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Clean Investing Newsletter



Longboard Capital Advisors, LLC is committed to accelerating the adoption and commercialization of clean energy technologies. Please give us a call to find out how we can help you with your clean energy investments.

The Future of Energy

I asked people several months ago in one of these newsletters a trivia question: "What country has the most power in effecting global oil prices?" I got a few responses, ranging from Saudi Arabia to Russia. Saudi Arabia is an obvious choice with production cost of less than \$10/barrel and over 10% of the world's reserves. In reality, the U.S. has the most pricing power because it is the world's largest consumer, using almost 33% of the world's daily oil output.

How much of our consumption is discretionary? From my own experience driving in LA, I have seen traffic volume decline remarkably - probably on the order of 7%. In addition, the number of inquiries from interested people about my [Zenn](#) electric car has doubled from six months ago! I am also seeing more people riding bicycles (even in LA!!). My local bike shop ([Bike Attack](#)) in Santa Monica told me business is up 50% over last year.

People are responding to higher prices by showing resiliency and resourcefulness. Is this why Saudi Arabia is concerned about these high prices? If prices remain high for too long, people will invest in substitutes, and reduce demand for the incumbent supply.

After the last automobile efficiency standards (CAFE) were enacted by Congress in 1977, oil prices declined a remarkable 40% over the next 4 years. What may be different for us today is that 1 billion people will modernize over the next 15 years. The energy use of these new consumers will grow by a factor of ten over the same time period as they purchase cars, dishwashers and air conditioners for the first time.

As all fossil fuel-related energy prices have been rapidly climbing lately (oil, natural gas and coal), clean energy input costs remain at ZERO. The wind and the sun still do their job for free, and don't have plans to move off this rock bottom price in the future. It makes sense to begin to move rapidly towards free fuel, even if the "upfront" costs are higher. This is smart investing for everyone's future.

With more renewables in our energy mix, these billion people will be able to modernize without increasing carbon output. Otherwise, if energy and commodity prices keep climbing, this 15 year global prosperity boom will be sidetracked.



Promising Clean Technology Review: Algae Creates Fuel and Sequesters Carbon

Promising algae companies are raising venture capital, and commercial scale algae biofuel production is imminent.

On the surface, algae looks like an excellent, efficient way to produce fuel. Algae bioreactors are direct to fuel (no refining or fermentation is needed), and therefore eliminate many of the steps required to create ethanol today. As you may know, sugar cane and corn need to be planted, fertilized, harvested, and then distilled into ethanol. This process is energy, land and water intensive. What if the photosynthesis could create the fuel directly, eliminating these costly steps in current ethanol production?

One of the solutions being prepared for production is from privately funded [Algenol](#). What I like about their technology is that the algae converts seawater (ample supply and free) instead of fresh water (limited supply and getting more expensive) into ethanol. The bioreactors can also be sited on land with no value for food growers (desert). This particular algae to fuel process starts with seawater being pumped into bioreactors with some nutrients. CO₂ from a nearby power plant is then bubbled up through the algae, and ethanol is then directly created via intracellular fermentation.

The economic viability for fuel produced from algae is largely dependent on yields and subsidies. Algenon claims that by the end of this year, it will be able to produce 10,000 gallons/acre. They also think this can increase further to 40,000 gallons/acre over the next few years as they improve the algae strains.

It seems to me that the company can be quite profitable in light of a global carbon cap and trade system being in place by 2012. This means that Algenol will be paid to convert the CO₂ from the power plant exhaust into oxygen. With other subsidies, the company could garner ethanol revenues around \$5/gallon.

The sites will cost at least \$590,000 per productive acre to set up, meaning to get a 3 year return on investment, yields will have to be above 15,000 gallons/acre/year. If the company can truly get yields up to 40,000 gallons/acre, this technology will be a home run.

Upcoming Public Presentations and Events

I am back to the [Southern California Investors Conference](#) September 3rd in Newport Beach as a keynote speaker. I was recently a panelist at the GreenWest Expo in Los Angeles (with Andy Funk of [Funk Ventures](#) and Greg Wendt of [Enright Advisors](#)), and in late July I will be participating with other senior executives at the [Sustainable Business Council](#) where we will distinguish characteristics of world-class sustainable companies.

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