



## Department of Energy

Golden Field Office  
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DOE/EA-1816

### FINDING OF NO SIGNIFICANT IMPACT AND FLOODPLAIN STATEMENT OF FINDING

#### TOWN OF HEMPSTEAD WIND-TO-HYDROGEN PROJECT, POINT LOOKOUT, NEW YORK

**AGENCY:** U.S. Department of Energy, Golden Field Office

**ACTION:** Finding of No Significant Impact (FONSI)

**SUMMARY:** The U.S. Department of Energy (DOE) is proposing to provide Federal funding<sup>1</sup> to the Town of Hempstead for the design, permitting, and construction of a 100-kilowatt wind turbine at Point Lookout, Nassau County, New York (proposed project). The proposed project would convert wind energy to electricity and use that electricity to power an electrolyzer to make pure hydrogen for the Town's fueling facility. The pure hydrogen would be used to fuel the Town's small fleet of vehicles. DOE would provide the funding as a grant under DOE's Energy Efficiency and Conservation Block Grants Program, which is funded by the American Recovery and Reinvestment Act of 2009.

All discussion, analysis, and findings in relation to the potential impacts of construction and operation of the project, including the applicant committed measures, are contained in the Final Environmental Assessment (EA). The Final EA is hereby incorporated by reference.

DOE prepared the EA and this FONSI in accordance with the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality regulations for implementing NEPA (40 CFR Parts 1500 to 1508), and DOE NEPA regulations (10 CFR Part 1021).

**ENVIRONMENTAL IMPACTS:** In compliance with NEPA and the DOE NEPA implementing regulations, the EA evaluates the potential impacts of DOE's Proposed Action to provide funding to the Town of Hempstead and examines a No-Action Alternative. Under the No-Action Alternative, DOE would not continue to provide Federal funds for the proposed project and assumes, for purposes of comparison, that the wind turbine would not be constructed without Federal funds.

The EA evaluates the potential impacts of the proposed project on key environmental resources. The Town would construct a foundation for and install the wind turbine on Town property near its Department of Conservation and Waterways Administration Building. The proposed project

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<sup>1</sup> Prior to the issuance of this FONSI, DOE has authorized the Town of Hempstead to use a percentage of its Federal funding for preliminary activities, which include EA preparation, preliminary design, and research. The activities are associated with the Proposed Project and do not significantly impact the environment nor represent an irreversible or irretrievable commitment by DOE in advance of the conclusion of the EA for the Proposed Project.

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would include an underground electrical line to the fueling station and tie the turbine to the local grid. The proposed project would provide long-term energy savings to the Town by using wind energy to generate hydrogen rather than electricity bought from the grid. No adverse impacts would occur to any residents of the communities in or near the project area, and there would be no adverse and disproportional impacts to minority or low-income populations. Based on the information in the EA, DOE concludes that DOE's Proposed Action to fund the Town of Hempstead's proposed project would have minimal impacts, if any, on geology and soils; land use; air quality; socioeconomics; environmental justice; public services; waste and hazardous materials; utilities, energy, and materials; and transportation.

DOE considered additional resources in more detail as part of the analysis including water resources (including floodplains and wetlands), historic and cultural resources, biological resources, noise, aesthetics and visual resources, and occupational and public health and safety. The findings from each of these resource areas are provided below.

The proposed project would not use surface water. Potential surface water and wetlands impacts during construction could result in increased runoff of sediment into the nearby Reynolds Channel during extensive precipitation events, but any impacts would be temporary and minor. With proper management of hazardous materials during construction and due to the distance to other nearby surface water and wetlands features, the potential for contamination would be negligible.

The proposed project would not use groundwater from the three aquifers that underlie the site. Excavation for the turbine foundation and electrical line could encounter groundwater in the Upper Glacial aquifer, which is a designated sole-source aquifer but is not used to provide water in the area. The Town of Hempstead would use best engineering practices to minimize impacts if groundwater in the Upper Glacial aquifer is encountered during excavation activities. Therefore, impacts to this aquifer from construction activities would be negligible. The lower Magothy and Lloyd aquifers are not near the surface in the proposed project area, so there would be no impacts to these aquifers from the proposed project. Once installed, the turbine tower and foundation would create more runoff in comparison with the existing site conditions, but the size of the affected area would be limited and the relative flatness in the immediate vicinity would minimize runoff potential. Operations would not cause surface water contamination.

DOE consulted with the New York State Historic Preservation Office (SHPO), examined the *National Register of Historic Places* (NRHP) for potential historic and cultural resources in the area, and requested the input of three Federally recognized tribes and one state-recognized tribe with cultural and historic ties to the area. A bridge and adjacent buffer area of the Jones Beach State Park, Causeways, and Parkways System (an NRHP-listed property) borders the proposed project area on the east side. DOE determined the project would not have an adverse effect on that historic resource. The SHPO determined that the proposed project would not affect a nearby known archaeologically sensitive area (a presumed tugboat wreck) due to distance and that it has no archaeological concerns about the proposed project. Per the SHPO's request, DOE sent approximations of the turbine's appearance after installation to the SHPO for evaluation on October 18, 2010. The SHPO concurred with DOE's determination of no adverse effect on historic properties either listed or eligible for listing on the NRHP. The SHPO indicated in that letter that DOE should investigate the potential for impacts to New York State Parklands. The

closest parkland to the project site is the Jones Beach State Park, Causeways, and Parkways System, upon which DOE and the New York SHPO determined there would be no adverse effect. The Delaware Tribe indicated it was not aware of culturally significant sites in the project area. If construction unearthed archaeological materials or human remains during ground-disturbing activities, the Town would halt such activities, notify the New York SHPO, and ask for direction on how to proceed.

The proposed wind turbine would be visible from multiple locations in the Jones Beach System, but historic buildings and other structures in the system are several miles away. However, the proposed wind turbine would not represent a substantially different visual presence to or from any historic resources in the area, including the homes and other buildings in the Town of Long Beach, which are 3.5 miles away.

DOE investigated the potential for impacts to species protected under Federal or New York law. The analysis determined that during construction some wildlife might avoid the project area due to construction noise and increased human activity, and there could be some wildlife mortality due to the presence of vehicles and construction equipment. Habitat disruption would be minimal because construction activities would be temporary. DOE determined there would be negligible effects to Federal or State of New York special-status species because they have not been observed in the project area. Based on studies and an existing turbine's operational history (located near the project site), DOE finds that the proposed project would have negligible impacts on local bird populations. Based on the lack of presence in the area, the probability that a bald or golden eagle would collide with the wind turbine is negligible. One or more individuals of New York State species of concern could collide with the proposed wind turbine; however, DOE expects the annual rate of bird mortalities to be low for these species for the reasons discussed above.

The noise of construction would be short term (a few weeks) and typical of a small construction project. Because the site is not near residential areas and work would take place during the daytime, noise impacts from construction would be minimal. During operations, the noise level at the base of the wind turbine tower would be 57 A-weighted decibels (dBA), and it would range from about 47 to 50 dBA at other locations within the proposed project area. Farther away, including the East and West Marinas, the levels would be lower at less than 45 dBA, which is typical of quiet residential areas. The nearest residential neighborhood is about a quarter-mile away; turbine noise at this location would be less than 35 dBA (typical of a quiet library). Operational noise of the proposed turbine would be unobtrusive and unlikely to be an annoyance to most individuals in the area. Therefore, potential operational noise impacts would be minimal.

During the 2-week construction period, temporary impacts (visible in the immediate project vicinity) would include construction trailers and equipment and the laydown and staging area. The crane for assembling the proposed turbine would be visible from locations farther away for about 1 week. Aesthetic and visual impacts during construction would be minimal and temporary.

DOE conducted a visual analysis from several locations and prepared visual simulations. The proposed turbine would be visible in views along the shoreline, Point Lookout Beach, Loop

Parkway, and the marinas along Reynolds Channel; it would not obstruct views toward a nearby passive nature preserve, but might be visible at some locations in the preserve. Visibility from other locations in the area would depend on obstruction by trees and buildings. The adjacent land uses are not residential or resort oriented. Because the site and surrounding area has relatively flat terrain, trees and buildings would often hide the proposed turbine from view. DOE concluded that impacts to visual resources would alter the local viewscape but would not be inconsistent with the existing character of the proposed site.

DOE also examined the issue of shadow flicker, which is the effect of the shadows cast by moving wind turbine blades when the sun is behind them. DOE performed an assessment of the potential extent of shadow flicker effects over the course of a year. The location of the proposed project is advantageous for minimizing the effects of shadow flicker. The demonstration solar home west of the proposed project as well as portions of the Administration Building would experience some shadow flicker effects during the morning hours. Boaters at the west end of the East Marina, which is just inside the potentially affected area, would experience minimal effects in the late afternoon. Portions of Loop Parkway east of the turbine location also would experience shadow flicker in the late afternoon, which drivers could notice; however, drivers are unlikely to be adversely impacted by the shadow flicker. Along the outside edges of affected area, there would be only a few minutes of effect per year. DOE concluded shadow flicker impacts would be intermittent and minimal.

DOE examined incident rates for projects similar to the proposed wind turbine and determined the chance of a fatal occupational injury during construction to a construction worker would be minimal, and the chance of an occupational illness or injury would be about 1 percent. The chance of health and safety impacts to the public would be minimal due to its location. During operations, the chances of a fatal occupational injury or an occupational illness or injury would be less than 1 percent. In relation to public health and safety, the potential for impacts from normal turbine operations would be minimal in particular because there are no permanent residences in the potentially affected areas. DOE determined the effect of exposure to the electromagnetic fields of the turbine and electrical line would be minimal to negligible. DOE conducted an analysis of potential turbine events such as ice shed and ice throw, blade drop or throw, and tower collapse. These events are unlikely, and the Town would use best management practices and trained operators to minimize their likelihood. DOE also investigated the potential for natural phenomena such as tornados, hurricanes, and earthquakes to affect the wind turbine and thereby cause impacts. Although there have been tornados, hurricanes, and earthquakes in the area, they have a low probability of occurrence. In conjunction with Nassau County emergency management measures, the risk of impacts from the proposed turbine under these conditions would be minimal. Therefore, DOE determined the risk of impacts to public health and safety from turbine operations would be minimal.

DOE evaluated the cumulative effects of the proposed project with other past, present, and reasonably foreseeable future projects in the area. DOE assumed that Town government and recreational activities in the project area would continue into the foreseeable future in the same manner and to the same degree as the recent past. The Town plans to repair or replace the marina bulkhead in the next 5 years. In addition, the Town has several existing Clean Energy Project facilities, one in development, and two planned additions to include more solar power.

DOE concludes that the proposed project, in conjunction with other activities, would have no or minimal cumulative impacts on the environmental resources.

**FLOODPLAIN STATEMENT OF FINDINGS:** Per the requirements of 10 CFR Part 1022, "Compliance with Floodplain and Wetland Environmental Review Requirements," DOE conducted a floodplain assessment. A review of the Federal Emergency Management Agency (FEMA) flood insurance rate maps for the area shows the construction zone for the proposed project would be in the 100-year floodplain and within the limit of moderate wave action. However, the type of construction and short duration of activities (a few weeks) would be unlikely to modify the flooding characteristics of the area. To minimize modification of the floodplain, a structural engineer would design the foundation to prevent storm water or storm surges from undermining the tower. This relatively small concrete structure would cause no detectable change in flood elevations, and the pad and turbine tower would not obstruct the flow of flood water. The proposed project would not alter the frequency or severity of flooding such that there would be adverse effects or greater risk to people or property. Further, the Town would revegetate disturbed areas or cover them with gravel, so drainage patterns and surface elevations would not change appreciably. DOE concludes that this project would have no adverse impacts on the natural and beneficial floodplain values associated with the base floodplain, would not affect lives or property in the area, and would comply with floodplain protection regulations.

**PUBLIC PARTICIPATION IN THE EA PROCESS:** DOE requested scoping comments from regulatory agencies and other potentially interested agencies, organizations, and individuals, and posted the scoping letter on the DOE Golden Field Office Public Reading Room website on September 16, 2010. The U.S. Environmental Protection Agency (EPA) provided scoping comments and requested examination of potential effects on the water table. EPA asked the following questions: (1) how far would the turbine foundation extend below the surface and (2) whether it would extend below the water table and, if so, how the Town would dewater the excavated space before or during installation. EPA also requested information on the closest public water supplies to the proposed project site and if there are residents within a mile of the site (on the barrier island) that use private wells. DOE addressed these issues in the EA. Appendix A contains copies of the DOE scoping letter and the EPA scoping comments.

DOE conducted consultations with the New York SHPO, the U.S. Fish and Wildlife Service (FWS), the Shinnecock Indian Nation, the Unkechaug Indian Nation of Poospatuck Indians, the Delaware Nation of Oklahoma, and the Delaware Tribe. Because the height of the proposed wind turbine would be less than that regulated by the Federal Aviation Administration (FAA), formal consultation is not required; however, DOE notified the FAA of the scoping period and notified it of the availability of the Draft EA for public comment. The SHPO determined that the proposed project would not affect a nearby known archaeologically sensitive area (a presumed tugboat wreck) due to distance and has no archaeological concerns. The SHPO reserved judgment on aboveground cultural resources until seeing visual simulations of the wind turbine in place. DOE sent approximations of the turbine's appearance after installation for evaluation on October 18, 2010. DOE received a response from the SHPO on January 7, 2011, that made a determination that the project would have no effect on historic properties either listed or eligible for listing on the NRHP. Appendix A of the EA includes copies of the letters.

DOE issued the Draft EA for public comment on December 22, 2010, and posted it on the DOE Golden Field Office Public Reading Room website. The comment period ended on January 14, 2011. DOE did not receive comments on the Draft EA.

**DETERMINATION:** Based on the information DOE presented in the Final EA (DOE/EA-1816), DOE determined that providing Federal funding for the design, permitting, and construction of the 100-kilowatt wind turbine in the Town of Hempstead would not constitute a major Federal action that significantly affects the quality of the human environment in the context of NEPA. Therefore, the preparation of an environmental impact statement is not required, and DOE is issuing this FONSI.

The Town's commitment to obtain and comply with all appropriate Federal, state, and local permits necessary for construction and operation of the wind turbine project, and to avoid or minimize potential impacts through the implementation of applicant committed measures, detailed in the EA, shall be incorporated and enforceable through DOE's financial assistance agreement.

The Final EA is available at [http://www.eere.energy.gov/golden/Reading\\_Room.aspx](http://www.eere.energy.gov/golden/Reading_Room.aspx).

For questions about this FONSI, contact:

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