

'Hydrogen is tomorrow's biofuel' say scientists

May 15 2012

Researchers from the University of Birmingham are creating clean hydrogen from food waste paving the way for a bioenergy alternative for the future.

Currently, Brazil is the world's most intensive user of bioethanol as an alternative to gasoline for powering transport. There are questions about whether the mass production of bioethanol using sugarcane is sustainable in the long-term. Bioethanol generates carbon dioxide and agricultural waste. However, creating clean hydrogen from waste not only uses that waste but provides a fuel that is emission free and can also be generated sustainably.

Presenting this research at a collaborative bioenergy workshop in São Paulo today, Professor Lynne Macaskie, Professor of Applied Microbiology at the University of Birmingham, said "Fuel cells need clean energy to run them. If you provide bacteria with a supply of sugary waste from, for example, chocolate production, the bacteria can produce [hydrogen](#). At the moment manufacturers pay to dispose of waste but with our technique they could convert it to clean electricity instead."

"Bioethanol is the current [biofuel](#) of choice in Brazil but our research shows the huge potential for biohydrogen to be the fuel for the future. Biohydrogen could even be made from the wastes from bioethanol production - two biofuels for the price of one. More work from focused teams, however, is needed, as agricultural wastes are tougher for bacteria to digest."

Organised by O Conselho de Reitores das Universidades Estaduais de São Paulo (CRUESP) and the FAPESP bioenergy programme (FAPESP-BIOEN), the workshop is taking place in the State of São Paulo. Participants come from the University of Birmingham, the University of Nottingham, the State University of Campinas (UNICAMP), the University of São Paulo and São Paulo State University (UNESP).

Provided by University of Birmingham

Citation: 'Hydrogen is tomorrow's biofuel' say scientists (2012, May 15) retrieved 27 April 2024 from <https://phys.org/news/2012-05-hydrogen-tomorrow-biofuel-scientists.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.