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Blown Away by New Technology

Scientists and entrepreneurs search for viable new technologies to capture alternative energy



by Annie Carew

If you have ever driven through the Midwestern United States, you have seen a wind turbine. They rise majestically from the prairie like enormous trees, their blades turning sedately in the persistent wind. The aesthetic effect of an entire “farm” of wind turbines is one of serenity and futuristic technology. The wind energy that is potentially available could go a long way towards solving the imminent energy crisis. Wind farms in Kansas, for example, currently generate nineteen percent of the state’s electricity, and the state has the capacity to generate seventy-five percent of the electricity used by the entire nation. Texas’s untapped wind potential is even higher.



However, there are drawbacks to wind power. Turbines are expensive to make, assemble, and maintain; there are a number of parts that can break or malfunction at any time. Furthermore, conservationists are concerned about bird and bat fatalities caused by wind turbines. A study conducted by the University of Delaware in 2011 estimates that a single wind turbine caused eighty-two avian deaths in eleven months.

A startup company in Spain has recently proposed a wind turbine design that will theoretically solve both of these problems. The Vortex Bladeless is deceptively simple. Its creator has compared its appearance to a stalk of asparagus; since there are no blades, the Bladeless does not oscillate in the wind. Instead, it takes advantage of the natural activity of wind moving around an object. As wind moves around the tall, slightly coned structure, the swirling of the wind causes the “turbine” to vibrate. These vibrations are then converted into electrical energy by a generator in the base of the turbine.

“The wind energy that is potentially available could go a long way towards solving the imminent energy crisis.”

There are several reasons why the Vortex design could be much better than the traditional turbine. Firstly, this design will be easier to maintain than the old style of turbines since it has only one piece. According to the company’s website, the single piece also eliminates the risks of friction between moving parts. The company estimates that a large Bladeless operating at full capacity can produce one million watts of electricity in a year. The average US home uses 10,000 kilowatts per year; thus, a single Bladeless turbine could power 10 homes for a year. While current studies are focused on the electrical function of the Bladeless, it seems likely that the lack of turbine blades could reduce bird and bat casualties.

Vortex Bladeless is still in its infancy, and further studies must be conducted on the design and its environmental impacts before any solid conclusions can be drawn. However, the genesis of such new technologies bodes well for the future of alternative energy. If innovation continues in this fashion, the energy industry could be entirely transformed in our lifetime. 🐾