



**GREENLINE
INDUSTRIES**

Innovative Biofuel Technologies

Clean Cities Retreat

Santa Fe, New Mexico

April 8 – 10, 2008

Tommy Foltz
Senior Sales & Government Affairs
Representative

Why is Greenline here?

- Only fuel producer here.
- You talk to people about the industry.
 - Want to give you a positive perspective/set the record straight
- You're a great resource.
 - My job:
 - Government affairs
 - Grant writing
 - Sales
- Provide producer's perspective
 - Biodiesel industry is not going away



Industry Comment

- Biodiesel industry is struggling.
- Solutions:
 - Efficiency
 - Feedstock availability
 - Need more
 - Part of that answer is using lower quality feedstocks
 - Glycerin (lemons into lemonade)
 - Need to turn this from a cost center into a revenue stream
 - Purified glycerin has good value



What is Greenline?

- Manufacturer of continuous flow biodiesel processing technology.
 - Processors (3 to 100 mgy)
 - FFA Strippers**
 - Glycerin purification**
 - Esterification of FFA
- Patriot Biofuels (3 mgy)
 - Stuttgart, Arkansas
 - 1st “Independent” biodiesel plant in Arkansas



Where is Greenline?

- Larkspur, California
 - (Bay Area)
- Little Rock, Arkansas
 - (God's Country)
- 33 Greenline Plants operating worldwide
 - 13 in the U.S.
 - Roughly 200 million gallons of combined capacity in the U.S.
 - 10% of new production capacity worldwide in 2006



Different Business Model

- Bigger is not always better
 - Feedstock is approx. 80% of cost of production (can only get economies on 20% of costs)
 - Currently no pipeline access
- Transportation can negate economies of scale
- Greenline allows entrepreneur to size the plant to the market
 - “Pipe-to-Pipe” and “Turn Key” Solutions from 3 to 100 mgy



Greenline Attributes

- Proven Technology
 - 33 operating lines worldwide
- Automated
 - Accessible from Guatemala
 - Go home for the weekend
 - Labor costs remain low – little difference between 3 mgy and 20 mgy
 - Additional labor will primarily be logistical (i.e., helping trucks, rail cars load/un-load)
- Waterless
 - No wastewater permitting
 - Fuel and water are not a good mix
 - Dry fuel with oxidative stability
 - No toxic by products
- Small foot print
 - Modular
 - Quick install
 - Quick expansion



Patriot/Greenline Speed to Market

- **April 2005**
 - Started writing business plan
- Summer '05
 - Raised equity investment
- Fall '05
 - Secured debt
- Winter '05 – '06
 - Began construction
- **April '06**
 - Sold first load
- September '06
 - 1 million gallons sold (80% run rate on start-up)



Ion towers for waterless cleaning of fuel



Multi-stage reactor



Dosing and metering station



Final assembly - ion towers



Final assembly - Reactors



Final assembly catalyst mixing stations





Romania

30,000 MT



Netherlands

68,000 MT



**GREENLINE
INDUSTRIES**
Averett's Ethanol Technologies



Canada

34,000 MT



Germany

102,000 MT



**GREENLINE
INDUSTRIES**
— Innovative Global Technology —



Arkansas

10,000 MT



California

17,000 MT



**GREENLINE
INDUSTRIES**
Innovative Ethanol Technologies





Tennessee 17,000 MT



Texas 17,000 MT



**GREENLINE
INDUSTRIES**
Innovative Global Technologies





Missouri

17,000 MT



Worlds fastest biodiesel powered motorcycle



More Industry Comment

- Should we subsidize foreign fuel?
- Should we subsidize Europe's climate change program?
- Should we look at the issue this way?
- No.

Know your “Splash and Dash”

Splash and Dash:

- Foreign produced biodiesel is sent to the U.S.
- Splashed with diesel
- \$1.00 is taken
- Tanker is sent to Europe/elsewhere

Export assistance

- U.S. biodiesel splashed
- Exported
- Happens every day in every business sector including petroleum diesel
- Why should biodiesel be treated any differently?



Philosophy of the \$1.00

- \$1.00 was intended to boost use of biodiesel, knowing that it would require more production
- More Production means:
 - U.S. jobs
 - U.S. energy security
 - Climate change mitigation
 - Higher U.S. crop value
 - Local air quality improvement
- With the exception of local air quality improvement, **ALL** of these remain true, whether the fuel is exported, or kept at home
- With the exception of climate change mitigation, **NONE** of these remain true.
- U.S. will only enjoy climate change mitigation if the industry goes out of business.
 - European nuclear industry provides this benefit as well
- Export market is the “Market of last resort” for most producers

Biodiesel Econ. 101

- RBD Soybean Oil

- $.69 \times 7.6 = \$5.24 + \$0.60 = \$5.84 - \$1.00 = \$4.84 + \$0.47 = \$5.31$

- Poultry Fat

- $.30 \times 7.6 = \$2.28 + .60 = \$2.88 - \$1.00 = \$1.88 + \$0.47 = \2.35

- Perception: Cold Filter Plug Point too high for winter time use

R & D Needs

- Oilseed R&D is in motion
- Technology development
- Energy crop development and demonstration
 - Camolina/Canola
 - Jatropha
- Future:
 - Algae (Feedstock of the future?)

Greenline Press: April 7, 2008

- Biodiesel plant designer Greenline Industries announced this morning it has raised \$20 million in a first round of financing, enabling the company "to accelerate research and development to improve upon its existing technology and add new products to reduce the costs to produce biodiesel"...
- The \$20 million stock financing round was completed with Leaf Clean Energy Company...





**GREENLINE
INDUSTRIES**
Innovative Biofuel Technologies

Tommy Foltz
**Senior Sales & Government
Affairs Representative**
501-372-5511 (office)
415-314-6200 (cell)
t.foltz@greenlineindustries.com