Negative impact of biodiesel greater than gains?

A new study suggests that it may not be worth investing in biodiesel. Using Italy as a case-study, the author argues that in terms of cutting CO₂ emissions, energy dependency and urban pollution, the gains would be small, and the impacts on the land and soil would be of concern.

High prices for crude oil and Europe’s drive to increase its energy self-sufficiency are pushing the case for biofuels. The latest European Commission proposal for a Directive on the use of renewable energy, announced in January 2008, set the target for sustainable biofuel use in transport at 10 per cent by 2020. The stringent targets set by the Kyoto Protocol strengthen the case for alternative forms of energy, and biofuels are thought to reduce greenhouse-gas emissions, though this has been questioned recently when the full lifecycle is considered (see the ‘Emissions ‘payback’ time too long for biofuel crops’ article, also in this issue).

Research from the Universitat Autònoma de Barcelona highlights the impact on agriculture of meeting the EU biofuel targets using first generation crops, such as oilseed rape. Taking Italy as a case study, the research showed that about one third of current agricultural land would be needed to meet the 5.75 per cent target set by the European Directive in 2003. As there is little abandoned and set-aside land in Italy, the consequence of large-scale oil seed production would be a large increase in imports of biodiesel (or of food, if the energy crops were grown in Italy). This could also transfer the environmental impacts of European biodiesel demands to tropical countries, were most of the production would likely be located.

The research also suggests that cultivating large areas of land with first generation biofuel crops would have negative environmental impacts. Oilseed rape, for example, is typically cultivated using intensive agricultural practices, which would increase the use of fertilisers and pesticides.

The author also recommends other means of curbing urban pollution, such as adopting policies that favour the use of other readily-available, less polluting fuels, for example Compressed Natural Gas. In relation to the introduction of second generation crops, such as grasses used to produce ethanol, government policies must ensure that the required raw materials are produced with high environmental standards. Similarly, there may be a case for niche products, such as recycling used cooking oil for the production of biodiesel, but these approaches are unlikely to have a large-scale impact on biofuel production.

The author points out that although she has taken Italy as a case study, the conclusions can be generalised to other densely populated European countries. She stresses that the role of policy-makers is crucial, since the amount of biodiesel to be produced is a political decision.


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