

# Researchers develop tiny windmills that can power your gadgets (video)

BY [MARIELLA MOON](#) JANUARY 11TH, 2014 AT 7:47AM ET

40



Portable [solar chargers](#) aren't so out of the ordinary [anymore](#), but minuscule windmills that can charge your phones? Now, those are something new. A couple of UT Arlington researchers, Smitha Rao and J.C. Chiao, have developed wind turbines so small (they measure 1.8mm at their widest), you can stick 10 of them on a grain of rice. One possible application is to embed a bunch of the Lilliputian devices onto a phone sleeve -- you can then simply hold your phone out the window or place it in front of a fan to recharge. Since the tiny windmills are made of durable nickel alloy, you won't have to worry about strong winds blowing their little blades off, either. Although it's still too early to say if this leads to an actual product, a Taiwanese company is already exploring commercial opportunities, so cross your fingers if you dream of owning a wind farm for ants.

40 COMMENTS

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VIA: EurekaAlert  
SOURCE: University of Texas Arlington  
TAGS: EmergingTechnology, science, universityoftexasarlington, WindEnergy

40 comments



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RPAK1975

22 hours ago

Why are you writers always stereotype to these Asian inventors by comparing their invention to rice all the time?

Like Reply

**dr.vadlamudi**

16 hours ago

Wow, you really are searching for a stereotype. A grain of rice or sand are commonly used to compare really small things. It gives a prospective as to how small it is. Also, what's wrong if rice is a staple food for most Asians?

9 Like Reply

**tpelling**

22 hours ago

WHAAT IS THIS GUY WRITING?? Seriously. "Don't worry about strong wings blowing the little blades off?" and as CeeGii said, wind farm for ants?.....

Like Reply

**RhysDavies**

22 hours ago

Windmills 'mill' grain, (clue is in the name)

Wind turbines create electricity.

Referring to the two in the same article is bad form.

2 Like Reply

**JeffPowell**

23 hours ago

Boring and stupid. Where is my jetpack?

1 Like Reply

**bound2hell**

1 day ago

Easy, Breezy

Like Reply

**DonkeyPunch**

1 day ago

so how many hundred millions will the government give them i wonder?

1 Like Reply

**Grendel**

1 day ago

Ok so the Wind won't damage these, but what happens when I slip my phone and its turbine covered sleeve into or out of my Pocket 20 times a day?

5 Like Reply

**tvilling**

1 day ago

that is just stupid hot air

[Like](#) [Reply](#)**BigDave**

2 days ago

i want a turbine for my roof. or back garden. i swear its possible? along with solar panels. sick of funding these energy cartels

1 [Like](#) [Reply](#)**junkyardwillie**

22 hours ago

**@BigDave** With a turbine you'll just be funding a different energy cartel

[Like](#) [Reply](#)**BigDave**

20 hours ago

**@junkyardwillie @BigDave** true. so... kickstarter project?

[Like](#) [Reply](#)**Slick312**

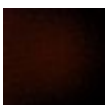
33 minutes ago

**@BigDave** Just wait till you see the cost; the cartel will look like a charity.

[Like](#) [Reply](#)**spejr**

2 days ago

we should inseed make small turbines with those generators and plant them in our aorta and charge them useless smarwatches with our heart

5 [Like](#) [Reply](#)**Olafgarten**

1 day ago

**@spejr** Wouldn't that affect our blood pressure?

[Like](#) [Reply](#)**JeffPowell**

23 hours ago

**@Olafgarten @spejr** Reading articles like this will affect our blood pressure...

[Like](#) [Reply](#)**wickedme**

2 days ago

Maybe use it on roofing and sidings?

1 [Like](#) [Reply](#)**spejr**

2 days ago

Turning a fan on and using tiny windmills to charge your smartphone is just so... its so... its just so darn... *ineligible*

2 [Like](#) [Reply](#)**CeeGii**

2 days ago

Finally, a real reason to FART in public!

"Who cut the cheese?"

"Oh sorry my Cellphone died."

1 [Like](#) [Reply](#)**CeeGii**

2 days ago

WHAT IS THIS? A wind farm for ANTS!?!?!?

7 [Like](#) [Reply](#)**octosock**

2 days ago

this isnt a joke?

6 [Like](#) [Reply](#)**RonAngel**

2 days ago

well at least they are getting the April fool jokes in 3 months early this year. maybe bald men could have them implanted on their heads, enough of the units would look like hair at a distance. A cable could run down from center at back of the neck connected to a plug in a pocket which goes to a mobile phone, keeping fully charged all the time.

1 [Like](#) [Reply](#)**stream**

2 days ago

imagine how many cellphones you could charge after a meal at taco bell

1 [Like](#) [Reply](#)**wealthychef**

2 days ago



I can't imagine a better way to charge my phone than to hold it in front of a fan.

Like Reply



**g0bez**

2 days ago

Is nobody else troubled by the line: "simply hold your phone out the window". How can this possibly be a good idea?

2 Like Reply



**tleaf100**

2 days ago

doesn't have to be rare earths, bi-metals will do the job.

they should be quite efficient, very simple design leaves very few extra places for losses.

Like Reply



**dhbranx**

2 days ago

We could use the yolk candles at the chicken farm to make enough wind for those little mills.

Like Reply



**WildBob**

2 days ago

and HOW? exactly does this generate electricity. Even if the fan were made of rare earth its output would be minuscule. At this scale I suspect even solar would outperform it. The bearings will be a nightmare and prone to dust humid conditions locking it up never mind physical damage.

5 Like Reply



**TimJDav**

2 days ago

I can't seem to find any source material on how much voltage/current these things put out. Kind of an important number when you are featuring an electrical generator....

Like Reply



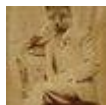
**basroil**

2 days ago

"One possible application is to embed a bunch of the Lilliputian devices onto a phone sleeve -- you can then simply hold your phone out the window or place it in front of a fan to recharge."

Do the math and even when running it's impossible to charge a phone in less than 18 hours. These things are like trying to inflate the Hindenburg with a bicycle pump!

5 Like Reply

**The\_Pocketfox**

2 days ago

I'm blown away by this development.

14 Like Reply

**MichaelLargent**

2 days ago

**@The\_Pocketfox** This is the first I've caught wind of this.

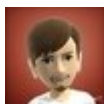
8 Like Reply

**diane.ow**

2 days ago

**@The\_Pocketfox** This idea breezed right by me as well.

1 Like Reply

**tungmeister**

2 days ago

**@diane.ow @The\_Pocketfox** how egg-citing!

Like Reply

**dontmead**

2 days ago

**@diane.ow@The\_Pocketfox** Nah, it's all bluster.

1 Like Reply

**AndrewRennie**

2 days ago

**@The\_Pocketfox** hope they seize the WINDow of opportunity to make this happen

1 Like Reply

**SvenGewoonsven**

2 days ago

**@The\_Pocketfox** i'm already a "fan"

4 Like Reply

**basroil**

2 days ago

**@The\_Pocketfox** It's all just a bunch of hot air...

2 Like Reply

**MasterRyu**

2 days ago

I've got nothing..

Like Reply



**MasterRyu**

2 days ago

Oooh. Wait. Innovative!... Just a nice breath of fresh air.

[Like](#) [Reply](#)

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