

Scientists power mobile phone using urine

July 16 2013



Mobile phones are displayed on May 20, 2013. British scientists on Tuesday reported they had harnessed the power of urine and were able to charge a mobile phone with enough electricity to send texts and surf the Internet.

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Researchers from the University of Bristol and Bristol Robotics Laboratory in south west England said they had created a fuel cell that

uses bacteria to break down urine to generate electricity, in a study published in the Royal Society of Chemistry journal *Physical Chemistry Chemical Physics*.

"No one has harnessed power from urine to do this so it's an exciting discovery," said engineer Ioannis Ieropoulos.

"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 reusing waste to create energy.

"One product that we can be sure of an unending supply is our own urine," he added.

The team grew bacteria on [carbon fibre anodes](#) and placed them inside ceramic cylinders.

The bacteria broke down chemicals in urine passed through the cylinders, building up a small amount of [electrical charge](#) which was stored on a capacitor.

Ieropoulos hoped that the cell, which is currently the size of a car battery, could be developed for many applications.

"Our aim is to have something that can be carried around easily," he explained.

"So far the microbial fuel power stack (MFC) that we have developed generates enough power to enable SMS messaging, web browsing and to make a brief phone call.

"The concept has been tested and it works - it's now for us to develop and refine the process so that we can develop MFCs to fully charge a

battery."

They hope the technology will eventually be used to power domestic devices.

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Citation: Scientists power mobile phone using urine (2013, July 16) retrieved 27 April 2024 from <https://phys.org/news/2013-07-scientists-power-mobile-urine.html>

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