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Biofuel from algae on horizon, say experts

December 8, 2006 - Exclusive
By Dallas Kachan, Inside Greentech

Leading companies working to commercialize biofuels from algae admit that the technology, while promising, is still years away from major scale production capability.

Speaking on a panel yesterday at an investor forum in San Francisco, Cary Bullock, President & CEO of [GreenFuel Technologies](#), a company at the forefront of algae for biofuel commercialization, acknowledged he "hopes to make large quantities of algae in a few years". GreenFuel has been growing algae with CO2 emissions from industrial smokestacks, and is experimenting with producing fuel from the algae with bioreactors.

There's no lack of interest in algae as a biodiesel feedstock, but "it's further out than cellulosic ethanol," opined Martin Tobias, CEO of biodiesel company Imperium Renewables. "I'll buy 1,000,000 gallons of algae oil today if anyone here on the panel can deliver it," he said.

Algae is being looked at as an alternative to biofuel feedstocks like corn, soybeans, and palm because of its high lipid density. In theory, it could produce far more oil per acre and could potentially reduce the cost of biofuels.

It's also considered a possible solution to what Luca Zullo, director of bioenergy at Cargill, told the panel was the "the 500-pound gorilla of the biofuel industry" - the moral and national security implications of developing crops for fuel, versus food. "I think we fundamentally need to look for feedstocks that can help with this issue, feedstocks that use underutilized water and underutilized land."

While algae is expected to ultimately have lower capital requirements than cellulosic ethanol as a potential future biofuel, companies at the forefront of the industry are still grappling with light, heat, food and scale issues. But they're optimistic that algae is the right way forward.



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"There are people who think that cellulosic ethanol is going to be the biggest boondoggle in U.S. history," said Lissa Morgenthaler-Jones, President and CEO of biofuel algae company LiveFuels of Menlo Park, CA.

Solazyme, another Silicon Valley-based company, is working to develop an ideal algae strain for biofuels. They're the ones "doing the real heavy lifting", said Morgenthaler-Jones.

Detractors of biofuel from algae point to a 328-page U.S. National Renewable Energy Lab (NREL) report from 1998, from which some concluded that biofuel from algae wouldn't be economically feasible. But panelists argued that the costs of has changed since the report was written, and that the costs of algae production, much like other technologies over time, have dropped.

"The economics have changed. When the report was written, oil was at \$15 a barrel. They were also assuming manufacturing techniques for biodiesel that were state of the art in 1996," said Tobias of Imperium Renewables.

And there's been innovation throughout the value chain in the eight years since the report was written, vendors argued. "We actually feel very good about where our results are going," said GreenFuel's Bullock.

One of the authors of the NREL report, Dr. John Benemann, was in the audience, and commented that "it was not meant to say you could or could not [make biofuel from algae.] I only meant it to be as a record of what we did in fifty years of research. It's neither positive nor negative. It is what it is."

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Boulder company working on algae biofuel

Submitted by Kat5 on Sat, 2006-12-09 16:37.

A company in Colorado is also dabbling in algae biofuel:

<http://tinyurl.com/y6593x>

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Here's another one: Amelot

Submitted by Skeptickle on Tue, 2006-12-12 08:04.

Another one, just announced today.

It's like Camelot, but without the C.

<http://www.primenewswire.com/newsroom/news.html?d=110279>

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UNH report economic feasibility analysis based on wrong assumpti

Submitted by norbu on Mon, 2006-12-18 00:22.

Martin Tobias (CEO of biodiesel company Imperium Renewables) ... out of 5 billion plus people on the planet, this Tobias guy is the only one who is saying what I have been saying

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I would add that the UNH report explicitly says its economic feasibility analyses are based on the assumption that oil prices are declining when the fact of peak oil flies in the face of this assumption (see analysis in link below)

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Food for algae

Submitted by martinb714 on Tue, 2006-12-19 14:59.

I don't know enough at this point to comment on the light, heat or scale issues, but feeding the algae should be simple.

Locate a facility with access to water from the lower reaches of the Mississippi River! (Or any other river with fertilizer pollution.)

There is enough fertilizer runoff to create a large dead zone in the Gulf every year. Using some of it to produce biofuel would help alleviate 2 problems at once and lead to a more balanced ecological recovery.

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