



Offshore Wind Benefits New Yorkers



New York State's burgeoning offshore wind industry is delivering renewable energy opportunities to empower communities today and tomorrow, across its Upstate and downstate regions, from West to East and from Buffalo to Babylon. New York's offshore wind developers, manufacturers, unions, port operators, neighborhood advocates, and state policymakers are determined and committed to put people and communities first, on and off the coast, working together, as partners to create opportunities that power our future.

The offshore wind industry will deliver clean, **locally produced power** close to the nation's largest population centers and where consumer demand is highest, moving us away from fossil fuels and providing consumers with more robust **clean energy solutions. The lower greenhouse gas emissions** and pollution will allow us to combat climate change, improve public health and quality of life with cleaner air and water, particularly in New York's frontline communities. The **creation of a new, U.S.-based manufacturing industry** presents a once-in-a-generation opportunity to create good quality, high paying jobs, revitalize our port infrastructure and move individuals and communities out of poverty.



How?

New York State has made a momentous and unprecedented commitment to support the build out of this industry. Through forward-thinking planning, innovative policies, private and public financial commitments and development, New York is aspiring to be the nation's hub for the burgeoning offshore wind industry.



Additionally, the Biden Administration announced an initiative with 11 East Coast States including New York to ease permitting process, grow the OSW supply chain and accelerate offshore wind farm construction under a new Federal-State offshore wind partnership.[i] Under these initiatives and strategy, the industry is already developing first-in-the nation projects in New York.

Offshore wind is a primary renewable energy source of New York's nation-leading and ambitious comprehensive Climate Leadership and Community Protection Act (Climate Act) which requires at least 70 percent of New York's electricity be generated by renewable energy sources by 2030 and commits to 100 percent zero-emission electricity by 2040.[ii]

New York, with the largest offshore wind pipeline in the United States has five offshore wind projects in active development. This current portfolio of projects totals more than 4,300 megawatts and will power more than 2.4 million New York homes, and it is expected to bring a combined economic impact of \$12.1 billion to the state.

The projects are also expected to create more than 6,800 jobs in project development, component manufacturing, installation, and operations and maintenance. Achieving the State's 9,000 megawatt by 2035 goal will generate enough offshore wind energy to power approximately 30 percent of New York State's electricity needs, equivalent to nearly 6 million New York State homes, and spur approximately 10,000 jobs.[iii]

The offshore wind industry will deliver:

- Clean, **locally produced power** close to the nation's largest populations centers and where consumer demand is highest
- Thousands of short- and long-term skilled and good paying construction, manufacturing, and operations **jobs**, accompanied by job training and education
- **Economic opportunities** from significant investments into new and revitalized infrastructure in communities along New York's Atlantic Coast and up to the Capital Region, including within historically disadvantaged communities, from turbine manufacturing to new technology and industrial manufacturing centers
- Diversified electricity supply which moves us away from fossil fuels and provide consumers with more robust **clean energy choices**
- **Lower greenhouse gas emissions** and pollution to combat climate change, improve public health and quality of life with cleaner air and water, particularly in New York's frontline communities



Status

Currently, New York has five offshore wind projects in active development that have long-term contracts in place, totaling more than 4.3 GW of offshore wind when fully developed, or nearly half of the state's 2030 goals.[iv]

The current New York State projects include:

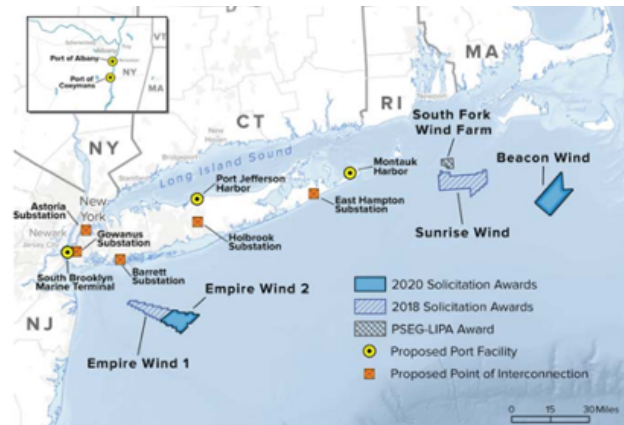
1. South Fork Wind Farm (130 MW), located 35 miles off the east coast of Long Island – Montauk Point. Expected to be operational by end of 2023.

2. Beacon Wind (1,230 MW), located 60 miles east of Montauk Point. Expected to be operational by late 2020's.

3. Sunrise Wind (924MW), located approximately 35 miles off the east coast of Long Island – Montauk Point. Expected to be fully operational by 2025.

4. Empire Wind 1 (816 MW), located approximately 14 miles from Jones Beach State Park. Expected to be operational by 2026.

5. Empire Wind 2 (1,260 MW), also located approximately 14 miles from Jones Beach State Park. Expected to be operational by 2027.



Map of five offshore wind projects in active development in New York State [v]

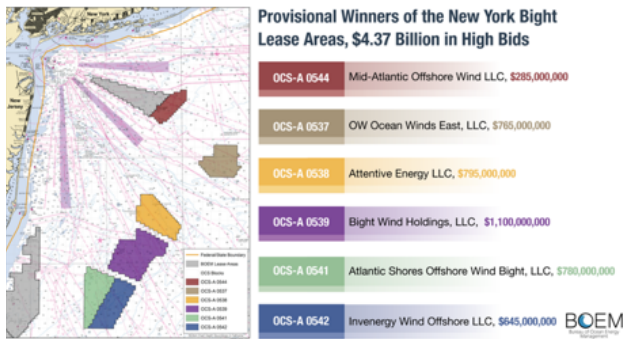
Specifically, from these projects alone, New York will see:

- 6,800 direct jobs
- \$12.1 billion in economic activity generated
- Commitments for \$700 million in total new investment in New York State's ports and harbors[vi]

On the back of this powerful momentum, in early 2022, the Biden Administration auctioned off its first offshore wind leases with a record-shattering dollar amount, generating nearly \$4.4 billion to the U.S. Treasury for six new lease areas, totaling nearly 500,000 acres in the New York Bight off New York and New Jersey shores[vii]. These new areas are estimated to accommodate as much as 11 gigawatts of new offshore wind development – enough capacity to meet New York's 2035 goal, as well as satisfy New Jersey's similarly aggressive target.

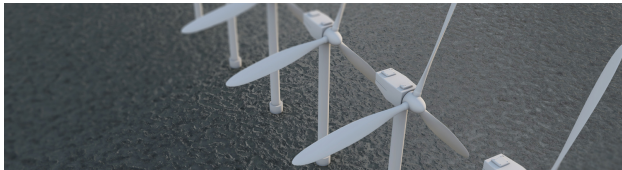


The winners of those leases announced in February 2022 include:



Provisional Winners of the New York Bight Lease Areas [viii]

The addition of several new and well-capitalized leaseholders, with global experience developing large-scale offshore energy and infrastructure projects, is sure to intensify competition, drive innovation and cost reduction, and accelerate the mainstreaming of this new U.S.-based clean energy resource.



Offshore Wind is Replacing Fossil Fuels

Environmental Progress

Building on New York’s legacy environmental leadership, offshore wind is poised to become a significant source of clean, affordable, renewable power in New York and is key to ensuring that our future electricity will come from 100% clean and renewable sources. Building offshore wind energy will displace dirty fossil-fuel power, reducing the emissions that contribute to climate change and the pollution that harms the air we breathe.

While New York has made progress in shutting down coal plants, New York’s energy producers and operators plan to phase out up to a third of its aging fossil fuel plants by 2030. To be successful, New York must harness offshore wind and other renewables, working with the private sector, advocates and communities. Expanding offshore wind is a less risky and stable alternative to gas and fossil fuels for several reasons. Offshore wind provides stable consumer costs, mitigates fuel price risk, reduces emissions, and provides a local, safe and predictable source of energy. [ix]

With more than 4,300 MW of offshore wind projects already under development, significant progress towards New York’s 9,000 MW of renewable offshore wind capacity by 2035 is being made[x]. When completed by 2035, the 9,000 megawatts of energy will generate enough offshore wind energy to power approximately 30 percent of New York State’s electricity needs, equivalent to nearly 6 million New York State homes .[xi]



What will offshore wind do for the environment?

- Reduce CO2 and combat climate change as the economy, grid, and power systems transition to clean energy
- Reduce conventional pollutants and improve air and water quality for all New Yorkers
- Be built responsibly, respecting other ocean users, marine and fish wildlife, and the coastal environment

Offshore Wind Creates Jobs and Economic Opportunity

Jobs and Training

Offshore wind is first and foremost supplying clean and renewable energy while creating good paying jobs and increasing demand for more clean energy workers in the state. With the 4,300 MW awarded out of the five current projects now in development, New York can support more than 6,800 jobs in project development, component manufacturing, installation and operations and maintenance, both on and offshore.[xii]

With the expectation for another 4,700 MW of offshore wind commitments needed to reach New York State’s goals, the state is expected to create another 3,200 jobs for a total of 10,000 jobs to establish New York as a leading hub for the industry.[xiii]

Offshore wind holds the promise of thousands of union jobs with multi-generational employment with opportunities

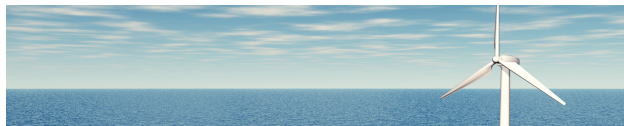
across the state along with new jobs and careers in underserved communities who will be provided worker training.

For instance, in Spring 2022, North America's Building Trades Unions (NABTU) and Ørsted, announced a first-of-its kind (and likely model for other developers) Project Labor Agreement (PLA) to construct the company's U.S. offshore wind farms with an American union workforce. The National Offshore Wind Agreement (NOWA) covers all of Ørsted's contractors and subcontractors that will perform offshore windfarm construction from Maine to Florida. The NOWA will also inject hundreds of millions of dollars in middle-class wages into the American economy, creates apprenticeship and career opportunities for communities most impacted by environmental injustice, and ensures projects will be built with the safest and best-trained workers in America.

Overall, the diversity of jobs directly impacted by the offshore wind industry will start or further careers with average salaries of approximately **\$100,000 per year**. [xiv]

The workforce needs of this new industry are diverse and enormous, spanning project development, equipment manufacturing, construction and operation of specialized vessels, windfarm operations and maintenance and portside activities.

Job training, with a mix of private, state, and federal funding, will be conducted with several new training institutes in New York City, on Long Island and in the Capital Region, that will train up to 2,500 workers, including those in disadvantaged communities.[xv]



Offshore Wind is a Good Investment Investing in Ports, Manufacturing and Training Leading to New Economic Development

Offshore wind power is key to New York's economic revitalization, particularly as we continue the struggle to rebuild following the global pandemic's impact on New Yorkers. Offshore wind represents a once in a lifetime opportunity to stand up a whole new U.S.-based industry.

Investments are being made Downstate and Upstate in the modernization of New York's ports to serve the varied needs of this new industry. These include port improvements to serve as centers for pre-assembly and load out of massive components to the offshore site, the repurposing of harbor facilities for operations and maintenance activities, manufacturing, and other industrial purposes.

Building 9,000 MW takes significant new infrastructure, investments in supply chains and manufacturing bringing new job and economic opportunities.



The first five offshore wind projects are under active development and before the end of the decade, will power over 2 million homes, generate nearly \$7 billion in economic activity, and create more than 6,800 family sustaining jobs.[xvi]

With \$200 million already committed to rebuilding and revitalizing the ports, New York is doubling down on this investment. New York has budgeted another \$500 million to upgrade ports and expand manufacturing and supply-chain infrastructure.[xvii]

With this private and public spending New York is poised to deliver more than \$77 million in offshore wind workforce training in coming years, leading the U.S. This funding and political commitment will support the buildout of the offshore wind industry and fuel New York's economy while meeting New York's ambitious climate goals.

Paired with private investments, New York has already unlocked more than \$644 million in resilient port facilities and manufacturing, helping to jump start development and drive job growth with the four ports already selected for the first 4,300 MWs of offshore wind projects.[xviii]



Sunset Over an Offshore Wind Farm [xix]

Offshore Wind Must Be Equitable Environmental Justice and Just Transition

Developing offshore wind provides an opportunity to benefit all New Yorkers. The development of offshore wind power in New York State holds enormous promise for historically underserved, frontline communities. Working with state officials, community leaders and policymakers, the new industry is committed to equitably develop, construct, and deliver affordable, clean power.

Environmental Justice with Safer Neighborhoods

When offshore wind projects are powered up, the low-emission electricity they generate will displace dirty power from older power plants, cleaning the air in disadvantaged neighborhoods where these plants are concentrated. The improved air quality will bring better public health. After COVID, we need to ensure all New Yorkers have the same opportunity to live and work in healthy and safe communities, no matter their economic situation or zip code.

Besides lower emissions from the clean energy produced by offshore wind, by revitalizing, expanding, and improving underutilized ports and abandoned industrial areas, we have new opportunities to “green” their operation by our waterways and close to population centers.

Just Transition with Good Jobs

The construction of the offshore wind projects will create thousands of new jobs in coastal cities and inland – in places like Sunset Park, Brooklyn, and Albany’s South End – locations already selected and transitioning to build and manufacture the offshore wind industry and its components. These projects support the modernization of port facilities from Upstate Albany to Montauk at the tip of Long Island and will create hundreds of jobs modernizing the transmission grid to serve New York’s economy far into the future.

And, as the offshore wind supply chain spreads across the state, thousands of New Yorkers are getting trained by leading institutes and New York’s top-tier universities to manufacture the components, and to install, operate and service the windfarms. Communities and this new industry are working together to capture these opportunities, improve New York neighborhoods, and provide clean electricity, affordably and cost-effectively.



Offshore Wind Workers [xx]

[i] White House, FACT SHEET: <https://www.whitehouse.gov/briefing-room/statements-releases/2022/06/23/fact-sheet-biden-administration-launches-new-federal-state-offshore-wind-partnership-to-grow-american-made-clean-energy/>

[ii] NYSERDA, Climate Act, 2022

[iii] Governor Hochul Announces Construction of New York’s first offshore wind project, Feb. 11, 2022 www.governor.ny.gov/news/governor-hochul-announces-start-construction-new-yorks-first-offshore-wind-project

[iv] NYSERDA, Offshore Wind Projects, 2022

[v] Map obtained from NYSERDA, Offshore Wind Projects, 2022

[vi] NYSERDA, Offshore Wind Projects, 2022

[vii] The White House, FACT SHEET: Biden Administration Jumpstarts Offshore Wind Energy Projects to Create Jobs, 2021

[viii] Map obtained from Bureau of Ocean Energy Management, New York Bight, 2022

[ix] Acadia Center, <https://2030.acadiacenter.org/regions/new-york-region/>

[x] NYSERDA, About Offshore Wind, 2022

[xi] NYSERDA, New York’s Third Offshore Wind Solicitation, 2022

[xii] NYSERDA, New York’s Third Offshore Wind Solicitation, 2022

[xiii] The Official Website of the City of New York, Mayor Adams Announces Agreement to Transform South Brooklyn Marine Terminal Into Leading Offshore Wind Hub, 2022

[xiv] According to NYSERDA Offshore-Wind-FAQs-2021 (4).pdf

[xv] NYSERDA Offshore Wind, Workforce Development, 2022

[xvi] NYSERDA, Offshore Wind Projects, 2022

[xvii] Governor Hochul, Governor Hochul Announces Nation-Leading \$500 Million Investment in Offshore Wind, 2022

[xviii] NYSERDA Offshore Wind, Workforce Development, 2022

[xix] Photo provided by Equinor

[xx] Photo provided by Ørsted