Realities of Offshore Wind Turbine Visibility

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With offshore wind projects coming online, visual assessment professionals are able to study phenomena we have always suspected would change the way offshore wind turbines are perceived from coastal landscapes.

Those phenomena include highly variable **atmosphere** and **observation.**

Science can tell us when the physical ability to observe something exists, but when do we actually see it in a dynamic environment? Early results suggest that not very frequently.

Atmospheric perspective has a significant influence when viewing elements over the ocean, and we are in the early stages of understanding that better. This will inform future studies and the public about the real visual effects of offshore wind.

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Early Test Surveys Suggest:

- 50% of respondents were unaware of operational projects while viewing the ocean.
- When directed to look for the projects, 50% of respondents said the wind turbines were “extremely difficult to see.”
- All respondents stated that wind turbines neither enhance nor detract from their experience.

Visual experts exhibit an unavoidable bias in that they are actively looking for the study subject. By interviewing casual observers, we can overcome this bias and inject meaningful user data about what the true visual impacts are.

Ongoing Study Methods

1. By observing known turbine positions, viewers can correlate predictive visibility data with actual observations.
2. Constant photographic documentation over multiple years coupled with artificial intelligence can automatically identify how many wind turbines are visible and how far away they are from the observer.
3. Lidar instruments located in the operational wind farms can be used to predict the influence of atmospheric perspective on visibility. Coupled with photographic data, we can test the reliability of this predictive data for future projects.
4. Create intercept surveys to document public reaction to offshore wind turbines.

OFFSHORE WINDPOWER

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