

Bringing the Biodiesel

June 8 2009, Hiroko Sato, The Sun, Lowell, Mass.

For some people, "biodiesel" might seem like a novelty product for which only hybrid car-driving tree huggers wouldn't mind paying a premium.

But that's destined to soon change. Starting July 2010, any Massachusetts resident who drives a diesel vehicle or has an oil-heated home will be using biofuel. That's because the Clean Energy Biofuels Act of 2008 -- adopted by the Legislature and signed by Gov. Deval Patrick last year -- will require all diesel and home-heating oil sold in the state to contain some biofuel.

But how are fuel carriers going to comply? With [biodiesel](#) available at just a few gas stations across the state, where would they go to get tens of thousands gallons of it?

Blair "Jesse" Reich thought about that, too. The assistant professor of chemistry at Massachusetts Maritime Academy decided he wants be the premier supplier of biofuel to be consumed in the state.

Baystate Biofuels, owned by Reich, is expected to start selling biodiesel at its 160-acre full-scale commercial biodiesel terminal on Osgood Street by summer's end. The former Merrimack Valley Works plant, recently home to Lucent Technolgies, comes with two existing 175,000-gallon oil tanks that Baystate Biofuels will use to store biodiesel.

Reich hopes the facility will not only serve as a distribution point, but he also hopes to produce biodiesel there, supplying 10 million gallons in

two years and 57 million gallons in five years. At that point, the company would have created 300 jobs, Reich said.

Reich plans to install photovoltaic panels on the rooftops to provide much of the electricity needed. Unlike gasoline, biodiesel becomes solid in cold climate, and terminals like Reich's must be able to keep fuel warm enough to be fluid. He said the company is currently working out a deal with Wheelabrator, a waste management company next door, to buy excess heat from burning construction waste.

The biodiesel that Baystate Biofuels will carry is a combination of waste vegetable oil from restaurants and animal fats from rendering facilities. This is because there is no reason to burn so much more oil to make virgin fuel when you can make diesel of the same quality from waste products, Reich says.

In fact, the Clean Energy Biofuels Act requires diesel suppliers to mix not just any biodiesel but "advanced biodiesel," meaning that it's proven to generate 50 percent less greenhouse gas compared to its petroleum counterpart, according to Dwayne Breger, director of renewable and alternative energy development at the state Department of Energy Resources.

Fuel made from virgin feedstock, such as palm and soy, doesn't appear to meet the criteria because the energy used for fertilizing the plants, transporting the crop and the land cleared to make room for growing it are all part of the equation when calculating carbon footprints, Breger said.

In the first year of the act, at least 2 percent of diesel for transportation and heating must be biofuel. That would create a demand for an estimated 24 million gallons in Massachusetts, according to Breger. The percentage will increase by one point annually until it reaches 5 percent

in 2013.

Reich said different states have different requirements -- or no requirement -- for biodiesel content. Thus, it does not make sense for nationwide diesel distributors to pre-mix a certain percentage of biofuel in their products.

There is currently 3 billion gallons of biofuel produced in New England, according to Breger. The region's market for biodiesel is 1.2 million gallons -- two to three times the size of Massachusetts market -- meaning suppliers are buying a lot of biodiesel made elsewhere.

Reich, who holds a doctorate degree in chemistry from Texas A&M University, previously worked for BASF, an international chemical company, in its inorganics and sustainable marketing division. He said the price of biodiesel at Baystate Biofuel will be competitive with petroleum oil, and after it's mixed with regular diesel, there should not be a significant increase in price.

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