ALPENA BIOREFINERY PILOT-SCALE PROJECT

Alpena Biorefinery

The Alpena Biorefinery (AB) will be constructed in Alpena, Michigan, at the Decorative Panels International hardboard manufacturing facility.

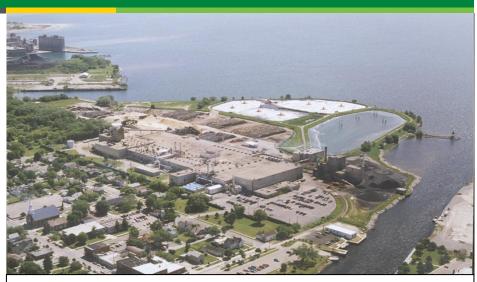
The goal of the AB is to demonstrate a modular, technically successful, and financially viable process of making cellulosic ethanol from woody biomass extract in wood processing facilities. More information is available at: www.alpenabiorefinery.com/about.html

Project Description

The AB pilot biorefinery will produce 894,200 gallons per year of cellulosic ethanol and 696,000 gallons per year of aqueous potassium acetate, using northern hardwood and aspen woodchips feedstock. The wood is sustainably harvested according to the renewable biomass standard, legislated by the Renewable Fuels Standard.

The project objectives and the value proposition of AB promote the national goals of energy independence, greenhouse gas reduction, and green job creation and retention. The objectives are as follows

- Begin operation of the AB pilot biorefinery by the first quarter of 2012.
- Demonstrate concentration, hydrolysis, and simultaneous fermentation of five- and sixcarbon sugars in a near-scale industrial facility.
- Gather metrics for the construction of the commercial plants.
- Demonstrate the business model of adding cellulosic ethanol production to wood processing facilities, such as biopower plants and pulp mills.
- Remain operational after the demonstration period and be available as a pilot-plant "for



The Alpena Biorefinery is located in Alpena, Michigan, at an existing facility owned by Decorative Panels International.

hire," where the applicant's team and third parties can perform trials on emerging biorefinery technologies.

Potential Impacts

The project will create 19 permanent jobs for direct employees and help retain 200 jobs associated with the existing Decorative Panels International facility.

Other Participants

The AB project has been declared a Michigan Center of Energy Excellence and was awarded a \$4 million state grant. The AB has been designated as a Michigan Renewable Energy Renaissance Zone with a 15-year property tax abatement. Project financing has been completed. Equity funds have been committed by American Process, Inc.

Prime	American Process, Inc.
Location	Alpena, Michigan
Feedstock (s)	Mixed northern hardwood and aspen
Size	30 bone-dry tons per day
Primary Products	Ethanol, potassium acetate
Capacity	894,200 gallons per year of cellulosic ethanol and 696,000 gallons per year of aqueous potassium acetate.
Award Date	April 2010
GHG Reduction	TBD
Anticipated Job Creation	Will create 19 permanent jobs for direct employees and help retain 200 jobs associated with the host facility
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