

# Sunrise Wind

## GENERAL QUESTIONS

### Will the foundations, nacelles, and turbine blades be made in the U.S. or will they be manufactured in Europe and shipped here?

→ For now, those components may largely be manufactured in Europe, where offshore wind farms have been in operation for about 30 years. However, there will be a strong incentive to create a significant domestic supply chain as the industry matures in the U.S., and we praise Governor Cuomo's Administration for their efforts to jump-start the domestic supply chain. Creating this U.S.-based supply chain will not happen overnight, but Sunrise Wind (and projects like it) demonstrate to suppliers and manufacturers that the demand in the U.S. is growing fast enough to warrant investment at home. As an example, Sunrise Wind has committed to the fabrication of steel components in the New York capital region.

### Where will the turbine components be assembled and shipped to the wind farm?

→ State Pier in New London, Connecticut will be the portfolio's main hub for wind turbine staging and assembly. However, no single port will be able to handle all the turbine activities for the entire portfolio. As such, we are planning to utilize numerous ports for our Sunrise Wind project. In New York, we are focused on the Port of Coeymans as a key hub to supplement turbine activities. We will also potentially be looking to utilize other ports throughout New England and in Virginia.

### Can you tell me more about how the location was determined for the turbines?

→ The turbines will be located more than 30 miles east of Montauk Point in a federal lease area owned by Ørsted and Eversource. The boundaries of the lease area were determined through an extensive stakeholder and environmental review process led by the Bureau of Ocean Energy Management.

### How stable a source of power production is offshore wind given its dependence on the wind to generate power?

→ The Sunrise Wind project is located in one of the most reliably windy areas on the planet and because offshore wind does not require oil, gas, or coal for power, its cost does not go up when the demand for power increases.

Furthermore, the deployment of offshore wind can help reduce regional dependence on fossil fuels and mitigate seasonal price spikes caused by shortages. During the Polar Vortex of the Winter of 2017/18, the New England Independent System Operator estimated that consumers paid in excess of \$700 million in wholesale power cost as a result of price spikes caused by a disruption in the supply of traditional fuels.

While offshore wind is an inherently intermittent resource dependent upon daily and seasonal changes in wind speed, industry advancements have brought offshore wind to the level of predictability of output and yield efficiency that is needed for baseload generation, which can be supplemented by additional onshore renewables and energy storage.

## How will the turbines withstand severe weather, such as hurricanes?

- Sunrise Wind will be built to withstand severe weather events including high wind speeds and hurricanes. The turbines support structures such as the towers and foundations are designed to withstand 500-year wind and wave conditions, and the platform will be elevated above the expectations for a 1,000 year-wave crest in accordance with relevant domestic and international standards. The wind turbine generators themselves are suited for wind speeds of 112 miles per hour (mph) as well as wind gust up to 157 mph. Should wind speeds increase above this level, the turbine generators will automatically shut down.

## What is the vulnerability to onshore components of the project?

- Onshore facilities will be designed in accordance with the National Electric Safety Code (NESC), American National Standards Institute (ANSI)/Institute of Electrical and Electronics Engineers (IEEE) Standards, and NYISO requirements. The design accounts for appropriate grading to ensure proper drainage and will address erosion, high wind speeds, and ice as part of these requirements. Because the onshore facilities are located well inland, impacts from sea level rise, storm surge, and many other hazards are not expected to affect the components during the life of the project. The onshore transmission facility will also utilize an underground design to avoid overhead weather-related disturbances including wind, ice, and lightning. Similarly, this design also provides some amount of protection from storm surges, flooding, sea-level rise, and other risks.

## Will the electricity supplied by Sunrise Wind be used to power Long Island or will it be sent to New York City and other regions of New York?

- Sunrise Wind will produce power for Long Island and the rest of New York State.

## How long will Sunrise Wind operate and what will happen at the end of the wind farm's life?

- We expect Sunrise Wind to operate for about 25 years. At the end of its operations, Sunrise Wind will be decommissioned, something the team has unique experience undertaking. In 2017, Ørsted decommissioned the Vindeby Offshore Wind Farm in Denmark, after 25 years of operation. The project foundations were removed, and turbine blades were taken down and recycled for noise barriers. Sunrise Wind will undertake a similar decommissioning process.

## Why do you need to connect to Holbrook?

- Transmission and interconnection facilities are necessary to transmit electricity generated by the Project to the electrical grid. This specifically requires conveying or delivering electricity from the offshore wind farm to existing onshore electrical transmission facilities, also known as a Point of Interconnection (POI).

Several potential existing substation locations were considered and evaluated for the Project's POI. The Holbrook Substation located near Union Avenue at the intersection of Long Island Expressway and Route 97 in the Town of Brookhaven, NY, was chosen as the POI based on several criteria.

Holbrook is located in an area surrounded by predominantly industrial and commercial land uses with limited nearby residential development. The POI is within a very strong electrical transmission grid, and a minimum amount of existing utility infrastructure upgrades would be required to accommodate the project's power output.

Additionally, one or more, adequately sized parcels are likely available in close proximity to the Holbrook Substation, and there is a potential opportunity to co-locate the Onshore Interconnection Cable in existing Rights-of-Way (ROWs).

## Why can't you combine this with South Fork Wind and make landfall in East Hampton?

- The landfall location (Beach Lane) for South Fork Wind does not have sufficient space to accommodate landfall for both the Sunrise and South Fork Projects. Moreover, Sunrise Wind requires a strong electrical transmission grid to connect into which would, in turn, require additional upgrades to the existing infrastructure in East Hampton to accommodate the project's power output.

Alternatively, the transmission cable could be brought to the Holbrook substation from landfall at East Hampton but doing so would extend the route by 50 miles and result in greater onshore impacts than the existing 17.5-mile route currently proposed. Ultimately, neither of these options is as efficient or effective as simply landing in Brookhaven and connecting to the Holbrook station.

## Why can't you make landfall closer to the substation in Blue Point or Sayville?

- An extensive analysis of potential landfall locations was done, including landing points to the west of Smith Point County Park. Landing at Blue Point or Sayville would require installing the cable through Great South Bay. Smith Point County Park was selected because it is an ideal landfall location, with a large parking lot to perform the work, and a narrow crossing of the Intracoastal Waterway to the mainland which can be done with an HDD, minimizing any disruption in Great South Bay. Several existing submarine cables also make landfall here.

## Will the construction of the project require our beach to be closed?

- No. Beach access will be maintained throughout the construction and operation of the Project. This portion of the Project within Smith Point County Park and Smith Point Marina will take place outside the summer tourist season

(between Memorial Day and Labor Day) to limit potential impacts to beachgoers. Construction methods, such as HDD will be used to avoid beach impacts, and we will work with County Parks officials to coordinate access throughout the Project.

## How many turbines does the project consist of?

→ The project will be permitted for up to 122 turbines.

## Have all necessary studies been completed for the preparation of the Article VII application?

→ Although many studies and surveys have been completed in preparation for the Article VII filing, additional studies are currently ongoing and will continue as we work to complete our technical engineering design and Environmental Management and Construction Plan.

## Are there federal Funds to help?

→ Sunrise Wind pays for all the of costs to develop and build the Project. Sunrise Wind plans to utilize federal tax credits for offshore wind investments or production if they are available when the wind farm becomes operational.

## Where will federal and state applications be available for public access?

→ Yes. You can view our recent Article VII application here: <http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?Mattercaseno=20-T-0617>

Other links will be posted to the resource section of our website at [sunrisewindny.com](http://sunrisewindny.com) as they become available. Once our federal application is made available to the public, it will be located on the Bureau of Ocean Energy Management website and a link will also be placed on our Project website.

## SAFETY

### What safety practices will be implemented to protect workers during turbine installation and maintenance?

→ Sunrise Wind is deeply committed to providing a safe, healthy workplace for all its employees and contractors, and we take responsibility for our employees' health and well-being seriously. Sunrise Wind continuously improves its health and safety performance by pursuing pro-active safety targets and the use of hazard identification and risk management principles to minimize the risk of illness and injuries. In accordance, with 30 CFR § 585.810, Sunrise Wind has developed a Safety Management System, which is a collection of Ørsted documentation that manages the offshore work activities and Eversource documentation that manages the onshore work activities.

## What is being done to promote navigational safety near the wind farm?

- As part of our ongoing stakeholder engagement, the Sunrise Wind project team has incorporated (and continues to incorporate) many suggestions and project inputs from fishermen and local stakeholders to balance the needs of the fishing community and mariners with offshore wind energy.

Sunrise Wind will adopt the 1 nautical mile by 1 nautical mile east-west, north-south uniform layout that all offshore wind developers in this area have committed to using. The spacing is consistent with requests from members of the fishing community and other maritime stakeholders during our conversations with those groups and would create 231 distinct transit lanes across the entire wind energy area. This layout features the largest turbine spacing in the world and focuses on the safety of navigation and search and rescue capabilities.

In addition to this layout, Sunrise Wind is reviewing a robust uniform aids-to-navigation suite as part of the navigation safety measures. This includes multi-layered navigation lights, alpha/numeric indicators of a size that exceed international standards (as recommended by the commercial fishing industry) to ensure easy recognition by mariners, even in darkness. Additionally, we plan to incorporate automatic identification system signals on every tower (again as recommended by the commercial fishing industry), provide enhanced VHF radio and cellular capability throughout the wind farm, and install mariner-activated sound signals. We will continue to review these plans and evaluate and more necessary measures.

## What steps are you taking to mitigate the visual impacts of the turbines?

- No wind turbines will be visible from Brookhaven and we are taking several steps to reduce the visual effects of the turbines overall. Our turbines will have a uniform design, height, and rotor diameter. The turbines will also be painted pure white to light grey as recommended by BOEM and the FAA. The color white of the turbines blends well with the sky at the horizon and eliminates the need for daytime warning lights or red paint marking the blade tips. The Project is also evaluating the implementation of methods to limit the visual impact of the aviation lights, for example, light dimming or the use of a radar-based Aircraft Detection Lighting System (ADLS) to turn on, and off, the aviation obstruction lights in response to detection of aircraft in proximity to the wind farm. No wind turbines will be visible from anywhere in Brookhaven.

## Will there be EMF associated with the proposed underground cables?

- Yes, like all other infrastructure that distributes or uses electricity in our communities. The electric and magnetic fields will be within levels permitted by New York State. Changes in electric and magnetic fields will be limited to the area immediately surrounding the underground cables and will fall off rapidly with distance. The Onshore Transmission Cables and Interconnection Cables will not be a direct source of any electric field above ground due to the cable construction, duct bank, and burial underground.

## Do you have plans in place in the event of natural disasters?

- Public safety is a top priority of Sunrise Wind, and as we continue to refine the development plans of the Project, we will be taking potential evacuation routes into consideration to mitigate any impacts and maintain public safety.

Now that we have identified a preferred route for the onshore cable, our team will work to develop a detailed traffic management plan in consultation with local first responders and Public Highway officials to ensure that response time or evacuation routes are not hindered.

## TRAFFIC & ONSHORE CONSTRUCTION

### When will you be constructing the project?

- Construction could start as early as 2023.

### How long does construction take?

- Construction of the onshore facilities is expected to take approximately 2 years.

### What impact will construction have onshore, particularly for residents in the vicinity of the worksite?

- Our transmission cable will remain buried – below the seabed as well as roadways – throughout the entire route. No above-ground wires or new electric poles will be needed outside of the substation site. Construction of the Project will occur almost entirely within the existing road Right-of-Ways and will generally require excavation of a trench to install a duct bank within the existing roadway, or shoulder – this is standard procedure for installing underground cables such as this one. We will work with the local community to minimize traffic disruptions, noise, and light during construction.

Due to the length of the cable, sections of cable will need to be spliced together along the entirety of the route approximately every 2,000 feet. This splicing will occur within an underground vault that will need to be installed. The temporary disturbance area required for these vaults will be larger than for the duct bank installation but will still generally occur within the existing road Right-of-Ways. The project design will try to locate these vaults to minimize disruption to residents and/or traffic. Construction of the project will require the use of environmental (sedimentation and erosion) controls, the development of a traffic management plan, and other mitigating options such as night construction to minimize the impacts to residents and the environment the project will have during construction. The entire construction corridor will be restored to pre-construction conditions following installation.

### I travel that route every day – how will my commute be impacted?

- Construction will require temporary isolated and/or partial road closures that may result in potential traffic delays, congestion, and narrowed roadways; however, these impacts will be localized and temporary. While still early in this

process, we expect that there will be no need to have a full closure of the William Floyd Parkway in any direction, and at least one lane will be maintained in each direction.

During construction, we will work with the local community to minimize traffic disruptions. These efforts will include the development of a traffic management plan and other mitigating options such as night construction to minimize the impacts to residents and commuters as well as other steps such as reducing work during peak traffic hours. These accommodations are important as our transmission cable will remain buried below roadways throughout the entire route. Burying the transmission cable will generally require the excavation of a trench to install a duct bank within the existing roadway or shoulder, which is a standard procedure for installing underground cables such as this one. To minimize impacts to local traffic, several trenchless crossings are planned along the onshore cable route.

## How are you going to manage impacts on traffic at the Long Island Railroad (LIRR) crossing?

- We are aware of the recent construction at the LIRR crossing and we have consulted and will continue to consult with local agencies regarding route location, traffic management, construction methodology, and time-of-year considerations.

We will develop a traffic management plan within our Environmental Management and Construction Plan that will describe measures to minimize and mitigate potential impacts to traffic to the maximum extent possible during construction in accordance with the state and local laws and guidelines. The traffic management plan will also describe the commitment to continued consultation with agencies and stakeholders regarding traffic and transportation management before and throughout construction.

During construction, we will use our best efforts to maintain at least one travel lane of traffic in the section of the road in which construction crews are working; however, during certain periods of work, temporary road closures may be necessary. To allow for traffic to move safely, traffic control measures, such as signage and traffic flaggers, will be used wherever necessary. Traffic control measures to address traffic flow in and around construction areas will be developed as part of the traffic management plan.

Ultimately, temporary traffic impacts may occur during the construction of the onshore facilities due to a temporary reduction in access to public roadways. The project will utilize a trenchless crossing at the LIRR to minimize traffic impacts on William Floyd Parkway. Other mitigating measures such as night construction may be utilized to minimize the impacts to traffic at this location as well.

## Why have you chosen the onshore route that you have, why not take a different route?

- Identification of a suitable route for the Onshore Transmission Cable considered a variety of factors including maximizing the use of existing linear corridors such as roadways, railways, pipelines, along powerlines and existing road Right-of-Ways while also minimizing the length of the transmission line, constructability and engineering conflicts, effects to sensitive environmental resources, and conflicts with other land uses and human and social factors. We conducted multiple rounds of review to identify potential routes that would be suitable for the Onshore

Transmission Cable. Several different routes were considered to connect the landfall location at Smith Point County Park to the existing Holbrook Substation. The route chosen for the Onshore Transmission Cable was determined to be the most advantageous and least impactful because of location primarily within existing Rights-of-Way, minimal presence of sensitive natural resources, the limited presence of potential cultural resources, and limited residential impacts.

## How deep will the cables be buried along the landfall and onshore route?

- As the Project progresses through more detailed design and additional field information related to soil samples and sub-surface infrastructure is known, a greater understanding of burial depths throughout the route can be determined. Nevertheless, we can confirm that the cable will be buried along the entire onshore route, and we are anticipating a burial depth of at least three feet to the top of the duct bank within most roadways. At trenchless crossings such as below rail lines, highways, and at the point of landfall, the cable will be set much deeper – up to 75 feet below ground. The final design depths will be defined during the engineering process.

## What is the estimated time of disturbance on William Floyd Parkway?

- As our final design progresses and we continue to collaborate with local public works representatives on specific work requirements the duration of any construction on William Floyd Parkway will become clearer. While can't estimate the duration at this time, we expect that there will be no need to have a full closure of the William Floyd in any direction, and at least one lane will be maintained in each direction.

Productivity rates are dependent on the specific design to establish the depth of cable installation, the need for other utility relocations, any rock or geophysical attributes of the route, any work hour restrictions, and time of year restrictions that would impact productivity. This work is done in smaller sections, to minimize the number of roads opened and disturbed. The work takes place in stages, from excavation, conduit placement, and then backfill and temporary patching. Other factors can help expedite construction times, such as longer work hours or multiple crews, but need those considerations will need to be balanced with the other potential impacts of those measures.

## Will there be any impacts to our emergency response times? What will you be doing to ensure that your project does not hinder our first responders?

- Public safety is a top priority of both Eversource and Ørsted, and something we take very seriously in the planning of our activities. Now that we have identified our proposed route, our team has identified each of the impacted Fire, Police, and Ambulance districts and will begin a process of close collaboration with them on the ultimate development of the traffic management plan.

The plan that will be put forward will take all of their input into consideration to ensure that there is no hindrance to their response times or potential evacuation routes.



## Will I be able to use the park and marina during construction?

- The construction workspaces at Smith Point County Park and Smith Point Marina will be located within paved areas of the parking lots or open land used for recreational activities, but there will be sufficient space within the parking lot to allow parking during construction, although spaces will be reduced during that timeframe.

Construction is expected to occur outside the summer tourist season, between Memorial Day and Labor Day, which will further help to minimize impacts to land uses within the Park and Marina. The use of horizontal directional drilling (HDD) will help to avoid and minimize potential impacts to land uses within Smith Point County Park and Smith Point Marina by minimizing the space required for construction activities.

## What upgrades are needed to the Long Island transmission system to connect to the grid and deliver the energy?

- We are currently working with the Independent System Operator in New York (ISO-NY) and the local transmission owners to identify potential transmission upgrades needed at the existing Holbrook Substation to accommodate our Project.

## ENVIRONMENTAL BENEFITS & IMPACTS

### How will the construction and operation of Sunrise Wind and the presence of its subterranean cables affect fish and other marine species, including whales and migratory birds?

- Ørsted and Eversource are committed to growing our wind power business sustainably. We take great responsibility to ensure that wind energy and wildlife thrive together. Our offshore wind bio-diversity policy sets out the principles that underpin our efforts to protect the natural environment in the areas where we construct and operate offshore wind farms, ensuring that we undertake extensive stakeholder dialogue to understand local considerations and sensitivities of potential off-shore wind farm locations as we site the projects, minimize impacts during construction, and continuously monitor for potential impacts during the operational life of the wind farm.

More specifically, we have conducted extensive surveys and analysis on the potential effects of the project for our Construction and Operations Plan (COP) and Article VII applications. We are also committed to conducting further fisheries surveys prior to, during, and after construction.

The installation of cables will include measures to avoid marine mammal impacts- including speed restrictions and protected species observers.

The submarine cables will also be buried so they will have minimal, non-lethal impact on birds or whales. Some species i.e., Elasmobranch (sharks, rays, and skates) and lobster, may be able to detect electromagnetic fields (EMF), the EMF levels are not expected to result in any impacts to populations.

## ECONOMIC BENEFITS

### How many jobs will Sunrise Wind create?

- Sunrise Wind is estimated to provide up to 800 direct jobs during construction as well as up to 100 permanent, full-time jobs overseeing and servicing the wind farm. Additionally, it is estimated that the project will provide up to 1,500 to 2,000 indirect and induced jobs, ranging from positions at companies that will monitor wildlife and the seabed around the project to boosting local businesses who provide goods and services within the vicinity of the ports in which we will operate.

For clarity, indirect jobs are those associated with goods and services delivered to the site, as well as subcontractors employed by Sunrise Wind. Induced jobs are those attributed to increased household spending by direct and indirect workers.

### Has Sunrise Wind signed agreements with labor unions representing electrical workers, pipefitters, utility workers, and the other labor groups that will be part of the construction and maintenance of the wind farm?

- Sunrise Wind has committed to enter into a project labor agreement under our Offshore Wind Renewable Energy Certificate (OREC) with NYSERDA.

As such, we are entering negotiations with New York State contractors and trade labor organizations on a Project Labor Agreement to cover construction activities for the project and committing to paying prevailing wages.

### What is Sunrise doing to help prepare New York's workforce for a brand-new industry?

- Sunrise Wind, in collaboration with Suffolk County Community College, is committing \$10 million for a National Workforce Training Center on Long Island, creating a curriculum and developing training programs that will support the next generation of jobs in the growing offshore wind industry. Sunrise Wind also has committed to enter into a project labor agreement under our Offshore Wind Renewable Energy Certificate (OREC) with NYSERDA. We are committed to providing ample opportunities for all New Yorkers to benefit from the good-paying jobs that the offshore wind industry can provide.

There are numerous jobs serving the offshore wind industry, from designers to safety specialists, from electrical engineers to welders and boat pilots to turbine technicians. The U.S. Department of Labor expects that wind turbine technicians will lead the national economy in new jobs created over the coming two decades.

### Sunrise Wind says it will commit to investments in Port Jefferson. What will that money be spent on?

- As part of the Sunrise Wind winning bid, Ørsted and Eversource committed to making Port Jefferson an operation and maintenance hub for our Northeast offshore wind projects. The new Operation and Maintenance Hub in Port Jefferson will create up to 100 new and permanent full-time jobs and will also entail a substantially renovated office

and warehouse space in greater Port Jefferson. In addition, it is our intention that a 250-foot-long service operations vessel will come to port in Port Jefferson to transfer workers and material to the wind farm located 30 miles east of Montauk Point. Those plans for the SOV are still being finalized.

## **PRICE & RATEPAYER IMPACTS**

### **How much more will a typical homeowner pay for electricity produced by Sunrise Wind?**

- ➔ NYSERDA estimates the average homeowner will pay less than \$1 per month more on their electric bills as a result of the Sunrise Wind project.