

Report suggests biomass energy won't harm food production

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(PhysOrg.com) -- Biomass could cover 20% of the global energy supply without harming production of food, a new report released in the United Kingdom says. Reviewing over 90 international studies, the report was produced by the Technology and Policy Assessment function of the UK Energy Research Centre (UKERC), which tackles the challenges faced by the energy sector and seeks to provide solid and accessible reports that set high standards for rigour and transparency.

Some people believe [biomass](#) is the future, capable of providing the power the world needs. But others think it will only jeopardise the environment. UKERC scientists at Imperial College London offer a systematic review of the evidence base.

According to the report, the discrepancy between those who favour biomass and those who don't is due to the different assumptions made about population, diet and land use. The speed with which improvements in the production of food and [energy crops](#) can be rolled out is the biggest problem between supporters and detractors.

'If we make the best use of agricultural residues, energy crops and [waste materials](#), then getting one fifth of current [global energy](#) supply from biomass is a reasonable ambition,' explains Dr Raphael Slade, lead author of the report and Research Fellow at Imperial College London.

While it is possible from a technical perspective, the report suggests that assumptions must be made about the production of food, while it also

notes how changes in diets of those who live in Asia and Latin America are particularly challenging.

'The more [bioenergy](#) you want, the harder it becomes to reconcile demand for food, energy and environmental protection,' Dr Slade says.

The report highlights how replacing all fossil fuels with biomass would be equivalent to all of [global agriculture](#) and commercial forestry combined. This could happen if we can grow more food on less land. Developing technology could mitigate the challenges that currently hinder increased bioenergy production. However, policy is needed to help stimulate innovation and investment. The report suggests that paying particular attention to boosting food and energy crop yields could deliver a win-win opportunity - as long as soil fertility is not threatened and water resources are not depleted. Policy could also promote learning by fuelling the development of sustainable biomass today, and not leaving it for tomorrow.

'The main mistake is to think of this as all or nothing,' Dr Slade points out. 'There's plenty of scope for experimentation to make sure we get it right.'

Commenting on the role bioenergy could play, Dr Ausilio Bauen from the Centre for Energy Policy and Technology at Imperial College London says: 'Bioenergy may need to play a part in a future low-carbon energy mix. Ensuring bioenergy, food and forests don't compete for land won't be straightforward. But, if we use land more productively, and make better use of available plant material, we should be perfectly capable of producing bioenergy, feeding a growing population, and conserving the environment all at the same time.'

Provided by UK Energy Research Centre

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