



Mansfield, OH
2009

Jeff Schultheis - General Manager

Mansfield Plant



Transesterification Reactor



Loading & Unloading



Timeline: 2008 Start & Market Decline

- ▶ Began Production July 2008
- ▶ Market “Correction” Sept. 2008
- ▶ Fuel Price Drop
- ▶ New ASTM spec. Sept. 2009
- ▶ Continued Weekly Decline
- ▶ Met new ASTM specification Nov.
- ▶ Halted production to await improved market

2009 – Promising Changes

- ▶ Investigated Vendors, New Equipment
- ▶ Arisdyn Systems, Cleveland OH
- ▶ Applied USDA Grant, OH Stimulus Grant
- ▶ May 2009 DOE “upgrade”
 - FAME = “Advanced”
- ▶ USDA Bioenergy program \$300m / 3 yrs
- ▶ RFS – 2 calling for 500mgly in 2010
(v. 300 mgly actual in 2009)

2010 Outlook – Fingers Crossed

- ▶ Awaiting RFS-2 Implementation (Demand Boost)
- ▶ Awaiting extension of \$1.00 gal credit
- ▶ Due to expire Dec. 31, 2009
- ▶ Slated to switch from “blender” to producer credit
- ▶ Received first USDA Bioenergy “contract” \$.025
- ▶ Awaiting 2010 Contract & Rate

Energy Balance

- ▶ Biodiesel has a very high “energy balance”. Newly published reports from University of Idaho and U.S. Dept. of Agriculture show that for every unit of fossil energy needed to produce biodiesel, the return is 4.5 units of energy.
- ▶ The “energy balance” takes into account the planting, harvesting, fuel production and fuel transportation to the end user.

Diversity

- ▶ Biodiesel is the most diverse fuel on the planet. It is made from regionally available, renewable resources that are abundant in the U.S., including soybean oil, other plant oils recycled restaurant grease, beef tallow and other fats.
- ▶ The increased demand for biodiesel is stimulating research and investment in developing new materials to make biodiesel, such as algae, camelina, jatropha, other arid land crops and waste materials like trap grease.
- ▶ According to a study by NREL in Golden, CO, domestic feedstocks for biodiesel totaled 1.6 billion gallons (including all sources). NREL anticipates growth in feedstock supplies for an additional 1.8 billion gallons by 2016.