

France to build wind farm with stealth turbine blades

9 September 2014, by Bob Yirka



The Shepherds Flat Wind Farm is an 845 MW wind farm in the U.S. state of Oregon. Credit: Steve Wilson / Wikipedia.

Officials with EDF Energies Nouvelles, an energy company in France, have announced plans for adding turbines with stealth technology to a wind farm being built in Perpignan. The stealth technology has been developed to prevent the turbines from interfering with aircraft radar systems.

One little heard of problem with [wind turbines](#) is that they show up on [radar](#), making it difficult for radar operators to distinguish between low flying planes and modern windmills. In France, the problem has reportedly resulted in approximately 6,000 MW of wind farm projects being blocked by the military. To address the problem, Denmark's Vestas, the world's largest wind [turbine](#) maker, has been looking into making turbines that are invisible to radar. As part of the announcement by Nouvelles, Vestas representatives explained that the company looked to stealth military craft to learn how to hide the turbines that will be used in the wind farm in France.

Airplane designers use two types of technology to hide planes from radar, the first is by using a special type of coating on the exterior to convert radar signals into heat, which radar stations cannot detect. The second approach involves building planes in such a way as to force odd angles that reflect radar signals away from radar stations. The engineers at Vestas have taken the former approach, developing coatings for the blades that mask them from radar systems.

The new radar evading blades have already been tested at a wind farm in France's Auvergne region with all signs indicating the technology works as advertised, paving the way for deployment on a larger scale. When complete, the new wind farm dubbed Ensemble Eolien Catalan, will be France's largest, offering 96 megawatts of capacity. It will also be the first designed to minimize radar interference.

Other countries have of course also been forced to consider the tradeoff between the benefits offered by [wind farms](#) and the problems associated with radar interference. If all goes well with the new wind farm in France, Vestas has made it clear it will be looking for new clients starting in the U.S. and U.K. and eventually branching out into other countries. What is not yet clear is whether the coating developed by the company for the blades will represent a security breach—perhaps allowing those looking to subvert the coating systems used by current military aircraft to come up with a way to get around it.

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APA citation: France to build wind farm with stealth turbine blades (2014, September 9) retrieved 4 December 2021 from <https://techxplore.com/news/2014-09-france-farm-stealth-turbine-blades.html>

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