



## Biofuel industries call studies "naïve"

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### **Biofuel proponents disagree with new studies that claim producing biofuels increases greenhouse gases because more land is being cleared.**

"They're based on naïve assumptions," said Chris Somerville, director of the BP-funded Energy Biosciences Institute at the University of California, Berkeley in reaction to new studies published by the journal Science about the actual carbon emissions value of biofuels.

"Their calculations have certain assumptions," he said, "and if the assumptions are different, the calculations end up being very different."

Somerville was reacting to two new studies, published online yesterday and due in print next week, asserting that the biofuels his institute is pursuing are less environmentally friendly than gasoline.

One of the studies suggests converting land for biofuel crops can release up to 420 times the amount of CO<sub>2</sub> that the fuels are supposed to reduce by replacing conventional gas.

The other calculated emissions estimates based on land-use changes, suggesting corn-based ethanol's greenhouse emissions would be nearly double that of gasoline over 30 years, instead of reducing greenhouse gas emissions by 20 percent.

Somerville said one of the papers' fundamental claims, that using land for biofuels will inevitably lead to the expansion of agriculture, doesn't have a historical precedent.

"In the case of cereals, over the last 50 years there's been a doubling of demand, but there's not been an expansion of acreage," he said to Cleantech.com.

"Expanding demand has generally not led to a corresponding increase in demand for land use. I would say it's a speculative response for a speculative paper."

The studies brought equally defensive reactions from biofuel companies.

"Anytime an article comes out, you have to dig deeper and find the real story," said Bill Summers, chief science officer of the biodiesel producer Benefuel. He noted the emissions issue has no easy answers. "What the fuels of the future will be, I don't know, but they will burn and they will create CO<sub>2</sub>."

Summers said he appreciates the discussion the studies have generated because they raise the issue of developing informed policy. "I get excited even by the negative articles cause someone's thinking about the policy point of view."

Renewable Fuels Association president Bob Dineen accused both studies of not framing the issue correctly.

"Assigning the blame for rainforest deforestation and grassland conversion to agriculture production solely to the renewable fuels industry ignores key factors that play a greater role," he said in a statement, citing rising worldwide population and the increased demand for food and shelter.

Biofuels, he said, aren't the silver bullets that will solve the planet's energy and environmental problems, but a direction to take. "The alternative is to continue to exploit increasingly costlier fossil fuels for which the environmental price tag will be great."

The studies did find favor with other industry watchers. [ed.: among them, the petrochemical industry! See Petro firms applaud new study damning biofuels.]

Rafael Coven, managing director of the Cleantech Group's Cleantech Index, an investment vehicle that tracks public cleantech companies, said he wasn't surprised by the findings.

"This is a business that has been run by the agro-industrial lobby and the farm lobby states, and has paid very little attention to real science, so this doesn't surprise me." He said biofuels and ethanol could be niche fuels, but weren't feasible on a large scale.

No biofuel companies are represented in the Cleantech Index.

Coven said he doesn't see people shifting interest from biofuels but thinks the study might raise interest in other options such as liquified natural gas and biogas.

"Biogas is a tremendous opportunity," he said. "Using anaerobic digesters to develop biogas is fantastic. That should be done."

The Earth Policy Institute has been opposed to biofuels primarily because of the food issue debate. The group said it was "in total agreement" with the studies because they suggest carbon dioxide emissions of biofuels are much higher than had been suspected.

"When you're looking at using biofuels, especially from agricultural crops like corn, the line begins to blur between food and energy economies," said the Institute's Jonathan Dorn to Cleantech.com.

According to one paper, previous studies hadn't been factoring in land use changes when they originally calculated the emissions values.

"That is a huge omission," Dorn said. "We know any disturbance of land causes a rise in carbon dioxide." He also noted scientific correlations linking land use changes, such as turning a forest into crop land and back, with decreased productivity.

New forests aren't as healthy, he said, and can't absorb carbon from the atmosphere as easily. "It's hard to reverse the trend once it's already underway," he said.