



EarthWatch Rhode Island



Topic: Turning Waste Oil into Clean-Burning Fuel
Location: Newport Biodiesel Production Facility, Newport
Date: January 9, 2009

Background

Newport Biodiesel is Aquidneck Island's sole producer of certified biodiesel, a clean burning alternative fuel that is produced from a locally generated waste product – restaurant fryer oil. The three-year old company collects used cooking oil from about 300 restaurant partners in Rhode Island and southeastern Massachusetts, processes the used oil into biodiesel at its Newport facility, and then distributes the product statewide to homeowners and boat owners for use as home heating and marine fuel. Biodiesel in its pure form (B100) is available directly from Newport Biodiesel, and different blends of the fuel are available from the firm's distributors, TH Malloy of Cumberland and Smithco of Wakefield.

Biodiesel Production

Biodiesel is produced from any fat or oil such as soybean oil through a refinery process called transesterification, where glycerin is removed and the alcohol product ethanol is added to give the biodiesel the same qualities as diesel fuel. The three-day production process involves settling, heating and a multi-stage chemical reaction between periods of settling and heating. The product is tested two times during the production process for quality assurance.

Fuel-grade biodiesel must be produced to strict industry specifications in order to insure proper performance. Biodiesel is the only alternative fuel to have fully completed the health effects testing requirements of the 1990 Clean Air Act Amendments. Biodiesel that meets these specifications and is legally registered with the Environmental Protection Agency is a legal motor fuel for sale and distribution.

Biodiesel itself contains no petroleum, but it can be blended at any level with petroleum diesel to create a biodiesel blend. It can be used in diesel engines with little or no modifications. Biodiesel is simple to use, non-toxic, and essentially free of sulfur and aromatics. Using pure biodiesel (B100) requires diligence in two areas: cold weather gelling and solvency. However, by blending biodiesel with petroleum diesel fuel these issues can be reduced or avoided all together.

Biodiesel gels around 32 degrees Fahrenheit. During the winter months, the only way to be 100% certain that biodiesel fuel will not gel is to maintain a percentage of petroleum diesel in the fuel supply (exact quantity varies with climate). A typical blend used in the winter is B20 (20% biodiesel/ 80% petroleum diesel) and that is good to zero degrees Fahrenheit and below with the correct anti-gel additives.

With this year's concerns about the cost of heating oil, Newport Biodiesel is working closely with its distributors to keep the price of biodiesel competitive with No. 2 heating oil. The majority of home heating customers use a blend of 20% biodiesel and 80% No. 2 heating oil. It is a drop-in replacement for No. 2 heating oil and requires no adjustment to your heating system.

Environmental Benefits

The environmental benefits of biodiesel are numerous. A renewable resource, biodiesel is a clean burning alternative fuel produced from domestic, renewable resources. Production of the product takes the waste stream out of the environment and puts the waste to beneficial reuse. While Newport Biodiesel's approximately 300 restaurant partners dispose of their waste oil at no cost to their businesses, the restaurants are supporting sustainable biodiesel production and fueling a greener Rhode Island.

Newport Biodiesel has also had some exciting developments with its own waste products. A company in the Midwest is taking the glycerin by-product and using it as a lubricant in the production of cement, and a gooey substance left after production of biodiesel is being used by a large-scale organic composting facility in South County that processes fish and squid parts.

How Newport Biodiesel Got Started; Early Successes

Before biodiesel production began, the partners in Newport Biodiesel collected used cooking grease for three years. Construction of the Newport processing plant was completed in fall 2007. Since that time, the company has produced over 200,000 gallons of biodiesel. In a typical week, the company collects about 3,000-5,000 gallons of waste oil from its restaurant partners, and produces about 20,000 gallons of biodiesel per month at its processing facility.

Newport Biodiesel's roots go back to 2005, when it built a pilot project at Middletown's Norman Bird Sanctuary that demonstrated the ability to produce high quality biodiesel from waste vegetable oil collected from local restaurants. This project provided NBS biodiesel fuel to heat its buildings and power its farm equipment, and it gave Newport Biodiesel the experience needed to create a large scale production facility. In the summer of 2006 Newport Biodiesel used biodiesel in several different boats with great success.

Interviews:

Chris Benzak, Collections Manager

Nat Harris, Production Manager

More Information for Consumers/Restaurants:

For pricing information contact Newport Biodiesel at 846-1117. Volume and cash discounts are available as well as wholesale pricing.

Newport Biodiesel could not function without its restaurant partners. If you own a restaurant or want your favorite restaurant to participate in the program, contact Chris Benzak at 829-5918 or via email at info@newportbiodiesel.com .

1. **Directions:**  A 75 Kenney Dr, Cranston, RI 02920-4443
2. 1. Depart Kenney Dr 0.1 mi
3.  2. Turn left onto Slater Rd 0.4 mi
4.  3. Turn right onto Pontiac Ave 0.2 mi
5.  4. Take ramp right and follow signs for SR-37 East 0.4 mi
6.  5. At exit 4A, take ramp right for I-95 South toward New York 6.3 mi
7.  6. Keep left onto SR-4 South 10.0 mi
8.  7. Road name changes to US-1 South / Tower Hill Rd 0.7 mi
9.  8. Take ramp right for SR-138 East toward Newport / Jamestown / Bridges
 Stop for toll booth
10.  9. Take ramp left for RI-138 East toward Cape Cod / Fall River 0.8 mi
11.  10. Turn right onto SR-138 West / Admiral Kalbfus Rd 0.2 mi
12.  11. Keep straight onto Admiral Kalbfus Rd
13.  12. At roundabout, take 1st exit onto JT Connell Hwy 0.5 mi
14.  B 13. Arrive at 312 Connell Hwy