

# Researchers survey beachgoers on potential implications for offshore wind farms

January 3 2019

---



Credit: CC0 Public Domain

As the United States moves closer to developing offshore wind farms, one of the most important questions for coastal communities is how those wind farms are going to affect recreation and tourism.

By surveying beachgoers, University of Delaware faculty members George Parsons and Jeremy Firestone found the distance [wind](#) turbines are from the beach has a significant impact on how tourists feel about them.

Using a survey that covered 1,725 beachgoers to be representative of a beachgoing population on the East Coast, the researchers showed participants panning, online visual simulations of a wind power project with 100 six-megawatt wind turbines, 150 meters tall to the tip of the blade at its apex, at different distances from shore and in different conditions—clear, hazy and nighttime.

The wind turbines were assembled into a photomontage put together by Macro Works, a leading firm that has been a premier provider of visual impact analysis and graphics to the Irish wind industry since 1999.

Participants were then asked if the projects would affect their beach experience and/or cause them to change their trip plans. The data was analyzed using an economic model of trip choice. The research was funded by the federal Bureau of Ocean Energy Management (BOEM), which leases offshore areas for wind power generation, and the National Oceanic and Atmospheric Administration (NOAA).

Survey respondents were shown turbines ranging from 2.5 to 20 miles offshore. Most BOEM leases and planning areas for wind power projects are projected to be installed at 13 or more miles offshore. For example, the wind project proposed off of Bethany Beach, Delaware would be located about 17 miles offshore.

At the 12.5-mile mark, 20 percent of the respondents reported that their experience would be worsened by the turbines, 13 percent reported that it would be improved and 67 percent reported no effect. In contrast, at 20 miles offshore, only 10 percent of the respondents reported that their

experience would be worsened, 17 percent said that it would be improved and 73 percent said that it would have no effect.

"Not surprisingly, we find that when simulated wind turbines are close to shore, particularly at 2.5 and 5 miles, a large percentage of beachgoers indicate that their experience would be diminished," said Parsons, professor and associate director of the School of Marine Science and Policy and professor in the Department of Economics.

Firestone, professor in the College of Earth, Ocean and Environment and the director of the Center for Carbon-free Power Integration, added, "As turbines are located farther from shore, fewer feel that way. They're also more likely to choose to go to another beach when the wind turbines are up close and that diminishes as you get farther away. The size of this effect is important to BOEM for documenting impacts of wind turbines on local economies."

The "break-even" point, or the distance where as many would be better off as those who would be worse off turned out to be 15 miles offshore.

Parsons said that while there are economic advantages to having the wind turbines closer to shore—where it's cheaper to deliver the energy and easier to maintain the turbines—most proposed projects are placing them at around the 15-mile mark.

The researchers also found that a surprising number of respondents would make special trips just to see [wind turbines](#) offshore. "While it is difficult to tell the exact time frame for these effects, our sense is that they would be large in the early years and fall off over time," said Parsons.

**More information:** George R Parsons and Jeremy Firestone. "Atlantic Offshore Wind Energy Development: Values and Implications for

Recreation and Tourism" (2018) [works.bepress.com/george\\_parsons/59/](https://works.bepress.com/george_parsons/59/)

Provided by University of Delaware

Citation: Researchers survey beachgoers on potential implications for offshore wind farms (2019, January 3) retrieved 23 April 2024 from <https://phys.org/news/2019-01-survey-beachgoers-potential-implications-offshore.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.