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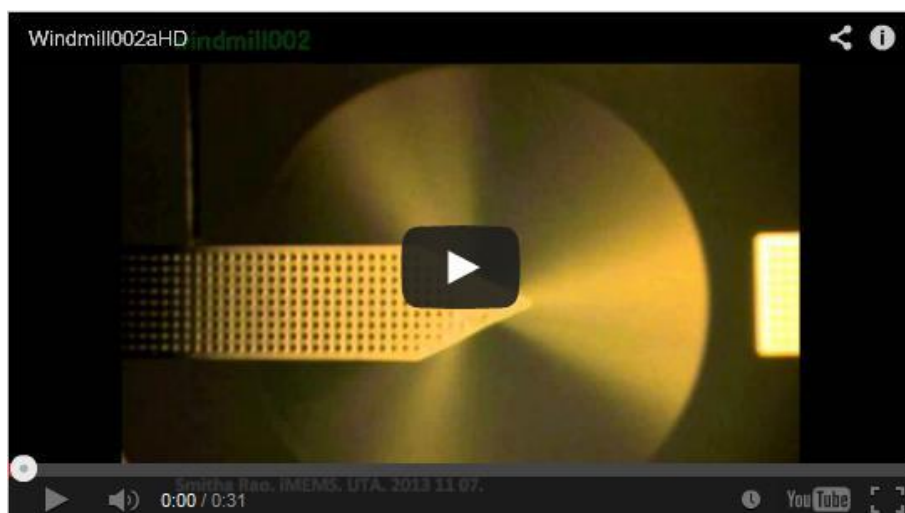
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Micro-windmills to Power up Your Phone and More

Posted by By **Patty** at 25 January, at 17 : 49 PM



With the recent slew of renewable energy ideas for charging our gadgets, portable solar chargers is no longer anything out of the ordinary. But many have seen how limitless the possibilities in technology are, and modern-day scientists may have just barely scratched the surface of this application. However recently, a team of researchers at the University of Texas Arlington seem to have stepped up a bit more and developed what could be among the most important breakthrough in the renewable energy field, and beyond.

Based on recent advances in micro-robotic devices, the micro-windmill technology was developed and is currently being perfected by the team of electrical engineers and Smitha Rao, a graduate research associate at the university. Under this technology, minuscule wind turbines about one-tenth the size of a grain of rice will be used to charge cell phone batteries.

The micro windmills generates electric power from ambient wind, and when hundreds of these are attached to any cellphone case and held to the air, has the ability to recharge a dead phone in just a few minutes.

The device's parts are as tiny as a fraction of the diameter of a human hair. At about 1.8 mm at its widest point, these minute turbines may seem fragile. But they're most definitely not. Their flexible nickel-alloy components and smart aerodynamic design can withstand strong winds without fracturing. The micro windmills were tested successfully in September 2013.



The micro-windmills can be cheaply reproduced and easily attached to any portable electronics. Taiwanese fabrication foundry WinMEMS obtained exclusive rights to commercializing the concept, and bringing the technology to the public market. Under their terms of their agreement, UT Arlington will retain intellectual property rights to the technology.

Thinking Outside the Box

The ability to instantly charge our devices is just the beginning on how these micro-windmills might be used. WinMEMS has already begun work on the technology's potential applications. Think about if thousands of these windmills are installed on flat panels to be mounted on houses, buildings, or even open spaces to harvest energy to support lighting, communication needs and even business operations.

But that's not all. It can be a huge step in advancing the development of micro-robots that are to be used as surgical tools. Its size and capability is a promising leap in the refinement of sensing machines to explore disaster zones as well as in the production of manufacturing tools used to assemble micro-machines.

Though the tiny windmills cannot be the magic elixir (yet) to the present energy crisis, exploring all possibilities of this new technology will very likely get us there.



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