

Biodiesel refinery hopes to finally begin soon

December 15 2009, David Brooks

Starting up a new business is tough, but starting up in a new industry can be even tougher. That helps explain why the city's cutting-edge biodiesel refinery, one of a handful of its kind in the country, hasn't begun production a year after its grand opening.

Batchelder [Biodiesel](#) Refineries is still awaiting certification from the American Society for Testing and Materials (ASTM) so it can sell fuel made from "brown grease," the gunkiest leftovers from restaurants.

"That has taken substantially longer than we all anticipated because ASTM testing has changed," said Christopher Langille, a research associate at Keene State University, who's part of the group developing the refinery and a related biodiesel project in Keene.

The testing society now requires an antioxidant in the fuel, which it says is needed to help keep biodiesel from harming engines. Changing standards are a common problem with new industries, and commercial-scale biodiesel from brown grease is relatively uncommon.

Langille said the refinery hopes to get certification as early as this week, after which it quickly could ramp up production to commercial levels.

"We're producing small volumes for our boilers now," he said.

The refinery is located in part of a former mill building on the north side of the Nashua River, near Nashua Christian Academy.

In a related move, construction should begin in early January in Keene of a biodiesel laboratory and research facility that will be half leased by the city of Keene, which has long been a pioneer in the use of biodiesel in its vehicles, and half by Keene State University.

Batchelder Biodiesel is planning to develop space alongside it for a "community-scale production facility," Langille said. Financing remains a complication.

Despite the struggles, Batch-elder Biodiesel is doing better than many companies in the biodiesel industry, which has been hammered by the credit crunch and the fall in oil prices and which has made fossil-fuel-based heating oil and diesel less expensive than biodiesel versions.

A report said 2009 U.S. biodiesel production dropped 31 percent this year, and several biodiesel firms have gone into bankruptcy.

Most of that, however, is corn-based biofuel. Batchelder's use of "brown grease" that would otherwise be taken to a landfill makes the technology more difficult but the cost structure a little easier.

"We have a little bit of an advantage, since the incoming product is all waste stream," Langille said. "Not having to pay for raw materials is a help."

The refinery plans to get used grease from restaurants, collected by Stewart Septic, of Bradford, Mass. The firm filters out solids and similar material, then delivers it to the refinery, where it's stored in 2,000-gallon tanks.

The [grease](#) is heated to 135 degrees and mixed with methoxide, which acts as a catalyst to help the various chemicals separate.

That mix is sent up a separator column, a basic piece of equipment for refineries. As it moves up the column, different compounds separate out at different temperatures and pressures, including water, which is reused, and glycerol, which the refinery will burn to help fuel the heater.

Rymes Propane & Oils, which has sold biodiesel in New Hampshire since 2004, will sell the product at the retail level.

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