Cellana’s ReNew™ Fuel
Second-Generation Biofuels from Multi-Product Biorefineries Combine Economic Sustainability With Environmental Sustainability

Martin Sabarsky, CEO
July 30, 2014
Summary of Presentation

1. With over $100MM in private investment, over 25 MT of highly diverse algae have been produced at pilot- and demonstration-scale using Cellana’s ALDUO™ process.

2. Cellana’s multi-product business model, which is anchored by high-value Omega-3s, permits the **profitable** production of crude oil & animal feed at market-competitive prices based on **current yields, current costs, & current prices**.

3. In 2013, Cellana successfully leveraged <$10MM of DOE funding & this technology/business model combination to sign one of the world’s largest algae biofuel off-take agreements, with **Neste Oil**. This industry-leading agreement **validates** the Cellana model of combining economic sustainability with environmental sustainability for producing commercial-scale quantities of advanced biofuels.

4. To the extent that the prices of food/feed and crude oil continue to rise based on scarcity and population growth/increased demand, a two-product business model based **only** on food/feed and crude oil should become commercially viable, **especially** for companies at commercial scale who will have been able to increase biomass yield and lower unit production costs in parallel.

5. The strategic imperative is to accelerate commercial-scale production to **start** the process of increasing biomass yield & lowering production costs.
Cellana’s Biorefinery Business Model Builds on a Foundation of Biofuel Research to Address Additional Valuable Products

Omega-3 nutritional oils and high-value aquaculture / animal feed products are an extension of Cellana's core competency -- screening, developing, and producing algae biofuel feedstock.
Flexible Biorefinery Production / Revenue Model
Bioproducts Generated from the Use of the Entire Algae Biomass

891kg Total per MT* (11% yield loss)

- 121kg Biocrude Oil
  @ $100/bbl, $0.68/kg (fossil petroleum px benchmark)
  100%
- 62kg Omega-3 Oil (35% conc.)
  @ $100/kg (discount to Martek DHA wholesale px benchmark)
- 708kg Algae Meal (Residual Proteins, Sugars, Minerals, Lipids, & Micronutrients)
  @ $1.00/kg (premium to soymeal px benchmark; discount to fishmeal px benchmark)

$6,928 per MT (dry weight)

- $6,138
- $708
- $82

* Reflects recovery based on initial whole algae fraction of 6% Omega-3 oils, 25% Biocrude oil, 69% Algae Meal (Protein/Sugars/Minerals/Lipids/Micronutrients), and 11% total yield loss after two separations.
Highly Profitable Production of Algae Bioproducts
Projected Revenue & Costs per MT for 88-ha. Commercial-Scale Facility in USA, 2016

Estimated 46% Gross Margin and 62% Cash Margin at current yields / costs
(Higher margins / lower unit costs at larger scale and over time)

<table>
<thead>
<tr>
<th>Production cost</th>
<th>Revenue</th>
</tr>
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<tbody>
<tr>
<td>$6,138</td>
<td>$6,928</td>
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</table>

$6,138 estimated gross margin at 46%
$6,928 estimated revenue

Omega-3 Oil
$100 per kg (35% conc. DHA/EPA)

Algae Meal
$1.00 per kg

Biocrude Oil
$100 per bbl, $0.68 per kg

$3,712 depreciation
$2,666 cash cost

Cash cost $708
Depreciation $82
Commercial-Scale Off-Take Agreement with Neste Oil Validates Multi-Product Model

- Off-Take Agreement for algae oil announced June 2013
- Neste Oil is the largest refiner of renewable diesel in the world
- Multi-year off-take agreement
- Commercial-scale quantities of algae oil as co-product to Omega-3/feed production
- Contingencies for Cellana production capacity, EU/US sustainability criteria, etc
- Non-Exclusive for both parties
- “Samples have shown that Cellana is able to produce algae oil suitable for renewable fuel production by Neste Oil.”
- “The off-take agreement with Cellana allows us access to commercial-scale volumes of cost-competitive algae oil in the future.”

Neste Oil’s renewable fuel plant in Rotterdam in the Netherlands was commissioned in 2011.

Neste Oil started up the world's largest renewable diesel refinery in Singapore in November 2010.
A. Biorefineries with High-Value Anchor Product(s)  

B. Bolt-On Expansions for Fuel + Feed  

C. Standalone Biorefineries for Fuel + Feed  

<table>
<thead>
<tr>
<th>Crude Oil Production</th>
<th>≤ 1 billion gpy</th>
<th>1-2 billion gpy</th>
<th>10+ billions gpy</th>
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<tbody>
<tr>
<td>Production cost</td>
<td>&gt; $2/kg</td>
<td>≤ $2/kg</td>
<td>≤ $1/kg</td>
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<tr>
<td>Algae biomass yield</td>
<td>&lt; 70MT/yr</td>
<td>&gt; 50MT/yr</td>
<td>&gt; 60MT/yr</td>
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Food, feed, & fuel prices  

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<th></th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
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</thead>
</table>

Revenue / Kg  

Production Cost / Kg  

Biomass Yield MT / ha / yr  

Scaling of Algae Biofuel Industry – Easy as “A, B, C”
Thank You

For further information please visit www.cellana.com

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