



THE UNIVERSITY *of* EDINBURGH

News Release

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Solar-powered light could cut waste in developing countries

Families without access to mains electricity in low-income countries could benefit from a solar-powered, sustainable lamp.

A portable light built from recycled plastics and ethically-sourced electronic components has been developed by researchers at the University of Edinburgh.

The device – known as the Solar What?! – is powered using widely available mobile phone batteries. It can be repaired with non-specialist tools and charged from a range of second-hand solar modules.

Designed by the University's School of Social and Political Science in partnership with Edinburgh based design agency Cramasie, the Solar What?! has been built to promote responsible production and reduce electronic waste in the solar energy industry.

It could help address emerging challenges around electronic and plastic waste, particularly in Sub Saharan Africa and South Asian countries where demand is high, researchers say.

Annual sales of off-grid solar lighting products are forecast to reach 70 million devices, worth US\$8n in revenue, by 2022.

More than 25 million off-grid solar devices were thrown away in 2017, creating large amounts of plastic and battery waste, according to a report by the World Bank's Lighting Global Programme.

The University of Edinburgh has signed a partnership agreement with the international charity SolarAid to support the development of the Solar What?! and promote sustainability in the off-grid solar industry.

The first batch of devices will be made available to schoolchildren and their families in Zambia in early 2019.

Development of the device has received strategic funding from the Engineering and Physical Sciences Research Council and the Economic and Social Research Council.

Dr Jamie Cross, of the University of Edinburgh's School of Social and Political Science, who led the research and helped design the Solar What?! said: "When solar things break down in

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Sub Saharan Africa and South Asia, people try to fix them. Solar-powered lighting devices that cannot be fixed are effectively disposable technologies.

“The solution to electronic solar waste lies in designing products that can be easily repaired. When solar powered devices can be taken apart and repaired locally, they reduce electronic waste and provide clean energy for longer. Repair should be as important as sunlight in a responsible and sustainable solar industry.”

The SolarWhat!? was launched this week in Madrid at an international convention that showcased technologies for the circular economy.

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