

Turning Household Waste into Hot Water, New Tech Is a Micro Power Plant for Homes

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Researchers at Brunel University in London have come up with a technology that would turn regular household waste into fuel for heating water. Called the Home Energy Recovery Unit (HERU), the device could provide homes with their own mini power plants, reducing heating bills by up to 15 percent.

The device uses an oxygen-free process called pyrolysis and heat pipe technology that turns the waste into liquid, char or gas fuel. The unit is the size of a wheelie bin and is connected to the water main and drainage and sits outside of the house. The device runs on a regular household plug and for every 1 kWh it consumes to power the process, it produces 2.5 kWh of energy.

“Waste management is one of the most crucial challenges developed countries face,” [said co-inventor, Dr Hassam Jouhara](#).

“Rising fuel costs leave so many households with the difficult decision of whether to eat or to heat their home and countries worldwide are being urged to cut carbon consumption. The vision

is to solve this global problem and slash energy bills while producing energy for heating from waste that is otherwise a burden on local authorities and households.”

The creators believe that this device could eliminate the need for household waste collection which could cut the UK’s carbon footprint for waste disposal by over 70%. UK waste management company Mission Resources funded a prototype of the device and four local authorities and a large bank have signed on to trial the technology at their facilities.

The university says that the HERU can convert everything from dinner leftovers to dirty diapers into heating fuel. The invention recently won funding from the UK’s Innovate UK’s Energy Game Changer fund, which is going towards the on-site trials.
