



Bridgeport Biodiesel

Production of Diesel and Fuel Oil
substitutes from liquid waste.

FY 10/11 Executive Summary



Introduction

- Incorporation
- Manufacturing
- Location - Technology - Construction
- Key Philosophy - Total Grease Management
- Partnership with UConn
- Community Education Program
- Grants



Current Opportunity

- Fuel costs for home heating have increased by 42% nationwide, with increases as high as 60%. Prices for motor vehicle and machine diesel fuel have increased by 125% nationwide.

Source: Department of Energy, EIA;
New England Oil Association; New
York State ERDA



Sources of Raw Material

- Primary source for raw material is yellow fat (restaurant fryer oil)
- Secondary sources include beef tallow, fish oils, rancid or out of date food oils, vitamin oils, and render and kill plant byproducts.



Target Customers

- Home heating oil customers (Beckett, Buderus, Well-McClain and Brookhaven National Labs are certifying this fuel or have certified this fuel for use in home heating system)
- Motor vehicle operators (i.e. trucking, agricultural, construction and diesel locomotive operators)



Home Heating Oil Stats

- 803 Million gallons of petroleum based heating oil consumed in 1999 in the United States (Source: Brookhaven National Labs)
- 58 million gallons of liquid waste oil produced in 1999 in New York City alone (Source: New York City Department of Environmental Protection)
- National average price for home heating oil \$1.83 in 2004



Home Heating Tests (Brookhaven National Lab)

- Thermo Pride Furnace with Beckett model AF burner for test system
- IMR 2800 Combustion Analyzer used for testing system
- System performed better on heat produced, lower output of CO₂ and NO_x



Competition

- This is the first fully certified Biodiesel production facility of its kind in CT.
- All current large scale facilities focus on biodiesel made from fresh vegetable oil stocks, particularly soybean oil.
- This facility is unique in that the raw material is waste product.
- There very limited biodiesel production facilities of any kind in our initial market.



Biodiesel Facts

- Biodiesel contains greater than 400 BTU/lb advantage over crude oil
- In testing, biodiesel showed an 11-12% reduction in wasted heat energy compared to heating oil as a fuel
- Equipment running in biodiesel runs cleaner, produces less NOx and CO2 than conventional diesel.
- Biodiesel is environmentally safe – it is non toxic until glycol based degelling agents are added for winter.

Source: Purdue University



Production

- Our production facility uses a system that produces no waste, and two primary products for sale: glycerin and B100 biodiesel
- The only waste stream generated is a limited amount of solid waste removed from the yellow fat.



Entry and Growth Strategy

- Our entry strategy focuses on partnering with the local carting groups, to solve the critical issue of allowing these companies to effectively and economically dispose of waste oil in a manifested and responsible manner.
- Other initial consumers are CT based energy companies - for example, Santa Energy.



Marketing Plan

- Initial marketing is performed by the carting associations; initial sales are to heating oil and over the road fuel distributors.
- No marketing is performed to end users. Second stage marketing is via established distribution systems (Santa, Sprague, Amerada Hess, Petro, etc.)



Organization

- Core management is in place.
- Core management has over 35 years in liquid waste trucking and disposal management.
- Fuel production staff is derived from unskilled labor base, paid at or about current minimum wage, hire from local base..



Strategic Advantages

- Our facility is powered by a 30Kw photovoltaic array.
- The first solar power biodiesel production facility in the country
- Collection trucks powered by liquid natural gas
- Minimum carbon footprint.
- Collect local - process local - sell local



In conclusion

- Excellent opportunity for CT.
- Providing a safe, clean, renewable energy source that is disposing of a waste stream through beneficial reuse.
- Providing jobs, power, and growth for CT.