



OWNERSHIP MATTERS: THREE STEPS TO ENSURE A BIOFUELS INDUSTRY THAT TRULY BENEFITS RURAL AMERICA

DAVID MORRIS

VICE PRESIDENT, INSTITUTE FOR LOCAL SELF-RELIANCE

FEBRUARY 2006*

My charge this morning is to speak to you about the future. Let me begin by quoting from the past, from Thomas Jefferson, author of the Declaration of Independence and our third President.

As did many of our Founding Fathers, Jefferson viewed the farmer as the key to a vigorous and democratic nation. "Cultivators of the earth", he declared, "are the most valuable citizens. They are the most vigorous, the most independent, the most virtuous and they are tied to their country and wedded to its liberty and interests by the most lasting bonds."

"I think our governments will remain virtuous for many centuries", Jefferson prophesied, "so long as they are chiefly agricultural."

I leave it up to you to evaluate the validity of his prediction, that is, to decide whether our govern-

ments have remained virtuous now that they are no longer chiefly agricultural.

Jefferson believed in the centrality of farmers to a democratic and healthy society and economy not because he had a romantic attachment to agriculture, but because he believed farmers created fundamental wealth. They owned land and possessed the multiple skills and equipment needed to extract wealth from that land.

In Jefferson's day, the farm was a value-added enterprise integral to the local and regional economy. The farm itself satisfied many of the household's internal needs for food and clothing and structural materials, as well as supplying fertilizer and fuel. The farmer bought most of his supplies from local businesses and sold most of his output to local and regional customers.

*This article is based on a speech to the Minnesota Ag Expo 2006 in Morton, Minnesota, on January 25, 2006.

But, as the title of a made-in-Minnesota movie says, “That was then. This is now.”

Ours is no longer a Jeffersonian economy. Only 250,000 to 500,000 full time farmers remain.

Farmers satisfy few of their household or farm needs from their own land. Fertilizers and fuels come from thousands of miles away. Customers for their crops may be equally distant.

The dramatic reduction in the number of farmers, however, has a positive side. Surviving farm operations are bigger and better capitalized. They are significant commercial operations in their own right. They routinely make large financial investments to maintain and increase their farm’s productivity.

The Rise of Farmer-Owned Manufacturing

John F. Kennedy’s summarized the unique nature of American agriculture this way. Farming is the only business, he said, where you buy everything retail and sell everything wholesale.

Some 150 years ago, farmers formed consumer cooperatives to try to overcome part of the retail/wholesale trap that Kennedy described.

These cooperatives lowered the price of farm inputs. Some marketing and storage cooperatives may have raised the market value of the farmer’s crop.

More than a century of bitter experience, however, has taught the farmer that if he simply sells his raw crop, he will fall further and further behind.

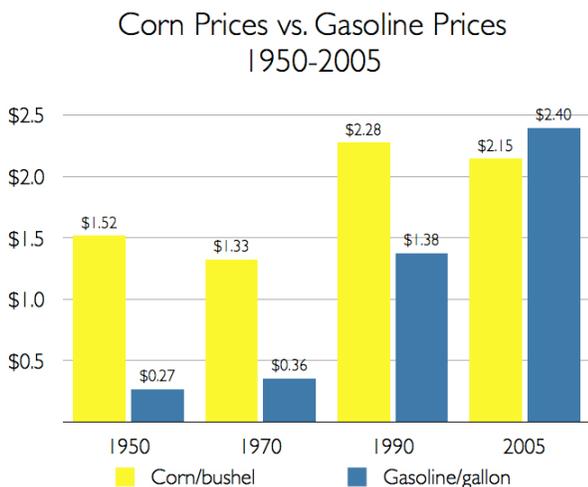
This audience knows all too well the dismal statistics. Farmers are getting about the same price for corn as they did 30 years ago. But the cost of farm inputs and equipment has more than doubled. The price of corn flakes has tripled while the price of the raw material for corn flakes has virtually stayed the same.

More than a century of bitter experience has taught farmers that if they simply sell a raw crop, they will fall ever-further behind.

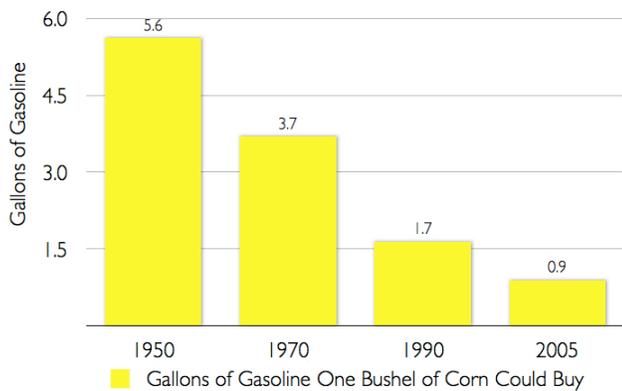
In 1970, the revenue from selling a bushel of corn could buy about five and a half gallons of gasoline. Today a bushel of corn is worth only about three-quarters of a gallon of gasoline. About 30 years ago, farmers rediscovered the producer cooperative, a business form where the farmers process their raw materials and in some cases even manufacture a final consumer product.

The birth of the first modern producer cooperatives proved once again the wisdom of that old adage: necessity is the mother of invention. Minnesota and North Dakota’s sugar beet farmers in the Red River Valley discovered the area’s sole sugar beet processing plant was going to close. They would have little or no market for their crop.

The farmers pooled their financial resources and bought the plants, which became known as American Crystal Sugar, based in Moorhead.



The Purchasing Power of Corn Has Dropped 85 % Since 1950



Their timing was impeccable. The price of sugar soared. Sugar beet growers made a great deal of money. And as we all know, in America, financial success quickly spawns imitators.

Other producer cooperatives emerged, slowly in the late 1980s and early 1990s, and then with increasing speed in the late 1990s and early years of the 21st century. Recently, the traditional cooperative has been joined by a new form, the limited liability corporation. In an LLC, the farmer and most specifically, the farm, is less closely tied to the firm. However, if the LLC is majority farmer controlled and owned, it can have a similar impact on the farmer.

Farmers today make investments of \$25,000, \$50,000, even \$75,000 to purchase land or a new piece of equipment. Now they are comparing an investment in land or equipment with an ownership stake in a processing or manufacturing company. Often the latter compares very favorably.

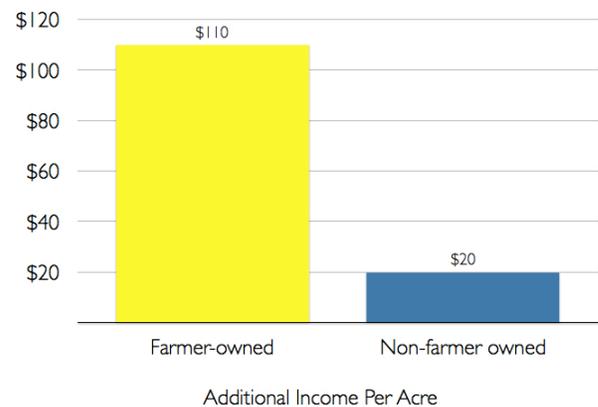
A study by Iowa State University (ISU) concluded that the 5-year average after-tax return for an ethanol dry mill is 23 percent. On the other hand,

70 percent of Iowa’s counties averaged returns on farmland of 2.5 percent or less.

Federal ethanol incentives, air quality regulations, and now ethanol mandates, have stimulated an expanding market. But they don’t inherently or inevitably translate into a significant improvement for American agriculture and rural communities.

The increased price of corn that results from the increased demand for ethanol may be 10-15 cents per bushel. Farmers who own a share in a biorefinery, however, can receive dividends four, five, even ten times higher.

Farmers Earn 5-10 Times More From Increased Ethanol Demand If They Earn Dividends From a Biorefinery



Farmer-owned biorefineries also act as a welcome hedge for farmers against the volatility of commodity prices. When corn prices decline, the production costs of ethanol should also decline. Thus, at least a portion of the income lost to the farmer on the sale of the raw material is made up from the increased profits in the sale of the processed material.

There are reasons to support farmer ownership beyond the benefit to individual farmers. The community profits as well. A farmer-owned

ethanol plant is an excellent economic development investment. Indeed, a tough 1997 analysis by Minnesota's Legislative Auditor concluded that not only did the state ethanol incentive create jobs and assist rural economies; it returned more in state taxes than it cost in state expenditures.

A biorefinery has a dramatically different impact on local and state economies than a traditional petroleum refinery, even if that oil refinery is located only a few miles away from the biorefinery. Minnesota is home to both types of refineries. Both hire local workers and therefore inject money into the local economy. But their local economic benefit varies dramatically after one takes into account the total expenditures made by the different types of refinery.

The single largest cost element for both biorefineries and oil refineries is the cost of the raw material. An oil refinery buys its crude from out of the state, perhaps from outside the country. A biorefinery buys its raw material from within 50-100 miles of the facility.

Virtually all the oil refinery's profits leave the state to go to headquarters and distant shareholders. If the facility is farmer or locally owned, virtually all of the biorefinery's profits remain inside the state.

The oil refinery buys most of its services (legal, accounting, advertising, printing) out of its central headquarters. The biorefinery buys its services locally.

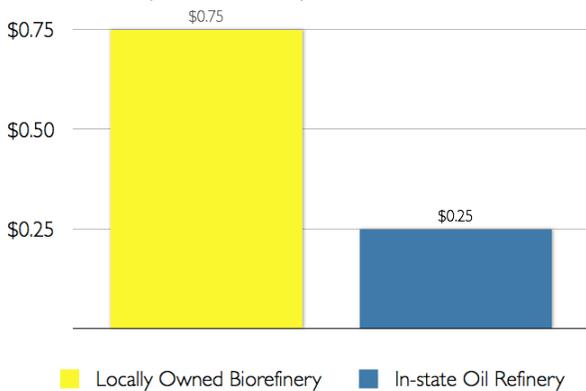
Taking all these spending factors into account we arrive at a remarkable conclusion. For every dollar that Minnesotans spend on gasoline, excluding state taxes, some 75 percent leaves the state economy. For every dollar that Minnesotans spend on ethanol, some 75 percent stays in the state economy. That translates into an additional 50 cents on every dollar spent on transportation fuel that stays in the Minnesota economy if it is spent on ethanol produced inside of Minnesota from a farmer owned biorefinery.

Multiply that by the \$3.5 billion or so that Minnesotans spent last year on gasoline alone and you can understand why an agricultural state would and should view farmer-owned biorefineries as a powerful economic development engine.

There is one other reason we should prefer farmer-owned manufacturing plants. They change relationship between farmer and processor in a way that can make the processor an important and supportive actor in fashioning public policy. Let me offer one example.

For every dollar Minnesotans spend on gasoline, some 75 percent leaves the state economy. For every dollar Minnesotans spend on ethanol, some 75 percent stays in the state economy.

Three Times More of the Dollar Spent on Transportation Fuel Remains in the Local Economy If Spent on Locally Produced Ethanol



In 1991, the North Dakota durum wheat farmers established the Dakota Pasta Growers Cooperative. In 1994, during the debate about the North American Free Trade Agreement (NAFTA), the Dakota Pasta Growers reportedly were the only member of the National Pasta Processors Association to oppose NAFTA. Most processors supported NAFTA as a way to drive down the cost of their durum wheat inputs. But while Dakota Growers was a pasta processor, it was owned by the durum wheat growers. Thus it approached the issue differently. Dakota Growers wanted to maximize their shareholder/farmers income rather than simply minimize the cost of their inputs. They had no problem paying the farmer, in effect, a living wage, so long as their competitors had to do the same.

The Minnesota Model

The Minnesota Model is a phrase now heard throughout the country and indeed, as I know from having recently been speaking abroad, the world. It means a public policy that emphasizes in-state production and farmer ownership. We forget that this was not the first policy Minnesota embraced when it tried to nurture an ethanol industry.

In the early 1980s, Minnesota had a state ethanol incentive identical to that of the federal government, as did all other states that encouraged biofuels. Minnesota exempted ethanol sold from a portion of the state gasoline tax.

The incentive worked. Minnesotans purchased significant quantities of ethanol-blended gasoline. But Minnesotans didn't produce the ethanol. In the mid 1980s, Minnesota farmers persuaded the state legislature that public subsidies whenever possible should benefit the state economy.

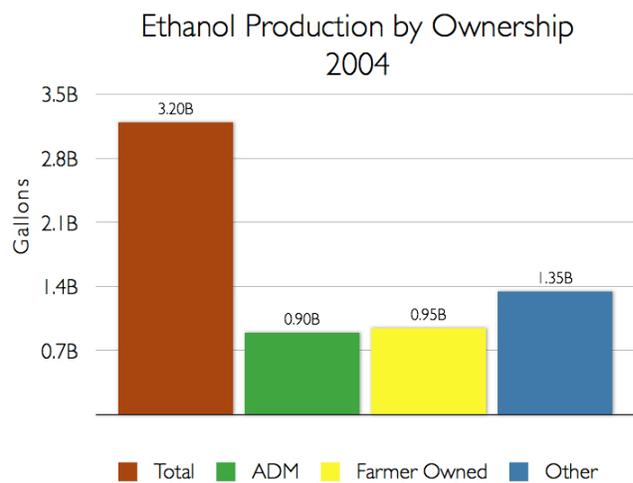
The legislature redesigned the state incentive. Half of the tax exemption was converted to a direct producer payment. (The rest of the excise tax exemption was phased out in the mid 1990s.) The new producer incentive had three important features.

First, the production facility must be located inside the state. This encouraged an economic return on the state's subsidy.

Second, the biorefinery could receive payments only for the first 15 million gallons of ethanol produced each year. This encouraged the construction of many smaller facilities, which in turn enabled farmer and local ownership. The state also established a relatively modest loan program to help farmers make an equity investment.

Third, the facility could receive the incentive for only 10 years. It would not be a continual drain on public resources.

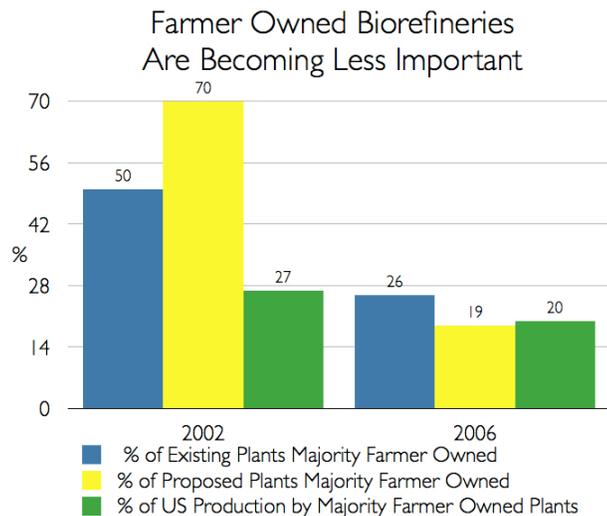
The incentive was remarkably successful. Today, 12 of Minnesota's 15 biorefineries are majority owned by Minnesota farmers.



By the early years of this decade, one could argue that the Minnesota model had become the U.S. model. By 2004, of the 92 ethanol plants in operation in the United States, 44 were owned by farmers, or 48 percent. Of the new capacity coming on line in 2003, more than 60 percent were farmer owned.

In 2004, the dynamic suddenly changed with the construction of the country's first 100 million gallon a year ethanol dry mill. In 2005, the passage of the federal 7.5 billion gallon mandate and the doubling of oil prices, turned a trickle of absentee ownership and giant plants into a flood.

Today less than 30 percent of proposed plants are farmer owned. More importantly, as much as 90 percent of ethanol capacity that comes on line in the next three years will be non-farmer owned.



Indeed, the eclipse of farmer-ownership has come so rapidly that the leading data-gatherer on the subject, BBI International, stopped tracking "farmer owned" ethanol plants just after the publication of its 2005 Fuel Ethanol Industry Directory. The reason? According to Tom Bryan, "(W)e came to believe that it was becoming too difficult to dif-

ferentiate between what were labeled "farmer owned" and "majority farmer owned" ethanol plants. In other words, it became apparent to us that farmer owned ventures were becoming hard to define in this industry. It was also getting tough to say just what a "farmer" or "grower" was."

Today less than 30 percent of proposed plants are farmer owned. More importantly, as much as 90 percent of the capacity coming on line will be non-farmer owned.

In retrospect, and being an old timer, I confess to a very long hindsight, between 1980 and 1990, U.S. farmers redesigned an ethanol policy, at least at the state level, that married economic development and agricultural objectives to its environmental and energy objectives. By 2000-2004, that strategy had become the centerpiece of the nation's biofuels expansion.

Today, the rise of giant plants and absentee plant ownership, threatens to divorce our agricultural and even economic development goals from our goal of reducing dependence on imported oil.

Something needs to be done. Now.

What should be done: A Three Pronged Strategy

I suggest a three-pronged and complementary strategy.

First, create an aggressive and broad national and even international educational effort focused on the importance of and benefits of farmer and local ownership.

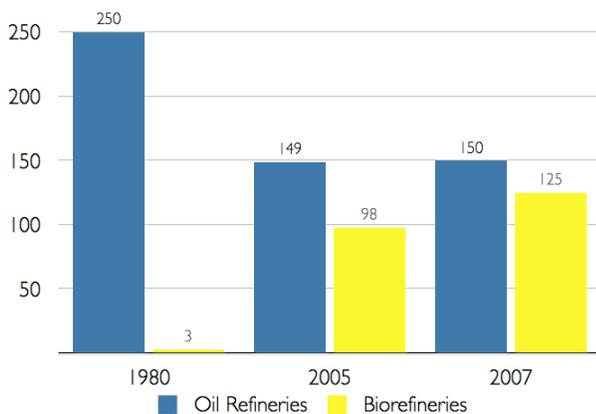
This seems simple enough. My conversations with the ethanol industry tells me it is anything but.

So far the rising tide of ethanol demand and high oil prices still are lifting all boats. Farmers do not want to engage in a potentially divisive strategy. After all, both farmer-owned and non-farmer owned facilities share the same national trade organization and they have worked together closely to nurture the industry.

It is also true that existing farmer owned ethanol plants probably will weather the storm. It is the next generation that could be stillborn. But the future, as we know in so many areas of public policy, is never strongly represented when decisions are made in the present.

I'm not proposing an educational campaign that makes 100 and 130 million gallon absentee-owned ethanol plants the bad guys. Goodness knows, we need all the biofuels capacity we can get, and we need it quickly. I am arguing for a campaign that educates Americans to the fact that farmer and locally owned plants offer taxpayers and rural communities, and agriculture as a whole, a better deal.

Number of Oil Refineries & Bio Refineries
(1980, 2005)



One could argue that increasing national ethanol production capacity from 4 to 8 billion gallons can be achieved more rapidly by building 40 100-million gallon plants than by building 100 40-million gallon plants. I would argue that either strategy can achieve the same volume goals equally quickly. I would further argue that 100 40-million gallon plants will benefit far more communities. And they do not have to remain small. They can evolve incrementally into a significant larger plant. But the initial plant will be small enough to be financed locally.

One might also argue that larger plants lower the production cost of ethanol. They do. But while the savings are considerable when one compares a 10 million gallon plant to a 40 million gallon plant, the savings are quite modest when one increases plant size from 40 to 100 million gallons. Moreover, expe-

rience teaches us that even these small savings will not be passed through to the retail customer. Thus the society as a whole will benefit little.

To date, federal policy has flirted with the idea of favoring smaller and locally owned facilities, but has always shied away. To date 99 percent of federal biofuels incentives are scale and ownership neutral. They simply focus on increasing production and sales. We need a national educational campaign that encourages Americans to let their legislators know that ownership matters.

We need a national educational campaign that encourages Americans to let their legislators know that ownership matters.

Second, establish mechanisms to allow farmer-owners of ethanol facilities to get their equity out of the biorefinery while enabling continued local ownership.

People in this audience remember all too well the bitter debate that took place before the 4,500 farmer owners of the Minnesota Corn Processors decided to sell their ethanol wet mills to Archer Daniels Midland. The story is complicated and at times quite seamy. Yet at its core, the situation revealed an important problem.

Farmers will eventually want to get their money out of their biofuel facilities. In the case of MCP, many had held an equity position for 10 years or more. They were getting ready to retire. They wanted to get their money out. ADM offered them that opportunity. No other easy alternative existed, except for them to stay on as investors.

In this case, in retrospect, we know that staying on as investors would have been quite profitable. But the central challenge must be faced. To reduce the need for farmers to sell their shares to outside investors and large corporations, we need to create a mechanism that allows them to capitalize their equity while at the same time maintaining majority farmer ownership.

Designing a workable system that achieves these twin goals will not be easy. A tradeoff between liquidity and sustainability will probably be necessary. Allowing farmers to receive a price equal to the highest price the market would offer would quickly bankrupt the system. On the other hand, it may be possible to establish a liquidity fund that allows the farmer an adequate annual return on equity, while at the same time allowing the process to be sustainable. The public sector could be involved, not in subsidizing such a system, but in helping to create it and providing the liquidity needed for its start up.

Third, change the federal ethanol incentive into a producer payment that favors local and farmer ownership.

I'm not advocating more money from the federal government. In fact, I'm advocating lower, possibly a great deal lower expenditures. They should be spent, however, in a very different manner to achieve different goals.

Here's my proposal. First, retain about half of the 51 cent an ethanol gallon federal excise tax exemption (actually the money now comes out of the general treasury, as of August 2005) and tie its level to an index comprised of the price of a bushel of corn and the wholesale price of a gallon of gasoline, and such other factors as are deemed necessary. The same type of index can be developed for biodiesel, with the index tied to the price of soybeans and the wholesale price of diesel.

If the spread between the price of the commodity and the price of oil rises above a certain level, the federal incentive will fall. If the price of corn were, for example, to fall below \$1.75 a bushel and the price of wholesale gasoline were to rise above \$2 a gallon the federal incentive might be entirely eliminated.

To reduce the need for farmers to sell their shares to outside investors, we need to create a mechanism that allows them to capitalize their equity while maintaining majority farmer ownership.

Pegging the ethanol incentive to the comparative price of ethanol and gasoline would honor the nation's commitment both to the farmer and to the taxpayer. It holds harmless the farmer in case of a dramatic fall in the price of oil or a dramatic rise in the price of corn or soybeans, while protecting the taxpayer from having to pay if the ethanol or biodiesel industry is reaping very high profits.

The other half of the federal ethanol incentive (or biodiesel incentive) should be transformed into a direct payment to the ethanol producer. There are two reasons for this. The less important one is that the existing ethanol incentive is very inefficient. On average, possibly half goes to middlemen, not to either the ethanol producer or the retail gasoline station. And as I've pointed out before, the farmer only benefits in any significant way from the current federal biofuels incentives if the farmer owns a share in the biorefinery.

The producer payment should contain similar features to Minnesota's producer payment. A single producer could receive payments for no more than ten years and only on the first 20 million gallons of annual production. However, the federal producer payment would differ from Minnesota's in two respects. One is that it would not require production in any specific state. It would be available for ethanol production in all of the states. And ideally, it would favor farmer and/or locally owned biorefineries. Possibly there could be a two tiered structure. A facility that is majority farmer owned would receive a producer payment of 25 cents per gallon for 10 years. One that is owned by remote investors would receive a producer payment of 15 cents per gallon for 10 years.

The combination of pegging a part of the federal ethanol incentive, and imposing a ten-year limit on the producer payment, could dramatically reduce national incentives for ethanol production.

The federal producer payment, I imagine, would be used as was the Minnesota producer payment: to help pay off 10-year debt financing. After ten years, the ethanol plant could take on new debt to expand output, or it could continue production at the same level but at a much lower unit cost. Federal

producer payments could nurture a network of a thousand or more farmer and locally-owned ethanol plants throughout the country.

The federal ethanol incentive will be changed at some point, no matter what we do. It is hard to believe that Americans will allow a 51 cent per gallon ethanol incentive to continue much longer in the face of an increasing federal mandate and high oil prices. Farmers and the ethanol community would do well to be pro-active in this situation. They should propose a dramatic reorientation of the federal incentive toward strengthening rural communities and nurturing an American agriculture that receives an increasing share of its money from the value added in converting the raw crop into a finished product. And to offer a mechanism that can ultimately lead to a dramatic reduction in public subsidies for ethanol.

The federal biofuels incentives will change only if the federal government hears from the American people. Which brings me back to the first plank in this three-plank platform: a concerted national campaign that argues that ownership matters.

A Word About Cellulosic Biofuels

Today biofuels in the U.S. are made largely from corn sugars and soybean oils. In the future cellulose will be the primary feedstock. Initially the cheapest and largest source of cellulose will be in agricultural residues (e.g. corn stalks) and wood wastes from the forest products industry. Eventually farmers will begin to grow large amounts of energy crops. As that occurs, the same ownership issues discussed here will apply. Ownership matters, no matter what the feedstock.

Change and Progress

We cannot predict the future. But we can influence its shape and character. Farmers and ethanol producers have witnessed a great deal of change in their industries in the last 20 years. Undoubtedly there will be an equally dramatic change in their industries in the next 20 years.

As Bertrand Russell once reminded us, however, there is a distinction between change and progress. Change, he observed, is inevitable, while progress is problematic. Change is scientific, while progress is ethical.

We will have change, whether we will it or not. But we will have progress only if we develop the policies that channel human ingenuity and entrepreneurial energy and investment capital into building the structures that nurture the goals we pursue.

The federal producer payment should contain features similar to Minnesota's producer payment, except that it wouldn't require the ethanol to be produced in any specific state. A payment of 25 cents per gallon would be paid on the first 20 million gallons of ethanol produced. Payments would end in ten years.



Institute for Local Self-Reliance