

The Ethanol Industry May Be Out of Gas

Written by:

Alex D. Moglia & Jim Hogan
Moglia Advisors; Schaumburg, Ill
amoglia@mogliaadvisors.com
jhogan@mogliaadvisors.com

The ethanol boom was set off when Congress enacted an energy law in 2005 that included a national mandate for the use of renewable fuel in gasoline, enabling the market to consume 7.5 billion gallons a year by 2012, compared to 3.5 billion gallons in 2004. The burgeoning ethanol industry has created a wave of prosperity for many farmers throughout the Midwest. That prosperity looks like it is about to end.

Environmental, technological, governmental, and economic factors pose threats to the ethanol industry, especially to owners and operators of small ethanol production plants.

1) **Environmental Issues.**

Ethanol production facilities require ample water availability. Anywhere from three to five gallons of water are used to process one gallon of ethanol. Although newer plants include a recycling process to cut down on water usage, water consumption is a fact of life in ethanol production. In many states, water consumption has run up against water constraints. In one area of the Midwest, planned plant expansion may quadruple demand for water from 2.5 to 10 billion gallons a year.

In Minnesota, Gopher State Ethanol went bankrupt in 2004. This plant was located in a city, not a rural area. Although the owners of the plant cited increasing corn prices as the main reason for its failure, there were years of litigation involving emission problems. Almost all ethanol plants are located in rural areas, however, with urban sprawl, it is not unlikely that some of these plants will end up very close to new communities. In our litigious society, it is not unreasonable to foresee developers and/or residents taking up the fight to have plants closed. In addition, the EPA has begun testing emissions at rural plants and has found many are emitting pollutants that exceed the rate allowed by their permits. The EPA is currently negotiating with the industry over emission control technology. There are devices on the market called thermal oxidizers, which would solve the problem, however, they don't come cheap - costs fall in the \$1 million range. As of now, the EPA has not mandated this solution.

Currently, corn is the primary source of ethanol in the United States. However, land-use limitations, as well as energy costs to run the plant, and transportation costs are leading to efforts to develop alternative sources of ethanol. Corn cannot be grown everywhere and it causes significant soil erosion if grown on highly erodible land. When processed, newer strains of corn may yield more ethanol per acre of corn grown thereby minimizing the environmental impact of

growing corn to produce ethanol. Switchgrass is an alternative source of ethanol that is very hearty, grows in nearly any type of climate, and causes virtually no soil erosion.

2) Technology

New technological breakthroughs could make dry mills obsolete. In the dry mill process, the corn kernel is run through a hammer mill and placed into a fermentation tank where enzyme additions and fermentation chemistry begins to convert the grain-water mixture into ethanol. In addition, various studies agree that technology to produce ethanol from switchgrass and other materials, once in place, will require much smaller energy inputs than corn ethanol.

3) Government Action

The ethanol production industry is heavily dependent on federal and state regulations. Any changes could adversely affect operations and financial positions. In one case, a state cut funding for ethanol production in order to help balance its budget, causing at least one plant to go bankrupt.

In several states, government mandates are now tied to production. Plants must reach a certain volume of production to receive subsidies. Plants are being built to meet projected production levels, however, until they are completed and operational, there is no way to tell if they will qualify.

Another factor that could come into play is access to money to build the roads, water supplies, and pipelines to serve ethanol plants. Federal and state assistance may shift from year to year, and some plants may sit idle before completion if the necessary infrastructure is not built.

4) Market Forces

The supply side of the ethanol market seems to be trending towards much larger plants. Large corporations may be able to attract better management talent, negotiate better sales agreements, and develop greater economies of scale and operational efficiencies. All of this will significantly squeeze the smaller plants.

Illinois has issued 38 permits for new ethanol plants since 2006; only 5 are under construction. Given soaring construction and financing costs, as well as high corn prices, it is doubtful the balance will be built.

Not only are ethanol plants facing turbulent times. Ethanol production has increased the price of feed grain. The fallout from this is that it has driven down the margins for hog and cattle farmers. Some experts believe that without government intervention, this could very well lead to numerous hog and cattle farm bankruptcies.

In addition, given the emphasis of growing corn for ethanol production, the prices of corn for human consumption, and of soybeans and wheat, have skyrocketed.

The price of ethanol has dropped approximately 30% in the past few months while the price of corn has remained high, thus squeezing margins. This has pushed some ethanol plants to the brink of bankruptcy. If ethanol prices fall even more, it is likely the industry will see a number of small ethanol producers go out of business.

5) Transportation Issues

Currently, the only safe ways to transport ethanol are via train, truck and barge. All those means of transportation are expensive. The transportation industry is finding it hard to keep up with the surge of ethanol production. Ethanol cannot be shipped through the country's fuel pipeline network due to its water soluble nature (meaning it absorbs water) and its corrosive qualities.

Major ethanol producers describe this developing gap between production output and transport capacity as a temporary growing pain that will be alleviated over time. They claim that the industry merely grew too fast in a short period of time and it will just be a matter of time before the infrastructure catches up.

Some analysts think the problems are more than a temporary bump in the road. Transportation costs will remain problematic for the industry for some time to come. Railroad cars and tanker trucks made from biofuel-compatible materials are needed to transport the fuels to market. The use of pipelines, although technically possible, would require significant investments in new and modified facilities and in operational practices. Smaller ethanol producers may not last long enough to avail themselves of the improved transportation infrastructure.

Companies, investors or lenders who are, or intend to be, in any way involved in the ethanol industry, are well advised to examine the viability of the specific ethanol processing model. Companies, investors and lenders interested in becoming involved in the ethanol industry may wish to consider purchasing existing plants either on the brink of bankruptcy or as part of a bankruptcy case to minimize their investment and give themselves a more viable rate of return than starting from the ground up. A financial restructuring and turnaround advisory firm well versed in the economics and operations of ethanol plants could be of benefit in steering the stakeholders during these worsening times for the ethanol industry.

Moglia Advisors serves as financial advisors and investment bankers to companies in the alternative fuels industry and other industries.

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Alex D. Moglia
President, Moglia Advisors
amoglia@mogliaadvisors.com

Alex D. Moglia is president and lead restructuring professional of Moglia Advisors. He is currently on the Governing Board of the Commercial Finance Association Foundation, is an active member of the Turnaround Management Association, and is a former member of the Board of Directors of the American Bankruptcy Institute and founder and chair of its Finance & Banking Committee. He has held senior management positions with Continental Illinois National Bank and CNW Corporation, a former New York Stock Exchange company with finance, transportation and manufacturing operations. Initially, he was a corporate attorney with Winston & Strawn in Chicago.

A few years ago, Mr. Moglia was part of a team that visited Romania and Croatia for the purpose of advising key business and government officials involved in the restructuring and privatization of those countries' economies.

Mr. Moglia has a Juris Doctor degree from the University of Chicago School of Law and attended the University of Chicago Graduate School of Business. He has a Bachelor of Science of Foreign Service degree from Georgetown University, Washington, D.C. He was born in Argentina, lived in Brazil, and speaks Spanish, Portuguese, French and Italian.

Jim Hogan
Consultant, Moglia Advisors
jhogan@mogliaadvisors.com

Jim brings more than 20 years of financial experience to Moglia Advisors. Prior to joining Moglia, Jim was a CFO for a distribution company with revenue in excess of \$100 million; CFO and part owner of a startup company in the wholesale gift industry and worked several years in public accounting. In addition, he has experience as a consultant in several turnarounds. Jim graduated from the DePaul University with a Bachelor's of Science in Accounting, is a Certified Fraud Examiner, and a CPA.