

Ethanol & Rural Development



An Ethanol Across America White Paper

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Alternative Fuels Key to a Rural Renaissance

The outlook for rural America has never been brighter; we are on the cusp of a rural renaissance. Renewable energy, especially biofuels, is leading the way. Over the past five-and-a-half years, working for Rural Development as part of the Bush Administration, it has been my privilege to see the start of this renewal firsthand. I have toured a lot of plants and met with many producers who are creating wealth and opportunity by converting corn into ethanol and soybeans, vegetable oils and animal fats into biodiesel. Many other entrepreneurs have told me about their plans to expand into the development of cellulosic and other biofuels.

In his State of the Union Address, President George W. Bush called for the development of technology to produce ethanol from feedstocks such as switchgrass. When developed, it will enable grasses, stover, wood chips and other readily available and geographically dispersed commodities to be converted into biofuels. Reducing the costs and improving the conversion efficiencies of cellulosic production is a high priority for this Administration.

While production from corn ethanol is important, and will continue to be, cellulosic is a critical next step to break our growing reliance on imported oil.

A recent joint U.S. Department of Agriculture and Department of Energy study found that U.S. farm and forest lands, on a sustainable basis, can supply enough feedstock to displace 30 percent of current U.S. petroleum consumption with biofuels by 2030, while still meeting the nation's food, feed and export demands.

The biofuels business is booming and will continue to grow robustly. In the past, support from agencies like

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Mr. Dorr, from Marcus, Iowa, graduated from Morningside College with a Bachelor of Science degree in business administration.

Rural Development was critical to the effort to get this industry off the ground, but now a combination of factors, including high oil prices and a shift from MTBE as a fuel additive, along with government policies designed to diversify our energy supply sources, have moved this industry into the main stream.

The renewable fuels industry is expanding all across the country. Ethanol now accounts for about 3 percent of total annual gas consumption. Some 12 to 14 percent of the U.S. corn crop was used to make ethanol in

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2005-06 and in the current crop year that figure is expected to reach 20 percent. According to USDA Chief Economist Keith Collins, by 2010, 30 percent of America's corn could be used for ethanol production. Currently, there are more than 100 U.S. ethanol plants and 30 more plants are under construction. On top of that, the number of biodiesel plants has increased from 10 in 2000 to 65 today and another 58 plants are under construction. From a start of about half-a-million gallons a year in 1999, biodiesel production in 2006 is expected to total 245 million gallons.

The establishment of bio-refineries across our nation is generating significant economic vitality in America's rural communities—and strengthening them so they can become even more important contributors to the nation's overall wealth and economic well-being. According to

the Nebraska Public Power District, an average ethanol plant (40 to 50 million gallons per year) results in:

- \$100 million in capital construction investment;
- A boost of more than \$70 million to the local economy during construction;
- Expansion of the local economic base by another \$70 million per year;
- Approximately 35 new direct full-time jobs—and another 80-90 additional jobs in the area;
- Increased household income of \$7 million annually;
- Millions of dollars in increased local, state and federal tax revenues.

USDA Rural Development has done its part to get many of these projects started. Through our various business programs, including our Renewable Energy and Energy

Corn Supplies Growing With Demand

Concerns about having enough corn to satisfy the needs of the fuel and food — or livestock feed — industries is an issue that has received some attention recently.

The National Corn Growers Association noted that even though corn demand is growing because of ethanol, corn production is growing, too. It said corn demand and supply are both increasing at a steady rate, with corn production over the past two years being the largest in U.S. history, leaving plenty of corn for fuel, food and feed. In fact, there were 2.2 billion bushels of corn “left over” from the 2005 crop.

Increases in corn production can be attributed, in part, to the continued adoption of biotech crops, which can better tolerate poor weather and resist insects. Improved crop management techniques also play a role. In the near future, biotech crops will allow corn acres to expand due to drought-tolerant and other improved varieties. Increased efficiencies will allow a bushel of corn to produce more ethanol than today.

It is important to note, too, that ethanol is made mostly from yellow dent corn historically grown for livestock feed. Corn grown more directly for humans, such as sweet corn or white corn for corn chips, does not go to ethanol production.

Helping to feed livestock not only in the U.S. but around the world is the ethanol co-product distillers grains, which are rich in protein and energy. For each 56 lb. bushel of corn used for ethanol, 18 lb. of distillers grains are produced. In turn, those distillers grains replace some of the corn needed for animal feed.

Certainly there will be challenges as ethanol production expands in the future, but corn producers have been up to the challenge in the past and will be in the future. In the eye of the corn grower, it is not food versus fuel. It is food and fuel.

Efficiency program, and our Value Added Producer Grant program, we have funded energy projects at a program level of \$425.3 million. Matching funds provided by the private sector to support projects funded through these loans and grants totaled more than \$1.3 billion. We are also supporting a range of critical, related infrastructures.

Although the industry is attracting private investment, it's important that the government continue to promote the growth of ethanol and renewable fuel production. The rising cost of energy affects every American, but rural America in particular takes a hard hit. For example, electricity, fuel, fertilizers and other energy-related expenses account for 15 percent of total farm cash production expenses. In 2006, energy-related expenses are forecast to climb nearly \$30 billion. That's an increase of about 50 percent in the last three years.

Energy and rural America have always been closely linked, but now we face an unprecedented opportunity to create wealth, new jobs and increased economic activity through production instead of consumption. The 2002 Farm Bill was the first one to contain an energy title.

With that in mind, Agriculture Secretary Mike Johanns, in August, released a 31-page analysis called "Energy and Agriculture." It's available at: www.usda.gov/documents/Farmbill07energy.pdf. The paper is a direct product of more than 50 Farm Bill listening sessions held around the country by USDA in 2005. While it doesn't make policy recommendations, it outlines discussion areas for the energy component of the next farm bill. Anyone with an interest in energy policy or rural policy should read it.

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Where America's Corn Crop Goes

	Million Bushels	% of Supply	
Total Supply	13,236		
Feed and Residual Use	6,000	45.3%	} Only 9% of field corn is used for human consumption
Fuel Ethanol Use	1,600	12.2%	
High Fructose Corn Syrup Use	535	4.0%	
Starch Use	280	2.1%	
Sweetener Use	225	1.7%	
Cereal/Other Use	190	1.4%	
Beverage Alcohol Use	135	1.0%	
Seed Use	20	0.1%	
Export Use	2,075	15.7%	
Total Use (Demand)	11,060	83.6%	} 2.2 billion bushel surplus
Surplus (Ending Stocks)	2,176	16.4%	

Source: USDA-ERS, June 2006

Note: Marketing Year is Sept. 1, 2005 to Aug. 31, 2006

Chart Courtesy of National Corn Growers Association (www.ncga.com)

Even before he took office, President Bush spearheaded the drive to reduce this nation's reliance on foreign sources of energy. A year ago, he signed the Energy Policy Act into law. That bill is the most comprehensive overhaul of energy policy in more than a decade and will help spur enhanced energy security. He followed it by announcing the Advanced Energy Initiative, which will change the way we power our homes, offices and vehicles. His call to end America's addiction to oil will long be remembered.

Let me conclude by recommending the recently released "Guide for Evaluating the Requirements of Ethanol Plants"

developed by the Clean Fuels Development Coalition and the Nebraska Ethanol Board in cooperation with USDA. This well-researched document, which is available for free on our web site: www.rurdev.usda.gov/rd/energy will go a long way toward advancing our drive to improve the rural economy and will promote greater energy independence through ethanol production and research. USDA's commitment to energy development is longstanding and firm. In 2006 alone, we estimate that USDA will spend about \$270 million in this area. Working with our partners, public and private, we're doing everything possible to promote energy independence as part of a strong and clear rural policy.

Meeting of Industry Leaders: Oct. 10-12, 2006

In 2005, President Bush signed the Energy Policy Act into law. That bill is the most comprehensive overhaul of energy policy in more than a decade and will help spur enhanced energy security. He followed it by introducing the Advanced Energy Initiative, which seeks to diversify our energy production system.

To further this initiative, USDA and the Department of Energy will sponsor a conference, "Advancing Renewable Energy, an American Rural Renaissance." This gathering, which will be in St. Louis, Missouri, Oct. 10-12, will bring together industry leaders to explore ways to create breakthroughs and promote an increase in energy production from renewable sources.

I hope you'll be able to attend.

This "**Ethanol & Rural Development**" White Paper was produced and is distributed as part of a continuing series sponsored by the **Ethanol Across America** education campaign. The Ethanol Across America White Paper series provides an opportunity for public officials, industry, academia and others to express their views on issues relating to the development of ethanol and other alternative fuels. Interested parties are encouraged to submit papers or ideas to cfdcinc@aol.com



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