

German student builds electromagnetic harvester to recharge a battery

February 12 2013, by Bob Yirka



Credit: Dennis Siegel

Dennis Siegel, a student at the University of the Arts in Bremen, Germany has built what he calls an electromagnetic harvester—it converts electromagnetic fields in the immediate environment into electricity to recharge a common AA battery. He's won a 2nd place award in the HfK Bremen Hochschulpreis 2013 competition for Digitale Medien, for his efforts.

[Electromagnetism](#) is all around us of course. In addition to natural sources, such as lightning, it's also given off by virtually every [electronic gadget](#), device or machine humans make. Siegel (and many others) have noted that the electromagnetism around us all could be converted to electricity and used for some purpose. The problem of course, is that the comparatively small amount of it in the air around us isn't enough to make much electricity—the device Siegel built takes up to a day to charge a single [AA battery](#). But that's not reason enough to not build and use a device, as he has demonstrated. He's added electronics to give the device the capability of capturing electromagnetism in two ranges—one below 100Hz (electrical mains, etc.) and another for capturing those above 100Hz (Blue tooth frequencies etc.). On top is a red LED to indicate how strong the electromagnetism is in the area and on the back is a magnet for affixing the device to a metal surface near a good source.



Credit: Dennis Siegel

The particulars of the electronics inside his device haven't been detailed (likely to prevent copycats) with a description only of "coils and high frequency diodes" being put to use to allow for the conversion. But that clearly isn't the point of his device. Instead, it highlights not only the fact that we live our lives in a constant state of bombardment of electromagnetism, but also that all of the energy from all of the collective devices in use in the world today, is currently going to waste. But, because of small devices like the one Siegel has built, it becomes possible to envision banks of such devices sitting on roofs (or other places) making use of that electromagnetism to add to the electricity generated by other renewable sources, such as solar or wind collection devices—just another way to demonstrate a higher level of intelligent power generation and conservation.

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