methodology

This analysis estimates jobs, economic output, and economic value add resulting from the development and operation of offshore wind projects on the East Coast of the U.S. through 2030. Economic benefits extend beyond initial project expenditures as project spending circulates throughout the economy, delivering additional spending and job support. Capturing the initial and subsequent impacts stemming from offshore wind projects provides a full picture of the economic contributions the offshore wind industry can deliver to the U.S.

Input Assumptions

The magnitude of economic benefits depends on three key inputs: annual offshore wind project capacity installations; domestic content of the components and services required to develop, build, and operate offshore wind projects; and the overall costs to develop offshore wind projects.

The ability of the domestic supply chain to support the development of offshore wind power is expected to increase over time as domestic manufacturers and service providers react to this new industry and global turbine component suppliers look to invest in U.S. manufacturing facilities. AWEA conducted expert interviews with leading offshore wind developers and turbine manufacturers to determine future domestic content expectations.[6] Future offshore wind installation estimates are based on third party consultant forecasts as of year-end 2019.[7]

This analysis estimates economic impacts for two scenarios. The "base" scenario assumes 20 GW of offshore wind build by 2030. Annual impacts are estimated for years 2025 and 2030 assuming 2 GW are built in each year. The domestic content of offshore wind farms increases from 30% in 2025 to 50% in 2030. The "high" scenario assumes 30 GW of offshore wind is installed by 2030, with annual impacts for years 2025 and 2030 evaluated assuming 3 GW deployed in each year. Domestic content rises to 40% in 2025 and 60% in 2030. Offshore wind project costs are the same for both scenarios. Table 1 outlines the assumptions over time for the two scenarios.

For comparison, domestic content of land-based wind energy in the U.S. grew from 20% in 2005 to 67% by 2011[8, 9]. This level of growth in the domestic supply chain is more rapid than the high scenario for offshore wind, suggesting this analysis provides a conservative outlook. If the offshore industry follows a similar trajectory as land-based wind, the potential economic benefits may be greater than those depicted in this analysis.

Table 2: Annual Offshore Wind Installations and Domestic Content Assumptions

	2025	2030
	Base Scenario	
Annual Installations	2,000 MW	2,000 MW
Domestic Content	21%	45%
Project Capital Costs	$3,900/kW	$3,250/kW
Annual O&M Costs	$94/kW	$79/kW
	High Scenario	
Annual Installations	3,000 MW	3,000 MW
Domestic Content	32%	60%
Project Capital Costs	$3,900/kW	$3,250/kW
Annual O&M Costs	$94/kW	$79/kW

Modeling Tool

To estimate domestic economic impacts from offshore wind, we used the National Renewable Energy Laboratory's Jobs and Economic Development Impact (JEDI) model for offshore wind[10]. JEDI estimates economic impact outputs from U.S. offshore wind energy development in three tiers:

- **Product development and onsite labor impacts** capture the economic and employment benefits related to direct spending on development and construction labor and services, including engineering, design, and other professional services for project development. For operational wind projects, onsite labor impacts capture economic and employment benefits from hiring wind farm workers, including field technicians, administration and management.
- **Turbine and supply chain impacts** captures the economic and employment benefits from spending on turbine equipment, materials, and other offsite purchases of goods and services. For operational wind projects, this tier captures the impact from spending on replacement components and offsite labor.[11]
- **Induced impacts** are the changes that occur in household spending as household income increases or decreases as a result of the direct and indirect effects from the development, construction, and operation of offshore wind projects.

Block Island Wind Farm, Rhode Island

Photo by Deepwater Wind

Results

This paper reports the economic impacts of developing offshore wind for two principal phases of activity: 1) project development and construction, and 2) project operation and maintenance (O&M). Project development and construction impacts are the result of one-time expenditures required to bring the project into operation. In contrast, project operations and maintenance expenditures are required every year to keep the project in operational condition.

The economic impacts reported in this analysis are defined as follows:

- **Jobs:** Refers to full-time equivalent (FTE) employment at a given point in time. One FTE is equivalent to one person working 2,080 hours for 1 year.
- **Economic output:** Refers to economic activity or the total value of production in the economy that occurs as a result of project investment.
- **Economic value added:** Represents the difference between gross economic output and the cost of intermediate inputs. It includes payments made to workers, proprietary income, interest, rents, royalties, dividends, and profits, and indirect business taxes.

For each year in the following tables, the project development and construction impacts represent economic activity resulting from the installation of new wind projects in that year only. The O&M impacts represent annual figures associated with the total offshore wind fleet operating by that year. For example, operations and maintenance impacts in 2025 capture the economic impacts resulting from annual spending across all offshore wind projects in operation as of 2025.

Across both scenarios, project development, construction, and supply chain activities support the majority of offshore wind jobs earlier in the decade. However, as domestic manufacturing is established and more projects start operation, turbine component manufacturing and operations jobs make up a larger share.

Base Scenario

In the base scenario, the development of 20 GW of offshore wind power results in $28 billion invested in the U.S. economy by 2030. By 2030, as a result of this investment, the U.S. offshore wind industry will support an estimated 45,000 jobs and drive $12.5 billion annually in economic output .[12]

Employment

In the base scenario, the U.S. offshore wind industry will support an estimated 19,000 jobs by 2025 growing to over 45,000 jobs by 2030 (Table 3).

Table 3: Offshore Wind Full-Time Equivalent Jobs Supported in the United States in Base Scenario

	2025	2030
	Project Development and Construction	
Project Development and Onsite Activity	2,636	3,583
Turbine and Supply Chain	6,805	14,548
Induced	5,278	10,517
Total	**14,719**	**28,648**
	Operations and Maintenance	
Onsite Activity	761	2,869
Supply Chain	2,209	8,282
Induced	1,520	5,683
Total	**4,490**	**16,834**
	Total	
Project Development and Onsite Activity	3,397	6,452
Turbine and Supply Chain	9,014	22,831
Induced	6,798	16,200
Total	**19,209**	**45,483**

Project development and onsite jobs are relatively constant from year to year since installation levels are held constant at 2,000 MW per year. The primary driver of new development and construction jobs is increased domestic manufacturing and domestic service provisioning. The number of O&M jobs, on the other hand, increases along with the cumulative amount of operating offshore wind power capacity. In the base scenario, every 2,000 MW of installed offshore wind supports an additional 1,000 operations and maintenance jobs.[13] By 2030, 20,000 MW of operational offshore wind power supports an estimated 17,000 operations-related jobs, including nearly 3,000 onsite jobs.

Economic Output and Value Add

In the base scenario, annual offshore wind activity contributes $2.8 billion in added value to the U.S. economy in 2025 (Table 4). This includes $371 million from project development and onsite construction activities and $965 million from manufacturing and supply chain needs. The combined activity will further induce $548 million in added value. In addition, operational offshore wind projects are expected to deliver $877 million in annual value added in 2025, including $146 million from direct, onsite activities.

The value added to the U.S. economy from constructing and operating new offshore wind projects in 2030 will be much greater than 2025 due to increased domestic content and growth of the offshore wind project fleet. By 2030, offshore wind contributes $7.0 billion in added value to the U.S. economy in the base scenario. This includes $493 million in project development and onsite activities, $2.1 billion in manufacturing and supply chain needs, and $1.1 billion in induced value. In addition, O&M activities across the 20,000 MW offshore wind fleet in 2030 are expected to add an additional $3.3 billion in economic value.

In total, offshore wind activity is expected to support an estimated $5.5 billion in new economic output per year in 2025, including $1.7 billion driven by O&M activities. This swells to $14.2 billion in 2030.

Table 4: Offshore Wind Economic Impact Summary for Base Scenario

	2025		2030	
	Output	**Value Add**	**Output**	**Value Add**
	Project Development and Construction, $millions			
Project Development and Onsite Activity	$471	$371	$597	$493
Turbine and Supply Chain	$2,237	$965	$5,128	$2,099
Induced	$1,008	$548	$1,987	$1,090
Total	**$3,716**	**$1,884**	**$7,712**	**$3,681**
	Operations and Maintenance, $millions			
Onsite Activity	$146	$146	$553	$553
Supply Chain	$1,069	$481	$4,009	$1,798
Induced	$529	$251	$1,973	$944
Total	**$1,744**	**$877**	**$6,534**	**$3,295**
	Total Annual Economic Impacts, $millions			
Project Development and Onsite Activity	$616	$517	$1,150	$1,046
Turbine and Supply Chain	$3,306	$1,446	$9,137	$3,896
Induced	$1,537	$799	$3,959	$2,034
Total	**$5,460**	**$2,761**	**$14,246**	**$6,976**

High Scenario

Under a more aggressive scenario, the wind industry is expected to invest $57 billion in the U.S. economy by 2030 to develop 30 GW of offshore wind power. As a result of this investment, in 2030 the U.S. offshore wind industry supports 83,000 jobs and drives $25 billion annually in economic output.

Employment

In the high scenario, the U.S. offshore wind industry is estimated to support nearly 45,000 jobs by 2025 and 83,000 jobs by 2030 (Table 5). The large increase in assumed domestic content of wind turbine components and balance of plant equipment is primarily responsible for the large increase in jobs supported in the high scenario as compared to the base scenario.

Project development and construction will support the largest volume of jobs, estimated at nearly 59,000 jobs in 2030. In addition, jobs supporting the operation and maintenance of 30,000 MW of offshore wind totals over 23,000 in 2030 in the high scenario.

Economic Output and Value Add

Assuming 3,000 MW of yearly offshore wind power deployment, offshore wind activity will contribute an estimated $6.2 billion in added value to the U.S. economy in 2025 (Table 6). Project development and onsite construction activity is expected to add $807 million, while manufacturing and supply chain will add an additional $2.6 billion in value. The combined activity will further induce $1.4 billion in added value.

In 2025, operational offshore wind projects are expected to deliver $1.3 billion in annual value added, including $205 million from direct, onsite activities.

In 2030, total expected value add grows to $12.5 billion, including $1.1 billion in project development and onsite

Table 5: Offshore Wind Full-Time Equivalent Jobs Supported in the United States in High Scenario

	2025	2030
	Project Development and Construction	
Project Development and Onsite Activity	5,845	8,367
Turbine and Supply Chain	18,114	29,186
Induced	13,623	21,377
Total	**37,582**	**58,930**
	Operations and Maintenance	
Onsite Activity	1,142	4,304
Supply Chain	3,651	10,565
Induced	2,470	8,713
Total	**7,263**	**23,582**
	Total	
Project Development and Onsite Activity	6,987	12,671
Turbine and Supply Chain	21,765	39,751
Induced	16,093	30,090
Total	**44,845**	**82,512**

activity, $4.2 billion in manufacturing and supply chain activity, and $2.2 billion in induced value. Operations and maintenance activities across the 30,000 MW offshore wind fleet are expected to add an additional $4.9 billion in economic value. The large increase in manufacturing and supply chain impacts is the result of increasing domestic manufacturing capabilities, especially of core turbine components.

In total, offshore wind activity supports an estimated $12.5 billion in new economic output per year in 2025, including $2.6 billion driven by operations and maintenance activities. By 2030, annual economic output increases to $25.4 billion.

Table 6: Offshore Wind Economic Impact Summary for High Scenario

	2025		2035	
	Output	**Value Add**	**Output**	**Value Add**
	Project Development and Construction, $millions			
Project Development and Onsite Activity	$966	$807	$1,311	$1,140
Turbine and Supply Chain	$6,288	$2,614	$10,246	$4,191
Induced	$2,583	$1,412	$4,035	$2,215
Total	**$9,837**	**$4,833**	**$15,592**	**$7,546**
	Operations and Maintenance, $millions			
Onsite Activity	$205	$205	$812	$812
Supply Chain	$1,641	$737	$6,002	$2,692
Induced	$797	$382	$2,947	$1,415
Total	**$2,643**	**$1,324**	**$9,761**	**$4,919**
	Total Annual Economic impacts, $millions			
Project Development and Onsite Activity	$1,171	$1,012	$2,123	$1,951
Turbine and Supply Chain	$7,929	$3,350	$16,248	$6,882
Induced	$3,380	$1,794	$6,982	$3,631
Total	**$12,480**	**$6,156**	**$25,353**	**$12,464**

Conclusion

The growth of the U.S. offshore wind industry is expected to deliver significant economic benefits over the next decade and beyond. In a high scenario with 3,000 MW installed per year and 60% domestic content, these benefits could reach $25 billion per year and support over 83,000 jobs by 2030. These benefits do not account for additional value offshore wind projects will deliver through tax revenues to local, state, and federal jurisdictions, emissions reductions and associated health savings, and direct payments supporting workforce development or host communities.

These offshore wind benefits will not be limited to coastal states where the projects are built. While activity will be concentrated in coastal states close to the offshore wind projects, supply chains and service providers across the country will have an opportunity to support this new industry. Outside of the large turbine components, offshore wind represents an opportunity for domestic manufacturing of steel for foundations, substations and vessels, cables to transport the electricity, and U.S. flagged vessels to move components and workers to and from the project site. The oil and gas industry along the Gulf Coast is a prime example of an industry with an opportunity to leverage their expertise in offshore structures and offshore drilling and apply it to offshore wind.

These offshore wind benefits will not be limited to coastal states where the projects are built. While activity will be concentrated in coastal states close to the offshore wind projects, supply chains and service providers across the country will have an opportunity to support this new industry.

The U.S. wind industry is already well on its way to delivering economic benefits across the county, with investment announcements currently totaling $1.3 billion and counting across the East Coast. These commitments to improve port infrastructure, establish manufacturing facilities, and provide training facilities, just to name a few, are indicative of what will follow as the industry grows.

Block Island Wind Farm, Rhode Island
5 Turbine, 30 MW project developed by Deepwater Wind and owned by Ørsted.
The first offshore wind farm in the United States.

Endnotes

1 Bloomberg New Energy Finance, Wood Mackenzie

2 Reflects domestic investment only. Full project investment ranges from $80 – $106 billion.

3 National Renewable Energy Laboratory https://www.nrel.gov/docs/fy16osti/66599.pdf

4 Energy Information Administration

5 *American Wind Energy Association*

6 *This analysis does not attempt to determine where in the U.S. the supply chain develops as the industry grows and the domestic content of offshore wind projects increases.*

7 Wood Mackenzie and Bloomberg New Energy Finance.

8 *AWEA U.S. Annual Market Report*, Year Ending 2012

9 *AWEA U.S. Annual Market Report*, Year Ending 2009

10 Available at: https://www.nrel.gov/analysis/jedi/wind.html

11 Supply chain impacts are generally considered indirect, except for those impacts resulting from the initial round of spending on turbine components, which are considered direct effects. In this analysis, all supply chain activity, both direct and indirect are captured in the turbine and supply chain tier.

12 Includes direct, indirect, and induced economic output

13 Includes direct, indirect, and induced jobs

About AWEA

The American Wind Energy Association (AWEA) is the national trade association of the U.S. wind energy industry, the largest source of renewable energy in the country. With 1,000 member companies and over 114,000 jobs in the U.S. economy, AWEA serves as a powerful voice for how wind works for America. Members include global leaders in wind power and energy development, turbine manufacturing, and component and service suppliers. Learn more about wind energy on the AWEA website and on our blog, Into the Wind and follow us on Facebook, Twitter, and LinkedIn. http://supportoffshorewind.org

Authors

John Hensley, Vice President, Research & Analytics

Celeste Wanner, Research and Analytics Manager

U.S. Offshore Wind Power Economic Impact Assessment

Prepared By
American Wind Energy Association
1501 M St. NW, Suite 900
Washington, DC 20005

AWEA.org

http://supportoffshorewind.org