ENERGY & CAPITAL
Practical Investment Analysis in the New Energy Economy

Investing in Algae Biofuel

Special Report

Hundreds of millions of years ago, the earth was covered with shallow oceans filled with algae and other simple critters.

As landmasses shifted and grew, water was displaced, leaving thick masses of algal residue that were eventually buried and compressed.

Skip forward a few eons, throw in some heat and pressure and ta-da! **Oil.**

Then, in 1859, Colonel Drake drilled the first oil well in Titusville, PA, unleashing not only oil but an economic juggernaut that would dictate our way of life for years to come.

The world began to use oil for everything from fuel to waterproofing, and since then has consumed over a trillion barrels. With such furious consumption — and no way to make more — world oil reserves are set to dwindle.

Essentially, we're going to deplete in less than 300 years what took hundreds of millions of years to form. And with the depletion of oil, alternatives are destined to emerge.

And ironically. . . algae is one of them.

Biofuel Bliss

Research like that being done at the Colorado State University's (CSU), Engines and Energy Conservation Laboratory and the University of New Hampshire (UNH), suggests that algae could supply enough fuel to meet all of America's transportation needs in the form of biodiesel.

That's right . . . *all of it*.

Whereas with our current biodiesel feedstocks, like soy and palm, there's no way we could grow enough to supply all of our transportation needs.

In fact, it would actually require twice the land area of the United States devoted to soybean production to meet current heating and transportation needs.

That's a lot of beans!

Algae, on the other hand, could supply all U.S. diesel power using a mere 0.2% of the nation's land.

In fact, enough algae can be grown to replace all transportation fuels in the U.S. on only 15,000 square miles, or 9.6 million acres of land.

That's about the size of the state of Maryland.

Granted, that still may sound like a lot of land. . . but consider that we now use 938 million acres for farmland in the U.S.

I'd show you a pie chart of how much land would be required for algae growth — but the slice is so tiny, it wouldn't even be visible.

So now the question is, how the heck can you make so much biodiesel from such a small amount of algae?

Well, let's revert back to ninth-grade science class for a moment. . .

Biofuels are really a form of solar energy. Because crops convert solar energy into chemical energy in a process called (anyone? anyone?). . . photosynthesis.

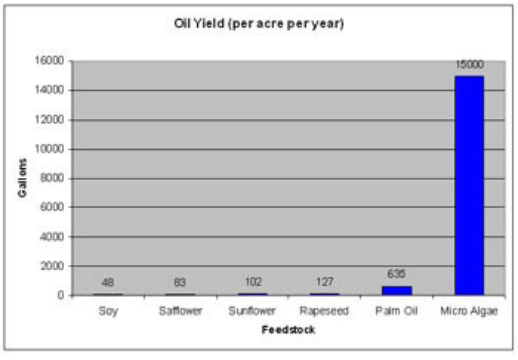
It's this chemical energy, in the form of oils, that we need to produce biofuels.

According to the UNH report, the more efficient a particular plant is at converting solar energy into chemical energy, the better it is from a biofuels perspective.

So in this area, algae's the clear winner.

In fact, algae does this so well that up to 50% of its body weight can be fat, or the oil needed to make biodiesel.

That makes algae the highest-yielding feedstock for biodiesel, producing 24 times more oil per acre, on average, than the next leading feedstock — palm oil at 635 gallons/acre/year:



And some companies have far surpassed the 15,000 gallon per acre-accepted benchmark.

In fact, one company can produce **180,000 gallons of biodiesel every year from just one acre of algae** . That comes to about 4,000 barrels, at a cost of $25 per barrel or $.59 per gallon.

To put that in perspective, it takes 3,750 acres of soy to make the same amount of biodiesel at a cost of about $2.50 per gallon for 4,000 barrels.

So, how is this going to be done?

Algae Profits Bloom

It is possible to use human sewage and wastewater from agricultural endeavors to enhance the growth of algae.

In fact, when done right, algae can double and even triple overnight with the addition of these fertilizers.

Compare that to the five-month growing season for soy or canola!

Plus, as algae absorbs Co2 from the air *as it grows*. MIT has even fed emissions from their on-site power plant directly to algae being cultivated for biofuel production.

In addition, fertilizer for other food crops can be produced by using the leftover nutrients that aren't used to make the biofuel.

That's like having your algae and eating it too.

So let's back up and look at the big picture. . .

We have the technology right now to cultivate algae that can be used as fuel, using human and animal waste as fertilizer.

This is waste that would otherwise need to be treated, or it will end up in our nation's groundwater.

Not a bad deal at all!

After the necessary oils have been extracted from the algae, we use the byproducts (phosphorus and nitrogen), as fertilizer for the food crops that feed the nation — all while extracting C02 from the air.

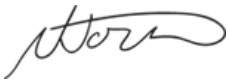
That's a beautiful thing.

And that's why we're currently looking at a number of companies . . . some public, some soon-to-go-public . . . that we believe will capitalize in a big, big way on algae.

Now don't get me wrong. The last thing we want to do now is jump on every algae-based biodiesel producer that comes along.

Until we see validation on a commercial scale, this is a market that will have to remain under the microscope.

But as soon as we get the validation . . . you'd better believe Green Chip Stocks members will hear about it first.



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You can view the HTML version here: Investing in Algae Biofuel

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