

Algae biodiesel production has to be three times cheaper

October 1 2010, By Albert Sikkema

The cost of producing biodiesel from algae is now three and a half times more than producing it from oil, and twice as much as producing fuel from rapeseed. Investments in biotechnology would however make it feasible for petrol to be produced from algae.

This is put forth by the Wageningen University environmental economist Justus Wesseler and his colleague Vujadin Dovacevic in the October issue of [Energy Policy](#).

Last month, Wageningen UR environmental technologists Rene Wijffels and Maria Barbosa reported in *Science* that the production of biodiesel from algae cultivation would be feasible in ten to fifteen years' time. The cost of algae production would have to go down by a factor of ten, contended Wijffels.

Exact figures

Economist Wesseler has now come up with exact figures. The cost of producing biodiesel from algae is currently 52.3 Euros per gigajoule of energy, compared with 36 Euros for rapeseed and only 15.8 Euros for [oil](#). Wesseler has factored in the high costs of algae reactors based on figures from current, especially American, algae processors. 'Those facilities are not the most modern and efficient', he says. 'In the past year, the conversion of algae into biodiesel has become more efficient and, therefore, less costly.'

If biodiesel from algae were to be competitive with other biofuels, the productivity of algae reactors would have to grow annually by at least three to four percent more than the productivity of other bioreactors over a stretch of fifteen years.

Upscaling

Wesseler gives this a fairly high probability of success. 'Wijffels and Barbosa see many ways to improve the production process. The conversion of rapeseed and other crops into biofuels is already at a more advanced stage compared with that for diesel from algae. Upscaling the technology can also lead to big cost reductions.' If [oil prices](#) were to rise again too, a point will come when biodiesel from algae becomes cheaper than [biodiesel](#) from oil. Provided that the government and the private sector keep investing in developing [algae](#) technology, adds Wesseler.

Provided by Wageningen University

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