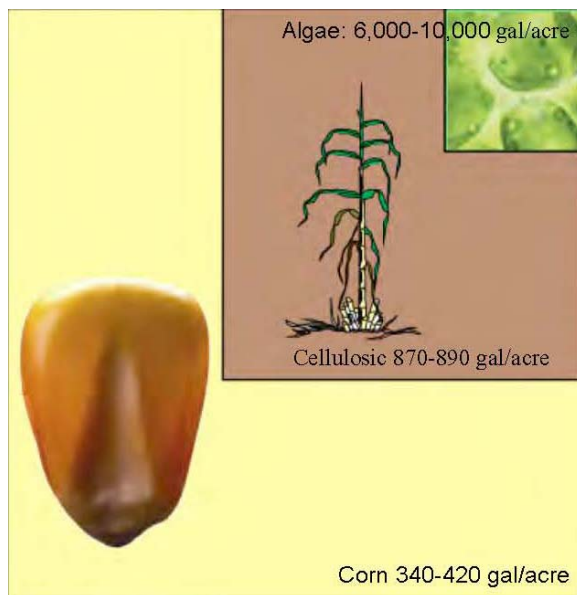


The production of energy and food from algae while capturing CO₂ and excess nutrients in the water epitomizes the definition of the term sustainable.



Algae produce much more energy per acre!



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Best Energy Solutions/KBI
Fueling the Future Through Innovation



Working together to solve
 the energy, food and
 environmental challenges of
 today and tomorrow
 through algae



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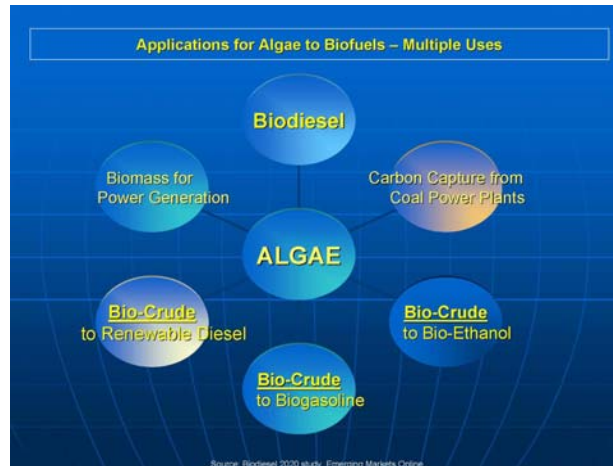
<http://www-csgc.ucsd.edu>

Tulsa Airport Project

This project would use algae to produce up to 50% of the aviation fuel consumed by the Tulsa Airport. It could utilize up to 1700 acres of adjacent land that cannot be used for other development purposes. The project would generate up to \$60-million in annual revenue.



The proposed Tulsa Airport Project would utilize land to the North, East and South of the Airport. These lands could produce up to 15-million gallons of Bio-Aviation fuel and 100-million pounds of feed products annually.



There are multiple applications for algae to biofuels. <http://www.bioenergy-world.com/americas/2008/IMG/pdf/Will-Thurmond-EMO.pdf>

According to the Energy Information Administration

(<http://www.eia.doe.gov/oiaf/forecasting.html>):

The total annual energy consumption in the world will rise to 678 Quads (Quadrillion-BTU) by 2030, up from 347 Quads in 1990. This is a growth factor of 100% in 40 years.

The US consumed approximately 100 quads in 2008 (Including 5.27-Billion Barrels of Oil).

Current US Oil Reserves are 21.3 billion barrels. Current production is 1.7 billion barrels per year. Years left at current rate of production = **12.5**

Current US natural gas reserves are 237.7-trillion cubic feet. Current US annual consumption is 26-trillion cubic feet. Years left at current rate of production = **9.1**

Based on these projections, we must act now to head off a potential crisis due to oil and natural gas shortages. Even if the known reserves were

doubled, there is still only a short time to take action.

We need a combination of all types of energy solutions to meet the challenge ahead.

According to a DOE study:

Algae can produce up to 15,000 gallons of oil per acre per year. To offset the current annual crude oil imports of 3.35 billion barrels per year, there would need to be 9.38 million acres of algae production. This is not much compared to the 100 million acres of corn and 350 million acres of other cropland planted in the US. The algae would not take up any of the current planted acres, leaving them to support the food, feed and ethanol industries.

If all 100 quads of energy were produced from algae, it would take approximately 725 billion gallons of algae oil, or 48.3 million acres. This would not be likely, but is certainly possible for future generations.

Current ORU-Best Projects:

- Contact area industries about CO₂ and nutrient sources. (e.g. cement factories, landfills, sewage treatment plants)
- Determine possible locations of algae growing systems.
- Test methods of harvesting and dewatering algae.
- Fish feed /aquaculture development for production and utilization of algae byproducts.
- Develop alliances with municipalities, industries and technology providers to maximize production and environmental benefits.