

The Next Mobile Power Source: Pee...?

Written by Marco Attard
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In the future, a bathroom break might involve more than merely relieving yourself-- if the scientists at Bristol Robotics Laboratory have it their way taking a leak will also charge your mobile phone. No, seriously.



A paper titled "Waste to Real Energy: the first MFC powered mobile phone" explains how urine can power "microbial fuel cells" (MFCs), an unusual class of energy converter able turn organic matter into electricity. How? Metabolism, via microorganisms able to literally turn organic matter (such as urine) into electricity.

"We are very excited as this is a world first, no-one has harnessed power from urine to do this so it's an exciting discovery," says Dr Ioannis Ieropoulos, an expert in harnessing unusual power sources via microbial fuel cells. "Using the ultimate waste product as a source of power to produce electricity is about as eco as it gets."

The amount of electricity the microorganisms generate is admittedly small, but the MFCs inside the test mobile phone generate enough power for SMS messaging, web browsing and even brief phone calls, the researchers say. Previously power generated by MFCs was only stored and accumulated for short charge/discharge cycles into capacitors or super-capacitors.

"The beauty of this fuel source is that we are not relying on the erratic nature of the wind or the sun-- we are actually re-using waste to create energy," Ieropoulos continues. Not an argument one can argue with, that!

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The next step for the scientists is refining MFC technology, making it even more powerful. They also have plans to create MFC units one can install in domestic bathrooms, creating a "smart toilet" able to power shower, lighting or razors (as well as mobile phones) through the power of, well, pee.

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