PRODUCTION PROCESS

- Feedstock comes in three primary forms: agriseed oil, cooking oil, or animal fats.

- Inputs differ in characteristics, cost, GHG intensity and benefits depending on the source and availability of the oil, and the free fatty acid (FFA) content.

- Transesterification is the process whereby purified feedstock is combined with methanol (or ethanol) and a catalyst to create a chemical reaction.

- The resulting products are biodiesel and industrial-grade glycerin.
  - Glycerin is a widely-used product, commonly used as a biodegradable replacement for petrochemicals (e.g. paintballs, anti-freeze) and for animal feed.

BENEFITS OF BIODIESEL

- Significant reduction in greenhouse gas emissions.
  - Currently, BIOX’s products reduce GHG emissions on a lifecycle basis in the range of 75-119%.
  - Certain feedstocks are products of a recycling process which allows for a greater than 100% GHG reduction.
  - BIOX has one of the greatest GHG reduction profiles for Ontario Greener Diesel program.

- Typically blended with commercial diesel and heavy oil in 2% - 20% blends.

- Cetane (CN) ratings of 50-90 (out of 100).
  - Most diesel engines operate well with a minimum rating of 40-55.
**DESCRIPTION**

- Successful recipient of SDTC and ecoEnergy funding
- BIOX Corporation (TSX:BX) owns and operates a 67 million litre per annum biodiesel production facility in Hamilton, ON.
- Produces, markets and sells biodiesel, bioheavies and technical-grade glycerin using an innovative, proprietary and patented process.
- Approximately 40 employees (50% administrative, 50% at the plant-level).
- Registered with the EPA as a Renewal Fuel Importer and RIN Generator under RFS2, providing full access to the U.S. market since 2007.

**OPERATIONS**

<table>
<thead>
<tr>
<th>Feedstock</th>
<th>Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Primarily lower cost, higher free fatty acid animal fats (tallows) and yellow grease</td>
<td>- Continuous flow (faster with higher yields)</td>
</tr>
<tr>
<td></td>
<td>- Steady performance operating at capacity since commissioning, with cumulative production of 439 million litres</td>
</tr>
<tr>
<td></td>
<td>- Conversion rates of 90-95% that meet the standards of the American Society of Testing Materials (ASTM)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Customers include major distributors of petroleum distillates and designated blenders</td>
</tr>
<tr>
<td>- One of the lowest GHG profiles under the Greener Diesel mandate in Ontario</td>
</tr>
</tbody>
</table>
Sombra, ON Plant

DESCRIPTION

• 50-million litre per year site acquired by BIOX June 2016.
• Located on a 21 acre site with excellent road and rail access.
• Site was previously owned by Chinook Global and utilized to manufacture methylamines and other derivatives up until 2007. Portions of the facility were repurposed when the biodiesel facility was constructed in 2009.
• Previous owner could not achieve its commercial production potential due to working capital, scale-up and market challenges.
• Approx $5 million additional capital to be invested on site
• Expected full production summer 2017
• Currently 4 full time employees, expect 15-20 full time employees when producing

RATIONALE

• Valuation. Purchasing an undervalued asset and commissioning it significantly below the cost of a new build, consistent with BIOX’s redevelopment and distressed asset acquisition strategy.

• Scale. Increases production capacity and grows market share in Ontario, with potential for increased purchasing power of key inputs.

• Expertise. Leverages management’s expertise in operations and logistics for the commercialization of biodiesel, and to generate the best GHG profile.

• Market. Capitalizes on the market opportunity in BIOX’s own backyard, with the Greener Diesel program expected to increase 2017 biodiesel inclusion levels above available supply in Ontario.
  ➢ Shell is increasing blending capacity and other obligated parties are expected to do the same.
  ➢ Protects BIOX’s footprint in the high-value Ontario market that is attracting interest from U.S. producers.
<table>
<thead>
<tr>
<th>Plant:</th>
<th>World Energy BIOX Biofuels LLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity:</td>
<td>90 million gallons (341 million litres) per annum.</td>
</tr>
<tr>
<td>Cost:</td>
<td>Originally cost approximately $110 million to build.</td>
</tr>
<tr>
<td>Storage:</td>
<td>14 million gallons (53 million litres) of feedstock and biodiesel storage leased from Kinder Morgan.</td>
</tr>
<tr>
<td>Feedstock:</td>
<td>Crude Degummed Soy Oil</td>
</tr>
<tr>
<td>Operations:</td>
<td>Production units share a feedstock dryer, sulfuric acid tank and chiller but otherwise operate independently.</td>
</tr>
<tr>
<td>EPA Status:</td>
<td>Grandfathered status under RFS2 Registration.</td>
</tr>
<tr>
<td>Jobs:</td>
<td>30 full time jobs at full production</td>
</tr>
<tr>
<td>Op Status</td>
<td>In startup; expect full production through Q1 2017</td>
</tr>
</tbody>
</table>

**RATIONALE**

- **Valuation.** Purchase Price of $7.5 million vs. replacement cost of $110 million
- **Scale.** Third largest biodiesel facility in North America
- **Diversify Risk.** Presence in US market mitigates jurisdictional policy risk.
- **Location.** Location in hub of petroleum products market is best suited for meeting federal RFS. Kinder Morgan terminal is at the base of the product pipeline infrastructure in the US
BLENDING INFRASTRUCTURE IS THE GATEWAY FOR COMPLIANCE
**Direct Incentives**
- Direct Incentives designed to “De-risk” investments in space and provide operating returns to build out industry until mandates took over demand.
- Canada ecoEnergy program in Canada provided producer incentive ($0.26/litre initial incentive, declining each year over a seven year period).
- Blender’s Tax Credit at $1.00/gallon in US provides incentive for blending biodiesel with petroleum diesel.
- Led to large build out of biodiesel facilities in North America.

**Volume Mandates**
- US Renewable Fuel Standard provides largest demand for all renewable fuels in North America
  - 4 main categories of renewable fuel requirements
  - Generation of compliance units called “RINs” by producers
  - Secondary “compliance market” for RINs
  - EPA publishes upcoming requirements each year
- Canadian Mandate: 2% federal mandate for biodiesel in eligible distillate pool
  - Simple market for product/compliance
  - Diesel compliance units generated by blenders
  - CUs can only be traded to obligated parties; no secondary market

**GHG-linked Policy**
- Ontario Greener Diesel Mandate
  - Links volume requirement and GHG requirement: 4% blend with 70% GHG reduction
  - Blenders have flexibility to meet the requirement with various fuels.
- BC & California LCFS
  - Regulation requires a reduction of GHG across entire fuel pool (gasoline + distillate)
  - Creates secondary market for carbon within fuel pool
  - Maximum flexibility for obligated parties to meet requirement
- GHG-linked policy allows jurisdictions to “capture” full and accurate GHG reductions
- Policies allow for more flexibility than straight volumetric requirements
- Higher innovation by incentivizing higher values for lower carbon solutions
INDUSTRY CHALLENGES

• **US Blending Incentive tied to bi-annual tax extender’s bills**
  - Tax incentive has expired 5 times to be reinstated retroactively
  - Challenging commercial environment and cash flows

• **US Federal RFS program stumbled with publishing volume requirements**
  - No volumes published for biodiesel for 2014 & 2015
  - EPA seemingly back on track as of November 2015
  - Combined with BTC uncertainty, devastated NA market

• **US Blending Credit may change to Producer Credit**
  - Highly subsidized US product to fill Canadian mandates
  - Canadian industry shut down instantly without trade actions or matching incentives

• **Lack of Scale Up support**
  - Post SDTC funding / programs not available
  - ecoEnergy program failed to bring online new biodiesel capacity
  - Structure of programs looks for “moon shots” instead of supporting viable scale up
  - Traditional lenders spooked by uncertain policy

OPPORTUNITIES

• **Continued growth for GHG-linked biofuel policy**
  - Evolution of Federal Mandate
  - Increased innovation for low carbon solutions
  - Lowest cost per MT carbon

• **Harmonize policies across jurisdictions**
  - Ease compliance burden and complexity for obligated parties and biofuel producers
  - Broaden market-based solutions should decrease carbon costs

• **Manage competing policies**
  - Implications of US and other foreign policy will affect Canadian marketplace and industry
  - Shield from protectionist trade practices in timely manner

MANDATES LINKED TO GHG REDUCTIONS ARE THE MOST EFFICIENT WAY TO REDUCE GHG EMISSIONS IN LIQUID FUELS
LEVERAGE TO LEAD

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