

Today's waste, tomorrow's fuel

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A Cardiff University research collaboration is working to recycle precious metals from road dusts and vehicle exhausts to create greener energy.

The innovative research by scientists from the School of Earth, Ocean and Planetary Science working with the University of Birmingham is to be featured at the Royal Society Summer Science Exhibition (2-5 July).

Catalytic converters which keep exhaust pollutants from vehicles down to an acceptable level all use platinum, however over the years the platinum is slowly lost through exhaust pipes. Dr Hazel Prichard, School of Earth Ocean and Planetary Science estimates that many kilogrammes of platinum is being sprayed onto streets and roads every year.

Dr Prichard said: “Platinum is a vital component not only of catalytic converters but also of fuel cells. Fuel cells are an important new source of clean energy. Platinum is a precious metal and resources are scarce and expensive. Our research is looking at ways of recycling platinum and other precious metals.”

Dr Prichard is working with her team to find locations where platinum is concentrated enough to recover in order to develop cost-effective and sustainable ways to re-use this finite resource. One prime target is the waste containers in road-sweepers.

The research collaboration is also exploring how food wastes, and ‘friendly’ bacteria can be used to create greener energy. Their goal is to

see these techniques being applied to produce clean fuel cells to create reliable, greener energy whilst minimising waste.

Source: Cardiff University

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