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FEATURE ARTICLE

**THE HIDDEN COSTS OF
“GROWING” ENERGY
INDEPENDENCE**

By JAY H. ROWELL

Our government has a plan to reduce our dependence on foreign oil, but is it realistic or just the politics of pandering?

The admirable goal is enshrined in the 2007 Energy Bill as well as in both Congress and the Administration's Farm Bill proposals.¹ The goal is in large part premised on biofuels offsetting our nation's addiction to oil.² Since ethanol is practically the only biofuel produced in the United States,³ and since virtually all ethanol is produced from corn,⁴ to understand if the country can

“grow” energy independence, several questions must be asked, including: How is ethanol affecting corn usage? Who benefits from growing corn for ethanol? And what does the future hold?

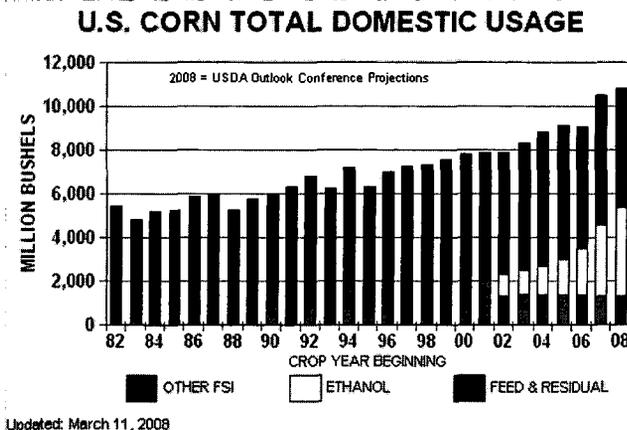
THE ETHANOL EFFECT

In 2006, roughly two billion bushels of corn were used to produce roughly five billion gallons of ethanol.⁵ One of the provisions of the 2007 federal Energy Bill requires biofuel production to spike to 36 billion gallons of motor fuel by 2022.⁶

Because none of the “advanced fuels” (for example, second generation biofuels such as biobutanol⁷) called for in the bill are commercially produced today, corn-based ethanol will be the primary source used.⁸ Therefore, this legislation will require close to a seven-fold increase in corn-based ethanol production over the next 15 years.⁹

“Producing 35 billion gallons of ethanol a year would require putting an additional 129,000 square miles of farmland — an area the size of Kansas and Iowa — into corn production, which is not very likely,” said Philip E. Clapp, president of the National Environmental Trust.¹⁰

From 2002 until 2006, ethanol production rose from a little over two billion gallons to nearly five billion gallons.¹¹ This led to a tremendous shift in domestic corn usage (see chart below).¹²



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(FSI refers to Food, Seed and Industrial use)¹⁴

In 2007, total U.S. corn production broke records when it hit over 13 billion bushels of corn produced.¹⁵ The National Corn Growers Association (NCGA) is confident that corn production will keep up with the projected dramatic increase in demand.¹⁶ Yet, according to NCGA's own estimate, corn production will only increase to 17.3 billion bushels.¹⁷ If two billion bushels of corn were used for five million gallons of ethanol production last year,¹⁸ it will be difficult to meet the Congressional demand for seven times more biofuels in fifteen years with America only producing a few billion bushels more corn.

"We as an industry know that we cannot meet these exalted expectations with existing technology and existing feedstocks alone," conceded Renewable Fuels Association President Bob Dinneen.¹⁹

Regardless, the bar might be raised even higher, as both Democratic presidential candidates have pledged to nearly double Congress's requirement to about 60 million gallons.²⁰

WHO BENEFITS FROM THE SUBSIDIES BEHIND CORN AND ETHANOL?

It is generally acknowledged that federal ethanol incentives are the driving force for ethanol production and use in the United States.²¹ Corn-based ethanol subsidies totaled \$7 billion in 2006 for 4.9 billion gallons of ethanol.²² The primary subsidy is the federal gasoline tax forgiveness of 5.2 cents for a gallon of 10 percent ethanol gasoline.²³ In addition, ethanol blenders received \$2.5 billion in subsidies in 2006.²⁴

On top of those subsidies, in 2007 the U.S. Department of Agriculture spent \$1.6 billion to subsidize farmers to grow the corn.²⁵ And those are just federal government subsidies. State and local governments provide tens of millions in additional subsidies.²⁶

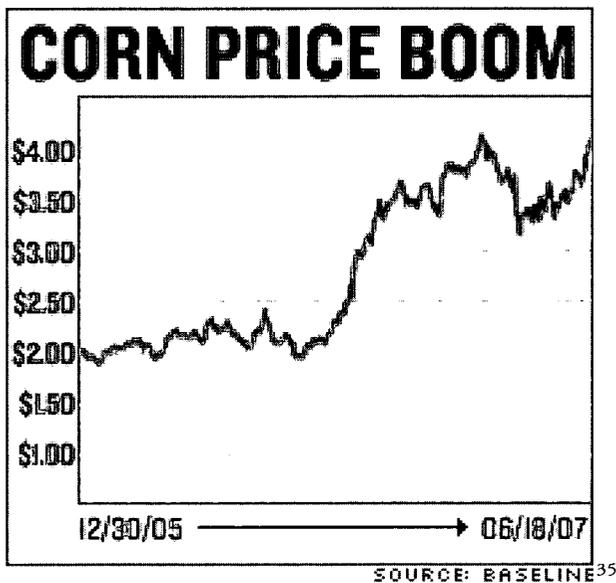
Who benefits? Consider that 80 percent of these corn subsidies go to 20 percent of the corn producers.²⁷ This one-fifth of the corn producers are almost entirely large corporate farms.²⁸ As for the ethanol subsidies, Archer Daniels Midland (ADM) produces 70 percent of the ethanol used in America.²⁹ Citigroup food manufacturing analyst David Driscoll estimates that ADM earned \$1.3 billion from ethanol last year alone.³⁰

“The Archer Daniels Midland Corporation has been the most prominent recipient of corporate welfare in recent U.S. history,” observed the Cato Institute’s policy analyst James Bovard.³¹

“[O]ne of the biggest complaints [is] that we need to make sure the smaller producers get [the subsidies],” said Patrick Murphy, speaker of the Iowa House of Representatives.³²

The company also is largely credited with being the driving force behind turning corn into fuel as well as securing governmental financial support in the 1970s and 1980s, when their chief executive was well known to members of Congress as a generous campaign donor.³³

In addition to these subsidies, corn prices have risen dramatically over the last couple of years,³⁴ further increasing these companies’ profits (see chart below).



With corn prices this high, some people are beginning to ask why we are continuing to subsidize corn.³⁶

“A lot of my farm families and neighbors come up to me and say, ‘Why are we getting these payments (subsidies) when prices are so good?’” said Representative Ron Kind (D-WI). “And I say, ‘You’re right, this is crazy.’”³⁷

Senator Frank Lautenberg (D-NJ) went a step further when he described the current farm bill as “an antiquated system of giant payments to a handful of farms, while ignoring the needs of most American farmers.”³⁸

These subsidies also affect American farmers and American consumers in unexpected ways. The high level of ethanol subsidies have made corn more valuable when it is used as ethanol rather than as livestock feed.³⁹ As a result, there is less corn for livestock, causing the price to increase for livestock farmers and for consumers who eat beef, poultry and pork raised on corn.⁴⁰ In the first five months of 2007, the Bureau of Labor Statistics (BLS) reported beef prices up 5.1 percent and poultry prices up 4.3 percent.⁴¹

Some economic forecasters like Dan Basse, president of AgResources, believe that the food fight between the ethanol industry and the livestock industry has already begun.⁴² “[T]he livestock industry will be forced to raise prices or reduce their herds. . . [and] U.S. consumers will start to see rising food prices or food inflation.”⁴³

Those large increases in grocery prices occurred while the amount of ethanol produced increased only nominally. Over the next three years, the Center for Agricultural and Rural Development at Iowa State University predicts the percentage of corn used to make ethanol will spike from just under 20 percent of all corn produced to nearly 30 percent.⁴⁴ When ethanol production hits 15 billion gallons annually, or less than half of Congress’s mandate by 2022, it is estimated that the amount of corn available for livestock feed will plummet to 33.5 percent from the current 60 percent of current corn production.⁴⁵

“Our concern has been ‘Will there be enough feed?’” said Experiment Station beef cattle nutritionist Dr. Jim MacDonald.⁴⁶

“Unless we have huge increases in productivity, we will have a huge problem with food production,” warned Warren R. Staley, chief executive of Cargill, the multinational agricultural company based in Minnesota.⁴⁷ “And the world will have to make choices.”⁴⁸

The International Food Policy Research Institute (IFPRI) predicts that corn prices will increase by 43 percent if the United States replaced just four percent of the gasoline we use with biofuels.⁴⁹ Last year’s Energy Bill places the percentage of biofuels replaced by ethanol at 12 percent.⁵⁰

To make matters worse for consumers, they are paying more for a gallon of 85 percent ethanol (E85) than they would for regular gasoline.⁵¹ In 2006, consumers were paying an average of \$684.95 more annually for E85 (see chart below).⁵²

Annual Cost of Driving a Flexible Fuel Vehicle Using E85 versus Gasoline in Various States⁵³			
State	Cost of E85	Cost of Gasoline	Difference
Chrysler Sebring			
Ethanol Belt	\$1,677.51	\$1,382.08	\$295.43
California	\$2,458.58	\$1,534.23	\$924.35
Florida	\$1,828.40	\$1,369.40	\$459.00
New York	\$2,414.20	\$1,445.48	\$968.72
Texas	\$2,165.68	\$1,388.42	\$777.26
Dodge Durango			
Ethanol Belt	\$2,892.86	\$2,479.15	\$413.71
California	\$4,239.80	\$2,752.08	\$1,487.72
Florida	\$3,153.06	\$2,456.41	\$696.65
New York	\$4,163.27	\$2,592.87	\$1,570.40
Texas	\$3,734.69	\$2,490.52	\$1,244.17
Ethanol belt is Illinois, Iowa, Nebraska, Minnesota and Indiana.			

THE FUTURE OF ETHANOL IS NOT CORN BUT CELLULOSIC

Critics of corn-based ethanol suggest there are promising alternatives such as cellulosic ethanol. Cellulosic ethanol can be derived from organic material such as straw and plant wastes, wheat stalks and switchgrass.⁵⁴ Cellulosic is chemically identical to corn-based ethanol but with three times the net energy.⁵⁵ Even more promising is that switchgrass beats corn ethanol in the amount of energy delivered compared to the energy used to produce it by 540 percent to 25 percent.⁵⁶

“The goal is to transition as quickly and effectively to cellulosic-based ethanol since the energy output to input is much better than corn ethanol,” said Howard Learner, president and executive director of the Environmental Law and Policy Center.⁵⁷ “Right now there is an opportunity for the Midwest to be-

come an international leader in cellulosic ethanol and advance and accelerate the transition."⁵⁸

To a degree that is already happening.

"Three states got new [cellulosic] biofuel refineries, and Iowa was one of them," said Murphy.⁵⁹ "[Since] it is costly to transport crops of long distances, ethanol plants are popping up all over, which is good for small town Iowa."⁶⁰

"Congress is finally beginning to shift over to cellulosic ethanol," added Learner.⁶¹

In the House's version of the 2007 Farm Bill, there was one million dollars in funding for universities to develop the ability to use sweet sorghum and switchgrass instead of corn to produce ethanol.⁶² The Senate version went further by expanding the list of potential corn substitutes to include cellulosic biofuels and providing them with some of corn-based ethanol's preferential tax treatment.⁶³

Even the Bush Administration is getting in on the act.⁶⁴ The Administration's version of the 2007 Farm Bill proposed to "increase funding by \$1.6 billion for development and research and production [and] . . . a \$2.1 billion loan guarantee program to build cellulosic ethanol plants."⁶⁵

Learner defended cellulosic ethanol subsidies saying that "that cellulosic ethanol needs subsidies to work, when it is competing with heavily subsidized things."⁶⁶ We do not have a free market here; the coal, oil, nuclear and wind power energy industries are riddled with subsidies."⁶⁷

Even though cellulosic looks promising, no cellulosic ethanol is currently being commercially produced.⁶⁸ Therefore, for the foreseeable future ethanol will continue to be made out of corn.⁶⁹

"If we're not careful, the United States could be seen as reducing corn exports for the sake of fueling bad-mileage vehicles," says agricultural economist Lester Brown.⁷⁰ "That would not be a positive image."⁷¹

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