

Scottish University grads to Use Solar Power to Generate Hydrogen Fuel

Unfortunately they are fooling themselves since they cannot reach high enough temperatures, but then they seem content with little output from solar panels ... just enough to power 60 computers!!

Fuel Cell Works
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Scientists at Napier University are planning to use solar panels at their campus in Merchiston to create environmentally-friendly hydrogen fuel.

In the first project of its kind in Scotland, Professor Tariq Muneer and his team at the School of Engineering want to use the electricity produced by the solar panels to create hydrogen gas through electrolysis.

Electrolysis involves passing a current of electricity through water to separate the hydrogen molecules from the oxygen molecules. The hydrogen gas produced can be stored under pressure for use later in a fuel cell.

When there is a demand for electrical power the two gases are then passed through the fuel cell thus creating an electric current. The atoms then recombine and join with the oxygen to become water again. No carbon is produced.

The project, which has secured money from the third round of Scottish Research Investment Funding, will cost around £70,000 and should hopefully be working by June 2007 - enabling the University to generate electricity at night when the solar panels would not work.

Prof Muneer, Director of Research at the School of Engineering, said: "Hydrogen can be produced fairly cheaply using electrolysis of water. However, there are dirty and clean ways of producing hydrogen. The clean way is to use renewable energy, like the solar panels, rather than fossil fuels to power the electrolysis.

"This project will be the first of its kind in Scotland and will demonstrate the complete cycle of renewable energy - production, storage, and transportation.

"It will be a valuable research and teaching tool, enabling us to learn more about renewable energy production and to develop its efficiency to prove its viability. Hydrogen fuel cells have massive potential to end reliance on fossil fuels which are a major contributor to global warming."

Napier creates part of its electricity through the solar panels, which were installed in June last year and generate around 13MWh per year - enough to power around 60 of the 500 computers in the Jack Kilby Computing Centre at Merchiston.

The panels are BP Solar 'Saturn' high-efficiency models and are non-reflective and self-cleaning. They have already reduced Napier's carbon emissions by nine tonnes.