

The Michigan Center for Innovation and Economic Prosperity 2007 Report: Executive Summary - Biofuels

The Bio-fuels industry holds promise for the state of Michigan. At the moment, however, bottlenecks in the production chain in conjunction with an inefficient incentive structure hinder the growth of already abundant examples of entrepreneurial activity that would otherwise help the industry to reach its potential. The Report analyzes existing data, and provides access to information gathered from interviews with industry leaders at the producer, transportation/storage, and refinery (plant) levels of the production chain. Five major bottlenecks in these early stages of the production chain are identified; overcoming them provides the state of Michigan a great opportunity for industry growth.

The major bottlenecks highlighted in the Report are as follows. First, an over-reliance on corn as the input crop for the production of ethanol in Michigan when more efficient crop sources are available has resulted in great inefficiencies in state-wide land-use. Michigan has a unique and abundant availability of other sources of biomass, a testament to the state's agricultural diversity. Therefore, the production of cellulosic ethanol would provide a competitive edge in Michigan's bio-fuel industry that would indeed be viable for many years to come. Second, there is a lesser degree of automation in the entire bio-fuel production chain when compared to the long-before-present oil industry which absorbs these fuels once produced. Third, inefficient storage and transportation schemes that are used by a number of producers and plants result in a higher cost of bio-fuel production. Some strategically-built partnerships have circumvented many of these costs. Fourth, plants in the state of Michigan use large amounts of natural gas to produce ethanol. Given that twenty-nine percent of the cost to produce ethanol is derived from the cost of natural gas, while cheaper and more biologically sound substitutes exist and are being employed in other bio-fuel producing states, Michigan plants are missing out on extraordinary opportunities to cut costs. Fifth, the permitting process necessary in order to ensure environmental quality in our state is proving onerous and costly to applicants. There have been several vocal suggestions for a streamlining of this process.

The report argues that the most future promise area in the industry is in the area of by- and co-products resulting from the production process of ethanol and bio-diesel. Some noteworthy examples include: Dry Distiller's Grains (DDGs) which are used as a high-protein livestock feed, the production of bio-plastics, the production of carbon dioxide which can be used to carbonate beverages such as soft drinks, and glycerin which has several industrial uses to name only a few.

Due to tremendous economies of scale, the bio-fuel production process is not very labor-intensive process. However, while one cannot expect large numbers of jobs to occur automatically from the construction of a plant, there is great opportunity for the growth of spin-off business entrepreneurship firms, which in aggregation will add a great deal of vitality to the Michigan economy for years to come.

For a full copy of this report or more information on the *Michigan Center for Innovation and Economic Prosperity*, please visit www.mciep.org or call 517-884-1267.