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Ethanol – Where Is It Headed?

By Neil E. Harl

The rumbles had been audible for months about a painful adjustment in the ethanol industry but it took a lancing by the *New York Times* on Sept. 30 (and another article on Oct. 1 by the *Wall Street Journal*) to focus public attention on the problem. The big question is what it means to profitability in ethanol production in the short term and, at the same time, the long term implications for ethanol as a viable player in energy production.

The Oversupply Problem

The seeds of the three major problems in ethanol started to germinate many months ago. Few anticipated the convergence of the three problems and what it would mean to planned ethanol projects and to those in actual production.

- The first problem was attributable to the success in the ethanol industry – the rising price of corn. Four years ago, in the early days of the ethanol boom, corn was selling for $1.85 to $2 per bushel. Today, corn is bumping $4 per bushel. That boosted the cost of production for ethanol producers – corn represents roughly 70 percent of the production cost for the fuel. Indeed, success in the ethanol industry assured this would happen. A rising demand for ethanol means a rising demand for corn which boosts corn price which gives ethanol producers heartburn.

- The second factor has been the rising cost of construction for ethanol (and other biofuels) plants.

- The third issue has been the plummeting price for ethanol in the markets. Ethanol was selling for close to $2.50 per gallon a couple of years ago. In recent days, the price has dropped to the $1.50 per gallon range. How did supply increase so fast and how did it get so far ahead of demand?

Reasons Behind the Issues

The first reason has been the enormous support for ethanol and biofuels by so many:

1. Corn growers have promoted ethanol for decades.
2. Environmentalists have been supportive of ethanol which was less toxic to the environment than MTBE

3. Rural areas saw in ethanol a boon to economic development
4. The general public was impressed by the argument that it was in the national interest to become more energy sufficient and to reduce the level of imported oil
5. Congress, until very recently, heard little but plaudits from their constituents and responded with hefty subsidies and production mandates
6. Potential investors cheerfully forked over the funds needed to build 125 ethanol plants and to plan for another 85.

Second, the policy process essentially insulated ethanol production from the full range of market forces with the result, not unexpected, that supply lost touch with demand. There was a belief held in some quarters that the potential demand was so huge that overproduction was unlikely.

Now, there is not only over production on a static basis, there is the potential for a huge increase in ethanol producing capacity from the 85 or so projects on the drawing boards and under construction.

So What Happens Now?

The contours of the adjustment process are well known when supply has come to outpace demand. Further investment in new projects is chilled, some projects already planned may be dropped and those too far down the road toward production cinch up the belt and attempt to ride out the economic storm. The most dramatic impact is on new investment.

Projects already operating (and those too far along to be shelved) continue operating as long as they can cover their variable costs – those that relate to output. At the point that variable costs cannot be covered, the firm may ponder their economic navels for awhile but fairly soon will shutter the operation. Depending upon how severe the adjustment problem becomes, it could have some effect on the demand for corn – compared to what the demand would have been had the bubble not burst. All of this is standard fare for a sector facing an adjustment stemming from excess supply.

Another possibility is that ethanol demand could be boosted. That possibility rests with Congress in the form of increased production and use mandates, with manufacturers of flex fuel vehicles and a more dramatic shift by consumers in favor of ethanol.

Regardless of how the adjustment is approached, it will take considerable time before the supply-demand balance is rectified – by the market or by government policy moves.

The Long-Term Picture?

None of this necessarily spells doom for the ethanol industry. The long-term future of ethanol depends on three critically important factors:

1. The future of U.S. energy policy (and the energy policies of other countries).
2. The economics of conversion of corn and other materials into ethanol.
3. The future of technologies of energy production.

Right now, a sharp shift in energy policy seems unlikely. But we should be reminded that many of the policies put in place in the late 1970s were shelved by the new administration. Energy policy tends to be reflective of voter sentiment. If peace were to break out in the Middle East (which now seems quite unlikely), our energy policy could take an abrupt turn.

The key question is which technology will produce the quantity of energy needed, on a reliable basis, at the lowest cost to the user? Is it ethanol? Many of the competing technologies are well known – wind energy, solar, hydrogen, nuclear (for which there may well be a resurgence), petroleum based sources, coal converted to natural gas and geothermal. But some are not yet on the policy radar screen. Never have we had the economic incentive to produce energy alternatives as we have today. But one point is certain – the alternatives will all be subjected to a least-cost test. Ethanol will be no exception.

Likely Impact on Demand for Corn?

The adjustment process now faced by the ethanol industry will have some impact on corn demand. But there is sufficient momentum, enough plants in operation and enough under construction to assure that the demand for corn for ethanol will not disappear and, in all likelihood, will be maintained at a fairly high level. The pain will be felt mostly elsewhere.

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Dr. Neil E. Harl is a Charles F. Curtiss Distinguished Professor in Agriculture and Emeritus Professor of Economics, Iowa State University, Ames, Iowa. He is a member of the Iowa Bar. He can be reached at 515/294-6354.

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