Power source in the can

MATP

SCIENTISTS have developed a device that generates electricity from human waste.

The Microbial Fuel Cell devised at Pennsylvania State University uses bacteria to break down waste, liberating electrons in the process.

Normally the electrons would power respiratory reactions in the bacterial cells and be combined with oxygen molecules.

But the MFC wrestles the electrons away from the bacteria and uses them to power a circuit.

"There are extraordinary benefits," Bruce Rittmann, an environmental engineer at Northwestern University in Illinois, told New Scientist magazine.

The device consists of a sealed can 15cm long, containing a special arrangement of electrodes.

Organic waste is pumped in and broken down by bacteria. By depriving the bacteria of oxygen, electrons are freed to set up a voltage between the electrodes.

In its current design, the device produces only a 10th of what the researchers calculate the power output of the system could be, said New Scientist.

Even so, if scaled up, the device would produce 51kw of power from the waste of 100,000 people.