Ensyn’s Business – Forest Biomass to High Value Products

Maximum Conversion of Solid Carbon to Liquid

Biomass Feedstock → RTP Process → Conversion to Liquid Biocrude → Renewable Fuel Oil (RFO) → Chemical Feedstock

- Not “severe” – a non-catalytic, thermal process
- Mechanically similar to Fluid Catalytic Cracking (FCC)
- No high pressure or hydrogen
- Gas and char used for process & drying

Food Ingredients & Renewable Chemicals

Heating & Cooling

Refinery Co-processing
A 30+ Year Growth Story Backed by Commercial Operations

1984
1989
1998-2005
2006
Ongoing Bioenergy Expansion

Commercial Deployment
Heavy Oil
Ontario Facility & return to Bio-energy

Crossing the “valley of death”
1984 – Early 1990s Initial Commercialization – Food Ingredients & Industrial Heating Fuels

- From proof of concept to 2 Ton per day
- Demo evolved to commercial unit
Early 1990’s Scale-up
Food Ingredients & Heating Fuels

- From 2 Tons/day to 30 Tons/day
- Both units in operation today
1998 – 2005: Scale-up Heavy Oil Upgrading

- From Pilot to 300 barrels per day of residual oil
- Approximately equivalent to 70 dry tons of biomass/day
2006 – Renfrew Merchant Plant

- 70 tons/day nameplate
- 3 million gallons/year
- Operated since 2006
- Ensyn’s first dedicated fuels facility
Expansion Projects for Fuels – Honeywell UOP

- Increasing Biocrude production capacity
- Engineering & Supply by Honeywell UOP with performance guarantee
- Two designs: 5 million gpy & 20 million gpy (100 & 200 tpd)
Cote Nord Project, Quebec

- 10 M gpy (200 tpd) facility – partners are Ensyn, Arbect Forest Products, Groupe Rémabec
- First of several projects under a joint development agreement
- Located at Arbect’s sawmill in Port Cartier, Quebec - forest slash feed
- Product will be sold to heating and refining customers in the U.S. Northeast
- Fully financed, under construction
- Project capex approx CDN$ 103 million
Cote Nord – Under Construction

Cote Nord – Commissioning scheduled for end 2017
## Regulatory Framework Supports Expansion

<table>
<thead>
<tr>
<th>RFS</th>
<th>Three pathways for Ensyn – fuel oil (D-7), renewable gasoline (D-3) &amp; cellulosic diesel (D-7)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Part 80 registration at Renfrew facility</td>
</tr>
<tr>
<td></td>
<td>Part 79 approval for Ensyn’s renewable gasoline and diesel</td>
</tr>
<tr>
<td>LCFS</td>
<td>Ensyn’s renewable gasoline &amp; diesel approved by the California ARB (4 co-processing pathways)</td>
</tr>
<tr>
<td></td>
<td>Carbon Intensity of 21-27 gCO2e/MJ – among the lowest</td>
</tr>
<tr>
<td>RECs</td>
<td>Generation of REC-eligible fuel oil since August 2015 in NH</td>
</tr>
<tr>
<td></td>
<td>Final stages of agreeing on measurement protocols with the regulatory authorities</td>
</tr>
</tbody>
</table>
California regulatory framework is very attractive

- Strong LCFS provisions, in addition to RFS and Cap & Trade
Thank You !!