

## **Ethanol Activity in Mississippi**

The year 2003 has brought a tremendous amount of activity in the State of Mississippi related to ethanol production, legislation and research. Mississippi has been very proactive in passing legislation to jump start ethanol production in the state and as result has seen two companies formally announce plans to build corn-based ethanol plants across the state. Additionally there are several research and prototype projects at various stages of completion that are utilizing the State's abundant biomass resources to produce ethanol.

### **Commercial Activity**

#### **Southern Ethanol Company, LLC**

Southern Ethanol Company, LLC was the first company to announce that they had selected sites in Amory and Vicksburg, Mississippi to construct two ethanol plants. Each plant will have a minimum capacity of 30 million gallons per year. Construction is expected to begin in early 2004 and be completed by mid 2005. According to the investors, each plant will have the capacity to consume about 12 million bushels of corn per year, which translates to about 30,000 bushels of corn per day. A sizeable portion of the corn used could be locally grown, potentially boosting the farmers' revenues. Southern Ethanol is also considering a site in Greenville for a third ethanol plant and is in the process of facilitating farmer co-op's in order to streamline the corn supply.

#### **EOH Energy LLC**

EOH Energy LLC announced plans in early April 2003 to construct a corn-based ethanol plant in Greenville that will produce more than 40 million gallons of ethanol per year. The expected investment in the plant is \$58 million and it is set to open in the fall of 2004. EOH Energy is working with one of the major ethanol plant design and construction companies in the US to build this plant.

#### **State Ethanol Feasibility**

The Mississippi Ethanol Feasibility Study was released at the beginning of this year as well. Sparks Companies Inc. and Mississippi State University prepared this study for the Mississippi Technology Alliance – Mississippi Alternative Energy Enterprise. The purpose of this study was to analyze the potential for producing ethanol via dry corn milling technology in the state. According to this study, sites in the Lower Delta and the Southwest regions of the state are better suited than other areas for locating ethanol plants. Issues such as a deficiency of corn supply and adequate storage capacity, however, also need to be addressed.

Additionally an investor group is actively pursuing a sizeable ethanol project in the Greenwood area. The group is working to arrange the needed project financing and the required permits from the Mississippi Department of Environmental Quality (MDEQ).

### **Legislative Activity/Incentives**

The House Bill 1130, which was passed by the legislature in 2002, is considered to be one of the strongest pieces of legislation in the nation in support of ethanol. The bill authorized a producer's payment of 20 cents per gallon of ethanol produced up to a maximum of 6 million dollars per fiscal year, per plant. These payments may last up to 10 years from the start of production and are set to expire in 2015.

House Bill 1596 in 2003 regular session authorized the Mississippi Land, Water and Timber Resources Board to set aside \$1,000,000 for the purpose of providing funds to the Mississippi Department of Agriculture and Commerce for use in making payments to ethanol producers under Section 69-51-5 during the State Fiscal Year 2003 – 2004.

The House Bill 928, as sent to the Governor in the 2003 Regular Session, amended House Bill 1130 to go a step further and include a similar producer payment for Biodiesel as well. Issues pertaining to method of calculation for the biodiesel payments require additional clarification under the current language of the bill. The web link for HB 928 is included below.

<http://billstatus.ls.state.ms.us/2003/html/history/HB/HB0928.htm>

The following is an excerpt from the House Bill 928 as proposed by Representatives Whittington, Coleman (29th), Espy, Fleming, Henderson, Holloway, Huddleston, Mayo, Middleton, Perkins, Reynolds, Straughter, Thomas, and Howell.

*BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF MISSISSIPPI:*

***SECTION 1.** Section 69-51-5, Mississippi Code of 1972, is amended as follows:*

*69-51-5. (1) The Commissioner of Agriculture and Commerce is authorized to make cash payments to producers of ethanol, anhydrous alcohol, bio-diesel and wet alcohol located in the state. These payments shall apply only to ethanol, bio-diesel, anhydrous alcohol and wet alcohol fermented and produced at plants in the state. For purposes of this section, an entity that holds a controlling interest in more than one (1) ethanol plant is considered a single producer. The amount of the payment for each producer's annual production is:*

*(a) Except as provided in subsection (2) of this section, for each gallon of ethanol or anhydrous alcohol produced in Mississippi in accordance with subsection (13) of this section on or before June 30, 2005, or for ten (10) years after the start of production, whichever is later, Twenty Cents (20¢) per gallon; and*

*(b) For each gallon of wet alcohol produced in Mississippi in accordance with subsection (13) of this section on or before June 30, 2005, or for ten (10) years after the start of production, whichever is later, a payment in cents per gallon calculated by the formula "alcohol purity in percent divided by five (5)," and rounded to the nearest cent per gallon, but not less than Eleven Cents (11¢) per gallon.*

*The producer payments for anhydrous alcohol and wet alcohol under this section may be paid to the original producer.*

*No payments shall be made for production that occurs after June 30, 2015.*

### **Research and Pilot Scale Activity**

Virtually all of the research and pilot scale activity in this area is dedicated to producing ethanol from waste biomass. Ethanol is widely considered to be the energetic bio-based fuel (and additive) that is most promising and of critical industrial importance.

Mississippi is a state rich in biomass that is either cultivated or produced as a waste product from agricultural or manufacturing sources such as corn stalks, rice hulls and wood waste. The state has a potential to produce almost 13 million tons of biomass each year from dedicated acreage and salvaged agricultural residues, cotton gin and forest byproducts, chicken litter and other agricultural products.

Numerous techniques for producing ethanol from biomass appear promising, with the most promising being at the developmental stage. Even though most of these techniques are technically viable, the economic feasibility of these techniques is still being refined to lower production costs and long-term process stability.

#### **Mississippi University Research Consortium for the Utilization of Biomass**

The US Department of Energy (DOE) has taken a strong leadership role in the development of ethanol from biomass. About two years ago, under the DOE's EPSCoR program (Experimental Program to Stimulate Competitive Research) a group of four Mississippi universities (Mississippi State University, Jackson State University, University of Southern Mississippi, and University of Mississippi) received funding to form the "Mississippi University Research Consortium for the Utilization of Biomass". A total of \$3, 600,000 has been allocated by DOE and the member universities to support this exciting 3 year venture (\$1,800,000 coming from DOE with the balance being provided by the four universities). The objective of this research consortium is to direct the research and development capabilities of the four member universities toward the beneficial utilization of Mississippi's untapped waste biomass reserves, while potentially developing new and innovative uses of cultured crops and forests grown in Mississippi. Given the extent of DOE and State support and the timeliness of this endeavor, Mississippi is poised to be a technological leader in this very promising area.

#### **Pearson Bioenergy Inc., Aberdeen, MS**

This company is involved in pioneering work in non-fermentation based waste biomass to ethanol technology. A 400 pound per hour pilot plant is expected to be in operation by November 2003 and a three million gallon per year prototype plant is expected to open in June 2004. The pilot plant will have the capability to evaluate the conversion of various biomass feedstocks into ethanol using their technology.

### Mississippi Ethanol, LLC, Winona, MS

This Winona based company is using an innovative gasification process to accomplish the conversion of biomass into ethanol for use as a gasoline additive. This project is getting technical assistance from MSU engineering faculty and staff of the university's Diagnostic Instrumentation and Analysis Laboratory. Additional support has been provided by the U.S. Department of Energy (DOE) and members of Mississippi's congressional delegation for the Montgomery County project.

### Biomax Gasifier

Mississippi State University is home to one of only six of such gasification units in the world. The object is to efficiently convert various biomass materials into gases, and subsequently into energy-related and value-added chemicals such as ethanol and acetate. The machine, which arrived on campus in August 2003, is built by Community Power Corporation of Littleton, Colorado. This is a joint research project between MSU and Oklahoma State University and the professors are working under a two-year-old U.S. Department of Agriculture grant that evenly divides about \$1 million a year between the two schools. Researchers at both institutions are experimenting with grasses and residues from various crop processes such as cotton gin waste, rice husks and chicken litter.

### References

This information has been compiled by Sumesh Arora, Project Development Engineer, Mississippi Technology Alliance – Mississippi Alternative Energy Enterprise.

Telephone interviews were conducted with some of the individuals involved with the aforementioned projects to obtain the most up to date information. Other information was derived from past press releases posted on the web. Some of the information sources are listed below.

Mississippi State University, University Relations, News Bureau, 662-325-3442

Delta Farm Press, February 28, 2003

Mississippi Farm Country, a publication of the Mississippi Farm Bureau Federation

Mississippi State University, Office of Agricultural Communications

The Clarion Ledger, April 7, 2003

Mississippi University Research Consortium for the Utilization of Biomass

[www.bnl.gov/epscor/files/doc/abstracts/MissiU\\_biomass.doc](http://www.bnl.gov/epscor/files/doc/abstracts/MissiU_biomass.doc)