



The Limits of Biofuels

Posted by [Kyle](#) on May 9, 2006 - 1:18am

Topic: [Alternative energy](#)

Tags: [biodiesel](#) [[list all tags](#)]

[editor's note, by Stuart Staniford] With this post, we welcome [Kyle](#) as a contributor to the blog. You may recall his [excellent guest post](#) on the potential of cellulosic ethanol.

One question that always arises with biofuels is "How much can we really produce?" For most fuels, this depends upon the feedstock, i.e., corn versus cellulose for ethanol. However, there are definite limits, and as time progresses, my guess is that we will see more and more proposals like the one below the fold:

Dynoil to Build 1.5 bgy Biodiesel Refinery in Houston

To help lessen the U.S. dependency on foreign oil, Dynoil's commitment to producing an alternative diesel fuel is under way with its plan to build a 1.5 billion gallon per year (bgy) refinery that will process vegetable oil feedstock into environmentally friendly biodiesel. The intention was announced by A. Vernon Wright, Chief Executive Officer of Dynoil LLC, a Delaware Limited Liability Company.

The company concluded from its market studies that the current market for biodiesel in the U.S. Gulf Coast is at least 100,000 barrels per day, and it identified markets on the U.S. East, West Coasts and on the Great Lakes where it intends to expand its production of biodiesel. A site for the refinery has been selected near Houston, Texas, and the U.S. Gulf Coast. The plant will process conventional vegetable oil into biodiesel fuel that will contain zero sulphur and nearly zero nitrogen oxide (NOx) emissions. Dynoil's biodiesel can be blended into various grades of diesel fuel that can contain anywhere from five percent (B5) to 20 percent (B20) biodiesel to meet market demand requirements.

The refinery will process approximately 100,000 barrels per day of vegetable oil into fuel that can be used as a blending stock with petroleum diesel. The company plans to use state-of-the-art technology to convert vegetable oil into consumable fuel oil. Biodiesel can also be used for home heating or electric power generation.

The company concluded from its market studies that the current market for biodiesel in the U.S. Gulf Coast is at least 100,000 barrels per day, and it identified markets on the U.S. East and West Coasts and on the Great Lakes where Dynoil will expand biodiesel production.

In normal business speak, there clearly is a market for that much biodiesel, so full speed ahead! However, the detail that is missing is that the entire US production of soybean oil (the main kind produced here, as our climate is too cold for palm oil and too warm for rapeseed) is 2.5 billion gallons per year. In other words, this single "bio-refinery" will consume roughly 60% of the soybean oil produced annually in the US! It seems that at some point we may need a "third

party" to keep ourselves from burning all of our food just to keep those vehicles on the road...

Just for reference, world production of all vegetable oils is about 600 million barrels annually (1.65 million barrels/day), about 1 weeks worth of oil usage.



This work is licensed under a [Creative Commons Attribution-Share Alike 3.0 United States License](http://creativecommons.org/licenses/by-sa/3.0/).