EESI Congressional Briefing

September 22, 2006

Celunol Corp.

Celunol is a technology driven company leveraging its proprietary biotechnology processes and project development know-how to lead the race to commercialize the production of cellulosic ethanol.

Our goal is to become a major producer of competitive, secure, and environmentally sound ethanol from an array of biomass sources.

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Company Overview

- Celunol is a privately held company founded in 1994
- Formerly known as BC International
- Shareholders include Braemar Energy Ventures, Charles River Ventures, Khosla Ventures, and Rho Capital Partners
- Headquarters in Massachusetts
- R & D facilities in Gainesville, Florida
- Exclusive licensee of fermentation technology developed by University of Florida
- Pilot Plant in Jennings, Louisiana
- Currently building a demonstration plant at Jennings
- Further demonstration plant under construction in Japan

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The Opportunity for Cellulosic Ethanol

- Ethanol from corn has set the stage for a cellulosic ethanol industry
- Cellulosic ethanol can be produced from an array of low cost, abundant feedstocks
  - Sugar cane bagasse, corn stover, rice and wheat straws, wood waste, energy crops, etc.
- Feedstock for cellulosic ethanol are typically not in competition with other uses, hence prices will be stable
- Production locations are not limited to the corn belt, but can be sited closer to premium markets

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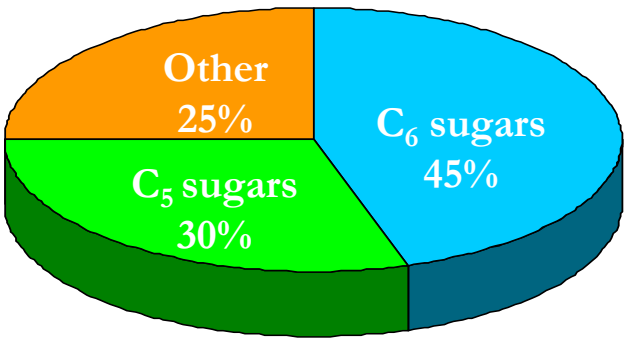
Biomass Ethanol

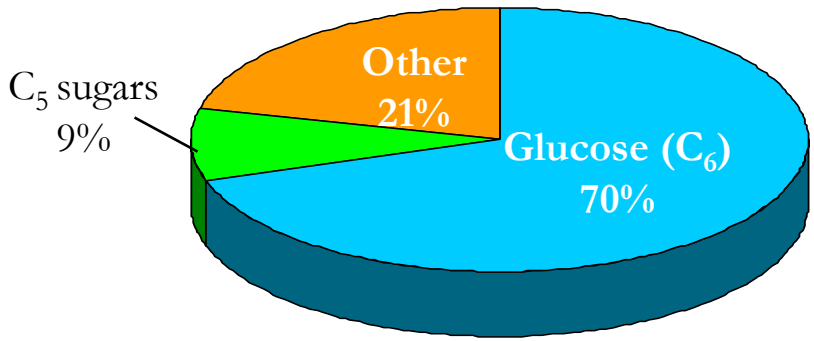
– the key is full sugar utilization

- Corn starch is primarily glucose, a six-carbon sugar—fermentable by yeast
- Biomass has many non-glucose, five-carbon sugars—not commercially fermentable by yeast

Bagasse (Biomass) Composition



Corn Kernel Composition



Fermenting both C_5 and C_6 sugars drastically improves the ethanol yield of biomass

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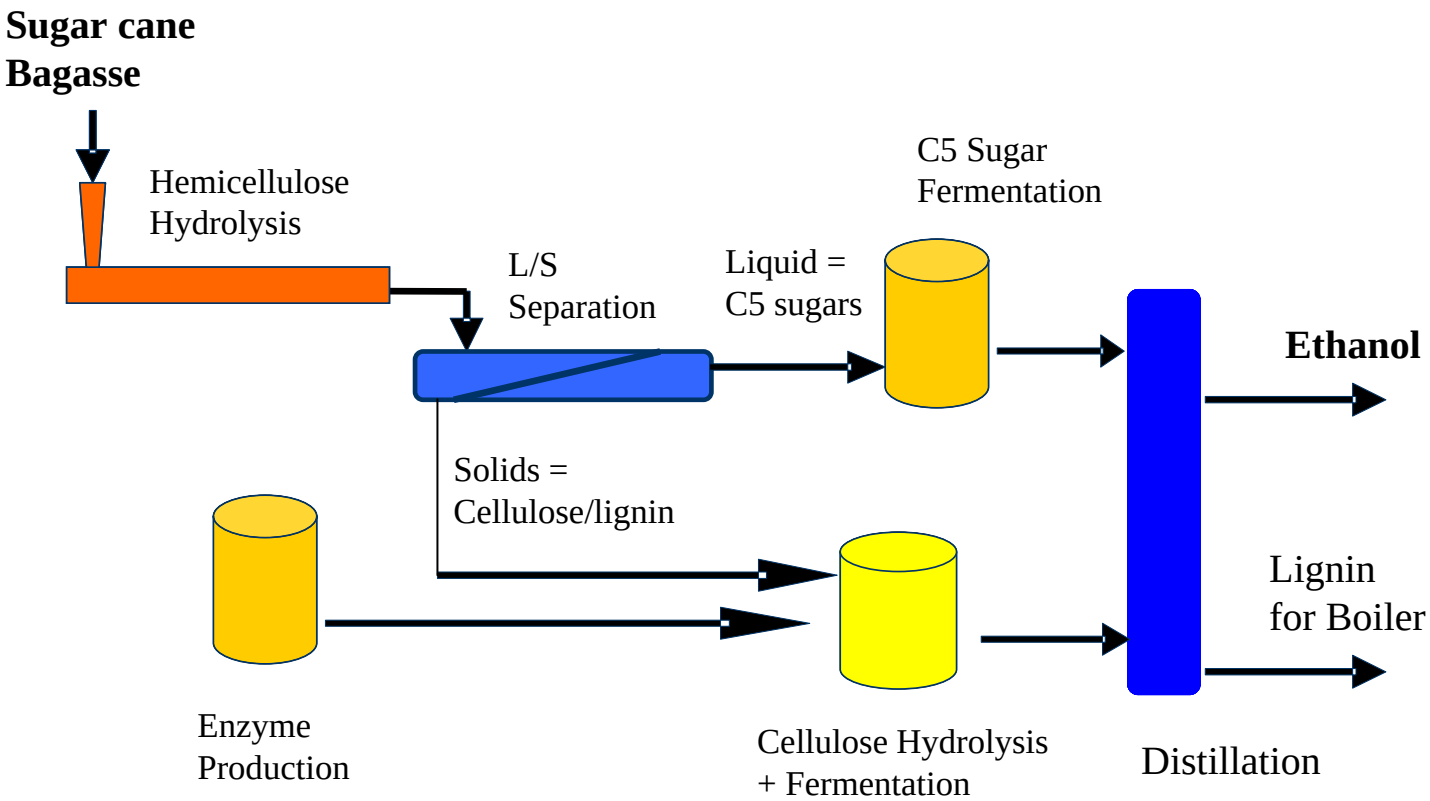
Technology

Two-Stage Process: Acid + Enzymes



Hemicellulose Conversion

- Dilute Acid Hydrolysis
  - High efficiency breakdown of hemicellulose into sugars
  - Prepares cellulose for next stage
  - Run at pilot scale since 1997
- Proprietary C5 fermenting organism
  - Ferments all hemicellulose sugars
  - Developed by the University of Florida
  - Granted landmark patent 5 million
  - 15 U.S. patents issued, 8 applications pending
  - 46 Foreign patents issued, 56 applications pending
  - Pilot scale fermentations since 1998

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Cellulose Conversion

- Uniquely integrated enzyme/fermentation system
  - Highly efficient enzyme production licensed from European partner
  - Fermenting organism modified to produce much of its own enzyme
  - Together, enzyme and fermenting organism convert cellulose to ethanol in one vessel at high yield, low cost

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Current Activities

- **Pilot plant**
  - Originally built in 2000. We just completed capital upgrade to add enzyme production
  - Platform for introducing technology improvements and developing feedstock flexibility

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Demonstration Plant

- Celunol is in the process of designing and building a 1.4MG/Y demonstration plant at Jennings, Louisiana
  - Full scope, stand alone plant (excluding biomass boiler)
  - Will operate on bagasse, energy cane and wood chips
  - Will validate commercial pro-forma including operating costs, yields, efficiencies, etc.
  - Will provide endurance data through multi-month steady state operation
  - Will limit scale-up risk of first commercial facility
  - Plant operational June 2007

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Celunol Louisiana, LLC

Brownfield site is location of Pilot, Demo and potentially commercial facilities

Demonstration Plant in Japan

- Celunol has licensed its technology to Marubeni Corporation
- First wood waste demonstration plant under construction in Osaka, Japan
- Scheduled completion December 2006

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Commercial Facilities

- Celunol is actively developing a pipeline of commercial projects in several regions of the US
- Plants initially sized at 25-50 mil gallons per year
- Will co-locate plants where possible to leverage existing infrastructure
- Will license our technology internationally and domestically where appropriate
- Feedstock focus will be bagasse/cane, wood, energy crops and corn stover

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Path to Commercializing the Technology

- Continue to operate pilot plant to further optimize the process and expand feedstock capabilities
- Start-up the demonstration plant by mid-2007 and validate a strong commercial proforma
  - **Loan Guarantee program needs to be in place to support this schedule**
- Aggressively pursue a program of building and licensing cellulosic ethanol plants

Celunol endorses the DOE's 30 by 30 roadmap

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