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THE BENEFITS OF TAX INCENTIVES FOR PRODUCERS OF RENEWABLE FUELS AND ITS IMPACT ON SMALL BUSINESSES AND FARMERS

HEARING

BEFORE THE

SUBCOMMITTEE ON RURAL ENTERPRISES, AGRICULTURE, & TECHNOLOGY

OF THE

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HOUSE OF REPRESENTATIVES

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CONTENTS

WITNESSES

	Page
Hulshof, Hon. Kenny, U.S. Representative (MO-9), U.S. House of Representatives	4
Hurst, Mr. Brooks, Missouri Soybean Association	6
Dineen, Mr. Bob, President, Renewable Fuels Association	8
Adams, Mr. Duane, National Corn Growers Association	10
Hurst, Mr. Charlie, Golden Triangle Energy, L.L.C.	12
Lampert, Mr. Phillip, Executive Director, National Ethanol Vehicle Coalition	13
Werner, Ms. Carol, Executive Director, Environmental and Energy Study Institute	16
Jobe, Mr. Joe, Executive Director, The National Biodiesel Board	17

APPENDIX

Opening statements:	
Graves, Hon. Sam	29
Prepared statements:	
Hulshof, Hon. Kenny, U.S. Representative (MO-9), U.S. House of Representatives	31
Hurst, Mr. Brooks, Missouri Soybean Association	33
Dineen, Mr. Bob, President, Renewable Fuels Association	36
Adams, Mr. Duane, National Corn Growers Association	45
Hurst, Mr. Charlie, Golden Triangle Energy, L.L.C.	48
Lampert, Mr. Phillip, Executive Director, National Ethanol Vehicle Coalition	50
Werner, Ms. Carol, Executive Director, Environmental and Energy Study Institute	54
Jobe, Mr. Joe, Executive Director, The National Biodiesel Board	62

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THURSDAY, MAY 6, 2004

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON RURAL ENTERPRISE, AGRICULTURE AND TECHNOLOGY
COMMITTEE ON SMALL BUSINESS
Washington, D.C.

The Committee met, pursuant to call, at 10:02 a.m. in Room 311, Cannon House Office Building, Hon. Sam Graves presiding.

Present: Chairman Graves and Representative Miller.

Mr. GRAVES. Good morning. This is the Small Business Subcommittee on Rural Enterprise, Agriculture and Technology. I appreciate everybody coming in today. This is a newly refurbished hearing room. We are real proud of it. It is very nice, it is a lot nicer than our old hearing room over at Rayburn. We are real pleased with it and this is the first time we have gotten to use it this year.

Our purpose today is to explore the value of renewable fuels and the role they play in the comprehensive energy policy in our economy and in our national security. Far too often, misconceptions regarding renewable fuels become embedded in the heads of Washington policy makers. Questions such as our renewable fuels and effective fuel source, are they affordable?

Most of us are aware of the successful track record of renewable fuels, but it is my hope that today's panel can help to further educate us on the effectiveness of renewable fuels and clarify any misconceptions that are out there.

The focus of today's hearing is the many benefits of renewable fuel's use, more specifically, I want to highlight the positive impact on our economy and America's farmers. I want to show why our country needs to maximize our domestic renewable resources to provide an added market for our farmers to drive down and stabilize the price of fuel, reduce dependence on foreign sources of energy and increase our important reserves.

I have asked today's panel to discuss how renewable fuels benefit our economy and how federal policies can further develop renewable fuel use. Also, advancing renewable fuel's use is essential to lessen our reliance on foreign fuel. That is why we need to include

them in an overall national energy policy. According to the Department of Energy, domestic supply of petroleum peaked at 11.7 million barrels per day in 1970 and imports stood at 3.2 million barrels. As domestic supply declined, consumption grew. And in 1988, for the first time ever, bed imports surpassed domestic supply. In fact, in 2002, domestic supply was a little over nine million barrels per day and net imports were over 10 million barrels per day.

Over reliance on imported fuel makes our economy and national security vulnerable to the winds of foreign governments, such as which are hostile to U.S. interests. Recent increases in the cost of gasoline as a result of tensions in the Middle East and elsewhere fully illustrate this point. I believe that the United States should promote the use of alternate, domestically produced fuel such as biodiesel and ethanol. Fortunately, farmers in Missouri and across the nation have expanded the industry at a record pace. Corn and soybeans are used to produce ethanol and biodiesel—fuels good for the environment and good for our economy.

Each day, more than five million gallons of ethanol are blended into 65 million gallons of gasoline, adding critical volume to the tight gasoline market and reducing pressure on price. Since I have been in Congress, I have supported legislation that promotes ethanol and biodiesel and I will continue to fight for these fuels, which are included in a national energy policy.

[Chairman Graves' statement may be found in the appendix.]

Again, I want to thank everybody for coming out today and I do want to recognize Mr. Miller who is stepping in today for Frank Ballance, the ranking member and I appreciate him being here. Do you have an opening statement?

Mr. MILLER. Thank you, a fairly brief one. I am pleased to be here today to substitute for my friend, Frank Ballance, who has an adjoining district of mine and with whom I served for six years in the state senate before we both became members of Congress last year.

Today an important issue for our country is access to a reliable, affordable energy supply. The United States is a large importer of energy and is sensitive to price increases and to shortages. In an effort to insure our nation's energy security, we have made significant investment in domestic renewable energy sources. Small companies have to play a role in those efforts.

These renewable sources include fuels like ethanol and biodiesel. Both ethanol and biodiesel offer our small farmers a way to produce value added crops. Such sources also assure our energy independence, help to create jobs and are environmentally friendly.

Ethanol is an alcohol produced primarily from grain. The production facilities for ethanol provide a much needed stimulus to many rural communities. The economic demand or impact of demand for ethanol adds up to approximately 4.5 billion to foreign revenue annually and it boosts total employment by approximately 200,000 jobs. I think many Democrats with national ambitions realize that many of those jobs are in the state of Iowa.

Biodiesel is another renewable fuel, but its market life is behind that of ethanol. It does offer several health and environmental benefits related to relative compared to petroleum based diesel fuels.

Increased substitution of biodiesel for petroleum based diesel fuel may offer broader public access to cleaner water and air.

As a result of these positive consequences, there are a variety of government programs and tax incentives that deal with renewable fuel production. These include tax credits, requirements, subsidies and incentives. Some of these programs have a specific emphasis on small business producers. Others are targeted to those entering the marketplace.

There has been much congressional interest in renewable fuels. Several of the issues on which Congress is focused are addressed in H.R. 6, the Comprehensive Energy Bill. The energy bill contains proposals such as establishing a renewable fuel standard but the outcome of this legislation is still unclear.

An array of other congressional legislative issues are also pending that deal with renewable fuels. That is because it has been proven that renewable fuel production helps local agriculture based communities to grow their economies, create jobs and increase tax revenues for states.

There are also federal programs, mainly within the U.S. Department of Agriculture, that focus on getting small businesses more involved in the production of renewable fuels, from loan programs and rural business opportunity grants to technical assistance. There is support for small business to play a larger role in the domestic production of renewable fuels.

Unfortunately, the Bush Administration has proposed cuts to renewable energy programs in its budget this year. Under the Farm Bill, Congress provided $23 million a year in funds to provide grants and loans to small business for the development of renewable energy projects. But the administration proposal would cut that program by $12 million.

There are more programs that focus on small business and the production of renewable energy sources that also saw cutbacks in the latest administrative proposed budget. If we want to increase small business participation in the production of renewable energy sources, then we must guarantee they have the right tools and programs at their fingertips. It is critical for our country to have a comprehensive energy policy that not only includes supporting renewable fuels, but also includes small business in the process. That way, we can insure greater energy stability, additional jobs and increased economic growth in our rural communities across the country.

I want to thank all of the witnesses for appearing today and I look forward to their testimony. Thank you, Mr. Chairman.

Mr. GRAVES. Thank you, Brad. All of the statements of the witnesses are going to be placed in the record in their entirety and I first want to welcome Representative Hulshof, who is going to be our first panel. Representative Hulshof has been a leader, an outstanding leader in ethanol and biodiesel legislation, particularly those areas as it deals with the tax consequences and Ways and Means Committee. And I appreciate you being here to testify today and I will open the floor up to you.

STATEMENT OF THE HONORABLE KENNY C. HULSHOF (MO-9), U.S. HOUSE OF REPRESENTATIVES

Mr. HULSHOF. Thank you, Mr. Chairman. Good morning, Mr. Miller. Appreciate the invitation and applaud you for having this forum to discuss the broad based benefits of renewable fuels. Perhaps if we transported this hearing across to the other side of the Capitol, we might be better served, but I appreciate the chance to be here.

I am actually here as a colleague, but I guess in the interest of full disclosure, also as an active farmer. We have 375 acres of corn and probably about 350 acres of soybeans that we expect to plant this year. So Mr. Miller, I appreciate your comments as it affects value added agriculture.

I am going to submit my written statement for the record and then just make a couple of points in the few moments that I have. Mr. Chairman, you mentioned the rising prices of gasoline right now. One need look no further than the gas pump to see the need, the necessity to strengthen our commitment to renewable fuels. I think back to the time when I got my drivers license when I turned 16. We imported one out of three barrels of oil from foreign lands.

Mr. Chairman, when your daughter turns 16, and I see that look of trepidation in your face just mentioning that fact, but knowing Megan as I do, when she turns 16, about two out of three barrels of oil will be imported. And when my youngest daughter who is one gets to that magic age of 16, if nothing changes, roughly three barrels out of four will come from, again, some foreign land.

And so obviously, our nation cannot afford to be increasingly dependent upon these foreign sources of fuel. Mr. Chairman, you talked about, suggested the economic benefits. Let me give you just a couple of facts and figures from an ongoing ethanol plant. In fact, a northeast Missouri grain ethanol plant in Macon, Missouri. Mr. Miller, it is a small town in the middle of the state in my congressional district. It was the first ethanol plant developed in the state of Missouri. According to Dr. Donald Van Dyne, who is a retired research associate professor from the University of Missouri, here is how the northeast Missouri grain annually bolsters the local economy. First of all, it processes 16 million bushels of corn from right within that area, circle around Macon, Missouri, 16 million bushels of corn go through the plant, producing about 42 million gallons of ethanol at that single plant. As far as the number of jobs, obviously there are jobs that are directly impacted or created by the plant itself. But when you look at the indirect jobs, roughly 1,779 jobs, almost 1,800 jobs created in this one plant that are indirectly related, which creates about $169 million in economic output.

You know, all of us are supporters, for instance of the USDA rural development grants and the discussion about what level of funding is appropriate. This is a way to help bolster rural America. And I know, Mr. Chairman, in your district, in Craig, Missouri, that probably similar numbers from the Golden Triangle Ethanol Cooperative, similar benefits to the surrounding community.

Each of you have said that the federal government has a role as far as maintaining our commitment to renewable fuels. I absolutely agree that the Energy Policy Act that was approved by the House keeps that commitment. We hope, of course, that our counterparts

again on the other side of the Capitol would see fit to maybe put the politics aside and allow this comprehensive energy plan to be considered on the floor of the Senate for an up or down vote.

Enactment of the Renewable Fuel Standard, for instance, not only does it strengthen the ethanol tax incentive, and it also creates an incentive for biodiesel. You know, we have been focusing on ethanol. Biodiesel is another promising renewable fuel, produced primarily from soybeans that can be blended with conventional diesel fuel, burned in diesel engines, and again, an economic benefit to the community, but also environmentally friendly. The use of biodiesel has grown in the market. A couple of years ago, 1999, about 500,000 gallons of biodiesel were sold. Last year, biodiesel sales topped 25 million gallons.

And so this increased acceptance of biodiesel in the marketplace is a positive signal. That is why I think this Renewable Fuel Standard is so important.

Mr. Chairman, at the outset, you talked about some of the misconceptions about renewable fuels and that is why I again applaud you for having this hearing, because I think it is incumbent upon us to help dispel some of the myths. You do not have to have some special engine. Obviously, if you are burning E85, that is, 85 percent ethanol, yes, you have to have modifications. But a 10 percent ethanol blend or an 80–20, B20, you do not have to have these modifications and yet you still are able to reap the positive environmental benefits. We lessen our dependence upon volatile regions of the world as far as the importation of our fuel and obviously, then, for those of us who have rural constituents, some really direct and indirect positive economic benefits.

So, again, thank you for giving me the chance to say a few words before your Subcommittee and would be happy to answer any questions you might have.

[Congressman Hulshof's statement may be found in the appendix.]

Mr. GRAVES. Thank you, Mr. Hulshof. The misconceptions are extremely tough for me and it is very frustrating. We did, I think it was in 1990 or 1991 on our farm, we did a study through the Missouri Soy Bean Association with biodiesel and we were running about a 50 percent to one-third blend through our tractors with no changes whatsoever. And that was when biodiesel was in its infancy. It was just really getting started, there were a lot of criticisms about gelling aspects and that sort of thing. But it works and both products are great products. Do appreciate you being here.

I know you are pressed for time. I would invite you, if you would like to come up and sit on the panel, I offer that to you, but I know you are pressed for time and do want to move on, but I appreciate you taking the time to testify.

Mr. HULSHOF. Mr. Chairman, as tempting as it would be to share the dais with you and Mr. Miller this morning in this awesome hearing room, you are right, I have other pressing matters. But I do appreciate you giving me the opportunity to be on the record here today to talk about something, but I think we are at a critical juncture again.

From a policy perspective, if we could make decisions in a policy vacuum, without question I think all of our colleagues would sup-

port the idea of renewable fuels. It is just sometimes when we add that political component is when we get frustrated, you and I get frustrated because we see good policy that is being hampered from being implemented because of the politics. So hopefully this hearing and others like it will help break loose that political log jam so that we can do good things for our country. Thank you.

Mr. GRAVES. Thank you. We will go ahead and seat the second panel and we will get everybody situated.

[Pause.]

Mr. GRAVES. I want to thank everybody for being here today. I appreciate you all taking time out of your busy schedules to be with us. We will go ahead and get started. We try to limit testimony to five minutes, but we do not keep a very rigid policy on that. If anybody goes over their time limit, I do not think Mr. Miller or I will have you thrown out or anything. So do not worry so much about that. There will be a timer down there that kind of gives you what the limit is, but again, do not worry too much about it.

We are going to start off with Brooks Hurst on the far left, who is here with the Missouri Soybean Association. I appreciate you being here, Brooks, very much and I will go ahead and turn the floor over to you.

STATEMENT OF BROOKS HURST, MISSOURI SOYBEAN ASSOCIATION

Mr. BROOKS HURST. Thank you, Mr. Chairman. Mr. Miller, good morning. I would like to first of all thank you, Mr. Chairman and the members of the Committee for allowing me the opportunity to testify today on behalf of the Missouri Soybean Association, which represents about 28,000 Missouri soybean farmers. I am a farmer from Congressman Graves district. We have been blessed in Missouri with a progressive congressional delegation. As the chairman mentioned a minute ago, he has burned biodiesel on his own farm and Congressman Hulshof who testified earlier is also a very staunch supporter of biodiesel. In fact, the original legislation that I am here to testify about today on the tax incentive, excise tax abatement for biodiesel was originally drafted by Congressman Hulshof. And it is one cent per percent excise tax abatement, up to a 20 percent blend. And it is in several pieces of legislation and it is probably the single most important legislation that could be passed for soybean farmers. The studies have suggested that if this legislation and the excise tax abatement passes, there would be a million gallon biodiesel market by the year 2012.

This market, the Food and Agriculture Policy Research Institute has done a study that suggests an 80 cent per bushel increase in the price of soybeans, which would mean $148 million in additional income to Missouri soybean farmers. And I do not need to explain how important in the last couple of years that would be to Missouri soybean farmers. The farm economy has not been as robust as we would like. That would be a crucial addition to our rural economy and all the rural development implications that goes with it.

My father is also on the panel to testify later for ethanol. We are both members of the Golden Triangle Ethanol plan and it has done an amazing amount to increase our rural development.

I am also sitting on a board of directors for Mid America Biofuels, which is a biodiesel plant and we are in the start up phases. And we have had feasibility analysis done on different size plants. And right now, biodiesel is a boutique fuel. It has a lot of uses in complying with the EPACT legislation in large cities and the environmental aspects of it, which I will talk about a little later, are very beneficial. So right now it is kind of a boutique fuel and a five million gallon plant per year is the largest feasible plant that we can build.

The minute that we get the excise tax passed, a five million gallon plant is no longer efficient. So we are sitting on the sidelines, because if an excise tax abatement is passed, that will, you know, as I mentioned earlier, immediately increase the demand for biodiesel. So it is very important and we have been waiting for about three years to decide which way to go on it, how to build the plant. I would really urge the passage of the excise tax abatement, because a 15 million gallon plant would do a lot more for the economic development of rural Missouri.

I talked a little bit about the environmental advantages of biodiesel. I will talk some more about that. There are no sulfur emissions in biodiesel and the presidential directive that reduced the sulfur content in petroleum diesel from 200 parts per million to 15 parts per million, sulfur adds a lot of lubricity to biodiesel. So this is another deal that is not environmentally friendly, but engine friendly. A one percent biodiesel plant increases lubricity of diesel 65 percent. So I see an opportunity to reduce engine wear by a small blend of diesel in the national fleet and adding lubricity to diesel.

Soy diesel also burns half the hydrocarbons which, when added to the air, contribute to smog and acid rain. It also has half the carbon monoxide of petroleum and half the particulate matter and it has 75 to 80 percent less potential cancer causing agents. And so you can see that not only is it a renewable fuel that we grow right here on our own farms, but it also is very good to the environment.

Another thing that is brought up in renewable fuels discussions is the energy conversion required to produce renewable fuels. And I am very proud to say that in a 1998 U.S. Department of Energy and United States Department of Agriculture Joint Study revealed that for every unit of fossil energy required to produce biodiesel, 3.2 units of energy were yielded, and that is in contrast with 1.2 units of fossil resources needed to make just one unit of petroleum diesel. This is due to the fact that soybeans do not use nitrogen in the production of them. So we have really good energy conversion numbers and we are proud of that.

And it has been mentioned before on the panel, Mr. Chairman, you referenced in your opening statement and Congressman Hulshof referenced it, too, the dependence on foreign oil. I will not go over the numbers again, but, you know, 20 million barrels a day of oil the United States is using and over half of it now is imported. And by 2005, the Department of Energy projects that 68 percent of all oil will be imported.

Right now there is currently a 1.5 billion pound surplus of vegetable oil in the U.S. I think that is a perfect opportunity to use bio-

diesel to not only use up excess vegetable oils, but also to replace some of the imported petroleum from foreign countries. If we have a four percent use of renewable fuels by the year 2016 in a U.S. consultant study, using Department of Energy numbers, stated that four percent renewable fuels would displace annually 302 million barrels of petroleum fuels that we are currently importing. So you can see not only in national security, but for rural economic development and the farm economy, I think that renewable fuels are a very good opportunity to help our nation. And with that, I would like to thank you again for allowing me this opportunity to testify and I appreciate your consideration of this matter.

[Mr. Hurst's statement may be found in the appendix.]

Mr. GRAVES. Next we will hear from Bob Dinneen. We are going to move through all the panelists and then we will take questions once each of you have finished. But, Bob, I appreciate you being here today. Bob is the president of Renewable Fuels Association and we look forward to hearing your testimony.

STATEMENT OF BOB DINNEEN, RENEWABLE FUELS ASSOCIATION

Mr. DINNEEN. Mr. Chairman, thank you very much and Congressman Miller. I appreciate the opportunity to be here this morning and I commend you for the leadership that you are showing in holding this very timely hearing. Indeed, I can tell you that the tax incentives that Congress has provided to stimulate renewable fuels have been extremely successful and have promoted rural economic development and small businesses all across this country.

Indeed, Mr. Chairman, the U.S. ethanol industry today is the fastest growing energy industry in the world. We produced 2.8 billion gallons of ethanol last year. That is 32 percent more than we had the previous year and about double our production from just four years ago.

Importantly, the fastest growing segment of the ethanol industry are small businesses. Farmer owned cooperatives that want to seize control over their own product. As a whole, farmer owned ethanol facilities are now the single largest ethanol producer in the country, providing critically important value added economic stimulus to rural America.

Last Saturday, I attended the grand opening of the 76th ethanol plant in operation today, just a little bit north of Missouri in South Dakota, maybe a little bit east of North Carolina, but we intend to have ethanol plants in North Carolina as well.

Mr. GRAVES. That is west.

Mr. DINNEEN. West, I am sorry. See, I got into politics because I was never very good at geography, Congressman. Anyway, that plant joins a fraternity of ethanol producers across the country that this year alone will process more than one billion bushels of corn into about 3.4 billion gallons of high quality, high performance fuel ethanol. Ethanol is now blended in 30 percent of the nation's fuel. It is replacing MTBE in new markets all across the country, from New York to California. And the growth that we are seeing in ethanol markets has been phenomenal.

This growth is absolutely as a direct result of the tax incentive program that Congress provided to stimulate the production and

use of renewable fuels and it has tremendous benefits for the nation. Earlier, Congressman Hulshof cited the economic benefits to a small rural community. We in the industry have looked at what the economic benefits were across the entire nation, from 3.5 billion gallons of ethanol. We determined that the ethanol industry today is adding $15.3 billion to gross output. The ethanol industry today is adding $3.9 billion to consumers' pocketbooks as a result of the jobs that are created and the economic stimulus that is provided.

We are adding $1.25 billion in increased federal tax revenue and another $800 million in local taxes. And at a time when many industries across the country are outsourcing jobs, the U.S. ethanol industry is insourcing jobs, this year alone being responsible for 143,000 jobs across the country.

And all this is being accomplished at the same time that the federal government is realizing about $2 billion in net savings as a result of reduced farm program costs. But, Mr. Chairman and Congressman, we can do far more. The country is currently importing about 62 percent of its transportation energy. Imports of crude oil and refined products are at their highest levels ever. Tight gasoline supplies have driven average consumer prices to record levels. We are in the midst of an energy crisis and we need to act now. Congress should act to pass the Comprehensive Energy legislation that you both discussed in your opening statements and Congressman Hulshof cited and that energy legislation ought to include a renewable fuel standard, to send a signal to the world that our nation is not going to continue on this path towards increasing dependency on imports. That we will create a new pathway and a new dynamic, where we are producing our own energy.

We also strongly support HR 3119, introduced by Congressman Hulshof, the Volumetric Ethanol Excise Tax Credit and we urge its expeditious approval in whatever piece of legislation we can get that on. If VEETC solves a dilemma that the ethanol tax incentive has created for states by no longer allowing states' highway funding to be reduced because of their ethanol use, it resolves that issue so that states are not penalized for their ethanol use. It creates a great deal more flexibility for refiners that utilize ethanol, such that they do not have to use ethanol in specific volumes and importantly, as Phil Lampert, I am sure, will talk about later, it provides a much more economic access to the incentive than the current program by allowing oil companies to take advantage of the tax credit independent of whatever volume or specific blend level is used.

We also believe that Congress should finally act to correct an oversight that occurred in 1990 when Congress created the Small Ethanol Producer Tax Credit, but failed to allow that credit to be claimed by farmer owned cooperatives. As I indicated, the fastest growing segment of our industry is the farmer owned cooperative, but the way that tax program was set up, those very small businesses are not able to claim the credit that was provided and intended to help them. That legislation is passed several times. It has never reached the President's desk. If we can get that on a piece of legislation this year, I think it would be important.

Look, at a time when there are 135,000 in the Persian Gulf, at least in part because of our dependence on energy from that part of the world, at a time when consumer gasoline prices are at their

highest levels in history and the growing energy crisis is slowing our economic recovery, at a time when EPA says that more than half of the country is living in areas and breathing polluted air, and at a time when farmers across the country are looking for value added markets and are saying that they can be energy producers as well as energy consumers, Congress needs to act.

We need an energy bill. We need policies such as those I have outlined to stimulate further expansion of domestic renewable fuels such as ethanol and biodiesel. With your continued leadership and the leadership of this Committee, I am confident that that will occur. Thank you, Mr. Chairman, Congressman Miller. I will answer any questions when that time arises.

[Mr. Dinneen's statement may be found in the appendix.]

Mr. GRAVES. Thank you, Mr. Dinneen. We are now going to hear from Duane Adams from Cosmos, Minnesota, I believe. And he is representing the National Corn Growers Association and I appreciate, Mr. Adams, you being here today and thank you for your testimony.

STATEMENT OF DUANE ADAMS, NATIONAL CORN GROWERS ASSOCIATION

Mr. ADAMS. Thank you, Mr. Graves and Mr. Miller. I certainly appreciate the opportunity to be among the first to testify in this beautifully renovated room. It is really pretty beautiful.

Okay, my brother and I raise corn and soybeans near Cosmos, Minnesota, which is about 70 miles west of Minneapolis. We are investors in a local ethanol co-op. I am the chairman of the Ethanol Committee for the National Corn Growers Association. I am here today to represent the NCGA, its 33,000 members and thousands of corn growers across the country who participate in corn check-off programs.

N.C.G.A. appreciates the opportunity to offer testimony today on the benefits of ethanol production to rural America. The strides made by the industry in the past few years are nothing short of miraculous and it is a story that needs repeated telling.

No other energy source has doubled its production in the last three years. There was virtually no ethanol used in California two years ago. The ethanol industry now supplies eight percent of the gasoline supply in the state—a total of 900 million gallons per year. And we can conclusively prove that ethanol has kept the price of gas in California from rising faster than it has. Even the MTBE industry has publicly agreed. The contribution of this domestically produced renewable fuel is being felt at the pump across the country.

But the true success of ethanol is best measured in the benefits to rural America. Ethanol plants bring jobs, good jobs, to small rural communities that struggle to keep young people. A 40 million gallon plant will provide more than 40 full time permanent jobs. In small town USA, those jobs are vital. Ethanol plants help keep schools and hospitals open and businesses profitable. And ethanol plants provide hope—a commodity that has not been in surplus for many small rural communities.

Ethanol production is increasingly in the hands of farmer owned coops. ADM is not the big player in the industry. I am—and my

brother and our neighbors and tens of thousands of farmers across the Corn Belt. We have become marketers of energy and not just sellers of corn. We are getting more of our income from a value added source and less from farm programs. Ethanol can claim to be the primary reason that the federal farm program will save $2 billion this fiscal year. We had a near record corn crop last year and we have high prices this year. That would not have happened if we were not using more than one billion, 300 million bushels of corn for the production of ethanol. It is the third largest use of corn behind livestock feed and exports and it is the one with true growth potential.

We did not get to this point by accident. Federal policy supporting the ethanol industry has made this possible. The excise tax credit, the small producer tax credit and other incentives have helped us get the capital to build plants. Federal policy regarding clean air has created a strong demand for ethanol as states ban MTBE and turn to affordable supplies of ethanol in reformulated gasoline. Strong support for the oxygenate standard by the Bush Administration has given the industry the signal to invest and to produce. We have heard the challenge and we have met it.

N.C.G.A. policy strongly supports current renewable programs. We have joined with others in the ethanol industry to seek ways to advance common sense solutions to problems we have had. We worked hard to reach a historic agreement with the petroleum industry that calls for flexibility for gasoline blenders and establishes a renewable fuels standard that provides stability for the renewable fuels industry. We joined with the highway construction industry and state governors to fix a problem created by the current excise tax credit. The Volumetric Ethanol Tax Credit legislation is a bipartisan solution that helps states that want to use ethanol and need to invest in highway infrastructure. It solved some sticky political problems for both industries and pointed a way for Congress to pass policy that is good for America and has broad base support.

The programs that benefit ethanol and other renewable fuels were enacted by previous Congresses. We are glad they did and we recognize the leadership and statesmanship that was required to obtain enactment of those policies. This Congress and its predecessor have debated and talked and talked and debated over energy policy for more than three years. Nothing has happened. In that time our nation has become even more dangerously dependent on foreign energy.

Our farmers have spent countless hours on Capitol Hill and in town meetings and congressional listening sessions asking members of Congress why we cannot pass an energy bill. If we ask a member of the House, he or she will blame the Senate. If we question a Senator, the House is blamed. The Republicans blame the Democrats and the Democrats blame the Republicans. Tom Daschle and Tom Delay seem to be two handy targets. Everyone else is to blame and no one takes responsibility. Let me bring you one very clear message from farmers—quit blaming the other guy and do your work. We cannot raise corn without anhydrous ammonia and we cannot make anhydrous with natural gas at current prices and supplies. We cannot run ethanol plants without energy. Our econ-

omy cannot get out of its slump with gasoline prices increasing every week.

I have my crop in the ground. I made my investment in the ethanol plant. I write my Congressman and Senators. I vote. I encourage my neighbors, friends and fellow farmers to do the same. And I will continue, but let me end with this note. We farmers are looking at you folks to quit bickering and do the nation's business. Our nation needs an energy policy and we expect you to deliver. Thank you for your time.

[Mr. Adams' statement may be found in the appendix.]

Mr. GRAVES. Thanks, Mr. Adams, I do appreciate that. Point well taken. We are now going to hear from Charles Hurst, who is with the Golden Triangle Energy Cooperative, the ethanol plant in Craig, Missouri. I appreciate you being here, Mr. Hurst, and look forward to your testimony.

STATEMENT OF CHARLIE HURST, GOLDEN TRIANGLE ENERGY, L.L.C.

Mr. CHARLES HURST. Thank you, Mr. Chairman. My name is Charlie Hurst, a fifth generation farmer from northwest Missouri and secretary treasurer of Golden Triangle Energy Cooperative in Craig, Missouri.

The small town in the Midwest is rapidly losing the best and the brightest young people. They are completing their schooling and then leaving for employment in the city.

A small ethanol plant, such as Golden Triangle Energy in Craig, Missouri, who has a population of 309—this is really a small town, provides decent jobs for these people and allows them to stay and raise their families in a home environment. Golden Triangle Energy hires approximately 30 people. The starting wage for the inexperienced is $11 to $12 an hour, plus excellent health and retirement benefits. The salaried positions are from $30,000 up.

When you include the jobs of the people moving the corn into the plant and moving the ethanol and feed products out of the plant, it has a major financial impact on a very small area.

The lifeblood of all small towns is their schools. IF the school closes, the town has a very difficult time surviving. The tax base that Golden Triangle has given to the schools and the town of Craig infrastructure, such as roads, sewers and so forth in the town, is a major contributor to the stability of Craig, Missouri.

All of these area improvements would not be possible without the ethanol plant in Craig. The ethanol plant has also had a very positive effect on my family. With improved prices and the reduction of transportation costs, we now have three sons and their families farming with my wife and I. Last year, the oldest grandson, the seventh generation to be farming in Atchison County, and his wife, also joined the operation. Another agriculture related business in the family, greenhouses, has brought two granddaughters and their families back to this same area.

The federal exemption of 5.2 cents per gallon of ethanol is one of the best rural development programs funded by the federal government. It has provided the basis for an expanding ethanol industry in the central United States and has reduced the need to import more expensive oil from the Mideast.

The ethanol industry now uses 10 percent or one billion bushels of our corn crop. This raises the price of corn nationally from 15 to 25 cents per bushel. Until the last few months, the price of corn to the farmer was below the guaranteed price in the farm program. The farmer was paid the difference in LDPs. Without ethanol, these payments would have averaged 20 cents per bushel more on an entire corn crop of 10 billion bushels.

This benefit alone would have offset the 5.2 cents per gallon the federal government paid supporting ethanol. Not only has the ethanol industry raised the price of corn nationally, but locally, around the town of Craig, the price has risen another 10 to 15 cents. This means that rather than shipping the corn another 50 to 75 miles to a terminal, we are delivering the corn locally, saving transportation costs.

The increased price of corn goes directly to the farmer's bottom line. The income and social security taxes the farmer pays is another huge offset to the 5.2 cent government subsidy. There have been studies in the past that have cast doubt on the energy efficiencies of producing ethanol. The latest studies by USDA show that we are getting 34 percent more energy from a bushel of corn than inputs in producing that bushel of corn. These efficiencies will only improve in the future.

We are also converting corn to a more useable form of energy. With the introduction of the hydrogen fuel cell, ethanol will become even more desirable.

As we import more and more of our energy needs, as we are more concerned with the quality of the air we breathe and as the cost of all forms of energy are increasing, I believe we must expand the use of ethanol as a clean burning, renewable energy source. The 5.2 cent federal subsidy is needed by the industry to be a viable, renewable energy source. It is not, however, a direct drain on federal resources. As offsetting savings in the federal farm programs, the jobs and taxes the industry provides, and the savings in the balance of trade more than offset this cost. Thank you very much, Mr. Chairman.

[Mr. Hurst's statement may be found in the appendix.]

Mr. GRAVES. Thank you, Mr. Hurst. We will now hear from Phillip Lampert, who is the executive director of the National Ethanol Vehicle Coalition. I appreciate you being here today and look forward to your testimony.

STATEMENT OF PHILLIP J. LAMPERT, NATIONAL ETHANOL VEHICLE COALITION

Mr. LAMPERT. Thank you so much, Chairman Graves and Mr. Miller. Appreciate the opportunity to be here today. I am Phil Lampert and serve as the executive director of the National Ethanol Vehicle Coalition. NEVC is the nation's primary advocate of the use of 85 percent ethanol as a form of alternative transportation fuel. Our members include automakers, state and national corn growers associations, ethanol producers, equipment manufacturers and suppliers, ethanol marketers, the Governors' Ethanol Coalition, farmer cooperatives, chemical seed companies, petroleum marketers and individuals.

Our focus in regard to the use of ethanol is very narrow in that we concentrate our efforts and resources on advancing this next generation of ethanol use.

As chairman and the members of the Committee know, motor vehicles produced and sold in the United States have been able to use a 10 percent blend of ethanol for many, many years. Initially established to extend the availability of petroleum, ethanol has transformed itself from the gasohol of the early 1970s to the oxygenate of choice in 2004.

In July of 1979, as then President Carter addressed the nation, calling the battle to achieve energy independence the moral equivalent of war, gasohol availability was limited to Nebraska, Iowa and several other Midwest states. Today, as previously mentioned, almost 900 million gallons of ethanol are being used in California and hundreds of millions of gallons in the East Coast and elsewhere across the nation. This ethanol is added to our gasoline, typically in a blend of one part alcohol to nine parts gasoline and is used to improve air quality, add octane and reduce dependence on imported petroleum.

My colleagues who have preceded me this morning, two of which are representing organizations that are members of the National Ethanol Vehicle Coalition, have provided outstanding summaries of the positive impact that biofuels have on our nation's economy, balance of trade deficit and environment. While the use of ethanol has expanded from approximately 300 million gallons in 1980 to the more than 3.3 billion gallons expected to be produced this year, by and large, the vast majority continues to be dependent on being blended with high amounts of gasoline.

The Ethanol Vehicle Coalition strongly supports the continued growth and development of the use of ethanol as an oxygenate and renewable fuel and we have worked with our colleagues here this morning and members of Congress to adopt and promote the renewable fuel standard. However, sir, the focus of the National Ethanol Vehicle Coalition and the balance of my comments are directed to other uses of ethanol as a form of alternative fuel.

Beginning in 1992 with the modest production of 272 E85 flexible fuel Luminas built by General Motors, we expect that during the current model year, more than 1.5 million of such vehicles will be produced and sold in the United States. By the end of this model year, in August of 2004, we estimate that approximately 4.5 million flexible fuel vehicles will be on the nation's highways. These flexible fuel vehicles, as the chairman knows, are capable of operating on any blend of ethanol, from zero percent, 10 percent, up to 85 percent, or where ethanol fuels are unfortunately not marketed, on pure gasoline.

The electronic control module in these vehicles reads the level of alcohol in the fuel and modifies the air fuel ratio. There are no switches to flip, additional fueling tanks or other controls needed. The technology is transparent to the driver and most importantly, this capability is provided at no extra cost to the consumer.

The 4.5 million flexible fuel vehicles on our highways could, Mr. Chairman, if using E85, consume an additional 3.4 billion gallons of ethanol today. That is in addition to the 3.3 billion gallons that we assume to be used in 2004. Unfortunately, using statistics pro-

vided by the Energy Information Administration, we expect to actually consume about 30 million gallons in these vehicles, or slightly less than one percent of the total potential demand that could be generated by this technology.

Three primary factors in regard to this problem. Lack of fueling infrastructure. Secondly, the difficulty that is inherent with taking advantage of the current tax situation. And finally, the lack of education and knowledge of many of the drivers that they even have a flexible fuel vehicle.

Mr. Chairman, finally, with your indulgence, I would like to briefly outline potential solutions to some of these problems. First, as my colleagues preceding me have mentioned this morning, passage of the Volumetric Ethanol Excise Tax Credit is extremely important and would provide immediate relief to the Highway Trust Fund and advance the use of E85. Secondly, passage of a renewable fuel standard would also be very supportive. Finally, sir, placing additional attention on the federal fleet to provide leadership in the use of biodiesel and E85 may be appropriate.

The government of the United States is the world's largest single user of petroleum products and maintains the world's largest fleet of vehicles. There have been previous attempts to modify the behavior of government to advance alternative fuel use, however, these have frequently come up short. As an example, the Energy Policy Act of 1992 requires federal agencies to purchase alternative fuel vehicles. Twelve years after the adoption of this mandatory measure, many federal agencies continue to fail to meet these purchase requirements.

While some progress has been made in meeting this standard, EPACT completely fails to address the use of the alternative fuels in these alternative fuel vehicles.

Executive Order 13149 issued by the Clinton Administration and embraced by the current administration, requires federal agencies to reduce petroleum consumption 20 percent from a 1999 baseline as of January 1, 2005. Unfortunately, there is little effort being made to advance this presidential directive and it is unlikely that any federal fleet will actually reduce petroleum consumption, much less meet the 20 percent reduction goal.

Clearly, national energy independence cannot be achieved solely on the actions of the federal fleet. However, there is a place and role of leadership that the federal government may wish to more closely address in regard to the use of domestic renewable transportation fuels. We appreciate and applaud all of the efforts that you have made,Mr. Chairman. I have enjoyed working with you from your days in the Missouri legislature to today, and want to thank you for the opportunity to testify today. Thank you.

[Mr. Lampert's statement may be found in the appendix.]

Mr. GRAVES. Thank you, Mr. Lampert. Next we are going to hear from Carol Werner who is the executive director of the Environmental and Energy Study Institute and I appreciate you being here today and look forward to your testimony.

STATEMENT OF CAROL WERNER, ENVIRONMENTAL AND ENERGY STUDY INSTITUTE

Ms. WERNER. Thank you very much, Mr. Chairman and Mr. Miller, for the opportunity to appear before you today. My organization, the Environmental and Energy Study Institute, was founded in 1984 by a bipartisan group of members of Congress who were concerned about energy and environmental issues. As part of our work, we hold about 20 to 25 congressional briefings a year, looking at environmental, energy, science, technology and policy issues that are coming before the Congress.

We have three major areas of program work. Energy and climate change, our Clean Bus/Sustainable Transportation Program and our Agriculture and Renewable Energy Initiative. I agree with so much of what has been said by my colleagues here today, so I hesitate to repeat a lot of the things that have already been said. But perhaps the most important thing for me to talk about a little bit is our perspective in terms of why our organization, EESI, feels so strongly about this issue.

Our organization believes strongly that a healthy economy and a healthy environment go hand in hand. We very strongly believe that farmers across the country can and must play an important role in our country's energy future. We see agriculture addressing three critical drivers that are fundamental to our national concerns. Rural economic development, national energy security through reduction of oil use and oil imports and environmental protection, especially reduction of greenhouse gas emissions that contribute to global climate change.

Furthermore, we now have all seen countless reports on the connection between power plant and vehicle emissions and public health and the enormous increase in asthma cases among children. Use of biofuels can address that, too. I think it is remarkable, but how many times do we find the opportunity to solve multiple problems with the kind of win-win solutions provided by the production of renewable energy in the form of electricity, biofuels in terms of ethanol and biodiesel and biobased products that can be produced by America's own farms and small businesses across the country.

We see enormous opportunities existing for developing rural America's clean energy resources, including biofuels, bioenergy in terms of the production of electricity, useable heat or liquid fuels from biomass, wind, solar and improving energy efficiency overall. Yet we see that there exists a tremendous knowledge gap among policy makers. We have seen that throughout the last couple of years with regard to many of the debates on the Energy Bill with farmers and other key stakeholders, including the environmental community about all of these opportunities.

So I think that what I would like to do now is to just talk a little bit about the suite of policies that we think is very important. Many of them have been referred to already, because in order to accomplish moving towards a more biobased economy and really seeing agriculture being revitalized through the development and use of our very abundant renewable resource base, in order to accomplish that, we believe that there needs to be a suite of policies, not just one particular policy will take care of this. That means with regard to the tax incentives that have been talked about here

this morning, we support that and believe that those are extremely important in helping send the right signals to industry and, indeed, to begin to level the playing field.

The kinds of renewable resources and biofuels that we are talking about have many positive attributes that are not reflected in the marketplace at this time. And therefore, tax incentives at this time are absolutely critical. And therefore, the VEETC proposal is also extremely important as we look at the Highway Trust Fund.

The renewable fuel standard, another important incentive that we view as a terribly important component of looking at how policies need to create a supportive framework. There are several important programs in the energy title of the Farm Bill. It is very important that the 2002 Farm Bill for the first time recognized the role of America's farms in helping produce renewable energy that can address so many of our problems.

At the same time, those programs which have been so enthusiastically embraced by the ag community across the country, whether it is in terms of looking at biofuels, at wind, at anaerobic digesters, there is enormous enthusiasm as people see the opportunities to really look for local economic development and small businesses and being able to actually stay on the farm in a viable way.

Those programs, however, Section 9006, the Renewable Energy Program, as well as the Value Add Program, both were cut very, very substantially by the administration's budget proposal. We hope that Congress once again this year restore funding for those.

At the same time, we think that it is also important for there to be a renewable resource assessment that can help communities across the country really know the size of the renewable resource that they are sitting on. In terms of really getting that developed, if you do not know the value of what you have really got, it is hard to really encourage the full fledged development of that.

And we would also like to mention that it is very important for the federal government to lead by example, again, whether it is through federal fleets, through purchase renewable energy, that that also needs to occur. And that it is very important that we look at this as an opportunity to develop opportunities for biofuels and renewable energy production from farms across the ag sector, whether it is the Midwest, the Northeast, the Southeast, Northwest, across the country. We feel that that is critical in terms of really building the bridge, looking at all of the feed stocks that should be involved, including waste materials that can make a huge contribution and can also help bridge the very important rural/urban divide that we see, that is acting as a barrier to really moving all of these wonderful opportunities forward. Thank you.

[Ms. Werner's statement may be found in the appendix.]

Mr. GRAVES. Thank you, Ms. Werner. I appreciate your testimony. We are now going to hear from Joe Jobe, who is the executive director of the National Biodiesel Board. I appreciate you being here today and look forward to your testimony.

STATEMENT OF JOE JOBE, THE NATIONAL BIODIESEL BOARD

Mr. JOBE. Thank you, Chairman Graves, Congressman Miller. I would like to again commend you for your leadership and advocacy on this issue. I do serve as the executive director of the National

Biodiesel Board in Jefferson City, Missouri. NBB is the national not for profit trade association which serves as the central coordinating body for biodiesel research and development in the United States.

It was founded in 1992 by soybean farmer groups who were funding biodiesel research and since that time, NBB has developed into a comprehensive industry association which coordinates with a broad range of cooperators

Mr. Chairman, my distinguished panelists have made many important points here today and I agree with those points. So I would like to focus my comments on how biodiesel specifically offers an immediate and long term solution as part of an integrated, diversified energy portfolio.

Biodiesel is a diesel fuel substitute made from agricultural products such as vegetable oils and animal fats, including recycled cooking oils. Biodiesel is produced through a process which separates the glycerin from the oil and the resulting compound acts very chemically similar to diesel fuel in a diesel engine.

It can be used in conventional diesel engines in pure form, but it is most commonly blended, as you pointed out earlier, in 20 percent blends or B20 or two percent blends, also known as B2, which is used as a renewable premium diesel additive. It is one of the best tested alternative fuels in the country, with more than 50 million successful road miles, countless marine and off road hours. It has been tested in virtually every diesel engine type and every diesel application, has similar torque, horsepower and fuel economy to conventional diesel, but burns significantly cleaner because of the oxygen content in the fuel. It has premium fuel attributes.

U.S. soybean farmers have invested more than $40 million through their Soybean Check Off Program and biodiesel growth has either doubled or tripled each year for the last four years in a row. While biodiesel can and is being used in today's diesel engines, the future of diesel is about to shift very dramatically. The EPA has ruled that beginning in 2006, diesel fuel will undergo a 90 percent reduction of sulfur in diesel fuel. What that will do, the refining process to desulfurize the diesel fuel will also remove the lubricating characteristics in diesel fuel and a diesel fuel injection system relies on the fuel to keep the system properly lubricated. It is very important in a diesel system.

Biodiesel is well positioned and well addressed to fit into that future diesel platform because it already meets the 2007 sulfur standard and it is complimentary to ultra-low sulfur diesel fuel because it has very excellent lubricity benefits. As Mr. Hurst pointed out, just two percent biodiesel can improve lubricity by as much as 65 percent.

During the EPA's rulemaking process, Stanadyne Automotive, which is the largest fuel injection equipment manufacturer in the United States, indicated that two percent biodiesel in the entire diesel fuel pool, would be a superior solution to the lubricity problem created by that ruling. The state of Minnesota has already taken the leadership role in utilization of biodiesel and compliance with the rule by enacting legislation that will require that by next year, all of the diesel fuel sold in that state will be B2, two percent biodiesel. Because of this rule, just the removal of the sulfur in the

diesel fuel does not necessarily clean up the fuel. But what it does is it enables pollution control emissions optimization technology to be employed on the engines.

And so it will reduce, it will shift the environmental drivers in the heavy duty platform away from nitrogen oxide emissions and particulate matter emissions, which will be reduced under this rule by 90 percent. And the remaining emissions will be air toxics and greenhouse gases. Those are the remaining emissions that will need to be addressed in the future of heavy duty advanced diesel technology.

Those also happen to be the emissions that biodiesel addresses better than any currently available heavy duty technology. According to the Department of Energy, biodiesel reduces air toxic contaminants by up to 90 percent and has a life cycle reduction of carbon dioxide of 78 percent. It could be said that using biodiesel has the effect of putting a diesel engine on a low carbon diet.

In addition to the energy and environmental benefits, several independent economic studies have shown that biodiesel provides significant economic benefits to the economy. A study completed in 2001 by the USDA Office of Energy Policy and New Uses in conjunction with the Economic Research Service, found that an average annual increase equivalent to 200 million gallons of soy based biodiesel demand boosted the total crop cash receipts by $5.2 billion cumulatively by 2010, resulting in an average net farm income increase of $300 million per year.

A number of other economic studies have been completed which are consistent with these findings and can be made available to the Subcommittee upon request.

Mentioned previously have been two very important pieces of legislation which are currently being considered by Congress. The Volumetric Ethanol Excise Tax Credit, which biodiesel is included in those provisions in the Senate version of those provisions. I want to point out that biodiesel and ethanol are complimentary fuels. The same farmers who grow corn also grow soybeans in rotation and we would like to recognize the ethanol industry for their leadership and their partnership in the development of coordinated energy policy efforts.

So the very first and most important provision currently being considered in our view that can be passed and should be passed and must be passed this legislative session would include the VEETC provisions. Congressman Hulshof and Congressman Pomeroy have led a bipartisan effort in the House to get those provisions passed in the House and Chairman Graves and Congressman Miller have served as excellent advocates, as well, supporting those provisions.

In addition to the VEETC provisions, also mentioned were the renewable fuel standard provisions. Biodiesel has been included as an eligible fuel under the renewable fuel standard. If the renewable fuel standard and the biodiesel provisions are included in the VTEEC, we see an extraordinary future for biodiesel fitting into the future of heavy duty diesel platform.

If those provisions pass, biodiesel will be incorporated into future diesel fuel as a renewable fuel additive to solve the lubricity issues,

to meet the renewable fuel requirements and to take advantage of the lubricity operational issues in ultra-low sulfur diesel fuels.

Unlike some other alternative fuels, low blends of biodiesel can be transported by existing petroleum pipelines. We know this because it is already being done in Europe. The EU, in fact, has adopted B5 as the primary greenhouse gas reduction strategy.

In closing, Mr. Chairman, the VTEEC and the RFS will have a positive impact on the biodiesel and ethanol industries and would result in a dramatic improvement in our nation's energy security, environment and economy. The importance of biodiesel for the nation's economy has never been greater. Oil prices are now at record highs and are once again threatening to harm the U.S. economy. Biodiesel and ethanol represent proven technologies that can be brought to bear immediately to supplement our existing energy supplies, using existing domestic agricultural resources we have today and con continue growing tomorrow. Thank you.

[Mr. Jobe's statement may be found in the appendix.]

Mr. GRAVES. Thank you, Mr. Jobe. I might add, too, you mentioned some of the basic benefits in your testimony, it just plain smells better, also, when you get it on your hands, particularly.

We are now going to open it up for questions and I know I have several that have come up. I want to start with Mr. Adams. You mentioned in your testimony that ethanol can save the Federal Farm Program $2 billion a year. And at a time when every time we pass a farm program, we come under fire from a lot of individuals who do not understand farm policy in my opinion and this would be one of the things I think would help sell farm policy and obviously a savings to the federal government. Could you elaborate on that just a little bit?

Mr. ADAMS. Well, certainly the fact that the price of corn has increased because of ethanol, you know, a few years ago we went through the exercise of trying to capture the best LDPs and you are familiar with that, since you are a farmer. Well, when we had this increased price because of increased demand, we are not struggling to beat our neighbor and our LDP payments. You know, that was kind of the pride of the coffee shop, what did you get today? Well, we do not have to do that anymore.

So if we can portray this to the consumer with some type of a media campaign or whatever and the corn growers certainly could be involved in something like that, but the consumers have to become aware that this renewable energy situation is going to save them taxpayer money. And, you know, I do not really know how to get that across to the consumer, but that is what we have to do.

Mr. GRAVES. Well, you are helping to do that right now.

Mr. ADAMS. Okay.

Mr. GRAVES. Appreciate that. Mr. Hurst, I have a question to Charlie about you said that ethanol would be more desirable with the use of hydrogen fuel cells. You just touched on that for just a minute. Could you expand on that a little bit? I am not as nearly familiar with hydrogen fuel cells as obviously I am with the ethanol biodiesel industry, but how ethanol would compliment that or how the hydrogen fuel cells would compliment ethanol. And anybody else who might want to weigh in on that.

Mr. CHARLES HURST. Several years ago I went to Iowa State and they were, at that time, the Iowa Corn Growers were funding a study in Iowa State on fuel cells. And the man that was running this experiment for the corn growers up there said that ethanol was really a little bit better fuel than gasoline because they could get that hydrogen out of it by fuel cells a little bit better than they could from gasoline. Of course, he was also funded by corn growers wanting to use ethanol, too. So you have to take all these considerations into it.

But we see some talk about going to hydrogen fuel vehicles and then we see about them having fuel systems that are infrastructure that will supply this hydrogen. I do not think that is feasible, to be honest. It has to be under such high pressure. If we are going to pull into a filling station as it were and fill up with hydrogen, it has to be under such high pressure, it has to be under such high pressure in the vehicle, I think the fuel cell is where we are going to go with this technology. And then we can fill up with alcohol or with gasoline and it will convert to hydrogen to be used in the fuel cell in the vehicle. And I think this is the technology that is coming.

When the President talked about hydrogen, we wanted to go to a hydrogen economy, I think we are going to have to go via the fuel cell rather than just using hydrogen as such, you know. Phil is probably more versed on that subject than I am. Do you agree that raw hydrogen put into our cars is probably not feasible?

Mr. LAMPERT. Well, yes, and certainly, Mr. Chairman, thank you. I believe the general public believes that the fuel cell and the hydrogen business is like a perpetual motion machine, that once it starts, you are always going to have hydrogen being generated and that is completely false. Hydrogen, the production of hydrogen or stripping it from water, requires energy, today, very high amounts of energy compared to the output.

I believe what Charlie is referring to, why continue to use a fossil fuel to produce hydrogen when we could use a renewable domestic fuel such as alcohol, produced from corn, use some type of commodity renewable to produce the energy input.

Mr. GRAVES. Does biodiesel have a future in fuel cells, also?

Mr. JOBE. Yes, there have been studies performed, including a study just funded by the Iowa Soybean Board, which indicates that biodiesel offers some excellent benefits as a fuel cell fuel. It meets all of the criteria as a fuel cell fuel. It is an excellent hydrogen donor. It is easily reformed and it fits within the existing liquid petroleum infrastructure that we currently have.

I think as the other panelists were saying, the government has put a real emphasis on development of fuel cell technologies and I hope that that pays off. But I caution, because it seems like there maybe has been some overpromising of that technology. We still are several years away from that technology of being made widely available, especially in heavy duty technology.

It is going to be an awfully long time before you see a fuel cell bulldozer or fuel cell semi-truck. In fact, Phil and I were just at a conference this weekend where Ford had, unveiled its fuel cell vehicle. And when it came time to go, they pushed it out the door and loaded it on a diesel truck and hauled it off. So it is a few years

down the road,but it is an awfully long time before fuel cells are going to be made available in the heavy duty form.

There has been some more promising developments for fuel cells in industrial applications, for example, in light duty applications. But until that time, ethanol and biodiesel meet those criteria for the development of an excellent fuel cell fuel.

Mr. GRAVES. Mr. Dinneen?

Mr. DINNEEN. Yes, Mr. Chairman, just to underscore just a couple of points here, because there is no question that everybody is enamored with hydrogen technology and the fuel of the future and it all makes sense. And it is going to happen. But if all we do is transfer our dependency on petroleum in the internal combustion engine to a dependency on petroleum derived hydrogen for fuel cells, we have not helped each other. And there is no question that ethanol can be a renewable source of hydrogen that makes a great deal of sense. There is an ethanol-based fuel cell in operation today in Peoria, Illinois. We are doing a lot of research. The government needs to do a little bit more research on it, as well. Renewably derived hydrogen makes the most sense.

Mr. GRAVES. Thank you. I have a lot of questions, but I will go ahead and give Mr. Miller a chance to ask anything.

Mr. MILLER. Thank you. I would like to continue on the same subject. During the President's State of the Union address, he devoted a paragraph to developing fuel cells, hydrogen fuel cells, that it was going to be a process that went straight from hydrogen to water, and use hydrogen directly as a fuel. What I heard after that was a great deal of skepticism about that as the next technology that we needed to develop for a variety of reasons. One is that hydrogen does not exist in nature as a readily available fuel. What I heard mostly is that it is stripped out of natural gas. And natural gas is a fossil fuel, which is also finite, upon which we are also dependent on other countries, in fact, pretty much the same countries that we are dependent upon for petroleum, which does not improve our hand a whole lot in trying to improve energy efficiency.

In addition, and that is not a particularly environmentally friendly process, stripping hydrogen out of natural gas, although the President presented it in the State of the Union as something that only produced water. Well, turning hydrogen into electricity may only produce water, but getting the hydrogen, that is something else again.

And we have a massive, massive investment as a society in the infrastructure to deliver a liquid fuel. And on this planet, at least, hydrogen is not a liquid fuel.

I was very puzzled at the administration's focus on that one source of alternative energy. And three to five, I cannot recall the exact amount, seems like it was a proposal of $3 to $5 million for research into the hydrogen fuel cell economy. What is your impression? Why is it that you think this administration is so focused on the hydrogen economy instead of a bioeconomy? And I have also heard or read that there are promising dramatic advancements in turning organic matter into fuels, that biotechnology may increase dramatically the fairly slow fermentation process of turning soybeans or corn into fuel. Where does that technology stand, where does that research stand and do you agree with this administra-

tion's focus, apparently to the exclusion of other alternative fuel sources? The President's budget would cut the renewable energy system and energy efficiency improvements program by $12 million, the value added producer grants by $25 million, the Commodity Credit Corporation's bioenergy program by $50 million. Do you agree with this administration's focus on the hydrogen economy and hydrogen fuel as where we ought to be going.

Ms. Werner, you can perhaps go first?

Ms. WERNER. Thank you very much, Mr. Miller. I think a number of my colleagues on the panel have made some important points with regard to what is really involved in terms of hydrogen production. I think that investments in fuel cells and in additional research with regard to hydrogen are important. But I do think that it has been oversold in terms of its role within the next couple decades.

As has been made clear here, hydrogen is an energy carrier as opposed to a source. Therefore, many of us who are concerned about environmental implications are very, very concerned about where the hydrogen would come from. And we feel very, very strongly that if we are going to move towards the greater use of fuel cells, it is absolutely critical that the hydrogen should be derived from renewable resources.

And we see biofuels which can be reformed aboard vehicles as being a very important source of that, which is readily available and which works.

We would also suggest, however, that we think that there are a variety of energy sources in terms of, again, fuels, electricity, biobased products that are important to address from a federal policy perspective. The Farm Bill programs which you just cited and for which very, very significant cuts have been proposed, we strongly disagree with those administration proposals and very much hope that the Congress will restore full funding for those. Last year, the Congress did restore full funding for the Section 9006 program for renewable energy programs and put some money back into the value add program, but not full funding.

And one other point that I would just make in terms of thinking about kind of the role of, I think, all of our concerns are that we need to do something about our oil use, natural gas, which is also very clean and highly valued commodity. But we are all seeing huge cost increases in natural gas creating a lot more outsourcing within our chemical industry, creating huge impacts for agriculture because of the run ups in natural gas. So I would suggest using natural gas for hydrogen production isn't a good investment for our country. And that, indeed, if we really want to reduce our use of oil, perhaps the best thing would be for us to really encourage our domestic vehicle industry to do a lot more in terms of moving hybrids into the market and using that with biofuels and then we are making a huge impact with regard to our oil use. Thank you.

Mr. MILLER. Mr. Dinneen, first of all, you can get to South Dakota by traveling east from North Carolina, but it takes a lot longer.

[Laughter.]

Mr. DINNEEN. Ouch. I was hoping you had forgotten about that by now.

Mr. MILLER. You are also someone logical to address that question. All of you are, but if you might address it as well?

Mr. DINNEEN. We certainly agree with ESI and others on this panel that have worked to restore some of the funding cuts that have been proposed for renewable energy and we think that it is critically important. We think that the investment that this government can make in renewables is something that can pay dividends in the near term. And we certainly support those efforts to restore the funding.

In terms of looking at the hydrogen issue, I think it is a question of what your focus is. Is it near term or long term and I do not think any of us really dispute that hydrogen represents a technology that is worth an investment in terms of trying to determine where it can go. We do think that the focus ought to be more on trying to get that hydrogen derived from renewable resources as opposed to, you know, more petroleum based sources. But the technology itself will certainly develop.

You know, but I do not think that it is the administration that simply has this hydrogen focus exclusive of anybody else. I think it is something that has had bipartisan focus. Senator Dorgan has had legislation in place, the Apollo project, that many of us support because of what it will do in terms of research for hydrogen. Has it been oversold in the near term? I think Carol is probably right, it probably has been oversold in the near term. But I do think it is worth an investment for the promise it holds, so long as the source of the hydrogen is renewable.

Mr. MILLER. Anyone else wish to address that point? You do not have to, but you can.

Mr. ADAMS. Mr. Dinneen made the comment that I was gong to make and that is that in my training as an economist, you know, we talk on one hand and then on the other hand. He suggested in the short term and in the long term, and I really think that, you know, fuel cell concept is a long term concept. And we are facing a short term energy crisis right now and this is what we need to be concerned about. It is not to deny that hydrogen and fuel cells are going to be on the horizon and be very important ten, 20, 30 years from now, but what are we going to do in the next five to ten? This is where renewable fuels, I think, can really place an important impact on our energy crisis. And one more comment.

Mr. MILLER. Okay.

Mr. ADAMS. I hate to admit that hydrogen can come from somewhere else than ethanol, but in southwest Minnesota and northeast Iowa, we have a huge amount of—or a large array of wind farms developing. And you can get hydrogen from electrolysis and using a surplus energy from these wind farms when you have the surges and low usage period, in a low usage period you could use the surplus electricity from these wind farms to produce hydrogen. Now that is a concept that is not talked about too much. And we are not using hydrogen fuels or fossil fuels to make the hydrogen, nor are we in a case of even ethanol using fossil fuels to make ethanol to make hydrogen.

So it is a long way away, but we have to be concerned about the short run, I think. Thank you.

Mr. MILLER. Thank you. You know, of course, that President Truman said he was looking for a one-handed economist.

[Laughter.]

Mr. ADAMS. Yes, yes.

Mr. MILLER. One other criticism that I have heard is that the research, by its very nature, is unpredictable. The problems that seem absolutely insurmountable yield to a solution and problems that seem imminently solvable do not. By focusing so heavily on one alternative fuel source, we may find ourselves looking for, the phrase I have heard is off ramp for our research in some period of time, five, seven, ten years, when the problems that we thought were solvable were not.

And we would then find ourselves five or seven or ten years behind in starting on some other technology. Do you agree that we should be moving on several fronts at one time and do you think we are doing it now in our research into alternative fuels? That can be anybody that wants to answer. Ms. Werner, do you want to give it a shot?

Ms. WERNER. Sure. Then I will turn to my colleagues. I do think that we need to be investing in a variety of approaches at the same time and for the same reason that I also suggested that I think we need a suite of supporting policies, rather than relying on just one kind of approach if we are really going to be serious about addressing the overall energy situation confronting our country.

And I think that we need to recognize, too, that energy and environment are kind of the flip side of the same coin and that obviously that is why we feel so strongly about the whole row of agriculture being able to produce a whole array of renewable energy products. And that all of those really need to be pursued much more aggressively as well as policies that will also help us really develop the market and get those various important technologies deployed.

Mr. DINNEEN. Congressman, I would suggest that the Department of Energy and the Department of Agriculture have been working fairly well together to develop an array of research programs that will certainly move renewable fuels forward. You can produce ethanol from virtually any agricultural feed stock. There is a plant seeking financing in North Carolina today that is looking to produce ethanol from sweet potatoes. There is a plant in New York today that is looking for financing to produce ethanol from municipal solid waste.

The Department of Energy, the Department of Agriculture have had a number of research projects over the years looking at producing renewable fuels like ethanol from a variety of feed stocks. And, in fact, I think there is the potential for the economic development opportunities that Congressman Hulshof talked about earlier today to have that be available to communities all across the country, whether they happen to be in the grain belts or not. Because the opportunities for ethanol production exist everywhere.

Mr. JOBE. I would like to add that I think one of the reasons fuel cell technology has been embraced in such a way that it has sort of been sold as the silver bullet solution and I would propose that there is no such thing as a silver bullet solution, that we need more of a silver buckshot solution.

We do not have a diversified energy portfolio right now and that is what we need to work toward. We need an array of options. All of those mentioned here, but in addition to that, looking at conservation and other things. For example, in Europe, Europe has not had such a strong pursuit of policies to keep petroleum prices low and therefore, they have an emphasis on conservation and fuel economy. So the consequence of that is that about half of all the passenger vehicles on the road are diesel, because diesel has up to 50 percent more fuel economy than gasoline versions.

So the U.S., as a comparison, in the United States, only about two percent of our cars on the road are diesel. So we have an enormous potential to increase and improve efficiency in our transportation sector.

Mr. MILLER. Go right ahead.

Mr. ADAMS. Chairman Graves, there is a saying that what comes around, goes around. I have a 1926 Model T at home. Henry Ford drove his first cars, as I understand it, on alcohol. And then as the automobile industry grew, the alcohol industry could not keep up and the fossil fuel industry was born.

Now we are at this point in life and production of ethanol has become much more efficient. There are new enzymes developed every year and new technologies and energy conservation and ethanol plants. So all of a sudden, we are becoming very competitive with the fossil fuel industry, plus it is produced domestically. So maybe old Henry was not so dumb to start with. You know, maybe it is time to go back to old Henry's philosophy. Thank you.

Mr. GRAVES. Let us talk a little bit about the economic development that these products do bring to our rural communities. It was mentioned and I do not know which member of the panel mentioned the number of plants that are out there, how many plants are right now producing cooperatives, but somebody may?

Mr. DINNEEN. Well, there are 76 ethanol plants across the country. More than 40 percent of those are farmer owned ethanol plants today.

Mr. GRAVES. What are the other 60 percent? Are they private industry?

Mr. DINNEEN. Privately held companies.

Mr. GRAVES. I may ask everybody this, at the rate that we are going, what will the rate of growth be in ethanol production? There is obviously a demand. The California demand alone requires a lot, but how fast are we growing? How fast are we growing to grow? What is the potential in the next five to ten years as far as ethanol plants? Anybody can answer.

Mr. DINNEEN. Mr. Chairman, there are 12 plants currently under construction that will add another 500 million gallons of production capacity when it is on stream, bringing the industry's total capacity to almost four billion gallons. We can certainly grow as fast as we need to grow. A lot will depend upon what policies this Congress puts in place, in terms of how quickly we have to grow. But we have seen 32 percent growth last year. I believe it was 20 some odd percent growth the year before. This year we will likely see close to 30 percent growth again.

Our rate of growth has been nothing short of phenomenal and it is a testament to, you know, farmers across this country that have

invested their own money and invested their own time and energy to create these ethanol plants all across the country.

Mr. GRAVES. I mean, that is a huge, and that could have a huge impact on our communities, just like Mr. Hurst mentioned. You know, in a town of 300, that is a big impact. These small communities, they are not going to be able to go out and get an industry, you know, Ford Motor Company or Chevrolet is not going to locate in Craig, Missouri or Macon, Missouri or whatever the case may be.

And I have always been told that we need to stick to what we already know. And what we do know in these small communities is agriculture and that directly ties in to this energy production. I think it is an incredible opportunity we have and that is the sideline. Not to mention the national security issues that we have out there dealing with our energy dependence, not to mention the environmental impact that we can have as far as, you know, ethanol and biodiesel goes.

I might direct that question to Carol, too, even on the environmental impact. I could not think of a more environmentally friendly product than either biodiesel or ethanol. And we talk about oil spills and that sort of thing. You know, ethanol is completely water soluble. You don't have the environmental impact, even if you do have a spill. You might address that just a little bit.

Ms. WERNER. Sure, Chairman Graves. Because that is one of the reasons why we are so supportive of biofuels is because they do provide a superior way to provide fuel in an environmentally sound way in terms of protecting our water shed, helping reduce harmful air pollutants as well as obviously really reducing greenhouse gas emissions.

We have seen a lot of work done over the last decade with regard to the connection between our current fuels, in terms of fossil fuels, in public health, where we now know lots more about that in terms of the toxics that are in these fumes and the damage that that is doing to children across the country.

So I think, you know, when you start to just add up all of these benefits, it is really, really critical that people across the country understand that. It is also very important that biofuels not be seen as oh, if we are going to have a tax incentive here or however it works, that it is not just a giveaway to midwest farm states. But that, indeed, it is really serving national concerns, national needs. And that is why it is so important to also get these industries developed across the country, helping communities.

Biomass is also heavy. You know, it also means the more that we can do in terms of having new businesses sprout up across the country which can really help develop indigenous resources in every single state, which helps economic development everywhere and really helps build a much broader base of support for overall biofuels. Thank you.

Mr. GRAVES. It is interesting that ethanol and biodiesel production and renewable fuels have moved from the farm policy arena and it has now moved into the energy arena, which I think is good, because it helps out, you know, it is addressing all consumers, rather than just one segment.

Anybody have anything else to add today? Yes?

Mr. BROOKS HURST. Yes, Mr. Chairman, just to expand a little bit on Carol's comment. I was playing golf several years ago with the producer of MTBEs and he was being rather defensive because it was just at the start of them taking hits and environmental concerns with spills from MTBEs. And he said, well, you ethanol producers are going to have problems, too. And when you get in the groundwater and I told him that I had actually heard of some people purposefully mixing alcohol with water, to drink.

[Laughter.]

Mr. GRAVES. I have heard similar comments, too, in Craig, Missouri, that producing alcohol in the bottoms of whole counties is nothing new. They have been doing it for years. It is just that they have got railroad cars pulled up to the still rather than jugs.

Well, I would like to thank everybody for being here today. We did not even get a chance to talk, Mr. Lampert, I took a look at this and the number of cars that are available as far as hybrids go and this is exciting, too. In fact, I am going to look into that even more. You mentioned in your testimony the increase we are going to see. But I am sorry we were not able to cover everything. But I appreciate everybody coming out today. This has been a fantastic hearing and, if nothing else, what we are trying to do is bring some more attention to the energy debate and more attention to renewable fuels like biodiesel and ethanol. We have some hefty increases in funding for renewable fuels in the Energy Bill, but we do have to get them passed. The House passed the conference report, what we thought was an agreement between the House and the Senate in November. The Senate has not taken it up yet, but we need to continue to push for that. We need to continue to get that done. It is vitally important that we have an energy policy.

I would much rather be dependent on our farmers in the United States for our energy production than I would countries like Saudi Arabia. It just makes sense, not to mention the environmental impact it has, the impact it has on small communities and keeping our young people in our small communities, having a reason for them to come back to our small communities. It is a win-win everywhere, national security, farmers, consumers. It just makes sense.

We are going to continue to bring light on this subject and show the national impact that it has, but I appreciate everybody coming out today and giving your testimony. This hearing is adjourned.

[Whereupon, at 11:43 a.m., the Subcommittee was adjourned.]

Good morning and welcome to the House Small Business Subcommittee on Rural Enterprise, Agriculture, and Technology. Our purpose today is to explore the value of renewable fuels and the role they play in a comprehensive energy policy, in our economy, and in our national security.

Far too often misconceptions regarding renewable fuels become embedded in the heads of Washington's policy makers, doubts such as are renewable fuels an effective fuel source? Are they affordable? Most of us are aware of the successful track record of renewable fuels, but it is my hope that today's panel can help to further educate us on the effectiveness of renewable fuels and clarify any misconceptions.

The focus of today's hearing is on the many benefits of renewable fuels use. More specifically, I want to highlight their positive impact on our economy and America's farmers. I want to show why our country needs to maximize our domestic renewable resources that provide added markets for our farmers, drive down and stabilize the price of fuel, reduce our dependence on foreign sources of energy, and increase our important reserves. I have asked today's panel to discuss how renewable fuels benefit our economy and how federal policies can further develop renewable fuel use.

Also, advancing renewable fuels use is essential to lessening our reliance on foreign fuel and is why we need to include them in an overall national energy policy. According to the Department of Energy, domestic supply of petroleum peaked at 11.7 million barrels per day in 1970, net imports stood at 3.2 million barrels per day. As domestic supply

declined, consumption grew. In 1998, for the first time, net imports surpassed domestic supply. In 2002, domestic supply was 9.1 million barrels per day and net imports were 10.4 million barrels per day.

Over-reliance on imported oil makes our economy and national security vulnerable to the whims of foreign governments, some of which are hostile to U.S. interests. Recent increases in the cost of gasoline as a result of tensions in the Middle East and elsewhere amply illustrate this point.

I believe that the United States should promote the use of alternative, domestically produced fuels such as bio-diesel and ethanol. Fortunately, farmers in Missouri and across the nation have expanded the industry at a record pace. Corn and soybeans are used to produce ethanol and bio-diesel--fuels good for the environment and good for our economy. Each day more than 5 million gallons of ethanol are blended into 65 million gallons of gasoline adding critical volume to a tight gasoline market and reducing pressure on price. Since I have been in congress I have supported legislation that promotes ethanol and bio-diesel and I will continue to fight to see these fuels are included in a national energy policy.

I thank all of you for coming today and look forward to your testimony. I would now like to recognize the ranking member Mr. Balance, for his opening statement.

Written Testimony of U.S. Representative Kenny Hulshof (R-MO)
Before the U.S. House Committee on Small Business
Subcommittee on Rural Enterprise, Agriculture and Technology
May 6, 2004

Chairman Graves, Ranking Member Ballance, thank you for giving me the opportunity to testify before your subcommittee. I applaud you for providing a forum to discuss the broad-based benefits of renewable fuels.

One needs to look no further than the rising prices at the local gas station to see why we must strengthen our commitment to renewable fuels. With the passage of time, our nation has become more dependent on foreign sources of petroleum. In 1970, we imported approximately 30% of the oil we consumed. Today, that number stands at 62%. The Energy Information Agency projects that if nothing changes, by 2025, 77% of the oil we use will come from imports.

Our nation cannot afford to be dependent on foreign oil. What is needed is a comprehensive energy plan that will make America more energy independent. Renewable fuels must play an important role in this effort.

Put simply, federal policy that increases the use of domestically produced renewable fuels will reduce demand for imported oil. According to the Renewable Fuels Association, ethanol currently reduces the need to import 128,000 barrels of oil and MTBE a day. If we expand the federal commitment to renewable fuels, common sense dictates that we will further displace the use of imported oil.

Biodiesel is another promising renewable fuel. Biodiesel in the U.S. is produced primarily from soybeans. The fuel can be blended with conventional diesel fuel and can be burned in diesel engines. The use of biodiesel has grown as the market has become more familiar with the fuel. In 1999, 500,000 gallons of biodiesel were sold. In 2003, biodiesel sales topped 25 million gallons. The increased acceptance of biodiesel in the marketplace is a positive signal.

However, we need a federal energy policy that will further encourage the use of biodiesel. As with ethanol, every gallon of diesel fuel that we displace with a gallon of domestically produced biodiesel will lessen our dependence on foreign oil.

A federal commitment to renewable fuels is more than good energy and national security policy. It is good for rural America. Demand for renewable fuels provides a stable, reliable market for the corn and soybeans that are used to produce ethanol and biodiesel respectively. It also gives our farmers the chance to profit from value-added agriculture, which provides a vital financial cushion against swings in commodity markets.

Northeast Missouri Grain, a farmer-owned ethanol plant in Macon, Missouri, illustrates the economic benefits associated with the production of renewable fuels.

According to Dr. Donald Van Dyne, a retired Research Associate Professor from the University of Missouri, Northeast Missouri Grain annually:

- Processes 16 million bushels of corn.
- Produces 42 million gallons of ethanol.
- Supports directly and indirectly 1,779 jobs in Missouri.
- Creates over $169 million in economic output.

These are significant benefits that have a very real impact on economic development in rural America. And Northeast Missouri Grain's experience is not unique. It is my understanding that Golden Triangle Ethanol Cooperative in Craig, Missouri – which I believe is in the Chairman's district – has yielded similar benefits for the surrounding community.

If we continue our commitment to renewable fuels, I am confident that expanded biodiesel production will yield economic benefits similar to those resulting from the construction of the ethanol plants in Macon and Craig, Missouri.

To continue reaping the benefits of renewable fuels, the federal government must maintain its commitment to renewable fuels. The Energy Policy Act approved by the House late last year kept this commitment. This legislation recognized the important role of renewable fuels in a comprehensive energy strategy by creating a strong Renewable Fuels Standard. Under the Renewable Fuels Standard, the required use of ethanol and biodiesel would be 5 billion gallons annually by 2012.

The Energy Policy Act also contained legislation I crafted, H.R. 3119, the Renewable Fuels and Transportation Infrastructure Enhancement Act, to improve and strengthen the existing ethanol tax incentive and provide a much-needed tax incentive for biodiesel. Mr. Chairman, you were an original cosponsor of H.R. 3119, and your continued support on this issue is much appreciated.

Enactment of the Renewable Fuels Standard, strengthening the ethanol tax incentive and creating an incentive for biodiesel are essential if renewable fuels are to be an integral component of a comprehensive national energy strategy. Given the fact that these fuels reduce our dependence on foreign oil, are consistent with our national security interests and promote economic development in rural America, it is only appropriate for Congress to promote the expanded use of renewable fuels.

Chairman Graves, Ranking Member Balance, thank you again for giving me the opportunity to testify before your subcommittee. I would be more than willing to answer any questions you may have.

Testimony of

Brooks Hurst
Missouri Soybean Association

Before the

House Small Business Committee
Subcommittee on Rural Enterprises, Agriculture, and Technology
2360 Rayburn House Office Building

May 6, 2004 – 10 a.m.

Mr. Chairman, members of the committee, thank you for the opportunity to testify before you today on behalf of the Missouri Soybean Association, which represents Missouri's approximately 28,000 soybean farmers. I want to first thank Chairman Graves for calling this very timely hearing. Missouri has been blessed with an exceptionally dedicated congressional delegation and certainly no one has been more dedicated to farmers and rural Missouri than the chairman of this subcommittee.

As members of the committee may know, the inclusion of an excise tax exemption for biodiesel has been discussed as part of several pieces of major legislation, including the energy and transportation bills. Specifically, the proposal, which was drafted by Congressman Hulshof, would provide an incentive of one cent per percent of biodiesel that is blended with petroleum based diesel, up to a 20 percent blend.

In terms of farm income, the biodiesel tax provision is probably the single most important legislative initiative in the history of the soybean industry. Passage of legislation containing the provision will mean the difference between biodiesel continuing as a so-called boutique fuel – used primarily by municipalities to help meet environmental goals and by farmers to prolong the use of farm equipment – and biodiesel becoming a major commercial fuel. Experts have estimated that passage of the tax incentive could lead to as much as 500 million gallons of additional biodiesel usage by the year 2012. Such a dramatic increase in the utilization of soybeans could boost the price of the crop by as much as 80 cents per bushel, according to the Food and Agriculture Policy Research Institute. That price increase translates to approximately $148 million in additional annual farm income in the state of Missouri alone.

It is also important to note that the $148 million in additional dollars would not merely sit idle. Rather, farmers would circulate those funds throughout rural communities to businesses that have been hit hard by the agriculture recession of the past few years, such as farm implement dealers, restaurants, clothing stores, and other local retailers which comprise rural main streets. As many of you know, rural America is drying up and increased use of renewable fuels is a major piece of the puzzle that will help change the challenging economic dynamics rural communities continue to face.

Of course, there are other significant benefits of using biodiesel. Biodiesel, for example, helps clean the environment and the air we breathe. Compared to petroleum based diesel fuel, the exhaust from an engine running on biodiesel contains no sulfur emissions and half the hydrocarbons, which form ozone, or "smog" and lead to acid rain. Biodiesel also contains half the level of carbon monoxide that petroleum diesel does, and half the amount of particulate matter, a serious human respiratory health hazard. Additionally, and perhaps most importantly, research indicates that biodiesel releases 75-80% less of the potential cancer causing agents released by the burning of petroleum-based diesel fuel.

Another major benefit of biodiesel is that it lessens the nation's dependence on foreign oil. Why should we in this nation continue importing fuel from the Middle East when farmers such as myself can grow 100% renewable fuel on farms right here in the USA in

an environmentally beneficial way. Doing so would keep those dollars in ailing rural communities rather than shipping them to countries that, in some cases, have not been perfectly aligned with the national interest.

Mr. Chairman and members of the committee, in conclusion I want thank you, once again, for this opportunity to testify before you today. I sincerely appreciate the fact that the Congress is looking very seriously into the idea of increasing utilization of renewable fuels in this country. This is an innovative policy that, if enacted, will have a positive impact on generations of Americans to come. In fact, I can't think of any other single public policy initiative that would have a greater impact on the long-term health of the rural economy, our environment, and our national security.

Thank you.

Renewable Fuels Association

Testimony of

Bob Dinneen
President & CEO
Renewable Fuels Association

Before the U.S. House of Representatives
Committee on Small Business
Subcommittee on Rural Enterprise, Agriculture and Technology

"The Benefits of Tax Incentives for Producers of Renewable Fuels and its Impact on Small Businesses and Farmers"

May 6, 2004

Mr. Chairman and Members of the Committee, I would like to thank you for the opportunity to provide comments on the important role that tax policy has in determining the nation's energy policies and priorities, and its impact on small businesses and farmers. For decades, tax policy and government subsidies have promoted the development and use of petroleum products in transportation fuels. For example, while Henry Ford designed the Model-T to run on ethanol, taxes imposed on alcohol in the early '20s forced a change to gasoline, setting a course of dependency on imported oil that has had tremendous consequences for our economy, our environment and our national security.

The myopic focus on petroleum finally changed in the early '80s, when the Congress created a number of incentives to stimulate the production and use of various alternative fuels. One such fuel, ethanol, has become a critically important gasoline blending component, extending refining capacity, reducing pollution and providing an important economic stimulus to small businesses and farmers across rural America. Thus, I am here to tell this Committee that the federal tax incentive program for ethanol fuels has been a tremendous success story.

The Renewable Fuels Association is the national trade association for the domestic ethanol industry, located in Washington, D.C. Our membership includes ethanol producers and suppliers, gasoline marketers, agricultural organizations and state agencies dedicated to the continued expansion and promotion of fuel ethanol. Today's domestic ethanol industry consists of 76 production facilities located in 20 states with an annual production capacity of 3.3 billion gallons. In 2003, the U.S. ethanol industry produced a record 2.8 billion gallons of high quality, clean burning fuel ethanol. Production capacity continues to expand, particularly among farmer owned cooperatives, the fastest growing segment of the industry.

Background

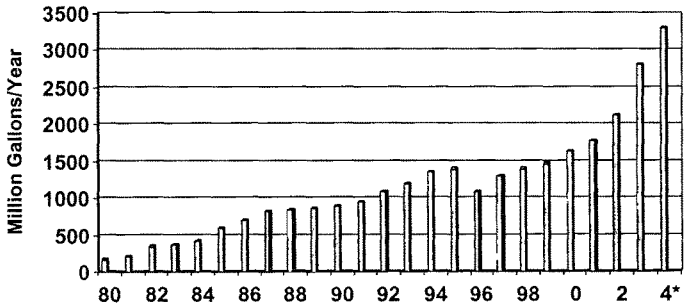
Ethanol is a clean, energy efficient, environmentally friendly fuel produced at facilities that create jobs and economic opportunity for rural communities where they are located. Fuel ethanol is an alcohol produced primarily from grain in a fermentation/distillation process. There are two general types of fuel ethanol processing facilities in the U.S., wet mills and dry mills.

Wet mills are also commonly known as corn refineries. These facilities produce starch, ethanol and corn sweeteners, along with corn oil, corn gluten feed and corn gluten meal. Both corn gluten feed and meal are sold into the animal feed market. Dry mills use simpler technology to produce ethanol and distillers grains, a high-quality feed ingredient. Products for both human and animal consumption are co-produced with ethanol. Producing ethanol simply utilizes the relatively low-value starch in the grain while leaving behind vitamins, minerals, fiber, oil and protein to be utilized in higher-value markets.

Ethanol producers continue to improve efficiency. Modern technology makes it possible to build a state-of-the-art, cost-effective dry mill ethanol plant for about $1.15 per installed gallon of annual production. Most of the new ethanol production capacity consists of farmer-owned dry mills. Technological improvements throughout the industry have driven the cost of producing ethanol down dramatically.

Ethanol facilities are not only cost effective they are energy efficient. A recent study by Argonne National Laboratory found that for every 100 BTUs of energy used to produce ethanol, 135 BTUs of ethanol are produced. That is because corn plants are really very efficient solar panels. USDA analysis has found that corn farmers use about half the energy to produce a bushel of corn than they did just 25 years ago. Therefore, the myth that it takes more energy to produce a gallon of ethanol than is contained in the ethanol itself is just that: a myth.

Historic Ethanol Production Capacity



Source: Energy Information Administration/Renewable Fuels Association
** 2004 projected*

Ethanol Tax Incentive Program

Responding to the need for increased domestic energy sources, reduced air pollution from motor vehicles and rural economic stimulus, the Congress has consistently supported tax incentives to encourage the increased production and use of fuel ethanol. Today, refiners and gasoline marketers using 10% ethanol blends pay 13.2¢ per gallon in federal excise taxes, a 5.2¢ reduction from the tax paid on straight gasoline.

The federal ethanol program has been an unmitigated success. From just 175 million gallons in 1980, the industry has increased more than ten-fold to more than 3 billion gallons today. Approximately 30% of the nation's gasoline is now blended with ethanol - reducing the demand for imports, stimulating economic benefits across the country, and reducing air pollution. Most importantly, the federal government realizes a positive budgetary impact from the program. The U.S. Department of Agriculture has concluded the ethanol tax incentive program actually saves the government money by reducing farm program costs and stimulating rural economies. USDA has stated the net impact of the tax incentive and farm programs is a net savings of more than $2 billion annually.

Economic Benefits: The processing of grains for ethanol production provides an important value added market for farmers, helping to raise the value of commodities they produce. As the third largest use of corn, behind only feed and exports, ethanol production utilizes more than ten percent of the U.S. corn crop, or over a billion bushels of corn, adding more than $5 billion in farm revenue annually.

The production of ethanol has sparked new capital investment and economic development in rural communities across America. While no new oil refinery has been built in this country in 25 years, during this same time frame 76 ethanol refineries have been constructed. USDA estimates that the production of ethanol increases the price a farmer receives for corn by 20 to 40 cents per bushel.

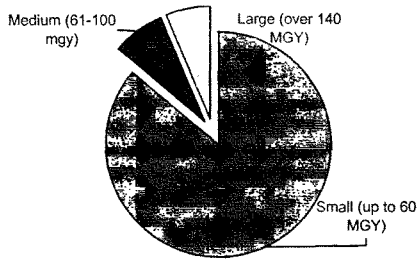
Industry growth offers enormous potential for overall economic growth and additional employment in local communities throughout the country. In 2004 alone, the industry will have the following positive economic impacts in the U.S.:

- Add more than $15.3 billion to gross output through the combination of spending for annual operations and capital spending for new plants under construction;
- Support the creation of more than 143,350 jobs in all sectors of the economy;
- Add $3.9 billion to consumers' pockets this year through increased economic activity and new jobs; and
- Add $1.25 billion of tax revenue for the Federal government and $806 million for State and Local governments.

Production capacity continues to expand, particularly among farmer owned cooperatives, the fastest growing segment of the industry. These highly efficient dry mill plants typically go from the drawing board to production in less than two years. Today, farmer-owned facilities account for approximately one-third of all U.S. fuel ethanol production. Farmer-owned ethanol

facilities help to ensure farmer members a value-added market for their crops and offer profit sharing dividends as the industry prospers.

U.S. Ethanol Production Capacity



The Renewable Fuels Association recently completed a study[1] on the economic impacts of a 40 million gallon ethanol facility on local communities. The study found:

- During construction, capital spending generates $142.2 million in gross output to a local economy and $46 million in new household income (one-time impact);
- More than $56 million is spent locally on its daily operations each year;
- The local economy is expanded by $110.2 million each year;
- Local farmers receive an additional 5–10 cents per bushel in increased revenue at the farm gate (whether delivered to the ethanol facility or not);
- The plant creates 41 permanent direct jobs and 694 permanent jobs throughout the entire economy; and,
- The ethanol plant will generate $19.6 million in annual household income for the community.

Environment & Public Health: Ethanol, a high-octane, high-value fuel, continues to be one of the best tools we have to fight pollution from vehicles. As an oxygenate (ethanol contains 35% oxygen), ethanol enables a more complete combustion of fuel. The use of ethanol reduces emissions of all the major pollutants regulated by the U.S. Environmental Protection Agency, including carbon monoxide, particulate matter, exhaust volatile organic compounds and hydrocarbons. Ethanol is also an effective tool for reducing air toxics in gasoline, many of which the EPA classifies as known or probable human carcinogens.

As a renewable fuel, ethanol can dramatically reduce greenhouse gas emissions, such as carbon dioxide, a contributor to global warming. Argonne National Laboratory (ANL) concluded ethanol produced from Midwest corn reduces greenhouse gases by 35-46% compared

[1] **ETHANOL AND THE LOCAL COMMUNITY,** John M. Urbanchuk, Executive Vice President, AUS Consultants and Jeff Kapell, Associate Principal, SJH & Company (June, 2002).

with gasoline, and the number rises with cellulose ethanol production. According to ANL's GREET 1.6 Model, in 2003 ethanol use in the U.S. reduced CO_2-equivalent greenhouse gas emissions by approximately 5.7 million tons, equal to removing the annual emissions of more than 853,000 cars from the road.

Ethanol is a safe, biodegradable fuel that does not pose an environmental or public health threat to water or soil, and has been awarded a "clean bill of health" by the California Environmental Policy Council.

Consumers Benefit: Ethanol expands U.S. fuel supplies, increasing competition in the marketplace and reducing overall gasoline prices paid by the driving public. As noted by the consumer group, US Action, the increased use of renewable fuels such as ethanol and biodiesel "will increase supplies, promote competition with fossil fuels, and lower gasoline costs."

The federal ethanol program enhances small businesses and farmers further by encouraging independent gasoline marketers to use ethanol. As noted above, gasoline marketers and blenders that use ethanol are eligible for up to a 5.2 cent per gallon reduction from the federal excise tax on gasoline of 18.4 cents/gallon. Thus, smaller, independent gasoline marketers that use ethanol are able to compete with the major international petroleum companies and provide consumers with an exceptionally cost-competitive fuel. Consider this statement by the Society of Independent Gasoline Marketers of America:

> "The tax benefits afforded ethanol-blended fuels constitute an important means by which independent marketers reduce their costs of product... enhancing independent marketers' ability to price compete with their economically more powerful, integrated competitors. Such price competition has consistently restrained retail market prices and thereby generated substantial benefits for consumers of gasoline."

Energy Security: The need for domestically produced energy supplies has never been greater. Today we are more reliant than ever before on foreign nations to supply our insatiable and growing appetite for oil, importing 62% of our oil. At the same time, U.S. oil production has fallen to the lowest point in 30 years. Furthermore, the continued high price of crude oil and lack of U.S. refining capacity exacerbate an already tight energy supply. The U.S. petroleum refining industry is operating at full capacity in an attempt to satisfy current demand, which continues to outpace supply. By importing more refined petroleum products than ever before, the U.S. is sending value-added refining jobs overseas. Meanwhile, demand for refined products will continue to grow.

According to the National Petrochemical & Refiners Association, "The U.S. is gravitating toward a situation in which demand for refined products is overtaking the capability of traditional supply sources.... With existing refining capacity essentially full, the U.S. will have to find additional sources to cover the incremental demand." As a domestic, renewable source of energy, ethanol can increase fuel supplies, reduce our dependence on foreign oil and increase the United States' ability to control its own security and economic future.

Ethanol can and should be a more consistent partner with domestic oil companies to provide the incremental additional supplies that are obviously needed. Ethanol is blended with gasoline after the refinery process. Therefore, blending ethanol adds additional volume to the transportation fuel market and helps ease the burden on a refinery sector that barely has the capacity to meet current demand and has no hope for quick expansion. The ethanol industry is producing at a record pace. In 2004 we will again shatter all previous production records. We are prepared to meet the challenge of providing increased fuel supplies -- today.

Future for Ethanol in U.S. Gasoline Markets

The outlook for the ethanol industry is indeed bright, and the industry is expanding rapidly to meet new market demand for clean, renewable fuels. In addition to the over 3 billion gallons of current production capacity, existing ethanol plants undergoing expansion and the twelve new plants under construction will add an additional 500 million gallons of production capacity.

Such rapid expansion in ethanol is necessary to meet the growing demand for alternatives to MTBE, a petroleum-based oxygenate that has contaminated drinking water supplies in many parts of the country. Whether by legislation, litigation or consumer preference, it is increasingly apparent that the future use of MTBE will be significantly curtailed. The ethanol industry is preparing to meet that increased demand so that air quality will not suffer as communities address their water quality concerns.

Moreover, as the Congress contemplates a comprehensive energy policy, it is clear that the demand for renewable fuels like ethanol will grow. Renewable, domestically produced fuels can and should play a larger role in meeting our nation's energy needs. Creating a Renewable Fuels Standard (RFS) in which a small percentage of our nation's fuel supply is provided by renewable, domestic fuels such as ethanol and biodiesel provides a positive roadmap for reducing consumer fuel prices, increasing energy security, and stimulating rural economies by harnessing America's renewable energy potential.

The RFS included in the conference report to H.R. 6, the energy bill, boosts the demand for renewable fuels such as ethanol and biodiesel to 5 billion gallons by 2012. Studies[2] have shown the RFS will reduce crude oil imports 1.6 billion barrels and the U.S. trade deficit by $34.1 billion through 2012. It will help family farmers by generating more than $5.3 billion in rural economic development and increasing farm income by $55.2 billion. And the increased supply of domestically produced fuel is projected to reduce consumer gasoline costs by 6.6 cents per gallon, an annual savings of $3.3 billion.

Perhaps the most important benefit of the RFS is the increased jobs it will create. A review of employment studies completed by the Senate Energy & Natural Resources Committee concludes that the RFS alone will create more than 214,000 jobs. Such an employment increase is needed, particularly across rural America where small towns and family farms need the economic stimulus.

[2] AUS Consultants, February 2002; LECG, LLC, September 2002; LECG, LLC, May 2003.

Legislative Priorities for Tax Policy

- **Extension of the Ethanol Tax Incentive:** Continuation of the federal ethanol tax incentive will create opportunities for technological advances that increase the efficiency of ethanol production and thereby reduce costs, as well as reduce the cost of ethanol production from non-traditional sources including cellulose (rice hulls, corn stalks, forestry thinnings, sugar cane bagasse, municipal solid waste, etc.). It will also encourage new market opportunities for ethanol in E85 markets, as ethanol blended with diesel (E diesel), and as a source of energy for hydrogen production.

As the U.S. ethanol industry continues to grow, many investors are looking for such a commitment on the part of the Congress before moving forward with certain projects. The incentive is currently set to expire in 2007. Legislation to extend the tax incentive through 2010 was recently passed by the House of Representatives as part of the highway reauthorization bill, H.R. 3550. It is also included in H.R. 2896, a revenue-raising bill approved by the House Ways and Means Committee earlier this year. It is included in the Senate-passed highway reauthorization bill, S. 1072, and in S. 1637 as passed by the Senate Finance Committee. The extension is supported by the Administration. Now is absolutely the time for the Congress to extend the federal ethanol program, or make it permanent.

- **The Volumetric Ethanol Excise Tax Credit (H.R. 3119)**: The current structure of the ethanol tax incentive has had an unintended consequence – it reduces federal funds available to states for highway construction. Sound energy, economic and environmental policy need not be mutually exclusive of America's investment in transportation infrastructure.

Toward that end, we have been working with Congress and the highway community to reform the existing ethanol tax incentive through the creation of a new "Volumetric Ethanol Excise Tax Credit" (VEETC), as introduced by Representatives Hulshof and Pomeroy, H.R. 3119. Under the VEETC three objectives are accomplished:

1. The tax collection system for renewable fuels is improved;

2. The revenue source for the Highway Trust Fund is increased, because the full amount of user excise taxes levied will be collected and remitted to the Highway Trust Fund (HTF). On average, the proposal would generate more than $2 billion per year in additional HTF revenue, which would improve the ability of the federal government to address the nation's transportation infrastructure needs; and

3. The delivery of renewable fuels in the marketplace will be enhanced because the federal government's tax collection system will work in concert with the petroleum industry's and independent terminal's fuel delivery system.

Given that the system will be based on gallons of ethanol rather than current blend rates (5.7%, 7.7% and 10%), E85 will qualify for the credit, and would no longer be limited to the income tax credit. This will have a tremendous impact on the commercialization of E-85.

VEETC also provides a new tax incentive for biodiesel that is extremely important and will stimulate tremendous new production of biodiesel from both soybeans and other agricultural products, as well as from animal fats. The biodiesel provisions mirror the VEETC by providing flexibility for gasoline marketers to claim the credit for both on-road and off-road diesel uses, and similarly protects the Highway Trust Fund. The provision also encourages petroleum marketers to blend biodiesel as far upstream as possible, which under a Renewable Fuel Standard (RFS) contemplated by the Congress or Minnesota's 2% biodiesel requirement is critically important. VEETC is included in H.R. 3550, H.R. 2896, S. 1072, and S. 1637.

- **Small Ethanol Producer Tax Credit:** Under present law, a small ethanol producer (annual production capacity of 30 million gallons or less) is eligible for an income tax credit of 10 cents per gallon on up to 15 million gallons of alcohol production. While intended to stimulate expanded production, particularly by small farmer-owned facilities, the credit is not readily available to cooperatives or their patrons. Furthermore, for all small producers, the credit is subject to a number of limitations that reduce its benefit or limit its availability.

In the current marketplace, ethanol production costs are rising because of unprecedented natural gas and energy prices at the same time several state ethanol programs are being cut or eliminated due to state budget constraints. The small ethanol producer tax credit is the only program that helps small ethanol companies compete in the marketplace. Over the past several years, a number of bills have been introduced to address these concerns and, indeed, the Senate has approved modifications to the small producer tax credit on a number of occasions. Legislation has been introduced in the 108th Congress,[3] and the provision is included in the Senate's tax title of the current "Energy Policy Act of 2003", S. 2095. But these much needed changes have never been included in a bill that was signed into law. Now is the time to assure these much needed changes become law.

The legislation would do the following:

- Allocate the ten-cents-per-gallon production income alcohol fuels credit to the members of a farmer cooperative;
- Change the definition of a "small ethanol producer" from 30 million gallons per year to 60 million gallons per year;
- Allow the credit to be claimed against the alternative minimum tax; and
- Repeal the rule that the amount of the credit is included in the income of the small ethanol producer.

If these modifications were made, each farmer member of a small ethanol-producing cooperative would receive up to a ten-cent per gallon tax credit on his or her share of the company's production in any given year. The effect of the legislation will directly send the benefit of a tax credit to the farmer owners of ethanol processing cooperatives, providing a much needed economic boost to this nation's troubled rural economy.

[3] See H.R. 465 by Rep. Steve King (R-IA) and S. 240 by Sen. Peter Fitzgerald (R-IL).

Conclusion

The federal ethanol program has been a tremendous success, providing economic stimulus to rural America, new jobs, reducing the United States' dependence on imported energy while improving our balance of trade, and lowered auto emissions in our nation's cities. As the Congress considers a comprehensive energy policy, renewable fuels should play a prominent role as an important means to further improve energy security, the environment and the economy. The Congress can do so by extending the ethanol tax incentive, passing VEETC, and making the modifications identified above to the small ethanol producer tax credit. Importantly, enacting a renewable fuels standard (RFS) similar to that contained in H.R. 6, the conference report to the energy bill, would be extremely helpful to growing the domestic renewable fuels industry. By taking these modest steps, the Congress will provide a tremendous economic stimulus to small business across rural America, and take a major step toward a more sustainable energy future for all Americans.

Thank you.

Testimony on behalf of the National Corn Growers Association
Presented by Duane Adams
to
The Small Business Committee Subcommittee on Rural Enterprise, Agriculture and Technology
May 6, 2004

Mr. Chairman, Members of the Committee, my name is Duane Adams. My brother and I raise corn and soybeans near Cosmos, Minnesota. We are investors in a local ethanol coop.

I am the Chairman of the Ethanol Committee for the National Corn Growers Association. I am here today to represent NCGA, its 33,000 members and thousands of corn growers across the country who participate in corn check-off programs.

NCGA appreciates the opportunity to offer testimony today on the benefits of ethanol production to rural America. The strides made by the industry in the past few years are nothing short of miraculous and it is a story that needs repeated telling.

No other energy source has doubled its production in the past three years. In fact, I am not sure that any domestic energy source can come even close. There was virtually no ethanol used in California two years ago. The ethanol industry now supplies 8 per cent of the gasoline supply in the state – a total of 900 million gallons per year. And we can conclusively prove that ethanol has kept the price of gas in California from rising faster than it has. Even the MTBE industry has publicly agreed. The contribution of this domestically produced renewable fuel is being felt at the pump across the country.

But the true success of ethanol is best measured in the benefits to rural America. Ethanol plants bring jobs – good jobs to small rural communities that struggle to keep young people. A 40 million gallon plant will provide more than 40 full time permanent jobs. In small town USA those jobs are vital. Ethanol plants help keep schools and hospitals open and businesses profitable. And ethanol plants provide hope – a commodity that has not been in surplus for many small communities.

Ethanol production is increasingly in the hands of farmer owned coops. ADM is not the big player in the industry. I am – and my brother and our neighbors and tens of thousands of farmers across the Corn Belt. We have become marketers of energy and not just sellers of corn. We are getting more of our income from a value added source and less from farm programs. Ethanol can claim to be the primary reason that the federal farm program will save $2 billion this fiscal year. Taxpayers should like that. Farmers love it. We had a near record corn crop last year and we have high prices this year. That would not have happened if we weren't using more than a billion, three hundred million bushel of corn for the production of ethanol. It is the third largest use of corn behind livestock feed and exports and it is the one use with true growth.

We didn't get to this point by accident. Federal policy supporting the ethanol industry has made this possible. The excise tax credit, the small producer tax credit and other incentives have helped us get the capital to build plants. Federal policy regarding clean air has created a strong demand for ethanol as states ban MTBE and turn to affordable supplies of ethanol in Reformulated Gasoline (RFG). Strong support for the oxygenate standard by the Bush Administration has given the industry the signal to invest and to produce. We heard the challenge and we have met it.

There are those who criticize these programs. I see their point, but disagree that we should do away with them. This renewable industry is out of its infancy and into its adolescence. We are experiencing growing pains and we will not be unlike any other energy source in this country – we will continue to need government policy that encourages investment and production. But the programs that benefit ethanol production are in the form of tax credits and market builders. They are not dependant on the need for military protection nor do they impact our policy with foreign nations. In short, Mr. Chairman, the Army doesn't need to send the 101st Airborne to Cosmos, Minnesota and the Fifth Fleet isn't required to see that our ethanol gets to America's consumers. The current programs for renewable fuels are wise investments – certainly better than the policies that have made us so dependant on foreign petroleum.

NCGA policy strongly supports current renewable programs. But we have joined with others in the ethanol industry to seek ways to advance commonsense solutions to problems we have had. We worked hard to reach a historic agreement with the petroleum industry that calls for flexibility for gasoline blenders and establishes a Renewable Fuels Standard (RFS) that provides stability for the renewable fuels industry. This agreement provided a solution to some difficult political problems for both our industries as well as coming up with good policy. We joined with the highway construction industry and state governors to fix the problem created by the current excise tax credit. The Volumetric Ethanol Tax Credit (VEETC) legislation is a bipartisan solution that helps states that want to use ethanol and need to invest in highway infrastructure. It solved some sticky political problems for both industries and pointed a way for the Congress to pass policy that is good for America and has broad-based support.

Like I have said, Mr. Chairman, we support the current ethanol and renewable fuels programs, but we see some problems and we have worked hard to provide solutions to those problems. We see additional problems and I will speak directly to them.

The programs that benefit ethanol and other renewable fuels were enacted by previous Congresses. We are glad they did and we recognize the leadership and statesmanship that was required to obtain enactment of those policies. This Congress and its predecessor have debated and talked and talked and debated over energy policy for more than three years. Nothing has happened. In that time our nation has become even more dangerously dependent on foreign energy. On September 11, 2001, our nation was attacked by men financed, at least in part, by American dollars spent on foreign oil.

Since then we have fought two wars and our dependence on foreign oil had a lot to do with why we sent our young men and women to that troubled part of the world to do so.

Our farmers have spent countless hours on Capitol Hill and in town meetings and Congressional listening sessions asking members of Congress why we can't pass an energy bill. If we ask a member of the House, he or she will blame the Senate. If we question a Senator, the House is blamed. The Republicans blame the Democrats and the Democrats blame the Republicans. Tom Daschle and Tom Delay seem to be two handy targets. Everyone else is to blame and no one takes responsibility. Let me bring you one very clear message from farmers – quit blaming the other guy and do your work. We can't raise corn without anhydrous ammonia and we can't make anhydrous with natural gas at current prices and supplies. We can't run ethanol plants without energy. Our economy can't get out of its slump with gasoline prices increasing every week.

I have my crop in the ground. I made my investment in the ethanol plant. I write my congressman and Senators. I vote. I encourage my neighbors, friends and fellow farmers to do the same. And I will continue, but let me end with this note – we farmers are looking at you folks to quit bickering and do this nation's business. Our country needs you to do so.

Thank you, Mr. Chairman.

For testimony to Committee on Small Business, subcommittee on Rural Enterprises, Agriculture and Technology, Thursday May 6, 2004.

PRODUCING ETHANOL AS A RENEWABLE FUEL

My name is Charlie Hurst, a fifth generation farmer from North West Missouri and secretary treasurer of Golden Triangle Energy Cooperative of Craig, MO.

The small town in the Midwest is rapidly losing the best and the brightest young people. They are completing their schooling and then leaving for employment in the cities

A small ethanol plant, such as Golden Triangle Energy in Craig, MO (population 309) provides decent jobs for these people and allows them to stay and raise their families in their home environment.

Golden Triangle Energy hires approximately 30 people. The starting wage for the inexperienced is $11 to $12 per hour plus excellent health and retirement benefits. The salaried positions are from $30,000 up.

When you include the jobs of the people moving the corn into the plant and moving the ethanol and feed products out of the plant, it has a major financial impact on the community.

The life blood of all small towns is their schools. If the school closes the town has a very difficult time surviving. The tax base that Golden Triangle has given to the schools and the town of Craig infrastructure (roads, sewers, and etc.) is a major contributor to the stability of Craig, MO.

All of these area improvements would not be possible without the ethanol plant in Craig. The ethanol plant has also had a very positive effect on my family. With the improved prices and the reduction of transportation costs, we now have 3 sons and their families farming with my wife and I. Last year the oldest grandson, the 7th generation to be farming in Atchison County, and his wife also joined the operation. Another agriculture related business in the family, greenhouses, has brought two granddaughters and their families back to this area.

The federal exemption of 5.2 cents per gallon of ethanol is one of the best rural development programs funded by the federal government. It has provided the basis for an expanding ethanol industry in the central United States and reduces the need to import more expensive oil from the mid east.

The ethanol industry now uses 10% or 1 billion bushels of our corn crop. This raises the price of corn nationally from 15 to 25 cents per bushel. Until the last few months the

price of corn to the farmer was below the guaranteed price in the farm program. The farmer was paid the difference in LDP's. Without Ethanol, these payments would have averaged 20 cents per bushel more on the entire corn crop of 10 billion bushels

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This benefit alone would have offset the 5.2 cents per gallon the federal government paid supporting ethanol. Not only has the ethanol industry raised the price of corn nationally, but locally around the town of Craig, the price has risen another 10 to 15 cents. This means that rather than shipping the corn another 50 to 75 miles to a terminal; we are delivering the corn locally, saving transportation costs.

The increased price of the corn goes directly to the farmers "bottom line". The income and social security taxes the farmer pays is another huge offset to the 5.2 cents government subsidy.

There have been studies in the past that have cast doubts on the energy efficiencies of producing ethanol. The latest studies by USDA show that we are getting 34%* more energy from a bushel of corn than the inputs in producing that bushel of corn. These efficiencies will only improve in the future. We also are converting corn to a more usable form of energy. With the introduction of the hydrogen fuel cell, ethanol will become even more desirable.

As we import more and more of our energy needs, as we are more concerned with the quality of the air we breathe, and as the cost of all forms of energy are increasing, I believe we must expand the use of ethanol as a clean burning, renewable energy source.

The 5.2 cent federal subsidy is needed by the industry to be a viable renewable energy source. It is not, however, a direct drain on federal resources as offsetting savings in the federal farm program, the jobs and taxes the industry provides, and the savings in the balance of trade more than offset this cost

* Agriculture Economic Report #813 USDA

Testimony of Phillip J. Lampert
Executive Director
National Ethanol Vehicle Coalition

Before the House of Representatives Subcommittee on Rural Enterprise, Agriculture, and Technology

Washington, D.C.
May 6, 2004

Good morning, Chairman Graves, Ranking Member Ballance, and distinguished members of the Committee, my name is Phillip Lampert and I serve as the Executive Director of the National Ethanol Vehicle Coalition, or NEVC.

The NEVC is the nation's primary advocate of the use of 85% ethanol as a form of alternative transportation fuel. From our headquarters in Jefferson City, Missouri, we have established partnerships across the nation to advance the establishment of fueling infrastructure and promote the use of 85% ethanol as an alternative to the use of petroleum based fuels.

Our members include automakers such as General Motors, DaimlerChrysler, and Ford Motor Company; state and national corn grower associations; ethanol producers; equipment manufacturers and suppliers; ethanol marketers; the 29 states that comprise the Governors' Ethanol Coalition; farmer cooperatives; chemical and seed companies; petroleum marketers; and individuals. Our focus in regard to the use of ethanol is very narrow in that we concentrate our efforts and resources on advancing the next generation of use of ethanol.

As the Chairman and members of the Committee know, motor vehicles produced and sold in the U.S. have been able to use a 10% blend of ethanol for many years. Initially established to extend the availability of petroleum, ethanol has transformed itself from the "gasohol" of the early 1970's to the oxygenate of choice in 2004.

In July of 1979 as then President Jimmy Carter addressed the nation, calling the battle to achieve energy independence the moral equivalent of war, gasohol availability was limited to Nebraska, Iowa, and several other Midwest states. Today, almost 900 million gallons of ethanol are being used in California and hundreds of millions of gallons on the east coast and elsewhere across the nation. This ethanol is added to our gasoline, typically in a blend of 1 part alcohol to 9 parts gasoline, to improve air quality, add octane, and reduce dependence on imported petroleum.

My colleagues whom have preceded me this morning, two of which are representing organizations that are members of the National Ethanol Vehicle Coalition, have provided an outstanding summary of the positive impact that Biofuels have on our nation's economy, balance of trade deficit, and environment. While the use of ethanol has expanded from approximately 310 million gallons in 1980 to the more than 3.3 billion gallons expected to be produced in 2004, by and large the vast majority continues to be dependent on blending with high amounts of gasoline.

The National Ethanol Vehicle Coalition strongly supports to the continued growth and development of the use of ethanol as an oxygenate and renewable fuel and we have worked with our colleagues and Members of the Congress to adopt a Renewable Fuels Standard. However, the focus of the National Ethanol Vehicle Coalition and that of the balance of my comments, are directed to "other" uses of ethanol as a form of alternative transportation fuel.

Beginning in 1992 with the initial production of 272 E85 flexible fuel Luminas built by General Motors, we expect that during the current model year more than 1.5 million flexible fuel vehicles will be produced and sold in the U.S. By the end of August 2004, we estimate that approximately 4.5 million FFVs will be on the nation's highways. These "flexible fuel vehicles" are capable of operating on any blend of ethanol, from 10% up to 85%, or where ethanol fuels are not marketed, on pure gasoline.

The electronic control module in the vehicle "reads" the level of alcohol in the fuel and automatically modifies the air-fuel ratio of the engine to take advantage of the many benefits of ethanol. There are no "switches to flip", additional fueling tanks, or other controls needed for these flexible fuel vehicles to be able to operate. The technology is transparent to the driver and most importantly; this flexible fuel capability is provided on these vehicles at no extra cost to the consumer.

E85, and potentially the use of 100% ethanol as a motor vehicle fuel, has a tremendous opportunity to be the impetus to propel ethanol utilization in the next decade and beyond. The 4.5 million flexible fuel vehicles currently on our highways, could, if using E85, consume and additional 3.4 billion gallons of ethanol. That is in addition to the 3.3 billion gallons that are expected to be used during 2004 as a blend. Unfortunately, again using statistics provided by the Energy Information Administration, we expect to consume approximately 30 million gallons of ethanol in these FFVs, or slightly less than 1% of the total potential demand that could be generated by this technology.

The primary factors that contribute to this very low level of penetration in this potentially huge new market, is primary due to 3 factors:

- First, the lack of E85 fueling infrastructure-less than 400 public and private sites exist across the nation that provide such fuel. Compare this to the 160,000 gasoline service stations.
- Second, the difficulty that is currently inherent with the use of the incentives that Congress has provided to advance the use of ethanol. These current incentives are negatively impacted by the Alternative Minimum Tax, the inability of many Sub-

S corporations to be able to use the incentives, and the need for many corporations to "carry the credits" until the subsequent tax year.

- And finally, the lack of education and knowledge of many of the drivers of these vehicles that are only rarely aware that their vehicle has been produced as an FFV.

Mr. Chairman, with your indulgence, I would like to very briefly outline potential solutions to these problems, which if adopted, would significantly advance the use of E85 in these existing vehicles.

1. Passage of the "Volumetric Ethanol Excise Tax Credit" that would provide immediate relief to the Highway Trust Fund and provide immediate reimbursement to blenders of ethanol so that the existing tax incentives can be utilized.
2. Passage of the "Renewable Fuel Standard" that would allow refinerers and marketers more flexibility in the use of ethanol, and finally;
3. Placing additional attention on the federal fleet to provide leadership in the use of all forms of alternative fuel vehicles.

Actions relating to the VEETC and the RFS are currently pending in the Congress and have been extensively debated. I would like to take just a few moments to address federal alternative fuel leadership.

The government of the United States is the worlds single largest user of petroleum products and maintains the worlds largest fleet of vehicles. There have been attempts to modify the behavior of the government to advance alternative fuel use, however these have frequently come up short.

As an example, the Energy Policy Act of 1992 "requires" federal agencies to purchase alternative fuel vehicles. Twelve years after the adoption of this mandatory measure, many federal agencies continue to fail to meet the purchase requirements. While some progress has been made in meeting the purchase requirements, EPACT fails to address the use of alternative fuels in these vehicles. Hence there is a glaring lack of use of any form of alternative transportation fuel.

Additionally, Executive Order 13149 issued by the Clinton Administration and embraced by the current administration, requires federal agencies to reduce petroleum consumption 20% by 2005 from their 1999 baseline. There is little if any attempt being made to follow this Presidential Directive and it is unlikely that any federal fleet will meet the 20% reduction in petroleum consumption.

Clearly national energy independence cannot be achieved solely on the actions of the federal fleet. However, there is a place and role of leadership that the federal government may wish to more closely address in regard to the use of domestic alternative transportation fuels.

Mr. Chairman and Members of the Committee, there has been much progress made and the Congress is currently addressing other important issues relating to ethanol and biodiesel utilization. We appreciate and applaud these efforts and stand ready to assist.

Thank you for the opportunity to provide these comments.

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Carol Werner, Executive Director

Testimony of

Carol Werner
Executive Director
Environmental and Energy Study Institute

Before the U.S. House of Representatives
Committee on Small Business
Subcommittee on Rural Enterprise, Agriculture and Technology

"The Benefits of Tax Incentives for Producers of Renewable Fuels and its Impact on Small Businesses and Farmers"

May 6, 2004

Chairman Graves, ranking member Ballance, other members of the Subcommittee, thank you for giving me the opportunity to participate in this important hearing on renewable fuels and the future of this country's biobased economy.

My name is Carol Werner. I am the executive director of the Environmental and Energy Study Institute (EESI), a non-profit organization dedicated to promoting environmentally sustainable societies. EESI produces timely information and innovative public policy initiatives that lead to these transitions. These products take the form of publications, briefings, work shops and task forces. EESI hosts 20-30 Congressional briefings each year on leading environmental, energy, science and technology issues before the Congress. EESI was founded in 1984 by a bipartisan group of Members of Congress concerned about energy and environmental issues.

EESI has three main areas of program work: Energy & Climate Change; Clean Bus/Sustainable Transportation; and Agriculture & Energy.

EESI believes that farmers across the country can and must play an important role in our country's energy future. We see agriculture addressing three critical drivers that are fundamental to our national concerns: rural economic development; national energy security through reduction of oil use and oil imports; and environmental protection, especially reduction of greenhouse gas emissions that contribute to global climate change. Furthermore, we now have all seen countless reports on the connection between powerplant and vehicle emissions and public

health and the enormous increase in asthma cases among children. Use of biofuels can help address that, too. How many times do we find the opportunity to solve multiple problems with the kind of "win-win" solutions provided by the production of renewable energy in the form of electricity, biofuels and biobased products that can be produced by America's own farms?

Enormous opportunities exist for developing rural America's clean energy resources, including biofuels, bioenergy (the production of electricity, useable heat, or liquid fuels from biomass), wind, solar, and energy efficiency. Yet there exists a tremendous knowledge gap among policymakers, farmers, and other key stakeholders about these opportunities. EESI seeks to educate policymakers and other stakeholders about the potential economic development, energy security, and environmental benefits of tapping these resources. This requires building alliances between rural and urban policymakers by demonstrating that both constituencies stand to benefit from renewable energy development.

A Biobased Economy

EESI first became involved in agriculture and energy issues because we saw ethanol as being an excellent vehicle for fossil fuel displacement, and we still believe that. Over time, however, we have come to recognize ethanol as being one part of a larger effort to transition to a "biobased economy." Innovators are hoping to change the transportation fuels market by creating biobased renewable fuels like ethanol and biodiesel; entrepreneurs are seeking to recreate the oils we use and the way in which we produce products through the use of bio-oils and biobased products; and large chemical manufacturers are hoping to change the structure of the "petro-chemical" industry through the use of biobased industrial chemicals.

The private sector, public sector and the academic community are becoming increasingly engaged in moving towards a more "biobased" economy which uses renewable raw materials – as opposed to fossil fuels – to produce products and energy. In short, such a transition will be made up of bioenergy, biobased products, and biofuels like ethanol and biodiesel.

Bioenergy: Bioenergy currently totals 7,000 megawatts of U.S. electric capacity, accounting for around 85 percent of non-hydroelectric renewable energy generation. Recent studies indicate that additional (presently unused) quantities of economically available biomass may exceed 39 million tons per year in the U.S. - enough to supply about 7,500 MW of new biopower - a doubling of the existing U.S. biopower capacity.

The biomass power industry represents a $15 billion investment and 66,000 jobs. According to a report prepared for US DOE by five National Laboratories, domestic biomass generation capacity could reach 20-30 GW by the year 2020 by cofiring at existing U.S. coal-fired power plants.

Biobased Products: Just as petroleum is processed in refineries to produce fuels, chemicals, and other co-products, so too can biomass be processed in "biorefineries" to

produce energy, fuels, and a variety of marketable "biobased products" in the same facility, taking advantage of synergies of production. Biobased products can be made by using a variety of biomass feedstocks, including, but not limited to, traditional and new agricultural and forestry crops and residues; rights-of-way, park, yard and garden trimmings; municipal wastes; and many more. Essentially any product that can be derived from petroleum can also be produced from biomass, including industrial chemicals, cleaning products, paints and stains, lubricants, plastics, packaging materials, transportation fuels, construction materials, adhesives, and insulation, to name a few.

According to the Committee on Biobased Industrial Products, "Enough biomass waste is generated annually – approximately 280 million tons – to supply domestic consumption of all industrial chemicals that can be made from biomass and still contribute to the liquid transportation fuel need."1 Proponents of biobased products point out that using renewable biomass resources lessens dependence on foreign oil and reduces or eliminates the use of toxic substances harmful to human health and the environment.

Biofuels

Biomass can be used as an energy source in its solid form, and it can also be converted into a liquid or gaseous state. Conventional biofuels such as starch-based ethanol or soybean or other oilseed-based biodiesel can substitute for gasoline and diesel or be blended with them in order to reduce greenhouse gas emissions, help communities improve air and water quality by reducing toxins and criteria air pollutants and reusing waste streams, create revenue for the agriculture sector and support rural economies, and increase energy security.

An averaged sized plant of 40 million gallons consumes roughly 45 trailer trucks of corn every day. According to the National Farmers Union, the plant could inject 30-40 relatively high-paying jobs into the community and could raise local corn prices by as much as a dime a bushel. Regardless of whether they sell their corn to the ethanol plant or not, that is a winning situation for farmers. For example, for a farmer with 600 acres of corn, that translates to an additional $9,000 of revenue.

The biofuels industry has witnessed extraordinary progress over the last decade: Ethanol currently is blended in 30% of the nation's gasoline. In 2003, a record 2.81 billion gallons were produced, and there are currently 76 ethanol plants with a total annual production capacity of 3.3 billion gallons. And, as the industry grows, smaller producers are finding ways to leverage their production. Farmer-owned ethanol producing co-operatives that sell directly to refiners are increasingly a presence to be dealt with. Farmer co-operatives built 15 of the 16 plants completed in the last four years, and now account for roughly 33 percent of total industry capacity.

The progress of these ethanol co-operatives stands in stark contrast to much of the agricultural sector. Whereas most agricultural markets are increasingly controlled by a handful of large companies, ethanol markets have actually become more competitive over

1 Biobased Industrial Products: Priorities for Research and Commercialization: www.nap.edu/openbook/0309053921/

the years. In doing so, ethanol and biodiesel use and production helps the agricultural sector by expanding the market for our farm commodities. In short, biofuels are an important opportunity through which farmers – especially smaller producers operating in co-operatives or farmer-owned entities – can add value to their products, thereby fostering their ability to remain economically viable and enhance local community economic development.

Much of the progress in biofuels has come from the traditional commodity feedstocks corn and soybeans. And, while we do not doubt that this will continue to be the case for the considerable future, it is also important to recognize the long-term potential impact of alternative feedstocks in the production of biofuels. This enables regions around the country to become full participants in the development of local bio-based businesses and provides important diversification to the agricultural sector.

Researchers and entrepreneurs are investigating the possibility of growth and harvesting woody biomass crops such as willow biomass. Dedicated crops such as willow biomass crops or switch grass offer high potential in the way of biofuels and bioenergy, high heat value per dry ton and resprout vigorously after each harvest. High energy-yielding crops like willow decrease soil erosion and improve water quality by removing nitrates from soil that can easily find their way into water sheds.

And, as a 2003 USDA study indicates dedicated crops like these can have sizeable impacts on farm income. Under a "wildlife management scenario," the analysis indicates that at $30/dry ton (dt) for switchgrass, $31.74/dt for willow and $32.90 for poplar, an estimated 19.4 million acres of cropland (8.2 million from CRP) could be used to produce 96 million dry tons of bioenergy crops annually at a profit greater than the profit created by existing uses for the land. In this scenario, traditional crop prices increase from 3 percent to 9 percent (depending on crop) and net farm income increases by $2.8 billion annually.

At $40/dt of switch-grass, $42.32/dt for willow and $43.87/dt for poplar and assuming the production management scenario, an estimated 41.9 million acres (12.9 million from CRP) could be used to produce 188 million dry tons of biomass annually. Under this scenario, traditional crop prices increase by 8 to 14 percent and net farm income increases by $6 billion annually.

Also, a variety of open-loop biomass resources (agricultural, municipal, forestry byproducts, wastes, thinnings, etc.) also offer tremendous potential for biofuels production. The use of waste streams to produce cellulosic ethanol can be an environmentally friendly and cost-effective process. One of the most economically efficient ways of producing it is through the use of agricultural wastes such as industrial "residues," or, byproducts of food, fiber, and forest production. Examples of this include rice hulls and forest thinnings, municipal waste such as waste paper and yard waste, and industrial waste such as pulp/paper and sludge.

Cellulosic ethanol brings also brings several significant environmental advantages. According to Argonne National Laboratory cellulosic ethanol will have a significant impact on fossil energy use, petroleum consumption, and greenhouse gas (GHG) emissions. Specifically, by 2010, it is expected that the use of E10 (10% ethanol, 90% gasoline blend), E85 (85% ethanol, 15% gasoline blend), and E95 (95% ethanol, 5% gasoline blend), will offer reductions in GHG emissions of 112–144%, 86–115%, and 85–114% respectively.[2] It may appear strange to see reductions of over 100%, but in those cases electricity generated in cellulosic ethanol plants may actually be more than what is needed. The plant would then be able to sell that back to the electricity grid, which serves to effectively reduce emissions that would likely have come from other, non-renewable electricity sources

Also, because producing cellulosic ethanol can take advantage of what can be harmful waste streams – organic components of municipal waste, yard waste, industrial waste such as pulp/paper and sludge, grass straws, tree trimmings and animal waste streams - and converting it into clean burning fuels, it can help to prevent toxics from affecting water and soil quality. In essence, waste streams can instead become revenue streams – a "win-win" strategy.

Tapping waste resources for biofuels can mean increased geographic diversity of biofuels production. Municipal solid waste, cooking oils, animal fats, agricultural residues are found around the country, and tapping into these resources will mean that regions previously unfamiliar with renewable fuels production will have a seat at the table. This is particularly true for entrepreneurs and small businesses looking to break into the renewable fuels market.

We are seeing this taking place in upstate New York, where Masada Resources Group plans to construct an ethanol facility using technology that converts municipal solid wastes into fuel ethanol and other byproducts on a commercial basis.

EESI also sees the development of waste-based biofuels as crucial to combating the erroneous conception that biofuels are a "corn state" giveaway – a common perception among the general public and many Members of the Congress. Farmers and communities around the country face the challenges of waste streams polluting watersheds and overflowing landfills. These problems can become solutions when we look to turn wastes into renewable energy, and can create wealth for small businesses and local/rural economies. Moreover, expanding biofuels production to waste resources also gives urban areas the opportunity to become producers of biofuels, thereby bridging the urban and rural divide. This will help to counter a longstanding argument that biofuels like ethanol are an unfair imposition thrust upon urban areas by "farm states."

Federal Policy

To accomplish this vision, however, it is essential that there be a supporting policy infrastructure that enables the kind of market development, removal of barriers and

2 Argonne National Laboratory: "Effects of Fuel Ethanol Use on Fuel-Cycle Energy and Greenhouse Gas Emissions," Wang, Saricks, Santini, January 1999.

leveling of the playing field that is essential if renewable energy, biofuels and biobased products are allowed to become a cornerstone of national energy, security, environmental and economic development strategies. There are a handful of federal policies regarding biofuels that impact farmers and small businesses.

Renewable Fuels Standard (RFS): Enactment of a national Renewable Fuels Standard has been a major priority for us and for our work with our country-wide, ag-based coalition/network. This would require 5 billion gallons of biofuels (ethanol and biodiesel), to be in the motor fuels market by 2012, along with a phase-out of MTBE, which has polluted groundwater nationwide.

The economic impact of the RFS will be substantial. A 2002 study by US Department of Agriculture (USDA) found that the federal Renewable Fuels Standard (RFS), as laid out in the Senate 2003 Energy Bill, would have increased demand for corn and sorghum, and by 2011, "prices would be up about 13 cents per bushel or 5 percent." The increased demand for ethanol would also impact net farm income. In the short-term (2002-05), the effects on farm income would be relatively small, but the period 2006-2011 would see net farm income rise "on average by $0.7 billion a year." The USDA study found that the increasing size of the ethanol market would also influence employment, creating an estimated 13,500 jobs in the United States economy.

As a side note, the debate over a Federal Renewable Fuels Standard in the 2003 Energy Bill was rife with misinformation on ethanol. As has historically been the case, these criticisms included concerns over ethanol's energy balance, air quality impacts, farm subsidies, market consolidation, and the lobbying behind "corn-belt politics." All of these criticisms can be answered, but doing so is requiring significant ongoing educational efforts.

Signed into law in May 2002, the **Energy Title of The Farm Security and Rural Development Act of 2002 (H.R. 2646/P.L. 107-171)**, has received strong bipartisan support and is the federal government's most significant attempt to spur the development of agriculture-based renewable energy production, including, of course, biofuels. Among other things, the legislation encourages federal procurement of biobased products, provides grants and loans for renewable energy projects, and funds vital research and development in bioenergy. As a policy tool, this is having and will continue to have an impact on small producers and entrepreneurs. Three programs in particular from the Energy Title are salient for small producers and entrepreneurs:

1. Sec. 9002, the **Federal Procurement of Biobased Products program,** requires Federal agencies to purchase biobased products that meet price, availability, and performance standards; provides for a voluntary labeling program of certified "Biobased Products;" and provides financial assistance for testing of biobased products by manufacturers. In late 2003, USDA published its proposed rule to implement the Federal Procurement of Biobased Products program, which was followed by a public comment period that ended, in February, 2004.

Harnessing the power of the Federal procurement process will play a pivotal role in helping biobased products find a foothold in the market place. Thousands of entrepreneurs across – including biofuels and bio-oils producers – will soon have access to federal purchasers.

2. Sec. 9006, **Renewable Energy System & Energy Efficiency Improvements,** establishes a grant and loan program to assist farmers in purchasing renewable energy systems and making energy efficiency improvements. The program is designed to help farmers become net energy producers of on-farm renewable energy. In August, USDA announced awards for 113 applications in 24 states totaling $21,207,233: 35 applications totaling $7.4 million to support wind power, 30 applications totaling $7 million for anaerobic digesters, 6 applications totaling $1.1 million solar and 16 applications totaling $3.9 million for ethanol plants/anaerobic digesters, direct combustion and fuel pellet systems.

   This program is unique in its ability to target project development among farmers and entrepreneurs looking to become net producers of renewable energy. And, according to models developed for USDA by the US Department of Energy, this investment will result in approximately $100 million of new renewable energy systems and energy efficiency improvements on the ground, approximately 274 million kWh of saved electricity (which represents the energy needs of over 26,000 homes), and a reduction of half a million barrels of imported oil. Moreover, the total estimated reduction in green house gas emissions as a result of funding is equivalent to 60,000 metric tons of carbon dioxide.

3. Sec. 6401, the **Value-added Grant Program,** The program was created to spur development of new uses for agricultural products, and the 2002 Farm Bill amended the program to include renewable energy. On December 11, 2003, USDA announced the approval of $28.7 million in fiscal year 2003 Value-Added Producer Grants (VAPG) to 184 projects in 40 states. In this award cycle, 29 applications focusing on biomass and renewable energy were selected to receive $4.3 million in grant funds. **This is an extremely popular program among farmers: USDA received nearly 800 applications for fiscal year 2003, and funded 184 of them for a total of $28.7 million.** Grant monies were awarded to 12 ethanol-related projects, 9 biodiesel projects, four wind projects, and a handful of other technologies.

   Again, this program is designed specifically to provide small producers, farmers, entrepreneurs with a way to leverage themselves into renewable energy and biofuels.

Unfortunately, these last two programs, very important in encouraging project development of biofuels and renewable energy among small producers have been targeted for funding cuts in the administration's budget for the past two years. Most recently, the administration has proposed cuts of $12 million (52 percent) to Sec. 9006, the Renewable Energy System & Energy Efficiency Improvements program, and $25

million (a cut of 61 percent from the Farm Bill's funding level) to the Value-added Grant Program.

The **Volumetric Ethanol Excise Tax Credit (VEETC), H.R. 3119,** provides an important opportunity to ensure that the ethanol tax incentive does not take away funds for state highway construction. VEETC requires that the full amount of excise taxes levied go to the Highway Trust Fund, resulting in an additional $2 billion in revenue for the Fund. Importantly, this will allow the renewable fuels industry to work under the same tax collection system as the petroleum industry. It can also do much to spur the commercialization and use of E-85 because the tax system will no longer be based on blends but rather on gallons.

Notably, VEETC does include a biodiesel tax incentive that will spur new production from traditional feedstocks like soybeans as well as waste oils like animal fats. It also allows gasoline marketers to claim credit for on-road as well as off-road diesel uses.

Also important is the fix to the **Small Ethanol Producer Tax Credit** as included in the tax provisions of the "Energy Policy Act of 2003." As the small ethanol producer program is currently structured, a small ethanol producer can manufacture no more than 30 million gallons of ethanol per year in order to qualify for a 10 cent per gallon tax credit for the first 15 million gallons of production per year. The legislation would update the definition of a small ethanol producer from a maximum production of 30 million gallon per year to 60 million gallons. The credit was originally designed to help smaller-scale producers gain a foothold in the ethanol market. However, farmer-owned plants now routinely produce 40 to 50 million gallons each year, which rendered the 30 million gallon limit outdated.

Leading by Doing: Utilization of renewable energy (wind, solar, bioenergy, etc.) by the federal government will dramatically change the market. In the course of federal policy it is imperative to ensure that small business are not discriminated against, but indeed are assisted in being key players in the evolution of renewable energy/biofuels produced by the agricultural sector.

In closing, Mr. Chairman, renewable energy, including biofuels, biobased products, and bioenergy have an important role to play as we transition to a biobased economy. And never before have had we had more reasons to expedite this transition. Issues of national security, energy security, the decline of our agricultural sector and the loss of farmland to ever encroaching development, and serious environmental issues like global climate change demand our immediate attention.

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Testimony before House Small Business Committee,
Subcommittee on Rural Enterprise, Agriculture, and Technology
Submitted By the National Biodiesel Board
Joe Jobe, Executive Director
May 6, 2004

Chairman Graves, ranking member Ballance, other members of the Subcommittee, thank you for giving me the opportunity to participate in this important hearing on renewable fuels. I commend the Subcommittee for recognizing the role renewable fuels play as an economic stimulus, while providing energy security. I would also like to add, Mr. Chairman, that your long-standing support for these issues are noteworthy. Your advocacy dating back to your days in the Missouri state legislature has helped pave the way for biodiesel as a national fuel.

My name is Joe Jobe, Executive Director of the National Biodiesel Board (NBB) headquartered in Jefferson City, MO. NBB is the national trade association representing the biodiesel industry as the coordinating body for research and development in the US. It was founded in 1992 by farmer-led soybean commodity groups, who were funding biodiesel research and development programs. Since that time, NBB has developed into a comprehensive industry association, which coordinates and interacts with a broad range of cooperators including industry, government, and academia. NBB's membership is comprised of state, national, and international feedstock and feedstock processor organizations, biodiesel suppliers, fuel marketers and distributors, and technology providers.

Mr. Chairman, for several decades the US has deployed policies aimed at maintaining inexpensive petroleum supplies in order to support the domestic economy; but this approach has had other long-term costs. As you know, last fall was the 30 year anniversary of the 1973 Arab Oil embargo when OPEC declared economic warfare on the United States and the West by quadrupling the price of crude oil over four months, and sending the United States into a deep recession lasting several years. In 1973 oil imports accounted for less than 30% of our petroleum supply. Thirty years later, we are more dependant than ever on foreign oil, which accounts for nearly 60% or our petroleum supply and is the single largest component of our national trade deficit. The last 5 economic recessions in the United States have been immediately preceded by a shock in oil prices. In addition, the US has been faced with the enormous costs of protecting shipping lanes and strategic interests in the most hostile and unstable regions of the world. In order for the United States to break this cycle of dependence,

we must embrace policies which support the development of cleaner, renewable fuels to supplement our domestic energy supply, protect the environment and support US economic development. Biodiesel offers an immediate and long term solution as part of an integrated, diversified energy portfolio.

Biodiesel is a diesel fuel substitute made from agricultural products such as vegetable oils or animal fats. It is produced through a process, which separates the glycerin in the oil, and the resulting compound acts very chemically similar to petroleum diesel fuel in a diesel engine. It can be used in conventional diesel engines in pure form, or blended with any concentration with petroleum diesel. The most common blends are B20, a mixture of 20% biodiesel with 80% petroleum diesel, and B2; a blend of 2% biodiesel as a renewable premium fuel additive.

Biodiesel is one of the best-tested alternative fuels in the country, with more than 50 million successful road miles and countless off-road and marine hours in virtually every diesel engine type, and diesel application. It has similar torque, horsepower, and fuel economy. But it burns significantly cleaner and has premium fuel attributes. Biodiesel reduces virtually every regulated emission except for Nitrogen Oxides (which are either slightly increased or decreased depending on the test method and engine type used).

US soybean farmers have invested more than $40 million through their checkoff programs into biodiesel. Biodiesel is making a transition from a research and development phase to a commercialization phase. Biodiesel sales were approximately 500,000 gallons nationwide in 1999. The industry has seen aggressive growth to approximately 25 million gallons in 2003. According to the US Department of Energy, biodiesel has become the fastest growing alternative fuel in the country. More than 400 major commercial fleets have begun using biodiesel blends including all branches of the military, NASA, Department of the Interior, state departments of transportation, public utilities, school districts, and municipal fleets.

Biodiesel blends can be used in any diesel engine application including power generation, locomotive, mining, marine, and heating oil. The USDA Research Center here in Beltsville, Maryland, uses biodiesel blends in all of its diesel vehicles and its boiler system, and they have been influential in educating other fleets and the public about the benefits of biodiesel.

While biodiesel can and is being used in today's diesel engines, the future of diesel is about to shift dramatically. The EPA has ruled that beginning in 2006, diesel fuel will undergo a 97% reduction of sulfur. The refining process to remove sulfur from diesel fuel will also reduce the lubricating characteristic in diesel fuel, which is critical to the proper performance of a diesel fuel injection system. Biodiesel already meets the 2006 sulfur standard because it contains virtually no sulfur. Plus, biodiesel is highly effective as a renewable lubricity additive. Just 2% biodiesel can improve lubricity by as much as 65%.

During EPA's rulemaking process, Stanadyne Automotive, the largest fuel injection equipment manufacturer in the US submitted comments stating that 2% biodiesel in the entire diesel fuel pool is a superior solution to the lubricity problem

created by the rule. The state of Minnesota has already taken a leadership role in the utilization of biodiesel, by enacting legislation requiring by next year all diesel fuel sold in the state contain 2% biodiesel. Several other states have enacted legislation aimed at increasing the utilization of biodiesel in their state.

The EPA's rule also contains emissions targets, requiring engine manufacturers to employ emission control devices otherwise destroyed by sulfur. These devices will reduce nitrogen oxide and particulate matter (PM) emissions from diesel engines by more than 90%. This means primary emissions remaining will be air toxics and greenhouse gases. Biodiesel addresses these two remaining categories of emissions better than any other technology currently available in heavy-duty vehicles and equipment. According to the US Department of Energy, biodiesel reduces toxic air contaminants by up to 90% and has a lifecycle reduction of carbon dioxide of 78%. It could be said that using biodiesel has the effect of putting diesel engines on a "low-carbon" diet.

Biodiesel blends are compatible and complimentary to this future diesel platform. Furthermore, biodiesel development is a good fit within long-term energy strategies. Although fuel cell technology has been embraced as the future of energy, many barriers remain for successful implementation of fuel cells, especially in heavy-duty applications. We are several decades away from a time when fuel cells will be able to replace diesel in the heavy-duty sector.

However, fuel cells have shown more promise in the industrial and light-duty transportation sectors. Correspondingly, biodiesel can assist in the successful implementation of fuel cell technology because tests have shown that biodiesel makes an excellent fuel for fuel cells. Biodiesel meets all the criteria as a candidate for fuel cells. It is an excellent hydrogen donor, it is easily reformed, it is renewable and domestically produced, has the best energy balance of any fuel, and it is compatible with our existing liquid fuel infrastructure.

In addition to the energy and environmental benefits, biodiesel offers substantial benefits to our economy. Several independent economic studies have shown that biodiesel provides significant potential benefits to agriculture as well as to rural and urban economic development opportunities.

A study completed in 2001 by the USDA Office of Energy Policy and New Uses in conjunction with the Economic Research Service (ERS) found an average annual increase equivalent to 200 million gallons of soy-based biodiesel demand boosts the total crop cash receipts by $5.2 billion cumulatively by 2010, resulting in an average net farm income increase of $300 million per year.

Another study completed that same year conducted by the Food and Agricultural Policy Research Institute (FAPRI) confirmed ERS's findings and found that while soybean farmers would receive more overall value for their soybean crop, protein meal prices would decrease. This has the positive impact of lowering feed costs for livestock producers and making US meal exports more competitive on the international market.

Finally, a third study was completed that year by AUS Consultants which further reinforced the findings of the other studies, and also showed how taxpayers would benefit from increased renewable fuels use because the increased demand for farm crops would decrease costs of government farm programs by $7.8 billion between 2002 and 2016.

A number of other economic studies have been completed which are consistent with these findings and can be made available to this Subcommittee upon request.

Consistent with the objective of this hearing, I would like to identify two federal initiatives currently being considered by Congress, and when enacted will have a large impact on the increased use of biodiesel. First, included in the Senate version of the Transportation Bill, is a provision referred to as the Volumetric Ethanol Excise Tax Credit or VEETC. The VEETC provisions restructure the current excise tax exemption for ethanol by making it a tax credit, and creates a reimbursement mechanism from the General Fund to the Highway Trust Fund. This restructuring increases revenue to the Highway Trust Fund, reduces fraud, and makes ethanol more workable for the petroleum industry.

The VEETC provisions in the Senate Transportation Bill also include a similar tax credit for biodiesel. The biodiesel tax provisions will incentivise the petroleum industry to incorporate biodiesel into the petroleum infrastructure and fuel pool, and will help lower the incremental cost of biodiesel to the end user. Unfortunately, the biodiesel tax incentive was not included in the House Transportation Bill. Congressmen Kenny Hulshof (R-MO) and Earl Pomeroy (D-ND) have led a bipartisan effort in the House to include the biodiesel provisions.

Indeed, the biodiesel tax provisions were included in the final version of the Comprehensive Energy Bill, which the House passed by a sound margin. I would encourage this Subcommittee to continue raising awareness of these important provisions with your colleagues. I respectfully request this Subcommittee send a letter supporting the VEETC, including the biodiesel provisions, to House leadership.

The other initiative currently under consideration by Congress is the Renewable Fuel Standard (RFS). This program replaces the oxygenate requirements in the Clean Air Act with a renewable fuel requirement. The RFS was also passed by the House, in the Energy Bill. Biodiesel was included as an eligible fuel for refiners to meet renewable fuel goals. When the RFS provisions pass, biodiesel will be incorporated into future diesel fuel as a renewable additive to solve lubricity issues with ultra-low sulfur diesel, and to meet RFS requirements. Unlike other alternative fuels, low blends of biodiesel can be transported by existing petroleum pipelines. This is already being done in Europe. The European Commission has included biodiesel as a primary means of greenhouse gas reduction.

The VEETC and the RFS will have a positive impact on the biodiesel and ethanol industries, and would result in a dramatic improvement in our nation's energy security and economy. Biodiesel represents an existing technology that can be brought to bear immediately to supplement our existing energy supplies using domestic agricultural resources we have today and can continue growing tomorrow.

In closing, Mr. Chairman, the importance of biodiesel as an alternative fuel to the nation's economy has never been greater, and its value promises to grow even larger. Oil prices are at all-time highs and are once again threatening the American economy. It is time for the United States embrace energy policies which will improve our energy security, protect the environment, and stimulate our economy. Thank you.

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