

## Cellulosic Biofuels: Another Opportunity for Washington to Marry Agriculture and Energy Goals by David Morris



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About 10 years ago I attended a meeting in Chicago to discuss the future of ethanol. The 30 or so participants included owners, managers and builders of ethanol plants, as well as industry experts and farmers. After about an hour of discussion, I raised the subject of cellulosic ethanol. A corn farmer's response summarized the meeting's consensus: "That's a forest products industry." The conversation quickly moved on.

Today, cellulosic ethanol can no longer be ignored. Even as the quantity of ethanol from corn increases, the age of corn ethanol is drawing to a close. Few new corn-to-ethanol plants will be built beyond those currently in the financing and construction pipeline.

policymakers an ownership model that addressed a fundamental problem facing farmers here and around the world: farmer-owned biorefineries. Hundreds of thousands of farmers operate in an almost perfectly competitive market while selling to an increasingly concentrated processing sector. The result? Commodity prices stay constant or fall, while input prices and retail prices rise. In effect, farmers often sell their crop at prices below the full cost of production.

In the U.S., government has dealt with this conundrum by giving farmers money to make up for the difference between the price they receive from processors and the price they need to make a profit. This dependency makes most farmers unhappy and virtually all taxpayers resentful.

Farmer-owned biorefineries addressed this structural problem. And they proved themselves viable and profitable. Indeed, by 2002, 50 percent of all ethanol plants and 80 percent of all new ethanol plants were majority farmer owned. Tens of thousands of farmers owned a piece of the value added process, which among other things gave them a hedge against fluctuating commodity prices. Indeed, until recently, many farmers received a higher return per bushel from dividends than from the sale of their corn.

Farmer- and locally owned biorefineries producing biodiesel or ethanol offered rural communities and farmers a way to break out of their traditional boom and bust cycle. Unfortunately, policymakers ignored the opportunity, first in the 2002 farm act and then in the 2005 energy act. Meanwhile, the energy act's mandates, coupled with the rapid phase-out of MTBE in 2006 and the beginning of the run-up in oil prices, produced a tsunami of Wall Street capital into biofuels. By 2007, over 90 percent of all new ethanol plants were absentee-owned. Farm policy and energy policy had become uncoupled.

The unprecedented rise in crop prices in the last two years allowed us to ignore this profound failure of imagination by policymakers. Today even farmers who own shares in a biorefinery receive a much, much higher return from their crop sales to the market than from dividends from the plant. But as farmers know, this delightful state of affairs (from their perspective) is not forever. What goes up can go down, and usually does.

The opportunity to build on the farmer-owned corn-to-ethanol biorefinery model is over. But the opportunity for local ownership is just beginning for cellulosic biofuels.

Indeed, when it comes to cellulosic fuels, the slate is blank. In December 2007, in an unprecedented demonstration of boldness

(some might call it foolhardiness), Congress mandated a near term huge market for a product that is not yet commercialized, made from a feedstock that itself is largely not in the market.

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So far, policymakers have approached cellulosic ethanol as they approached corn ethanol – business as usual. The first federal grants for cellulosic ethanol plants went to absentee-owned facilities. The well-funded R&D program is not tailored to meeting the needs of rural communities. No policymaker has raised the possibility of redesigning the biofuels' incentives, scheduled to sunset shortly, to maximize the economic benefit of biofuels to farmers and rural communities.

At this writing, the proposed farm bill would pay farmers to grow energy crops. In essence this lays the ground work for cellulosic crops to become part of the federal price support program, with the same dismal dynamic: government subsidizes the crop to lower the price to processors.

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We must remember – without corn ethanol, there would be no cellulosic ethanol. The corn industry ushered ethanol through its often painful birthing process: persuading car and oil companies to use the product and the general public to accept it, creating a national distribution and marketing system, and improving the reliability and efficiency of the production plants.

And at least until recently, corn ethanol made one other major contribution. It provided



farm crops, but wood waste. Indeed, sufficient wood waste may be available to satisfy the first 10 years of the cellulosic ethanol mandate, which may validate the comment at my Chicago meeting about cellulosic ethanol not being an agricultural product.

However, since wood, like corn, is bulky and expensive to transport, most plants will locate near the source of raw material, and the transportation costs of bringing in distant feedstocks will limit their scale. That invites, but doesn't demand, local ownership. It is up to policymakers to make that connection. Owners of small sawmills and private woodlots are natural investors, as are other local entities, including farmers.

#### About the Author

David Morris is Vice President of the Institute for Local Self-Reliance and author, most recently, of *Driving Our Way To Energy Independence*. He has been an advisor or consultant to the energy agencies of Presidents Ford, Carter, Clinton, and George W. Bush.

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The next feedstock will be ag residues, which have a clear farmer connection. Energy crops will be a very, very small part of the overall feedstock for some time, given both the time required to grow them in any significant quantity and their relatively high cost.

Corn-to-ethanol biorefineries proved we can marry energy and agricultural objectives.

Regrettably, policymakers failed to use that proof to fashion a biofuels policy that encouraged that marriage. Cellulosic ethanol offers them a second chance.

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May 15-16, 2008  
[www.usenergyservices.com](http://www.usenergyservices.com)

#### The New York Academy of Sciences Events

Green Science: Bioindustrial Processes  
May 21, 2008  
[www.nyas.org](http://www.nyas.org)

#### Corn Utilization and Technology Conference

Kansas City, MO  
June 2-4, 2008  
[www.corntechconf.org](http://www.corntechconf.org)

#### The Alcohol School

Toulouse, France  
June 2-6, 2008  
[www.ethanoltech.com](http://www.ethanoltech.com)

#### 2008 BIO International Convention

San Diego, CA  
June 17-20, 2008  
[www.bio.org](http://www.bio.org)

#### 4th German American Renewable Energy Conference

"Biomass: Power, Heat, and Fuels"  
Syracuse, NY  
June 24, 2008  
[www.gaccny.com](http://www.gaccny.com)

#### Biomass '08: Power, Fuels and Chemicals

Grand Forks, ND  
July 15-16, 2008  
[www.undeerc.org/biomass08](http://www.undeerc.org/biomass08)

#### ACE 21st Annual Ethanol Conference & Trade Show

Omaha, NE  
August 12-14, 2008  
[www.ethanol.org](http://www.ethanol.org)

#### International Conference and Exhibition for Alternative Energy Sources and Technologies


Boston, MA  
September 15-17, 2008  
[www.gaccny.com](http://www.gaccny.com)

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San Diego, CA  
December 7-10, 2008  
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