

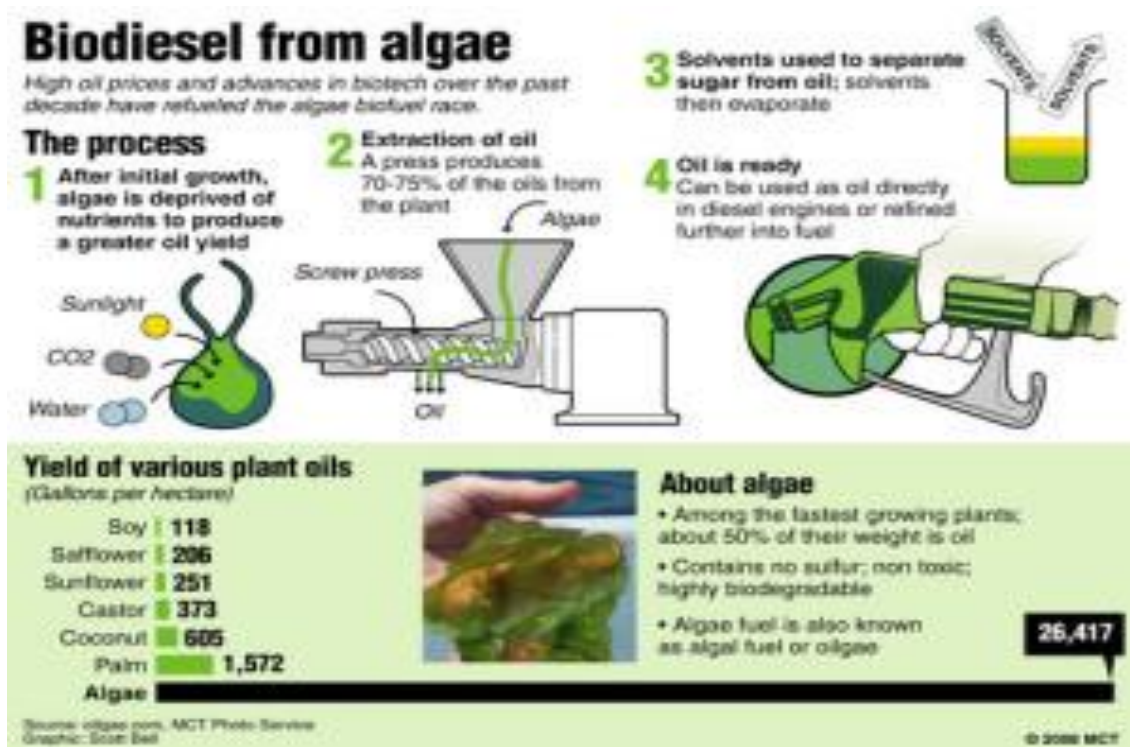
What about algae?



They can be grown in non-arable land; oil yield is higher than from traditional seeds; they don't need fresh water, can use saline; they are not a food source (like corn, for example); they can make a variety of fuel and chemical products; but

Fuel from algae is likely to be quite expensive; harvesting is difficult; it's a new technology and much work needs to be done, particularly to make fuels reasonably economically.

A plant to make biodiesel from algae might look like this :



NASA has a program to develop aviation fuel from [algae](#). I don't know how far along they are, but a lot of the concepts are interesting to understand. ExxonMobil has linked up with Synthetic Genomics (Think Craig Venter) to develop algae-to-fuels technologies. I recently talked to one of the engineers involved in this work, which is receiving a lot of financing from ExxonMobil. It appears to me that a large commercial plant is at least five and possibly as much as ten years away.

A number of firms are working on making chemicals from algae and they are generally concentrating on specialty chemicals (rather than commodities), because these are sold in smaller quantities and will have higher margins than biofuels. Also, some of these chemicals will be unique, destined, for example, for the personal care market.

It will be interesting to see whether algae or other forms of biomass will predominate in the production of chemicals from renewable sources.

Source: <http://chemengineeringposts.wordpress.com/2012/02/20/what-about-algae-2/>