New study examines environmentally-friendly renewable energy production on farms

Scientists at the Universities of Southampton and Reading are exploring how a renewable energy source based on crops and agricultural waste could strengthen the rural economy and protect the environment.

The interdisciplinary research project looks into the use of anaerobic digestion as part of an integrated farming system for producing food and carbon-neutral bio-fuel in harmony, with the added benefit of reducing agricultural greenhouse gas emissions.

Professor Charles Banks from the University of Southampton said:

'Approximately 10 per cent of greenhouse gas emissions in Europe come from agriculture and anaerobic digestion is a cost-effective way of cutting this, while also providing a carbon-neutral energy source.'

'There is huge potential for energy production from animal wastes and from crop residues, such as leaves and stalks, which are harvested but not sent to food factories and supermarkets. Energy production could be further increased by growing crops on marginal land, and by adapting farming systems to allow production without competition between food and energy crops.

'This approach would help provide income and employment for rural communities through the diversification of farming activities into renewable energy production.'

At the heart of the process are the anaerobic bacteria that produce biogas rich in methane, which can be used directly as a bio-fuel in vehicles, or burnt to generate electricity and heat.

The process reduces the need for fossil fuels and their carbon load, while helping to prevent the fugitive emission of greenhouse gases from agriculture. It also helps to protect rivers, lakes and groundwater in nutrient-sensitive areas by allowing better management of the nutrients from farm wastes and animal slurries.

The technology is applicable to farms of all types and sizes, with the option of farmers working together in cooperatives to supply fuel for local public transport or heat and energy for rural communities and industry.

The work will address economic, environmental, legislative and technical issues surrounding the development of on-farm anaerobic digestion, and will look at ways of promoting this to provide an economic and environmentally sustainable means of

helping farms to satisfy the needs of a changing rural economy. The three-year project is funded under the UK Research Councils' Rural Economy and Land Use (RELU) programme.

Ends

Notes for editors:

The RELU Programme is a UK-wide research programme carrying out interdisciplinary research on the multiple challenges facing rural areas. It is funded by the Economic and Social Research Council, the Biotechnology and Biological Sciences Research Council and the Natural Environmental Research Council, with additional funding from the Scottish Executive Environment and Rural Affairs Department and the Department for Environment, Food and Rural Affairs. See www.relu.ac.uk for more information about the Programme.

For further information

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