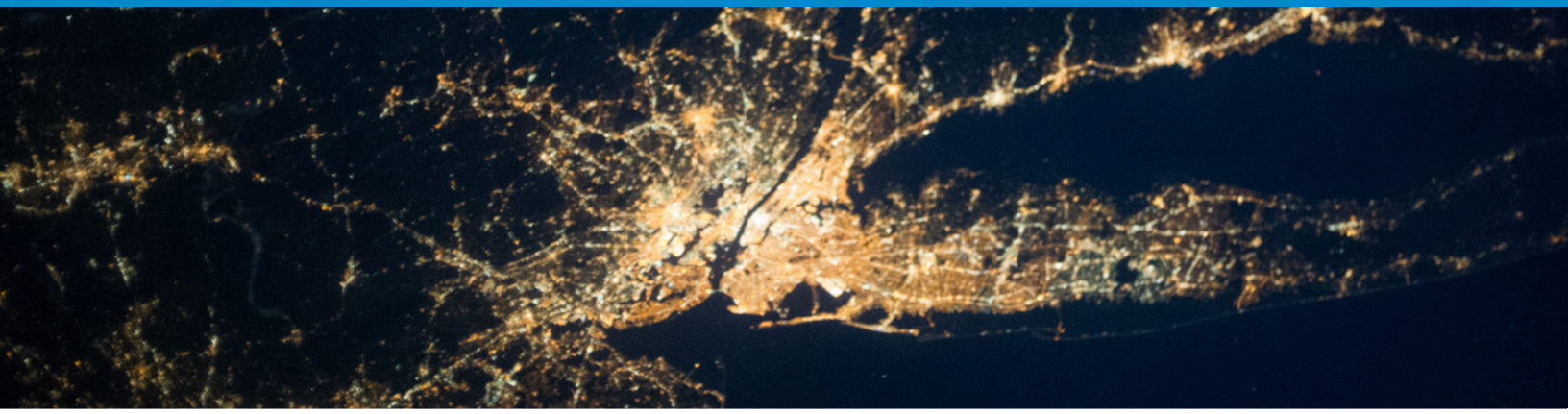
New York State Offshore Wind

Connecting Offshore Wind to New York's Electric Grid



Offshore wind is key to achieving New York State's nation-leading clean energy goals of 70% renewable energy by 2030 and 100% clean electricity by 2040

A COMPREHENSIVE APPROVAL PROCESS

The cable permitting process for an offshore wind project includes involvement of the Bureau of Ocean Energy Management (BOEM) at the federal level and the New York State Department of Public Service, which permits cables within three nautical miles offshore through the Article VII process. Municipalities, agencies, and other groups can actively participate in both federal and state processes.

Bringing offshore wind power to New Yorkers

Under Governor Cuomo's Green New Deal, achieving New York's goal of **9,000 megawatts** of offshore wind will bring:

- Enormous potential for clean, renewable, and locally produced power where demand is highest
- Billions of dollars in private investments in infrastructure and communities
- 10,000+ short- and long-term skilled jobs
- A more diverse, resilient electricity supply
- Avoidance of harmful greenhouse gas emissions that contribute to climate change

Offshore wind utilizes the clean and abundant wind resources off the Atlantic coast. Power generated by offshore wind farms is delivered to shore through buried power cables. When choosing a cable route, developers must work with state and federal agencies, as well as local communities and stakeholders, to determine the optimal path and installation method to connect to New York's electricity grid.

Responsibly charting a course to interconnection

Connecting offshore wind to New York's electricity grid requires intensive consideration and study of environmental, cultural, maritime, economic, and social factors, working in collaboration with expert stakeholders, local businesses, organized labor, academia, elected officials, and communities. This complex planning process is highly regulated between federal and state entities. It includes many checks and balances and considerable opportunities for stakeholder engagement to promote a thoughtful solution that offers the least impact for each project.

New York is also considering the merits of an offshore transmission grid—an ocean grid—that would link cables together in the ocean before bringing the power to shore. This alternative solution is one of several transmission options that require the careful consideration of available points of interconnection, necessary grid modifications to receive and distribute the power, environmental and social concerns, and overall costs. This is one of many program components undergoing comprehensive evaluation in order to determine the most cost-effective and responsible solution.

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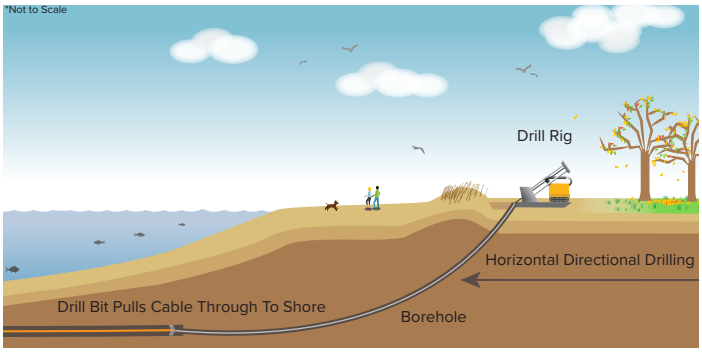
Connecting a clean power source

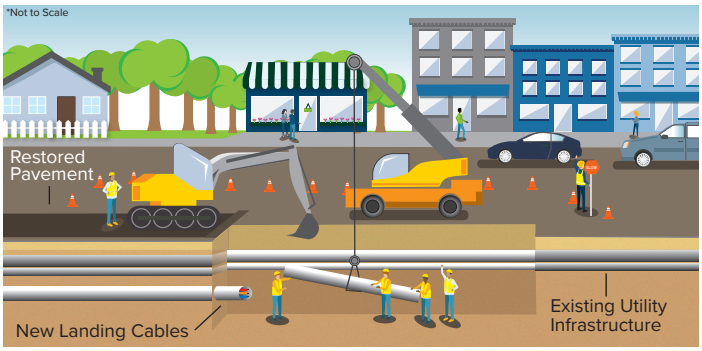
The process of connecting offshore wind projects to the electricity grid combines offshore and onshore elements that are typically constructed over a period of 12-18 months. Comprised of two phases—the offshore "wet side" and the onshore "dry side"—the construction, cable landfall, and interconnection of offshore wind follow detailed federal and state regulatory processes that emphasize minimized disruptions and restoration upon completion.

Offshore infrastructure: "the wet side"



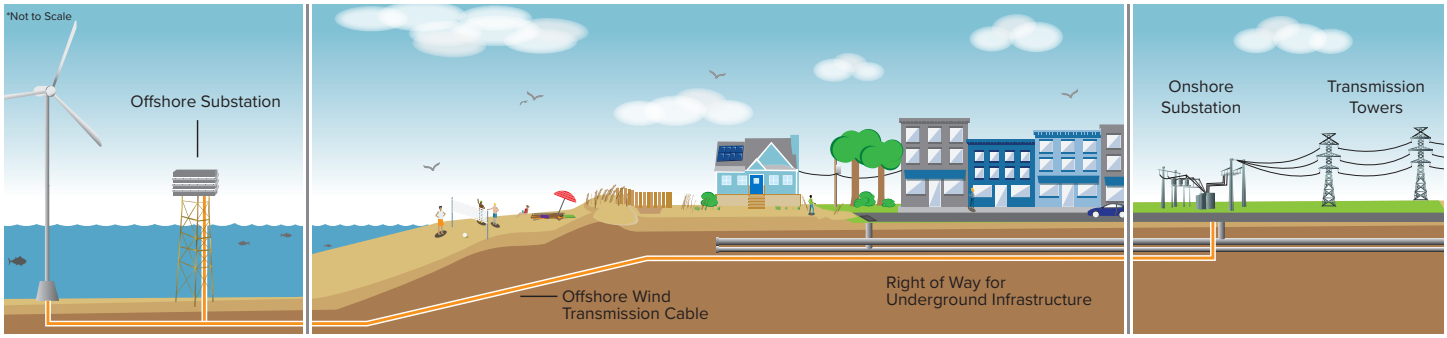
Offshore wind turbines are connected by a grid of electrical cables buried below the seabed via a trenching process. Through the cables, electricity generated at each turbine travels to offshore substation(s), where it is then fed through an export cable that leads to land. To avoid disrupting sensitive coastal habitats and minimize disruption to beaches, the cable is brought to shore using a precise drilling process called Horizontal Directional Drilling (HDD). HDD is a short-term construction process that uses an onshore drill rig to drill a borehole underneath the shoreline to bypass protected ecosystems and busy recreational areas. Once the borehole is drilled, the drill rig pulls the export cable through to connect the offshore and onshore system components.

Onshore infrastructure: "the dry side"



Once inland, the cable is buried en route to an onshore substation where the power connects to New York's local electricity distribution systems and the statewide transmission network. As with other methods of infrastructure construction (e.g., water mains, electricity, and Internet cables), offshore wind cable routes often utilize public rights of way to strike a balance between minimizing construction impacts and taking the most direct route to the substation. Through New York's permitting process (Article VII), developers gather input from communities that will inform the route, construction schedule and timeline, and best practices to minimize impacts.

Completion and restoration



As each phase is completed, the impacted areas are restored. Onshore development often includes equipment upgrades to modernize the local electricity grid, paid for by private developers working with local skilled workers. Developers bear all upfront capital and risk through the end of construction, protecting consumers against any additional costs incurred during this time. These millions of dollars of private investments will support the State's grid to promote a clean, reliable, and resilient electricity system to benefit all New Yorkers.

Learn more about offshore wind in New York State.

nyserda.ny.gov/offshorewind

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