

## Voice-based phone recharging

May 10 2011, by Katie Gatto

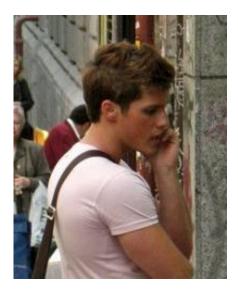


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(PhysOrg.com) -- The noise that we produce can be a lot of things. It can be a valid means of communication. It can be an annoyance when you are trying to get to bed at night. It can be a migraine waiting to happen, and depending on who you ask, it can even be a form of pollution. But, could that annoying loud man next to you on the subway, or your can't keep it down neighbors TV, be a potential source of renewable-energy?

Sang-Woo Kim, a researcher at the Institute of Nanotechnology at Sungkyunkwan University in Seoul thinks that it just might be.

He is working in a field known as energy scavenging in which power is



made by the day-to-day life of humans. Other forms of scavenged energy include California's current proposal to grab vibrational energy from cars driving on the highways as a source of power. These types of innovation have the possibility to give us renewable energy sources that do not require putting up solar panels or wind turbines in areas where this type of construction may not always be possible.

You may be wondering how this sound-based technology would work. Well, the proposed technology would convert sound into the kind of energy that a phone can use by pairing the electrodes with strands of zinc oxide. When the noise comes at the phone, a pad designed to absorb the noise would capture it, and vibrate the phone (or other device in question), which would make the zinc oxide fibers expand and contract. It is this expanding and contracting that actually generates the power for the battery.

A current <u>prototype system</u> was able to convert 100 <u>decibels</u> of sound, the equivalent of city traffic, into 50 millivolts of power.

**More information:** <u>chem.skku.edu/graphene/</u> via <u>Telegraph</u>

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