

DIRECTION

THE FUTURE OF WIND



Sun Ja Wind and Transmission will employ more than 2,000 workers on-site during construction, including heavy equipment operators, electricians, laborers, and others. (Courtesy: Pattern Energy)

Patterson Energy closes \$11 billion financing for clean-energy project

Pattern Energy Group LP, a leader in renewable energy and transmission infrastructure, recently closed an \$11 billion non-recourse financing and begun full construction of SunZia Transmission and SunZia Wind, which together is the largest clean-energy infrastructure project in U.S. history.

SunZia Transmission is a 550-mile ±525 kV high-voltage direct current (HVDC) transmission line between central New Mexico and south-central Arizona with the capacity to transport 3,000 MW of electricity across Western states. SunZia Transmission will deliver clean power generated by Pattern Energy's 3,515 MW SunZia Wind facility, which is being constructed across Torrance, Lincoln, and San Miguel counties in New Mexico.

"Our hope is this successful financing of the largest clean energy infrastructure project in American history serves as an example for other ambitious renewable infrastructure initiatives that are needed to accelerate our transition to a carbon free future," said Hunter Armistead, CEO of Pattern Energy. "We'd specifically like to thank our shareholders for their support of Pattern's efforts to deliver this critical project and meaningfully advance the world's energy transition."

This financing includes an integrated construction loan and letter of credit facility, two separate term facilities, an operating phase letter of credit facility, an innovative tax equity term loan facility and a holding company loan facility.

"SunZia represents an important step forward in the global transition to renewable energy and we are pleased to support Pattern as it works to bring this project toward completion," said Bill Rogers, managing director, global head of sustainable energies, CPP Investments. "CPP Investments' ability to provide a unique combination of flexible capital and deep expertise places us well to support projects like SunZia, which we expect will provide

attractive, risk-adjusted returns to the CPP Fund over the long term."

SunZia Wind and Transmission will employ more than 2,000 workers on-site during construction, including heavy equipment operators, electricians, laborers, and others.

MORE INFO www.patternenergy.com

Assessment: Offshore wind at NY ports will provide many jobs

Proposed offshore wind manufacturing facilities at the Capital Region's major marine ports will bring an influx of jobs by the thousands while adding billions to the local economy, according to an economic impact assessment released recently by the Port of Albany and the Port of Coeymans.

The development and operation of proposed facilities at the two ports — Port of Albany and Port of Coeymans — would support up to 10,000 construction-related jobs, create more than 3,200 new jobs, and add \$1 billion in wages over the course of construction and first year of operations, according to the assessment. These figures include jobs and wages at the project sites, across the supply chain, and throughout the broader regional economy. Additionally, the projects would generate up to \$4 billion in total industry spending stemming from initial investment and supply chain spending over the course of construction and first year of operations.

The ports are key to positioning the Capital Region as a domestic hub for offshore wind manufacturing, with both the U.S. lacking capacity to make turbine components and supply chain issues plaguing the industry. Components made in the Capital Region will reduce America's reliance on imports while ensuring local communities will benefit from an industry that is expected to peak at 18,000 to 23,000 workers

in New York state by 2040.

The Port of Albany is building the nation's first offshore wind tower manufacturing facility; once completed, the 626,000-square-foot complex will annually produce up to 150 towers to support the turbines, which will be floated down the Hudson River.

Meanwhile, the Port of Coeymans is planning to break ground in 2024 on a production, staging, and transportation site for nacelles, which house the critical components needed to convert wind into clean energy. The Port of Coeymans has also proposed a standalone project to manufacture and transport wind-turbine blades. The projects are expected to be completed by 2026 and 2027, respectively, with production ramping up to a maximum of 60 nacelles and 180 blades per year.

Other highlights of the economic impact assessment include:

► Earnings created by new jobs at the ports will lead to increased household spending — and demand for workers in other businesses across industries that are impacted by the increased household spending. The health care, social assistance, finance and insurance, accommodation and food services, and retail sectors are projected to get the biggest boost, leading to an additional \$525 million in sales throughout construction and first year of operations, as well as 1,040 local jobs and \$61 million in annual wages for each year of operations.

► The Port of Albany facility is estimated to generate \$163 million in tax revenue during construction and its first year of operation, including \$9 million for Albany County and \$10 million for the City School District of Albany.

► The Port of Coeymans facility is estimated to generate \$232 million in tax revenue through its first year of operation, including \$12 million for the county and \$12 million for the Ravenna-Coeymans-Selkirk Central School District.



The Port of Albany facility is estimated to generate \$163 million in tax revenue during construction and its first year of operation. (Courtesy: Port of Albany)

These projects will also promote industry diversity. Hundreds of eligible, local serviced-disabled veteran-owned businesses (SDVOBs) and minority- and women-owned business enterprises (MWBs) will have the opportunity to access contracts estimated worth \$71 million during construction and \$23 million in the first year of operations of the ports' offshore wind plants.

"This shows the power ports play in commerce in New York," said Richard Hendrick, CEO of the Port of Albany. "The coordination on this is exceptionally forward thinking for both renewable energy production as well as domestic supply chain."

"Offshore wind manufacturing is an unprecedented opportunity for Albany County and validates the county's economic strategy focusing on alternative energy and green technology," said Kevin O'Connor, CEO of Advance Albany County Alliance.

"New York's ports are essential to enabling the state's bold carbon emissions reduction goals and economic development initiatives," said Rebecca

Karp, Founding Principal and CEO of Karp Strategies. "Our analysis shows that investment in offshore wind can deliver major long-term regional economic benefits. The Port of Albany and the Port of Coeymans reflect an exciting, once-in-a-generation opportunity to build new infrastructure for clean energy, support thousands of new jobs, and spark billions in economic activity,"

MORE INFO www.ceg.org/wp-content/uploads/2023/12/Offshore-Wind-Economic-Impact-Analysis.pdf

Biden administration proposes Central Atlantic wind lease

The Biden administration recently announced a proposal for the offshore wind lease sale in the Central Atlantic Ocean, with the support of urged by Maryland's U.S. senators, Chris Van Hollen and Ben Cardin.

The proposed lease sale of two previously designated parcels in the Cen-

tral Atlantic Ocean is scheduled for this year. The commitment to identifying additional acreage off Maryland's shores as Wind Energy Areas (WEAs) for a subsequent lease sale in 2025 underscores the administration's responsiveness to state and local leaders, and dedication to long-term clean energy strategies.

"Offshore wind energy stands as a source of encouragement in the fight against climate change and the transition toward clean-energy alternatives," said Josh Tulkin, director of the Maryland Sierra Club. "We commend Senators Van Hollen and Cardin, and the Biden administration, for their commitment to expanding renewable energy resources and accelerating the transition to a more resilient and just energy landscape. While we are disappointed that leasing area B-1, or similar areas, were not released, we are encouraged that there is a process in place to open additional areas. Maryland cannot reach its clean energy goals without additional space being made available."

"We look forward to greater collaboration on decarbonization efforts across the Central Atlantic, and bringing about a clean energy future that is fair, equitable, and beneficial for all communities," he said.

Maryland has a goal of developing 8.5 GW of offshore wind energy by 2035, and these announced leasing areas will put the state one step closer to reaching its goal with the assurance that more areas will be leased in the near future.

MORE INFO www.sierraclub.org/maryland

K2M releases offshore energy yield study

In the midst of an offshore wind development landscape marked by both rapid growth and a rising sense of uncertainty about supply chains and material costs, K2 Management (K2M), a project advisory and engineering consultancy for the renewable energy



Maryland has a goal of developing 8.5 GW of offshore wind energy by 2035. (Courtesy: Maryland Energy Administration)

industry, recently published “Offshore Energy Yield Predictions — Validation Report 2023,” the largest independent offshore energy yield validation study to date.

As developers expand portfolios to emerging offshore markets, K2M highlights the need to validate energy yield assessment as widely as possible across diverse geographies rather than assume the efficacy of a one-size-fits-all approach. The report underscores industry concerns regarding the universal applicability of energy yield assessment methods originally tailored for smaller onshore turbines, particularly in addressing complex interactions such as wind turbine wakes, which can differ significantly from project to project.

In a sector where confidence hinges on energy yield predictions, the report points out the necessity of ensuring the predictions are precise and backed by proven pre-construction best practice. In an industry susceptible to future shocks, consistent and precise data aims to provide all stakeholders with



K2M has released the largest independent offshore energy yield validation study to date. (Courtesy: American Clean Power Association)

a reliable benchmark for the entire development process. Contrary to more optimistic projections prevalent in the market, this approach prioritizes accuracy over inflated numbers. Looser bounds of uncertainty can create higher figures in the short term, but do not work to build long-term trust with investors or bolster a project’s financial and operational longevity, and can derail progress altogether.

“As wind energy grows, we are on a continuous learning curve: We can’t blindly rely on existing models — we need to validate and evolve our methodologies,” said Joel Manning, K2M’s manager and R&D lead — analysis services. ↴

MORE INFO info.k2management.com/offshore-energy-yield-predictions-a-validation-guide