Waste-to-Oil

Eliminate Waste

Produce Renewable Energy

Reduce Global Warming

Improve Quality of Life

Renewable Diesel Fuel Oil

Introduction
Who we are...

- Company Founded in 1997
- HQ (NY), R&D Center (PA), and Commercial Demonstration Facility (MO)
- Over $150M of Private Equity and Government Grant Financing
- Developer of the Thermal Conversion Process (TCP)
  TCP breaks down organic materials by using heat, pressure and water to produce oil and other co-products. [www.changingworldtech.com](http://www.changingworldtech.com)

- Our Platform: Renewable and Alternative
- Our Patented Technology: Renewable and Green
- Our Production: Renewable and Competitive
- Our Customer Proposition: Renewable and Compelling
What we do...

Input: Waste

Process: Converted to

Output: Renewable Diesel, Fertilizers

Turn Waste-to-Oil
The hydrothermal process...

- Multiple Steps
  - Proprietary four-step process emulates Earth’s geological and geothermal processes. Unique application and interaction of water, heat and pressure in multiple stages
Our fuel…

- Does not compete for food crops, unlike other biofuels
- Compatible with existing petroleum infrastructure (no alcohol)
- Uses fewer natural resources than conventional diesel and other biofuels; no catalysts or enzymes
- Higher net energy balance than conventional fuels

Truly Sustainable
We offer a solution to waste disposal...

- Reduction in disposal costs
- Expansion of local business opportunities
- Reduce burden of “solids” loading at wastewater treatment facilities [F.O.G.]
- Beneficial reuse of a waste product
- Creation of a Green alternative fuel
- Improving overall quality of the environment

Feedstock Available
Customer satisfaction and validation...

Initial Title V customers

- $3B exclusive cheese supplier to Wal-Mart
- Two fuel contracts at sites in Missouri
- Approximately 1.4 million gallons annually

- $3B global leader in commercial explosives industry
- Two-year fuel supply agreement
- Approximately 1.0 million gallons annually

Millions of gallons sold
Fuel highlights…

- Meets characteristics of ASTM D-396 fuel oil
  - All fuels must eventually meet ASTM D-396
- Burns compatible to #2 fuel oil
- Direct fossil fuel substitution*
- Air emission tested under AP-42 guidance
- Minor changes required for fuel delivery system
- Minimal additional operation and maintenance cost

* CO2 credit eligible @ 22.384 lbs/gallon
Fuel characteristic highlights...

<table>
<thead>
<tr>
<th>Fuel Property</th>
<th>Renewable Diesel</th>
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<tbody>
<tr>
<td>Water &amp; Sediment, Vol %</td>
<td>&lt;1.0</td>
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<tr>
<td>Ash, Wt%</td>
<td>&lt;0.2</td>
</tr>
<tr>
<td>Copper Corrosion @ 122°F</td>
<td>1A</td>
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<tr>
<td>Flash Point, °F</td>
<td>Above 200</td>
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<tr>
<td>Sulfur, %</td>
<td>&lt;0.2</td>
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<tr>
<td>Heat Content, BTU/gal</td>
<td>&gt;126,000</td>
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<tr>
<td>API Gravity @ 60°F</td>
<td>21.5</td>
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Validations...

- Key Aspects
  - U.S. EPA – RFS2 Certified Producer
  - Multiple State Agencies – MO, PA, OK, KS, NY, CA
    - NEPA Assessments and LCA’s
  - U.S. DOE
  - U.S. DOD
  - MIT-Princeton-Hofstra
  - Industry
    - USCAR – Ford, GM, Daimler
Current validations...

- **Fuel Property Awareness**
  - Brookhaven National Laboratory - U.S. DOE
  - Quartz combustion test and metallurgy

- Flame produced by No. 2 oil
- Flame produced by RDO

- Corrosion Coupons
  - Steel and Copper

- Emissions and performance
Fuel price stability…

- Sales – Feedstock Contribution Margin Spread

**New England Fuel vs. Brown/Yellow Grease Prices**

- **No.2 Oil**
- **No.6 – Retail**
- **Yellow Grease**
- **Brown Grease**

Dollar Per Gallon

Month:

- 1/2008
- 3/2008
- 5/2008
- 7/2008
- 9/2008
- 11/2008
- 1/2009
- 3/2009
- 5/2009
- 7/2009
- 9/2009
- 11/2009
- 1/2010
- 3/2010
- 5/2010
- 7/2010
- 9/2010
- 11/2010
- 1/2011
- 3/2011

Dollar Per Gallon Range:

- $0.00
- $0.50
- $1.00
- $1.50
- $2.00
- $2.50
- $3.00
- $3.50
Sales, Service and Support

- Supply 100% neat fuel
- May require slight modification to fuel delivery systems
# Fuel Delivery Modifications

## Equipment Modifications

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<th>Notes</th>
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**Misc.**

**Notes:**

1. Off loading equipment
2. Sizing and site of tank
3. Pump, fuel lines & heat exchangers
4. Burner, nozzle modifications
5. Stack emissions
Adequate assurance of fuel...

- **Logistics**
  - Trucking [local tanker]
  - Rail Cars [45 GATX & Trinity]

6 staging positions on site; 2500 feet local track
Adequate assurance of fuel...

- Logistics
  - Westway Terminal - Albany, NY
  - Local trucking contracted
  - Fuel positioned in New England
Production facility...

- Operations
  - 15 million gallon/year, Carthage, Missouri
  - Expansion plans...22 million gal/yr
Where are we going?

- Taking leadership role to a more sustainable existence…

www.changingworldtech.com