AGRICULTURE'S ROLE IN A RENEWABLE FUELS STANDARD

HEARING

BEFORE THE

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HOUSE OF REPRESENTATIVES

ONE HUNDRED NINTH CONGRESS

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AGRICULTURE'S ROLE IN A RENEWABLE FUELS STANDARD

THURSDAY, JULY 21, 2005

HOUSE OF REPRESENTATIVES,
COMMITTEE ON AGRICULTURE,
Washington, DC.

The committee met, pursuant to call, at 10:05 a.m., in room 1300 of the Longworth House Office Building, Hon. Bob Goodlatte (chairman of the committee) presiding.

Members present: Representatives Pombo, Lucas, Moran, Gutknecht, Johnson, Osborne, Pence, King, Schwarz, Foxx, Conaway, Fortenberry, Peterson, Holden, Etheridge, Baca, Cardoza, Herseth, Melancon, Salazar, Barrow, Pomeroy, Boswell, Larsen, Davis, and Chandler.

Staff present: William E. O'Conner, Jr., staff director; Ben Anderson, Jeremy Carter, Callista Gingrich, clerk; Lindsey Correa, Jennifer Daulby, Bill Imbergamo, Josh Maxwell, Tyler Wegmeyer, Rob Larew, Chandler Goule, and Anne Simmons.

OPENING STATEMENT OF HON. BOB GOODLATTE, A REPRESENTATIVE IN CONGRESS FROM THE COMMONWEALTH OF VIRGINIA

The CHAIRMAN. Good morning. This hearing of the House Committee on Agriculture to review agriculture's role in a renewable fuels standard will come to order.

Let me begin by extending a warm welcome to our distinguished witnesses for today's hearing before the House Committee on Agriculture as we review the renewable fuels standard and its influence on the agriculture community.

The House and Senate are currently working together on an energy bill. I believe this is an appropriate time to discuss how agricultural and forestry products, the source of most ethanol and biodiesel, will benefit from a renewable fuels standard provision currently being considered in that energy bill.

The energy bill, however, is not the only legislation to include a renewable fuels standard. I am pleased to be an original cosponsor of H.R. 3081, the Renewable Fuels Act of 2005 which was introduced by Representatives Gutknecht and Herseth. I want to commend both of them for their cooperative work together. Congressman Gutknecht is a valued subcommittee chairman on this committee and as we will hear during this hearing, a very important issue in his State of Minnesota. I also want to commend Congresswoman Herseth who has her own legislation dealing with Renewable Fuels but has shown a very bipartisan approach to this issue

by also agreeing to be the lead democratic cosponsor on Congressman Gutknecht's legislation. This bill would create an 8 billion gallon renewable fuels standard by the year 2012.

Although I do not represent a major corn-producing district, forestry in my State has enormous potential to create renewable fuel. Almost two-thirds of the Commonwealth is forested, as is much of the southeastern United States. Trees are an abundant resource and are available for conversion into both paper and biofuels year round. The implementation of a renewable fuels standard by the paper industry alone could promote the production of over 2.4 billion gallons of ethanol, while at the same time, producing paper and packing products and ensuring that forest land owners have strong markets for timber.

Let me also add that, like forestry biomass, Virginia's many agricultural commodities and animal waste products also have the potential to be essential and beneficial resources of a renewable fuels standard.

At today's hearing, we will consider testimony from the Honorable Tim Pawlenty, Governor of Minnesota. It is worth noting that Minnesota has a State mandated renewable fuels program and I look forward to hearing more about that. We will also hear from the administration and from some of the agricultural groups that will produce the feedstock for these biofuels.

As energy prices continue to rise, and as we work to reduce our dependency on foreign sources of energy, we must do all we can to promote the development of alternative fuels and create new markets for agricultural products that service as sources for these biofuels. At the same time, however, we must also ensure that we continue to have a reliable and affordable supply of feed for our livestock industry. As I noted earlier, we are not a major corn-producing district but we do produce quite a lot of corn all of which is fed to livestock in my district. That is a great concern because we import a tremendous amount more from the Midwest to feed our livestock. The benefits of reduced reliance on foreign energy sources, stable energy prices, and new markets for agricultural products should not be replaced with a risk of increased input costs for livestock producers. If a renewable fuels standard is implemented, we must work to ensure that there are not unintended economic distortions as a result.

That being said, I look forward to hearing from today's witnesses and the participation of my colleagues as we discuss this important issue.

At this time, it is my pleasure to recognize the ranking member of the committee, the gentleman from Minnesota, Mr. Peterson.

OPENING STATEMENT OF HON. COLLIN C. PETERSON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MINNESOTA

Mr. PETERSON. Thank you, Mr. Chairman and thank you for your leadership along with Representative Gutknecht and Herseth on this issue.

This is an important issue not only to Minnesota but to the country. We are making tremendous progress. We have introduced bills over the years. I think initially it started off at 4 billion gallons.

I introduced a bill in the 108th Congress at 5 billion and now we are to 8 billion. Part of the reason we have to keep raising this is because the industry is meeting or exceeding expectations in terms of adding production. Right now, there are, I think, four plants being built in Minnesota as we speak and another three on the drawing board and that is happening in a lot of other States that I am aware of as well.

So trying to convince folks to put this 8 billion gallon standard in is going to be a good thing. But I think the way this is going, honestly, that we are going to exceed 8 billion gallons before 2012 anyway, but it won't be a bad thing to have this in the statute.

I am going to take a couple minutes and give people a history lesson here. Some of us have been around this business for too long but back in the late 1960's, I believe, early 1970's, there were a couple of guys from my district, a guy named Ray J. Anderson from Detroit Lakes, and another fellow named Merle Anderson from Climax, MN who got involved with a guy named Al Mavis from Illinois, Springfield, IL, and another guy who was an environmental officer in Minneapolis named Glen Kikley. They started this gasohol coalition. And they were running all over the country. They got a 100 percent ethanol car from Brazil that they brought up here and drove it all over Texas and all over the place. And they were considered to be certified whackos at the time. I mean, they got abused and ridiculed like you can't believe not only by scientists in the universities but even by people in agriculture about what a crazy idea this was and this is never going to work, but they didn't give up.

I was elected then to the State Senate in 1977 and Ray J. Anderson got elected to the Democratic National Committee as a committee man from Minnesota. And he actually got this ethanol provision in the platform in 1977 in spite of a lot of opposition. We had people in the legislature at the time, Jim Nichols who was the commissioner of agriculture under Rudy Perpich, Governor at the time who all of these folks—the point is that all of these people are the reason that we are here today. There have been a lot of people that have gotten behind this. But frankly, it is a pretty easy thing politically, especially in Minnesota to be for ethanol today. It wasn't back in the 1970's and we need to remember these people that stood up and didn't give up and stood up against the oil companies borage of misinformation and all of the other things that we went through during that period of time.

We appreciate the current Governor. He has been a real leader on this not only as Governor but when he was in the legislature. And as I say, Minnesota, if every State was doing what Minnesota is doing, we wouldn't even be talking about this bill today if we had a mandate in every State in the country. We are hoping that this catches on.

As I have been traveling around as ranking member, I have been to many States and Governor, you are probably aware of this but we have actually given the Minnesota law to Mississippi, to Arkansas, a couple of other States. Their legislature are looking at our law and hopefully going to adopt it. So we have got a lot of good things going there.

Now we are leading the charge in Minnesota on biodiesel. We have the only State in the country that has a 2 percent mandate that goes into effect, I believe in September for biodiesel. There was a big fight that went on to get that done, the same kind of things that we experienced to some extent with ethanol. And hopefully that will spread as well around the country.

So I am very optimistic about the ethanol industry. I think with $60 oil, that is just going to be a positive thing into the future. But the other thing that I think people need to focus on is that with these high sulfur diesel mandates and other things that are coming on, I think we are going to have a big shortage of biodiesel developed. We are not going to have the plants in place to meet the demand that is going to come and we really need to get behind this not only in the State of Minnesota but in all the other State legislatures and also in the Congress to get this production on line. Because what I am afraid of is that we are going to end up importing biodiesel to meet these needs if we don't. And Europe is way ahead of us on this. They have B100 running at a lot of vehicles over there. They have got a lot of plants in place. They have got technology that is way ahead of us. They don't really do much with ethanol but they really are at the forefront in biodiesel and we need to catch up and hopefully this mandate will help push that industry as well.

So I want to commend everybody that has been involved in this over the years. This has been a great success for me for agriculture and people in my district have made a lot of money. I have got a lot of plants in my district, they are all cooperatives. They are owned by the farmers. They have made a lot of extra money because they own these plants. They added value to their commodities and this is a win-win for the country. And anybody that doesn't see that we need to get off of foreign oil with what is going on in the Middle East, got their head under a rock someplace. So again, I want to commend everybody for the work that they are doing. Governor, we are pleased to have you here and we appreciate your leadership.

And the last thing is, when we put the 10 percent mandate in, we had a big fight to get a waiver from EPA to be able to do this. We are now going to have a big fight, I am afraid with EPA to get the 20 percent mandate approved. This is not going to be a slam dunk. And so I encourage everybody that is here to help us put the pressure on to get that 20 percent mandate through the EPA so we can get that in place and again lead the way for the rest of the country.

So I thank everybody for being here and Mr. Chairman, I yield back.

The CHAIRMAN. At this time, it is my pleasure to recognize the sponsor of the legislation, the gentleman from Minnesota, Mr. Gutknecht.

OPENING STATEMENT OF HON. GIL GUTKNECHT, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MINNESOTA

Mr. GUTKNECHT. thank you, Mr. Chairman and thank you to the ranking member, Mr. Peterson, and especially thank you to Congresswoman Herseth for her leadership on this.

In another life, I worked for a fellow by the name of Bob Skaronski. Bob Skaronski was the offensive captain of the Green Bay Packers back when Vince Lombardi was the coach. And so at our sales meetings, we used to get a lot of Lombardiisms. And one of my favorites was this. There are three kinds of people in this world. There are people who make it happen, there are people who watch it happen, and there are people who ask what happened. And I think when we talk about the future of this country and in some respects, it is good that the Agriculture Committee is having this hearing. But this isn't just about agriculture. This is really about what kind of an energy future we are going to have as a country. And I think as has already been indicated, in some respects, we are behind the curve, believe it or not in some areas. And it seems to me that we have a responsibility as policy makers to get started on this.

Yesterday, I had meeting with two executives from Volkswagen from Germany. And as Congressman Peterson pointed out, Europe is far ahead of us. They already have a 5 percent mandate on ethanol and biodiesel throughout the European union. And they do that for a number of reasons, both environmentally plus they have a much higher cost of energy over there. We are behind the curve. And in fact, they told me they are prepared to build even more advanced diesel engines and make them available here in the United States once they believe that we can actually supply enough fuel to meet that demand. Also yesterday, we had a meeting of the Science Committee and we talked about renewable energy, and we had five experts on renewable energy who testified. And I won't embarrass them by using their names here in this committee but I asked them a very simple question. How much do you think it costs to produce a gallon of ethanol? And there was a long pause before the first gentleman responded. He said, well, I would guess probably around $2 a gallon. And then we went down the row but he was the low estimate. It ranged between $2 and a little over $3 a gallon. And hopefully, Dr. Keith Collins who is here today will clarify this from an economic perspective. But I am told by the producers out there, the most efficient producers now, we have driven the cost down to about 95 cents a gallon.

Now I tell that story because I think it is important because if some of the top people in our energy field, some of our top people in the Department of Energy, if they don't know the good news of renewable energy and how we have driven down the cost over the last 10 years, then shame on us. We have got to do a better job of telling our story and it is a good story.

There is also a good story and my colleague from Minnesota has begun to talk about it. And that is the story of what is happening in Minnesota. And I am so delighted to have Governor Pawlenty here today because he has been a leader in expanding the horizons for renewable energy. And at virtually every turn, he has been op-

posed by one group or another. And I remember even having ads run last, I think 2 years ago, when the Governor started to talk about and leaders in the legislature started talking about a mandate for biodiesel. And the argument was why would you want to put vegetable oil in our fuel supply? Well the more people thought about, people thought it was a pretty good idea. And it is not just a good idea for farmers and I think that is one of the things that we have got to begin to expand this debate. Because the people who found the argument interesting it seems to me, were not necessarily farmers, it was people living in suburban communities. They want cheaper energy. They want a cleaner environment. They want all the things that renewable energy can bring.

And so finally, I just want to thank the Governor for being here today. We look forward to his testimony. I am sure he didn't come here just to hear us. But I do thank him for standing up sometimes to the swings and errors of outrageous fortune and moving ahead and pressing ahead and being a leader among all of the States among the governors of saying that renewable energy is not something that is down the road, it is here now. It is renewable, it is efficient, it is affordable, and it is now. And we can dramatically change the geopolitical situation in the world if we do what I think we will do. And I agree with my colleague that the 8 billion gallon standard that we are asking for is in some respects woefully low. I think our farmers can produce a lot more renewable energy than that. And I think as we move forward as consumers begin to understand both the arithmetic and the environmental benefits of renewable energy, I think they are going to demand that producers, that the oil companies, and the policy makers expand not only from 2 percent but well beyond that in terms of the percentage of fuel that we use.

So with that, I welcome our Governor here. And again, I thank all the members of this committee, but I especially my colleague from South Dakota, Congresswoman Herseth for her leadership on this and I yield back to balance my time.

The CHAIRMAN. I thank the gentleman.

Now I recognize the gentleman from California, Mr. Baca, the ranking member on the subcommittee.

OPENING STATEMENT OF HON. JOE BACA, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. BACA. Thank you very much, Mr. Chairman and Ranking Member Peterson.

I want to commend Chairman Gutknecht and Ms. Herseth for their legislation that can help improve our Nation's capacity and production for renewable fuels like ethanol and looking towards energy for our future.

As a Californian, you will understand it is my preference for EPA waivers on oxygen requirements of the Clean Air Act. But ethanol is another viable option for other States that may benefit and we may all benefit from this. This legislation is a good step forward and I look forward to working with the sponsors of this legislation to develop incentives for economic viable ethanol production in California.

Mr. Chairman, I wish to yield the balance of my time to the young lady from South Dakota to complete my statement.

OPENING STATEMENT OF HON. STEPHANIE HERSETH, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF SOUTH DAKOTA

Ms. HERSETH. Thank you, Mr. Baca for yielding.

And first, Mr. Chairman, I would like to recognize you and commend you for holding this hearing today and for your strong leadership on this crucial issue. I am particularly pleased to work with my colleague from Minnesota, the distinguished gentleman, Congressman Gil Gutknecht who for many years has been a leader in renewable fuels as part of our national energy policy and it has been wonderful to work with him in introducing this legislation. I want to commend as well Ranking Member Peterson for his many years of work both in the State legislature in Minnesota, as well as the Congress to advance renewable energy as part of our of our national energy policy.

I think our work demonstrates the strong and growing support in this body to make an 8 billion gallon renewable fuel standard part of our national energy policy. And I would like to echo Mr. Peterson's comments about recognizing early leaders in the development of ethanol and biodiesel when it was not necessarily a popular issue to advance. And that would include the former Senate minority leader from my State of South Dakota, Tom Daschle.

The provisions of the legislation we are talking about today along with those found in H.R. 1608 which I introduced earlier this year with my colleagues from Nebraska and Iowa, Mr. Osborne and Mr. King, as well as Mr. Peterson, are vital to our energy security and I believe it should be an integral part of our national energy policy. The strong and growing support for this legislation makes one thing very clear. Support for an appropriately aggressive renewablr fuels standard is not limited by region or by ideology but it is becoming increasingly recognized as an important national energy issue.

It is important for a host of reasons, not the least of which is benefits to our national security. Today, the United States imports 64 percent of its petroleum and by 2025, the Energy Information Administration predicts the number will increase to 77 percent. Much of this petroleum will come from very unstable and often hostile regions of the world. Renewable fuels must play a major role in decreasing our unhealthy addiction to foreign oil. They are grown here at home using vast and existing renewable feed stocks. Increasing production here at home, especially from renewable sources, will make us a safer and more secure Nation.

The language found in H.R. 1608, one properly recognizes the vital role that agriculture plays in our national energy policy, particularly as it pertains to renewable fuels. In fact, it is a critical issue for American agriculture. Farmers in the State of South Dakota harvested almost 540 million bushels of corn in 2005, an all time record and crops look very good again this year. In fact, South Dakota is the sixth largest corn producing State and the fourth largest ethanol producing State in the Nation. South Dakota alone

produced more than 450 million gallons of clean, renewable ethanol last year and that number is expected to grow.

Increased use of renewable fuels creates a corresponding increase in the localized demand for corn and soybeans and provides competitive market prices for family farmers to receive for their crops. This in turn lowers Federal farm program costs and saves taxpayers money. In 2004, USDA estimated that ethanol production reduced farm program costs by $3.2 billion. And as Congressman Gutknecht mentioned, we are looking forward to the testimony today of Dr. Collins, Chief Economist at USDA to elaborate on the ripple effect of ethanol production on our national agricultural economy.

The combination of spending for ethanol plant production and capital spending for new plants under construction added more than 25.1 billion to gross output in the United States economy in 2004. Not only would this legislation encourage the increased production of ethanol, it is also the springboard that we need to enable this country's burgeoning biodiesel industry to expand and grow as Chairman Goodlatte and Ranking Member Peterson noted. An 8 billion gallon RFS coupled with an extension of the biodiesel tax credit to 2010, harmonizing it with the current ethanol tax credit will greatly increase our production of domestic biodiesel.

An additional point to make here and one that I think members of this committee in particular understand and are trying to inform our colleagues about the other tremendously positive impact of renewable energy in this country is improving local economies of rural communities, many of which are struggling to survive.

Not only is this topic of great importance but the timing of addressing this issue is critical. Both the House and Senate have finished their work on their respective versions of the Comprehensive National Energy Legislation and negotiations to reconcile the competing bills have begun. The Senate bill does contain language that will create an 8 billion gallon renewable fuel standard by 2012 and I have been working with my colleagues to urge House members to support that language who have been appointed as conferees to the bill. It will provide the industry with both the certainty and the flexibility that it needs to ensure the growth of this clean, domestically produced energy and also drive remarkable growth in rural America.

Just in closing, I have to agree with Mr. Gutknecht about the opportunity this hearing provides to set the record straight on misinformation that continues to be perpetuated about renewable energy and the cost to produce a gallon of ethanol and the cost to produce a gallon of biodiesel and the other technology that is being advanced to lower those costs even further. And so I hope that we will have a chance through some of the questions today to dispel what I refer to as the urban myths of ethanol production and biodiesel, as well as, other renewable fuels.

So again, I thank you, Chairman Goodlatte, for your leadership and holding the hearing. I look forward to working with you, Mr. Gutknecht, Mr. Peterson, and all of our colleagues to secure and 8 billion gallon renewable fuel standard.

Thank you.

The CHAIRMAN. I thank the gentlewoman and without objection, all other opening statements will be made a part of the record.

[The prepared statements of Mr. Fortenberry and Mr. Davis follow:]

Opening Statement by the Honorable Jeff Fortenberry
House Agriculture Committee
Review of Agriculture's Role in a Renewable Fuel Standard
July 21, 2005

Mr. Chairman: Thank you for scheduling this important hearing on Agriculture's Role in a Renewable Fuel Standard. I look forward to hearing testimony from the distinguished panel of witnesses who will appear before the Committee today.

With the House and Senate conferees continuing to work on the Energy Bill, it is especially timely to address this issue now. Quite simply, to be effective, the Energy Bill conference report must contain a robust Renewable Fuel Standard.

I am pleased to be an original cosponsor of H.R. 3081, the Renewable Fuels Act, which was introduced by Representative Gil Gutknecht and referred to this

Committee as well as two others. This legislation would create a renewable fuels standard of eight billion gallons by 2012. The bill also requires the USDA to report on the economic impact that renewable fuels production has on rural America, monitor the supply and demand of renewable fuels, consult with the Department of Energy on renewable fuels blending and improve the USDA's Bioenergy Program, which promotes agricultural commodities as sources of ethanol and biodiesel.

Most importantly, this legislation meets multiple public policy objectives. Renewable fuels -- such as ethanol and biodiesel -- reduce our dependence on foreign energy, are environmentally sensitive, and create economic opportunities for America's farmers and rural communities. This home-grown source of energy represents a tremendous value-added opportunity which will increase long-term rural vitality.

Earlier this year, I joined more than 20 of my colleagues in introducing similar legislation -- H.R. 1608,

The Fuel Security Act of 2005. This legislation would also establish a renewable fuels standard mandating the use of eight billion gallons of renewable fuels by 2012.

The need for a Renewable Fuel Standard is clear. The U.S. currently imports more than one-half of the petroleum it uses. The Energy Information Administration projects this figure to rise to 68 percent in 2025. Promoting farm-based energy sources will help the nation address overall energy concerns while raising the demand for agricultural products produced by American farmers. Any long-term energy strategy must focus on reducing our reliance on foreign sources of oil.

It is important to note another related benefit. By increasing the use of ethanol, we reduce our nation's trade deficit by billions of dollars per year. This deficit could be cut even more with a strong Renewable Fuel Standard.

Consumers also benefit from increased ethanol use. With gasoline prices at an all-time high, drivers would be

able to save even more with greater availability of ethanol at the pump.

Renewable fuels, such as ethanol and biodiesel, also provide significant environmental benefits. Argonne National Laboratory has determined that the use of ethanol-blended fuels cuts greenhouse gas emissions by 12-19 percent compared to conventional gasoline. To put it another way, the use of ethanol in 2003 was as effective at reducing greenhouse gas emissions as removing 853,000 cars from American roads.

Renewable fuels help farmers and rural communities by increasing the demand for crops such as corn and soybeans. In Nebraska -- which ranks third nationally in ethanol production – the 11 plants already in place are providing more than 500 million gallons of ethanol a year. This production provides a market for nearly one-third of the state's corn crop. It is important to note that the production of ethanol also results in the creation of valuable, nutritious and economical livestock feed.

I would also like to take this opportunity to counter some false information which has been circulating about the energy efficiency of ethanol. The plain and simple fact is that ethanol is a net energy winner. Several reliable studies have consistently demonstrated that the production of ethanol results in about one-third more energy than is needed to grow, irrigate, harvest and transport the corn and make the ethanol. This increased efficiency is due to improvements in ethanol production. In just the last five years, ethanol plants have been able to produce 15 percent more ethanol for a bushel of corn and use 20 percent less energy in the process.

Mr. Chairman, the overwhelming benefits of ethanol and biodiesel have been demonstrated for many years. Now is the time to be even more aggressive in promoting this farm-based energy source and establishing a strong and meaningful Renewable Fuel Standard.

Opening Statement of Congressman Lincoln Davis

Hearing on Agriculture's Role in Renewable Fuels Standard
July 21, 2005

I'd like to thank Chairman Goodlatte, as well as Ranking Member Peterson for holding today's hearing to review the role of agriculture in the Renewable Fuels Standard (RFS). I'd also like to thank all the panelists for participating in today's hearing.

I strongly feel that the innovative spirit of the American people is the under girding of our country's greatness. This spirit has been exemplified throughout our history by our country's ability to change and adapt to evolving economic, environmental, and social conditions. We must continue to encourage this innovative spirit in the agriculture industry—particularly when it comes to fuel and energy production and the Renewable Fuels Standard (RFS). This is especially important when you consider the far reaching implications of fuel and energy production and consumption on our economy, our environment, and our role as the world's only remaining super power.

America has never been a country that follows the rest of the world's lead. Rather, we have led by example. We must continue to do so in the area of renewable fuel sources and standards. While I would love to see renewable fuels expand and develop a greater niche solely through free market activity, I am aware of the obstacles they faced due to our country's entrenched oil dependency. This is where I believe government can step in and play a role in helping the renewable fuels industry get on their feet and fully develop as a viable alternative to traditional oil use. The American Jobs Creation Act of 2004 is a good example of a law Congress passed and the President signed that has been beneficial to biodiesel industry. I think we need to pass additional legislation that will help this industry along. Doing so would be incredibly beneficial to our country, particularly for folks who live in rural agricultural communities where increased production of renewable fuels like ethanol and biodiesel can help revitalize rural economic development, lead to new job creation, and slow the pace of out-migration. Again, I thank the Chairman and Ranking Member for holding this hearing and I look forward to the testimonies we will hear today from our distinguished witnesses.

The CHAIRMAN. At this time, we would like to welcome our first panel of witnesses, the Honorable Tim Pawlenty, Governor of the State of Minnesota, from St. Paul, Minnesota and Dr. Keith Collins, Chief Economist of the U.S. Department of Agriculture here in Washington.

And at this time, I would be pleased to recognize the gentleman from Minnesota again for the purpose of welcoming the governor.

Mr. GUTKNECHT. Mr. Chairman, ever so briefly, I said that there were three kinds of people in this world, people who make it happen, people who watch it happen, and people who ask what happened. But I am pleased to report to all of you that our Governor is one of those first group. He makes things happen. And I think especially in talking about renewable energy. He is a leader not only in Minnesota, but he is a leader throughout the United States in telling the story. And it has to be told and retold as my colleague just said to dispel some of the myths about renewable energy. And so I am so delighted to have him here and I look forward to his testimony. We welcome you, Governor, and thank you very much.

The CHAIRMAN. Governor Pawlenty, welcome and we are pleased to have your testimony.

STATEMENT OF TIM PAWLENTY, GOVERNOR, STATE OF MINNESOTA

Governor PAWLENTY. Thank you, Mr. Chairman.

And Members, thank you for the opportunity to be here this morning to talk about what I think is one of the most important challenges and opportunities our country faces and that is our energy future.

Congressman Gutknecht, Congressman Peterson, thank you for your tremendous national leadership and vision on these issues and for your kind comments and support, we appreciate it very much.

Mr. Chairman and Members, in addition to being Governor, I am also the Chair of the Governor's Ethanol Coalition this year, which is a coalition of 31 States that are advocates for these issues, and so I wear that hat this morning as well. It has been said that there are often three phases to good and new public policy in America. The first phase is people saying it will never work. The second phase is that it will cost too much. And the third phase being I was for it all the time, it is a good idea. And I think this is one of those issues, Mr. Chairman. If you believe in the wisdom of the American people as I know you all do, as we all do, they are way ahead of us on this. Notwithstanding the ads that were run against some of our initiatives in Minnesota, I can tell you in Minnesota and across the Nation the public gets it. They are way ahead of the policymakers on this issue. They are for renewable energy. They are for doing more than what we are currently doing and we have an understanding and accepting American public broadly on these issues.

As has been mentioned, Minnesota is a national model on these issues. You want States to be laboratories of democracy. We have taken that seriously when it comes to renewable fuels and have tried to set the pace for the Nation in many of these categories. Minnesota is the only State in the Nation with an ethanol mandate starting with E–10 and now just this year, moving to an E–20

mandate, raising the bar even further. That mandate will kick in as an actual mandate of 20 percent of our fuel being ethanol in 2013, if by then an overall average use of our fuel in Minnesota doesn't average 20 percent. So we will be using 20 percent, doubling the ethanol use in Minnesota during that timetable. We are the only State in the Nation with a biodiesel mandate of 2 percent which is kicking in this summer or fall. We are third in the Nation in wind production behind only California and Texas and we have got exciting research underway with respect to—and deployment of biomass technology and the beginnings of some hydrogen technology deployment as well.

With respect to that E–20 mandate and use, we are going to need an EPA waiver. I guess I will just take a quick moment to say if you see anybody from the EPA who could help us out, we would appreciate with that. We are willing to be the guinea pig but we need their help and hope that they will give that favorable consideration.

In Minnesota, we have 14 ethanol plants, several more under construction. Last year, we produced 450 million gallons of ethanol by ourselves. There are about 5,000 jobs that directly related to the industry so it adds $1.3 billion to our economy. And Mr. Chairman, on your point with respect to use of the feed and concerns about what this does to commodity markets relating to feed, it is about 15 percent of our corn is used in ethanol. Our Minnesota Department of Agriculture estimates currently that somewhere between 7 and 10 cents of the price of a bushel of corn in Minnesota is attributable to the enhanced demand for corn due to our ethanol industry in the State. I will talk about that more in just a minute.

But one of the things that is taking place, of course, is the deployment of technology that is dramatically increasing yields in agriculture as well. So as that technology is deployed in Minnesota and elsewhere around the country as those yields increase, those economics are going to need to be adjusted or considered once again. We will also talk in a minute about the distiller grains that come out of the ethanol industry that are an important part of that equation also. Jim Collins in his book "Good to Great" says we should all look in this era of polarization for win-win. In this case, this is a five-way win. It is not a win-win, it is a win, win, win, win, win. It is not only good energy policy, it is good agriculture policy, it is good rural economic development policy, it is good national security policy, and it is good environmental policy. Our country is too addicted on foreign oil. There are many studies that predict that level of addiction is going to get worse, not better, for a variety of reasons. It is good agricultural policy for our farmers for obvious reasons as we struggle to find ways to revitalize rural America in places like rural Minnesota. It is good rural economic development policy in terms of capital investments in jobs and value added opportunities for farmers. In Minnesota, our ethanol plants are owned primarily by farmer owned coops so it is a nice opportunity for them. It is good national security policy. We do not want to be this dependent to this extent on places like the Middle East from a national security perspective. And it is good environmental policy. This fuel burns substantially cleaner. Minnesota has one of the few major cities in the country that doesn't have some

of the ozone and other problems in part because of our use of ethanol.

With respect to the Governor's Ethanol Coalition, just quickly, Mr. Chairman, I know my time is running down here. But we have 16 new plants under construction in the country and we want to have a dialog and hopefully some progress with the Congress on a number of fronts but let me highlight just two. And we have submitted a report called the "Ethanol From Biomass" on behalf of the Governor's Ethanol Coalition. Many of those recommendations have already been incorporated in either the House or the Senate position that are before conference and we very much appreciate that. But as it relates to the renewable fuel standard of either 8 billion from the Senate's perspective of 5 billion from the House perspective under 2012, we are essentially already at or we will soon be at the House position depending on whose estimates that you look at. But I think with given the number of plants coming on line and the production capacity increasing as it is, I think within a year or two or maybe three at the most, we are going to be at 5 billion gallons anyhow. So I would respectfully request or suggest that we could perhaps get that bar raised higher than kind of the natural trajectory that we are on already and I hope you will consider that. That will do a lot in terms of new jobs. The higher standard would be 200,000 new jobs. I would estimate that this would displace 1.6 billion gallons of foreign oil.

The second thing we wanted to highlight from that report is the need for targeted investments in research so we can get more ethanol derived from biomass. Mr. Chair, that is exactly your point. Things like corns, grasses, wood, animal waste, there are many other commodities and products that might be suitable for ethanol production that would address and alleviate some of your concerns and others concerns but more importantly, expand the benefit in the market for this more broadly across the country into other sectors as well.

And then lastly, with respect to the impact on feed, as I said in Minnesota, we use significantly less than 20 percent of the corn crop for our ethanol industry. Yields are increasing and are predicted to increase dramatically in the coming years and certainly in the coming couple of decades. One of the things to consider in this regard is ethanol, the ethanol industry produces DDGs or dried distiller grains. Last year in Minnesota, there was $627 million generated on the issue of ethanol sales but 145 million in DDG so in other words, a significant portion of the overall economic model for ethanol comes from the resale of the DDGs. It is by, I think, most accounts a nutritious and useful and appropriate feed for livestock and it is a success story. So that is something that has to be considered as well.

I will just close by also saying that the success of the Minnesota biodiesel industry is in part significantly dependent upon the tax credit and biodiesel tax credit being extended. So I would like to put a pitch in for that. And Congresswoman, thank you for recognizing the importance of that in your great work on this issue as well.

Thank you, Mr. Chairman and members for the chance to be here and share those brief thoughts and I will be happy to take your questions at the appropriate time.

[The prepared statement of Governor Pawlenty appears at the conclusion of the hearing.]

The CHAIRMAN. Governor, thank you very much.

We are now pleased to welcome someone who has been here many times and is well known to the committee, Dr. Keith Collins. Dr. Collins, we are glad to have you back with us today.

STATEMENT OF KEITH COLLINS, CHIEF ECONOMIST, U.S. DEPARTMENT OF AGRICULTURE

Mr. COLLINS. Thank you very much, Mr. Chairman, Mr. Peterson, members of the committee. Thank you very much for the invitation to be here to discuss agriculture's role in a renewable fuel standard, or RFS.

As has been noted in the discussion thus far today, ethanol and biodiesel production have been growing dramatically in the United States with ethanol production doubling over the last 4 years, now accounting for about 3 percent of the Nation's gasoline pool and biodiesel production increasing more than 20 fold. The RFS would increase production and use of renewal fuels and I think that would provide important benefits for U.S. agriculture.

An RFS of 5 billion gallons of renewable fuel by 2012 is really not very different from USDA's current baseline prediction for ethanol production in 2012. Thus the main benefit of a 5 billion gallon RFS would be to assure at the least the status quo. To illustrate the range of effects of the current RFS alternatives that are in play, we have estimated the market effects of an 8 billion gallon RFS. Such an RFS would increase the demand for corn for ethanol by an annual average of 685 million bushels over the 2006 to 2012 crop years. We estimate that that kind of an increase in the demand for corn would raise corn prices by an average of 8 percent over that period and by the 2012 crop year, corn prices would be 30 cents a bushel higher or 12 percent.

As has been noted, the production of ethanol also results in a wide range of co-products including distillers or dried grains with solubles, corn gluten feed, corn gluten meal, corn oil, and carbon dioxide. We think that most of the expansion in ethanol production on an RFS would come from dry mill plants which would produce distillers or dried grains with solubles as a byproduct and they would partially substitute for soybean meal. As a result of that, we do expect lower prices for soybean meal. However, with some shift in acreage to corn and away from soybeans, we would project that the price decline in soybeans over the 2006 to 2012 period would only average about 4 cents a bushel.

Some people have raised concerns over the supply of food and the effects of bringing more land into production to satisfy a large RFS. We estimate modest shifts in acreage that do not suggest any strain on the Nation's ability to produce food. In 2012, corn area is projected to be up by 3 million acres, soybean area down about 2 million acres, and overall total acreage planted to principal crops about unchanged. Furthermore, we predict no effect on the Consumer Price Index for food until 2009 and then the CPI for food

rising only 0.1 percent more in 2009 to 0.3 percent more in 2012 with most of the increase attributable to small increases in meat prices.

Broiler and turkey production are expected to expand slightly due to lower prices for soybean meal while production of all other livestock declines very slightly due to higher prices for corn and other feed grains. With higher crop prices generally, with some livestock price increases and lower protein feed prices, we project that net farm income on average would be about $1.4 billion or 2.3 percent higher during 2006 to 2012 with an RFS of 8 billion gallons.

There has also been much discussion about the foregone Federal tax revenues under an RFS because of the fuel tax credit. But it is important also to recognize the indirect tax savings that would come from farm programs due to higher corn and other crop prices. Our baseline out over the next decade shows a rebound in corn prices in future years so we project a savings of an RFS of 8 billion gallons to all come in the first 2 years and that account for about $1 billion in savings in farm program payments. However, should crop prices be below what are currently projected in our baseline, the farm program savings could be in the billions of dollars.

In conclusion, an RFS with an applicable volume above currently projected levels of ethanol production would have a net positive effect on the farm economy, including increased farm income and job creation and economic activity in rural America. Other effects include less reliance on imported oil, diversification of energy supplies, and an attraction of more financial capital into ethanol production that would improve the production and delivery infrastructure, increase investment in cellulosic ethanol production and in all likelihood, continue the advances in production efficiencies that have been reducing ethanol's cost of production in recent years.

Thank you.

[The prepared statement of Mr. Collins appears at the conclusion of the hearing.]

The CHAIRMAN. Thank you, Dr. Collins.

Gentlemen, I was pleased to hear both of you refer to other potential sources of agricultural products for the production of renewable fuels because as you will see on the second panel and as I mentioned in my opening remarks, I have a constituency in my district that is greatly concerned about Dr. Collins' projection that the price of corn is going to go up substantially over a period of years as a result of the increased demand for renewable fuels. And that is certainly understandable, but one way to mitigate that would be to make sure that all of those other sources of renewable fuels are treated fairly in the process. As you may know, right now in the energy bill in conference, there are provisions in the Senate version of the bill that provide a preference for corn and soybeans as opposed to monoalcolesters as opposed to cellulosic sources of renewable fuels.

And Governor, I was pleased also to hear that you recognized those other sources. And I know Minnesota from my colleague sitting next to me has a lot of poultry production in its State as well. I have the largest poultry producing district in the United States, six major companies and literally 1,000 poultry farms in my dis-

trict that are heavily, heavily dependent on the Midwest to produce the corn and soybeans and other grains that they feed to that poultry. Are you in agreement with the House position, you may not be familiar with the House position which is that that parity should be created now rather than persisting. Right now in the tax credit, there is a dollar tax credit for agri-biodiesel and a 50 cent credit for certain liquid transportation fuels produced from biomass but this does not provide the necessary parity that would encourage increased production from wood waste, from animal waste, and other sources like that.

Governor PAWLENTY. Mr. Chairman, I can't speak to the details of the provisions but from the Governor's Ethanol Coalition perspective and our position is we recognize the concerns that your comments have reflected and want to extend the benefits and economic opportunities of ethanol broadly across the country. And we think a most successful pathway to do that would be to encourage through research and development or a blend of incentives that type of expansion and diversification of the source of the fuel.

I would also suggest on the cost issue, while there may be some marginal cost considerations as outlined by Dr. Collins, there is also an intangible benefit that has to be considered as it relates to environmental benefits, national security benefits, rural economic stability, and I think from a national security standpoint as well. So I know that those are hard to quantify but those are things that you need to factor if corn is going to be slightly more expensive. There is some offsetting benefits in those other categories that should be considered as well.

The CHAIRMAN. Thank you.

Dr. Collins, were your projections that you provided in your statement based upon the current framework? In other words, with the incentive being focused primarily on corn and soybeans and sort of a distant center for some of the other sources of renewable fuels?

Mr. COLLINS. Yes, Mr. Chairman. They basically focused on corn and soybeans. We almost assumed the non-existence of some of these other sources such as cellulosic ethanol.

The CHAIRMAN. Well my colleague next to me tells me that potatoes are the agricultural product with the highest conversion rate for ethanol but we produce nothing in terms of renewable fuels from potatoes. And I know nothing about that subject so I will leave that to the expert next to me. But it seems to me that one way, and I certainly want to encourage increased production in corn and soybeans and I think the potential is tremendous there. I agree with the gentleman from Minnesota, the gentleman from South Dakota, that 8 billion gallon renewable fuel standard may soon be irrelevant. The 5 billion gallon provision in the House bill is in my opinion already irrelevant. And the potential here is tremendous but it is going to help to mitigate the concerns that livestock producers have if we can get more production from other sources into the competitive mix. And all we ask there is that there be real competition and a parity in terms of the incentives.

Let me ask you, Dr. Collins, you mentioned there are currently no commercially operational cellulosic biomass ethanol plants but that an 8 billion gallon per year RFS could accelerate the timeline

for commercial production of cellulosic ethanol. Could you touch more on a timeline for commercial production for these cellulosic biofuels and how large a role it will play in meeting RFS standards passed 2012?

Mr. COLLINS. Well, I can try, Mr. Chairman.

First of all, the timelines that we talk about for cellulosic ethanol have all been developed in the absence of a renewable fuel standard. They have been developed under continuation basically of current law. We operate with the Department of Energy, a joint program under the Biomass Research and Development Act of 2000. And under that act, we have developed a vision and timeline for cellulosic biomass ethanol production. The Department of Energy projects the first meaningful commercial production in 2012, growing fairly substantially after that, a fairly substantial rate of growth after that.

For your question about accelerating that, I think there are several things in both the House and Senate bills that could accelerate that. I think the existence of an 8 billion gallon renewable fuel standard in and of itself would provide some incentive to invest in cellulosic ethanol plants. I think an 8 billion gallon standard is going to attract a lot of capital outside of agriculture for ethanol that we haven't seen up until now. Almost all the expansion in ethanol production in the last 4 years has been through farmer owned cooperative plants. And I think we are going to see "Wall Street money" take a look at ethanol in the years to come and I think they are going to look at various forms of ethanol including cellulosic ethanol.

Both the House and Senate bills also have provisions for providing assistance for cellulosic ethanol production in the form of loan guarantees and in the form of straight grants to cellulosic ethanol producers. The Senate bill beyond 2012 also has a carve out of a minimum of 250 million gallons of cellulosic ethanol as part of the 8 billion gallon renewable fuel standard. So in their entirety, those are a set of incentives, I think that will accelerate the growth of cellulosic ethanol beyond what we have projected at this point under current law.

The CHAIRMAN. Thank you very much. My time has expired.

I am please to welcome and recognize the gentleman from Minnesota, Mr. Peterson.

Mr. PETERSON. Thank you, Mr. Chairman.

Governor, I would just like to explore this EPA waiver issue to get a better idea—and I haven't really gotten to visit about it but I think it would be good for folks to know more about this on this committee. Have you applied for the waiver yet?

Governor PAWLENTY. We have been in communication with the EPA and have swapped what I would call scoping documents about what they might expect and what we might be able to provide and what additional information might need to be submitted. But I don't think a formal application or a formal application has been submitted yet.

Mr. PETERSON. When will that happen, do you know?

Governor PAWLENTY. It appears that will happen some time later this summer or in the fall.

Mr. PETERSON. OK.

Governor PAWLENTY. Congressman, I can't remember the exact timetable but I know it did not happen quickly and my recollection is it took a while as well.

Mr. PETERSON. And what kind of a response have you gotten back from them and do they seem like they are working with you and that things are going to eventually work out or what kind of an attitude are you getting back from them?

Governor PAWLENTY. Mr. Chairman, Congressman Peterson, so far I would describe the exchange as technical, kind of matching expectations about their technical needs or requirements and us trying to respond to that or at least be prepared to respond. I don't think they have foreshadowed necessarily that they would be inclined to approve of disapprove the waiver. It has been mostly a technical discussion at this point.

Mr. PETERSON. Yes, I am sure they are going to make a bigger deal out of this than they need to.

The other thing for either you or Mr. Collins, I am not sure if I can articulate this exactly but I have had some concerns raised by people as it relates to this biodiesel mandate going into effect and it relates to apparently they are going to blend this diesel I guess in some of these filling stations or in the smaller distributor areas or something and that there is some kind of a problem that they are encountering about—with the IRS getting their tax credits or something. Have you heard anything about that? I have had two different people come and talk to me and we have been doing some research on it. I guess I don't know enough about it. I just was wondering if you have heard this from anybody out there.

Governor PAWLENTY. Mr. Chairman, Congressman Peterson, that is the first I have heard of that type of concern but if you would share it with us, we will try to be of assistance in some——

Mr. PETERSON. Yes, well I think from what I can tell it is a problem and I am not sure it is a State problem but I think it has something to do with the IRS and the way they handle this. Because ethanol is done so much differently in terms of how they blend it as opposed to the way it is going to happen with biodiesel, they have got this bureaucratic system set up that will not work for these small guys from what they tell me. So I think we are going to have to do some——

Mr. COLLINS. For ethanol, blending is going to take place at the refinery. It is done in large volumes and it is in concentrated locations. It has to have good records. And if you are talking about a retail establishment like at the gas pump, perhaps the IRS has created a set of accounting controls that are too burdensome.

Mr. PETERSON. Right. And that is what it sounds like and so we may all have to work together to try to untangle this. And I think Minnesota is going to be probably the first place that runs up against this because we have got this mandate and we are going to be kind of the guinea pig, so I guess that is enough, Mr. Chairman and we will move things along. We have got a lot of other things to do here.

Thank you.

The CHAIRMAN. We will give the other gentleman from Minnesota a shot.

Mr. GUTKNECHT. Thank you, Mr. Chairman.

Governor, first of all, in your work with the other Governors, could you just shed some light on, are they getting the word and how are Governors around the country reacting to this discussion about expanding the horizons for renewable energy?

Governor PAWLENTY. Congressman, I think it is fair to say that many, many Governors are very interested in this issue and are pursuing some form of initiatives in their States around these issues but when we push them on the possibility of an ethanol mandate or renewable fuels mandate in their States, it seems to me that a half a dozen or perhaps more are seriously considering advocating for that kind of position at a State level. And some in the Midwest perhaps are most open to it but the chairman has mentioned a few other States as well in the South. So I guess I would just be so bold as to predict to you and with high hopes that in the next year or two, you will see as many as a handful of other States who will pass some sort of standard or mandated for renewable fuels.

Mr. GUTKNECHT. And the rest will be saying we were for it all along.

Dr. Collins, and for the benefit of the members, I have a chart and I don't know if we can have this put up, that I would like to have everybody take a look at. Do we have that chart here somewhere, Jennifer? And I would like Dr. Collins if you could to at least discuss it and hopefully acknowledge the varsity of this. We have done some research and I think we have got pretty good sources for this. And what it shows over the last year as a price of a gallon of unleaded gasoline in the United States has gone from slightly below $2 a gallon to now above $2 a gallon and well above $2 a gallon nationally, in fact, this only goes through May and we have seen significant increases since then. But as that as happened and you look at the red line, you see that the average price that the refiners or the people who produce ethanol has actually dropped dramatically. And I think that is an important thing.

And there has also been a study done by the Consumer Federation of America. I don't know if it is in our packets or not but we will certainly try to make sure we get that, that shows that in States where you have a higher prescribed blend of ethanol, gasoline is actually cheaper. And I think this is the reason. Dr. Collins, do you want to comment on that?

Mr. COLLINS. I would say that the data looked right to me. I think that there have been a number of studies that have been done on the effect on retail gas prices of the renewable fuel standard. You mentioned one, Consumer Federation, which shows a decline. There are others that show a slight increase. My own thinking through this issue suggests to me that there should be likely very little change at all and it is precisely because of the kind of data you are pointing to there. That is a retail price for gasoline. If you look at a wholesale price for gasoline, it is roughly about $1.50 per gallon. And the price of ethanol right now is roughly about $1.50. You take off the 51 cent fuel tax credit and you have got a $1 ethanol versus $1.50 gasoline. Now some people want to then adjust the ethanol price for its BTU content versus gasoline. Even after you make that adjustment, you are, I believe you are still cheaper with ethanol than you are with regular gasoline right

now. So I would expect to see very little effect on retail prices. I think you may have seen the Department of Energy studies of an 8 billion gallon renewable fuel standard. Department of Energy shows out through 2012 less than a 1 cent increase in their highest case effect on retail prices of gasoline. And I think you get into some areas of the country there is going to be a decline.

Mr. GUTKNECHT. Well let me just restate and what you just said because I think this is very important information. That not only is ethanol cheaper than gasoline today on a gallon to gallon basis, it is now cheaper on a BTU to BTU basis. That is not only great information for those of us who support renewable energy, but I think it is great news for consumers. And it seems to me that we have got to do a much better job here in Washington of getting that good news out. And, in fact, if I could just walk through the arithmetic, I think you may be a little low on the price of producing a gallon of gasoline. I am told that out of a 55-gallon barrel of oil, you get roughly 42 gallons of gasoline. Well at $60 a barrel, just the raw cost of the oil into the gasoline works out to over $1.40 just for the price of the oil. Now that doesn't include the cost of the refinery, refining and the other costs. And so my own belief right now is we have a significant advantage over gasoline. The more important point is that there is research going on at the National Renewable Energy Labs out in Colorado. There is research being done at universities, at ag schools, and believe it or not, little entrepreneurs are out there working on some very innovative ways to drop the cost of producing ethanol even more. And so as we go forward, I think the advantages that renewable energy have are going to get even more significant. And that is why I believe that not only is this mandate an important first step but more importantly that consumers are going to demand a higher blend of renewable energy in their gasoline supply.

Comment? My time has expired.

Mr. COLLINS. Well just a comment that I agree with your concluding statement. I think that one of the astonishing things about ethanol over the last half dozen years has been the way the industry has evolved to improve the technology of production. I know about 10 years ago if you looked at a 40 or 50 million gallon ethanol plant, it would have over 50 employees. Today such plants have 30 to 35 employees. We have what we call the franchise model in ethanol today where we have plants that have been built all over the country to state of the art standards. They hire management services. These service providers collect digitized real time information and are constantly feeing that information back to the ethanol plant so they can fine tune their processes. It sort of like bringing the Wal-Mart technology to ethanol and I think it has dramatically reduced the price or excuse me, the cost of ethanol in recent years. So I would agree with that comment. We are becoming ever more efficient.

Mr. GUTKNECHT. Thank you.

The CHAIRMAN. Thank you.

The gentleman from North Carolina, Mr. Etheridge.

Mr. ETHERIDGE. Thank you, Mr. Chairman.

Dr. Collins, thank you and thank you to the Governor, too, for being here regarding—and I want to thank the chairman and the

ranking member and the sponsors because this is an important, I think an important meeting and an important topic for America.

As we look at opportunity and ability to compete in the world market for years to come, all of us have to know there is a finite amount of energy in the world at some point and if the country that gets to where they can develop renewable energies is going to be the Nation that is going to be, in my opinion, in the driver's seat in the future.

But you mentioned a 75 percent increase in the use of ethanol under the Senate bill's renewable fuel standard and that more plants will be built and I think all of us would like to see that. But let me ask you a question. You also indicated that whether or not biodiesel will become a significant contributor. In 2003, biodiesel made up only 1 percent of the renewal fuels, of the renewable fuels consumed in the country. And I was visiting a site in the last 3 months where we actually had a little small one and the guy had it on a trailer where you actually could—he had a line running into his vehicle and he could just keep going. Obviously, that is not very practical if you want to go across the country, you got a bigger problem.

But what I would like to know is what is USDA doing to facilitate the expansion of the facilities of biodiesel because I think this holds a great promise because if you look at agriculture across America, transportation for trucking, et cetera, diesel is much more expensive than gasoline and this area holds, in my opinion, a great deal of promise. Are there significant plans or are there funds currently available in USDA to help with funding of R&D or loan programs to expand this?

Mr. COLLINS. Well the primary areas of support that we have, I think first of all, I should probably mention the CCC Bioenergy Program which was authorized by the 2002 farm bill. Under that program, in fiscal year 2004, we supported and made financial payments to the production of about 19 million gallons of biodiesel, something that we weren't doing at all 3 or 4 years earlier. We think that that has been a factor in boosting the production of biodiesel, probably the single most important factor that has happened. That of course, that expansion in biodiesel in the last 4 years occurred before the current fuel tax credit and so we take some credit at USDA for having been a catalyst, I think in that biodiesal production expansion.

On another side, I think through our rural development programs is an area where we are trying to make a difference. We have found that there has been a great interest in communities all across America over the last 10 years to build ethanol plants. They had a million questions about what they should do. Farm coops, a million questions about what they should do and what factors they should consider to determine whether an ethanol plant was feasible. Well lots of groups, private companies, as well as the USDA, have put together a raft of information so that rural entrepreneurs and communities can make better decisions about expansion. We are now doing the same thing for biodiesel. I would mention a website where we make this information available. It is called *www.agmrc.org*, a-g-m-r-c, which is one of our value added agricultural marketing research centers. That one is co-run, funded by

USDA, and co-run by several land grant universities. And there is just a ton of information for people who might be interested in getting into the biodiesel business. So those are examples of couple of things we have going on.

Mr. ETHERIDGE. Good, thank you.

Let me move very quick to one other area before my time expires to ask you a question. The chairman mentioned he had a lot of poultry in his district. And my district has a variety of poultry and livestock, pork, and others and there is a concern by some of those farmers as we move through these areas of biodiesel and ethanol that you would be driving the price of corn and soybeans up and would affect their livelihood and could ultimately drive them out of business. There is that concern. I think we will just have to see whether it is. But my question is does USDA have any program, any oversight that could be used as a safety net for these producers as we look at a higher renewable energy standard as we put it in place and we look down the road on these issues?

Mr. COLLINS. Yes, I guess a couple of things on that. Without answering the safety net question directly, I guess I am little less concerned about this and maybe that was the premise of your question. I would certainly defer. There is a panel member on the next panel who is in that business and I am not. And I certainly defer to his real hands on experience. But when I look at our simulation models of poultry feed, roughly 94 percent of poultry feed is corn or soybeans. Out of the corn or soybeans by volume, by weight, about one third is soybean meal and two-thirds corn. So that would look like if corn prices go up that is a problem. On a value basis, it is almost a 50/50 split, 45 percent soybean meal, 50 percent corn, 55 percent corn. We think with a renewable fuel standard, yes, there is going to be a demand for more corn which is going to drive up the price of corn. But as I indicated, with the production of all the new byproduct feeds, we think there will be a decline in soybean meal prices. We have estimated an average of about 8 percent decline in soybean meal prices over the 2006 to 2008 period. So when you factor in an increase in corn prices, a decrease in soybean meal prices and the ability to acquire distilled or dry grains with solubles which I admit are very limited for consumption on species that are monogastric like poultry, only about 5 percent of the ration can be DDGS, but nevertheless, it is another source of feed. When you factor in lower soy meal prices and a new source of feed, DDGS, those about offset the increase in corn prices. And our modeling shows not much of an impact on the poultry industry. And I would also go on to say that over the last couple of years, we have had very strong corn prices. For the 2002 crop, it averaged about $2.35 a bushel. For the 2003 crop, it is probably in the average of about $2.45 a bushel. And what did we have? We had record poultry prices during that period and the poultry industry expanding. I understand people's concerns about these things but it doesn't strike me it is a Chicken Little, the sky is falling, kind of concern.

Mr. ETHERIDGE. Good, thank you, Dr. Collins.

The CHAIRMAN. Thank you.

The gentleman from Michigan, Mr. Schwarz is recognized for 5 minutes.

Mr. SCHWARZ. Dr. Collins, this may be an inappropriate question for you and if it is, you tell me. But what I want to talk about is the efficiency of the combustion of ethanol and how efficient is it and at what point does that efficiency tail off so that we have some sort of idea as to just precisely how much ethanol in a fullness of time we can add to a petroleum based fuel. And the same question with biodiesel, especially soy diesel. How efficient is it in comparison to the 100 percent petroleum derived diesel. How much soy mix or other biomix can you use and keep the efficiency, the torque of an internal combustion engine at a level that is desired?

Mr. COLLINS. I am afraid I am going to have to defer that question. I will give you a general answer for part of it, which I already referred to in my conversation with Mr. Gutknecht as to the relative energy content of ethanol versus gasoline. That has got a lot to do with efficiency. That has got a lot to do with mileage. If you look at the BTU content of ethanol versus the BTU content of gasoline, ethanol is about two-thirds, 67 percent. Now I don't use two-thirds as the adjustment factor to adjust for BTU content. And I don't because ethanol has an octane rating of 113 and ethanol is oxygenate which causes the existing gasoline to burn cleaner, to burn more completely. So there is less BTU coming out of the tailpipe when you are burning it with ethanol than when you are not burning it with ethanol. So it is not a 33 percent hit on BTU content for ethanol, it is something less than that. I don't know exactly how much less than that. There has been some work that has been done on that. With respect to biodiesel, a lot of the blends have focused around B–20. B–20 has emerged as kind of preferred blend not because of the engine performance or the efficiency but more because of the emissions, the performance of emissions. So the efficiency concept you are talking about is not just an engine or a mechanical one but also has to do with the environmental air quality standards that have to be met. So it is kind of a complicated question. And perhaps what I could do is get back to you with some thoughts about how some of these parameters would perform as you increase the blend levels of both ethanol and biodiesel.

Mr. SCHWARZ. Thank you very much.

Governor, do you want to fire away at that one or let it further fly on by?

Governor PAWLENTY. Mr. Chairman, Congressman, I think I would have to reserve that for the folks who are more technically involved.

Mr. SCHWARZ. I understand.

Mr. Collins, the potential to produce ethanol, of course, comes from materials other than corn and you have covered that pretty closely. I might add, I have two ethanol plants being built in my district in south central Michigan now. Would you just expand a little bit on what you think the potential of cellulosic ethanol or ethanol from grain sorghum or biomass ethanol, or ethanol from grasses, is that something that is viable out there or just something we know it can be done because we have done it but there is no volume potential in it.

Mr. COLLINS. Well we know it can be done and we know it is costly. We know how to build the plant today. The commercial plant is costly. Some people suggest three to four times the cost of

building a dry mill ethanol plant for example. Cellulosic material, take wood as an example has three components. It has lignin, it has cellulose, it has hemi-cellulose. The lignin you can't use. You can burn that to produce electricity or heat. And then you have these sugars that are complicated, locked up in the cellulose and hemi-cellulose. They are not as easy to get those sugars out as it is for corn. And so you have to use different pre-treatment processes. And that is what distinguishes cellulosic ethanol from corn based ethanol. This process is called acid hydrolysis or enzymatic hydrolysis. This process takes a long time. Time is money. It is costly. The enzymes are not that effective. They are effective but they are not that effective. These are all areas where research is going on now to improve that process. So if you can get that processing cost down, cellulosic ethanol would be an unbelievable opportunity.

As you look across the country, you start with not agriculture, but you start with municipal waste. One of the biggest difficulties that municipalities have to deal with are leaves and grass cuttings. I pay to have my trash picked up. That right there tells you you can get a source of waste for zero or even get paid to take that source of waste. So your raw material, your feedstock for cellulosic ethanol could be very, very cheap. So that is why people get very excited about cellulosic ethanol. The model I am talking about doesn't necessarily excite agricultural people if you are talking about municipal waste. But I think agriculture could benefit from this as well.

And when you talk about agriculture, we have done some work over the years with Oak Ridge National Laboratory to try to look at the potential for cellulosic ethanol to penetrate the Nation's gasoline pool. We have estimated, drawing on the conservation reserve program to some extent, that you could probably satisfy 30 percent or more of the Nation's fuel supply without much difficulty, without much repercussion in agriculture drawing on biomass feedstock such as switch grass and woody poplars, dedicated crops, agricultural residues, and agricultural wastes. So there is a great potential there, I think.

Mr. SCHWARZ. Thank you, sir. Thank you Mr. Chairman.

The CHAIRMAN. The gentleman from California, Mr. Baca is recognized.

Mr. BACA. Thank you, very much, Mr. Chairman.

Governor, can you share your experience in dealing with the auto industry's concern, as well as, the fuel marketers in regard to Minnesota requirement for ethanol and biodiesel usage?

Governor PAWLENTY. Mr. Chairman, Congressman, yes, I can. In short, Minnesota now has a going on 15 year history with this debate and it started out as a E–10 mandate in the metro area during the summer to combat concerns about air pollution and then it was all in our metropolitan area and then statewide. At each stage, we had what you would consider the traditional oil industry or refiners raising concerns and objections. I think they have largely debunked over the last 15 years and so I don't want to say the debate has ended but it has been substantially muted as the actual experience and objective evidence has rolled in.

And there was another part of your question that I forgot, sir.

Mr. BACA. And that is in regard to ethanol and biodiesel usage.

Governor PAWLENTY. Yes. In both in terms of consumer satisfaction and the public's acceptance of it there has been no problem. The biodiesel mandated does not kick in until a little later this summer so we don't have actual experience with that but during the public debate as Congressman Gutknecht mentioned, there were ads that were run against the inclusion of the biodiesel mandate on semi-technical objections. But if you look to Europe and if you look to other parts of the world who are using much higher level of soy diesel than 2 percent, there is really no objective evidence that it has been a problem. There was some concern in a State like Minnesota about storage or use in cold temperatures but that would not be substantially different than Northern Europe. And again, they have a fair track record there. But I think if you are a fair minded and objective, the concerns fade away fairly quickly.

Mr. BACA. Thank you, Governor.

Another question for you. In addition to the requirements under the RFS, do you feel that the Federal Government should be providing other incentives to encourage biofuel productions such as tax credits and why?

Governor PAWLENTY. Mr. Chairman, Congressman, yes, I do. All of this discussion about the benefits of ethanol or renewable fuels would apply in response to that question. I will just focus on one other aspect of it. I saw a study the other day that predicted that America's dependence on foreign oil by the year 2025 is going to increase from its current level to well into the 70 percent of all fuel used in the country. If for no other reason, setting aside all of the other arguments, if for no other reason other than to diversify our fuel supply for national security reasons, I believe this would be a wise direction to pursue in that those incentives would be appropriate for that reason alone, not to mention all of the other four categories of benefits you get from this, the use of renewable fuels.

Mr. BACA. Thank you, Governor.

Dr. Collins, would the potential reduction in ethanol prices due to the legislation make it a more or less economically attractive option for California to comply with the oxygenate rule of Clean Air Act which is question number one. And is it more or less affordable than receiving exemption for oxygenate rules?

Mr. COLLINS. Well first of all, I would say under the RFS, I am not sure we would see a decline in ethanol prices. We are going to see an increase in corn prices. We are going to see an expansion in demand for ethanol. We can see an increase in ethanol prices, although fairly modest, I think given the rate in which ethanol production is becoming more efficient. So I don't really see a serious implication for California. Over the last couple of years, as California has phased out MTBE and now had to use 700 or 800 million gallons of ethanol, they seem to have made that transition fairly readily. I can remember when that transition first began there were concerns out of California that the price of gasoline was going to rise as much as 40 cents a gallon because of the transition from MTBE to ethanol and that simply has not happened. I think it is true that ethanol is not produced in California in any great quan-

tity and it has to be shipped to California. It is shipped on large unit trains. The transportation cost is considerable.

I think one of the benefits that California has that would mitigate any of the, or most of the ethanol cost implications is the credit trading program that the House and Senate energy bill create. I have been very impressed in looking at credit trading programs in other markets. The classic one that everybody always looks at is sulfur dioxide. When that set of regulations went into effect, the costs of compliance were estimated widely. The actual costs of compliance after it went into effect turned out to be dramatically lower than the pre-implementation estimates and that has largely been attributed to in peer reviewed articles to the Credit Trading Program for sulfur dioxide. So that will be a help, I think, to California.

Mr. BACA. Thank you very much.

I know that my time has expired but you predict that corn prices are rising in the coming years without the enactment of renewable fuel standards. Do you think that this will also be attributed to, I guess the past NAFTA or the possibility of CAFTA being passed to as well impacting us in terms of the future?

Mr. COLLINS. I think definitely with respect to NAFTA because Mexico is a sizeable user of corn and I think greater access to Mexico is a benefit to corn producers in the United States. CAFTA is a much smaller market and there might be some benefit for corn there but I don't think it compares with the size of the benefit that we have been getting and will continue to get out of NAFTA for corn producers.

Mr. BACA. But it may impact our farmers here in the United States.

Mr. COLLINS. I think positively. I think of all of the work that has been done on CAFTA the tariff reductions clearly show a very sizeable increase in exports ranging from USDA's own estimates to other estimates as well. I think generally almost every industry benefits from tariff reduction and possibly larger exports to CAFTA countries.

Mr. BACA. OK, thank you, Mr. Collins.

The CHAIRMAN. Thank the gentleman.

The gentleman from Oklahoma, Mr. Lucas is recognized.

Mr. LUCAS. Thank you, Mr. Chairman.

And actually first, just a thought and then a question for Dr. Collins. Clearly, with what I believe in your written testimony something like 97 percent of the stock for making ethanol coming from corn, our corn friends have done a great job. But as the gentleman from Michigan questioned you earlier or discussed I guess I should say the potential opportunities for everything from wheat straw to other forms of cellulose to as you pointed out, the switch grass and a variety of other things on CRP land, clearly there are some other opportunities out there and I just would make note that certainly the subcommittee with jurisdiction of these areas, this is one of the things that we are going to help pursue, I think, as well as corn, the other opportunities for ethanol from all these other sources.

My primary question though, Doctor, is at what point do grain prices have to sufficiently rise if we are successful in creating this important major supply of ethanol to fuel this great Nation. At

what point do grain prices have to rise to start to effect potentially our CRP enrollments, reenrollments?

Mr. COLLINS. That is a good question, Mr. Lucas. I am not sure I know the answer to that one. I think it is something I could do a little more thinking about. The problem with CRP is that we have a mandate basically for a 39.2 million acre CRP. And to the extent that corn prices rise, some of that rise or perhaps most of it could get capitalized into land values. We bid land into the CRP, basically using a reverse auction. We let producers tell us what price they need to come into the CRP. As long as we have a mandate to have a sizeable CRP, we will go out and pay the market rental rate to get the land into the CRP regardless of what happens to corn price. So you are going to have the USDA bidding against the market for land into the CRP. So unless we make some sort of change in the way we operate the CRP, all I think we are going to end up doing is raising our rental rates, raising the cost of the CRP and bidding the land into the CRP anyway regardless of what happens to the corn price.

Mr. LUCAS. But clearly you would agree that the rental rates if we are successful, potentially would go up because if they do not, since CRP is a voluntary program at the end of whichever period of contracts that would come up, potentially the number of acres would drop down. So it is something to consider in the long-term perhaps more of a focus for the 2007 farm bill than today but nonetheless an issue that would have to be analyzed and considered in this equation.

Mr. COLLINS. I would agree with that, Mr. Lucas.

Mr. LUCAS. And also the ability if we were successful in developing enzymes or whatever that would facilitate using grass, the cellulose off of CRP land potentially as fuel stock to compliment this effort in determining what kind of rules and regulations, what kind of standards would apply there also, something else to be considered in the next farm bill perhaps.

Mr. COLLINS. Absolutely. I think when you look at a CRP and the size of it, I can't tell you that 39.2 million acres is the ideal size given the environmental needs of agriculture. Part of it relates to the opportunity costs of the land. If we create better opportunities for that land, I think that will clearly have to be taken into account in designing the next generation's CRP.

Mr. LUCAS. Very well put, Doctor.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you.

The chair recognizes the gentlewoman from South Dakota, Ms. Herseth.

Ms. HERSETH. Thank you, Mr. Chairman.

And Governor Pawlenty, I would like to commend you on your leadership in working with so many other States in the coalition using what you have done in Minnesota over the past couple of decades as a model for what can be beneficial not only to the State but to the region and for the country. And I guess a question to both you and Dr. Collins to follow up on the point that Mr. Gutknecht was making about the efficiencies of production for ethanol in particular but other renewable fuels and the concerns that he expressed that I share about officials from the Department of En-

ergy, I believe you mentioned that were testifying either not knowing for certain the costs of production for a gallon of ethanol or they were offering guesstimates that they were far higher than what actually is based on newer technologies and efficiencies that many or our plants have incorporated. Are either of you familiar with a recent study and I use that term loosely that was released just the past week or so from researchers from two universities Cornell and California Berkley that announced that the production of ethanol actually results in a net loss of energy which directly refutes conclusions that the Department of Agriculture has repeatedly reached about the net energy balance of ethanol. And it also contradicts more than a dozen other studies that have been done in recent years on this topic. Are you familiar with these findings and their conclusions that they have drawn and do you have a reaction to those conclusions and what if anything are the Governors in the coalition or USDA doing to correct the misinformation that renewable fuels opponents are spreading?

Governor PAWLENTY. Mr. Chairman, Congresswoman Herseth, I am familiar with the study. I read at least an executive summary of it the other day. This debate is not well served by the battle of consultants and studies reaching conflicting results. It creates confusion in the debate. People use different studies to support their perspective. In the excerpt of the study that you are referencing, I understand the gentleman from Berkley not too long ago is heading up an advocacy group for the oil industry. There is also some suggestion that the data that was being used was several years old. It was in conflict with other studies from the Department of Agriculture that you reached an exact opposite conclusion. And so we gather as public policymakers and have consulted some of whom have a financial oar in the water reaching conflicting conclusions. It is not helpful. I think we would be well served if a credible, definitive, modern, up to date entity perhaps one that this committee could facilitate would either do a study of studies and reach a conclusion or come up with a definitive study. But this conflicting studies battle is confusing. It causes discord in the debate and it is not helpful as to the one that you reference. It seems to me to be using outdated data and at least one of the researchers, a gentleman from Berkley may have a bias.

Mr. COLLINS. With that transition, I would say that a credible, modern, up to date entity has conducted such a study and it is the Department of Agriculture. And prior to that, one was conducted jointly with the Department of Energy. The one done with the Department of Energy showed that the energy in a gallon of ethanol was about 34 percent greater than the energy it took to produce it. The most recent study done last year by USDA suggests 67 percent more energy in a gallon of ethanol than it takes to produce it.

We have a long history of discussions with Dr. Pimentel from Cornell over his work. Our principal author on our study has actually faced off with Dr. Pimentel in a workshop. And I have a lot to say about his study but I will constrain myself here to saying first of all, I think this whole argument about the net energy balance is really an irrelevancy. From an economic point of view—these guys are engineers—from an economic point of view, what

matters is what it costs to get the fuel at the time, in the form, in the place you need it. Fuel in your gas tank is what you need. And what it costs to get it there from alternative sources is what matters not the energy balance. As a matter of fact, there is less energy in a gallon of gasoline than the energy it takes to produce it. The energy ratio for gasoline and diesel is less than one and we are saying it is greater than one for ethanol. If you look at Dr. Pimentel's work, we believe that many of his assumptions are outdated as the Governor just noted. We base our estimates on actual surveys that we have done in the field over the last couple of years, work done by the National Agricultural Statistic Service which looks at the cost of producing corn, farm production expenditure surveys, and on so on.

Just to give you an example, Dr. Pimentel assumes that nearly 1,000 pounds of lime is applied per acre of corn in the United States. Our data shows more like 16 pounds. And I could go through item, after item, after item where we believe his estimates are high. Dr. Pimentel attributes an energy cost to labor. People eat food and I guess that is energy. We don't count labor in the energy balance in computing the cost of the energy needed to produce ethanol. And even though he uses labor, he uses a labor estimate for corn far above what we show as the labor needed to produce corn in our corn cost of production surveys.

I would mention picking up on the Governor's point about a credible entity, I mentioned earlier that we jointly operate the Biomass Research and Development Act with the Department of Energy. Under that act, there is a FACA, a Federal Advisory Act Committee that advises the USDA and the Department of Energy on biomass issues. This week, they voted to ask the National Academy of Sciences to take a look at Dr. Pimentel's work and USDA and DOE's work to essentially arbitrate this issue. We are convinced in our mind what the conclusion is. And maybe if the National Academy takes a look at that, I don't know that they will but if they take a look at that, that could serve as this credible third party and might help clarify some of these issues.

Ms. HERSETH. I appreciate your responses and my time is up so I will submit my remaining questions for this panel for the record but I do hope that once we perhaps include the National Academy of Sciences, that those who write for the New York Times, the Wall Street Journal, and others will actually rely on those findings as opposed to some of the conflicting findings that tend to be opposed to a growing industry that can serve our interests very well.

So I appreciate your testimony, thank you.

The CHAIRMAN. The gentleman from Texas is recognized, Mr. Conaway.

Mr. CONAWAY. Thank you, Mr. Chairman, I didn't realize I was next.

Dr. Collins, you really hit the nail on the head when you said what does it cost me to get the gallon of whatever I am putting in my fuel tank in there. And I want to approach the answer to that question with some scenarios. Both of you have spoken so highly of ethanol and my good colleague, Mr. Gutknecht talked about it being cheaper than gasoline. Why won't the free market fix this issue? In other words, if it is cheaper, than I am going to pay for

that versus an alternative. It is very complicated obviously with the tax incentives and the credits and the direct payments that are made and various—can we really get an apples to apples comparison on what ethanol blended gasoline is versus non-ethanol blended gasoline and State it maybe a different way, what would the price of gasoline need to be at in order for the market to do all of this without any intervention?

Mr. COLLINS. That is a really good question for an economist. Why wouldn't the free market do this? I think in an era of $60 a barrel oil prices if that is where we move—that is where we are today and if we stay on that trajectory into the future, I think someone made the comment earlier that we would, we could well see 8 billion gallons of ethanol used without an RFS. I think the market would do it with that kind of an oil price. I don't off the top of my head know exactly what the break even price for unleaded gasoline is. I don't want to give you a number. I could probably work one up for you. I would say right now I have been looking at the rate of return on ethanol plants. We have a model dry mill ethanol plant, a financial model that we can simulate rates of return under different assumptions. And I can tell you that right now with wholesale gasoline at $1.50 and ethanol roughly similar, ethanol is very, very profitable.

Mr. CONAWAY. OK. But is it profitable without all the credits and all those incentive programs are in place? If you peeled all of that, the interaction that all of that has out and just made it, made ethanol compete in the market like, all the——

Mr. COLLINS. Pretty close.

Mr. CONAWAY. We are getting closer to a point——

Mr. COLLINS. Pretty close. But right now we are at a point where if you look over the last year, we have had strong ethanol prices. We had $2 a gallon ethanol prices in late 2004. At the same time, we have had low corn prices. Our corn price forecast for this coming crop year is $1.90 a bushel. So this may be a little bit untypical situation in that $60 a barrel oil, $1.90 corn, and ethanol price boosted by the gasoline prices. But it is pretty close right now in my opinion.

Mr. CONAWAY. OK.

Mr. COLLINS. So as you look out to the future then, there may come a time where we don't need all of this stuff but that would only be because we have very high oil prices. And one of the ways to bring down oil prices is to develop alternative sources of fuel.

Mr. CONAWAY. But at what cost?

Mr. COLLINS. Well yes, that is the critical issue.

Mr. CONAWAY. You mentioned earlier the biodiesel production is way up because you are paying for it, not because the market is demanding it or the market is using it but we are taking taxpayer dollars from folks over here and giving it—and we do that a lot to pay for that no matter what it costs. So I am interested in, I come from west Texas, and I don't know that oil prices are going to go below $40. There will be some swings. But the bias is up because it is a finite resource.

Mr. COLLINS. Right, correct.

Mr. CONAWAY. I am interested in ethanol but anyway, thank you for that.

Governor, can you visit with us briefly about the impact that these mandates have had on the business climate within Minnesota, job pluses and ups and downs, and also just a rhetorical statement. What I heard you say was that you only agree with consultants who agree with you or you only use consultants who agree with you in making policy decisions? I don't know that we have that luxury but anyway if you would comment on the business environment that these mandates have in Minnesota.

Governor PAWLENTY. Congressman, thank you.

And as to the issue of the conflicting studies, my observation would simply be we have experts reaching different conclusions and it would seem that some reconciliation of either their methodology or the criteria to be used would be helpful and that is why this National Academy of Science Review or potential review might be a good thing. In other words, we have seemingly several people——

Mr. CONAWAY. What I heard you call it was nobody—go ahead. Answer my question if you wouldn't mind on the business climate in the——

Governor PAWLENTY. In terms of the business climate in Minnesota since the early 1990's when the ethanol mandate came on board, our economy relative to the Nation and the upper Midwest has prospered substantially above the region or substantially above the Nation for most of those years. So there is seemingly no measurable impact on the economy.

Mr. CONAWAY. OK, thank you, Mr. Chairman, appreciate the time.

The CHAIRMAN. I thank the gentleman.

The gentleman from North Dakota, Mr. Pomeroy is recognized.

Mr. POMEROY. I thank the chairman.

Governor, I commend you and the Democrat leadership as well in Minnesota. I think your bipartisan support for renewable fuels has certainly made a difference and made Minnesota stand out. We have not seen that type of leadership at the State level in my State, North Dakota and I think we are substantially lagging behind even on a per capita basis. What you have achieved in terms of ethanol production and its utilization in your markets I commend you and hope that in States like mine, hear this North Dakota State Legislature, pay a little more attention to your example.

Dr. Collins, we are very interested in biodiesel. You have testified that—previously that shoring up this relative—this new but fairly narrow tax support for biodiesel as a renewable fuel could help stabilize and indeed increase the production of that fuel. Would you care to expand on that?

Mr. COLLINS. Well, I think as the Governor noted that probably the single biggest factor behind biodiesel expansion today is the fuel tax credit which expires at the end of 2006, I believe. And so I think there must be a lot of expectations that it is going to be extended giving the fact that we now have something like 35 biodiesel facilities in the United States and 22 facilities in various States of planning according to the National Biodiesel Board. But I think if I were putting money into pouring concrete, I would be a little uncertain about the future environment without some assurance that that fuel tax credit is going to be there. So I think

that is probably the single most important factor for expanding biodiesel production over the next decade.

Mr. POMEROY. Are considerations under way—this is a little out of your economic area.

Mr. COLLINS. Yes.

Mr. POMEROY. But are you aware of any discussions being held in the energy conference relative to expanding that tax credit?

Mr. COLLINS. I am not, no, but I have been asked previously to come up and brief the Senate Finance Committee staff on ethanol and biodiesel issues. And in those briefings it was pointed out to me that they emphasized that USDA do things to encourage the expansion of this industry because through the expansion of this industry, it would validate the tax preference and make it more likely that the tax preference could be continued. Of course from an economic point of view, that might cost more to continue the bigger the industry is, so it may cut both ways. But I think that they were making a good point. They put the tax preference in the law and they want to see it used and it is being used. And so I think that at least is one factor that might help motivate a push toward expansion.

Mr. POMEROY. Mr. Chairman, perhaps this committee would want to think about sending a letter to the conferees urging consideration of this. This is just an idea.

I want to move now to the ethanol production out of sugar which the Secretary has advanced as a sweetener for CAFTA votes. Now I understand that the Secretary proposes using CCC funds, that is an authorized use of CCC funds, Dr. Collins?

Mr. COLLINS. Yes, sir, it is.

Mr. POMEROY. OK. Now what do stakeholders in existing ethanol production think of this application of CCC funds to have sugar based ethanol production?

Mr. COLLINS. I have not asked them but my guess would be that they——

Mr. POMEROY. You didn't ask them?

Mr. COLLINS. I haven't personally.

Mr. POMEROY. Did the Secretary?

Mr. COLLINS. I don't know if the Secretary asked them or not.

Mr. POMEROY. Did the U.S. Department of Agriculture?

Mr. COLLINS. Even if I asked them, my guess is I might know the answer because if you——

Mr. POMEROY. Well I find—no, no, I don't want hypotheticals here.

Mr. COLLINS. OK.

Mr. POMEROY. You have advanced using the CCC funds to buy this sugar that is going to come in from these CAFTA countries and turn it into ethanol and you didn't check with the existing landscape of ethanol production of mostly corn based, the very people that have pioneered the technology, developed the market, taken the financial risk, moved it all forward and you didn't check with them?

Mr. COLLINS. 118,000 tons of sugar imports under CAFTA if made completely into ethanol would be 17 million gallons out of 4 billion——

Mr. POMEROY. OK, Dr. Collins, Dr. Collins, what happens in 2008? Do you anticipate CCC funds continuing to be used to purchase sugar coming in from the CAFTA countries for ethanol production?

Mr. COLLINS. The Secretary's commitment was the 2 years up to the farm bill.

Mr. POMEROY. So you don't anticipate in 2008 you are going to be buying any sugar for ethanol production?

Mr. COLLINS. I have no anticipation because it goes beyond the Secretary's commitment period.

Mr. POMEROY. What about the NAFTA sugar that comes in in 2008? Do you anticipate using CCC funds for ethanol production at that time?

Mr. COLLINS. I don't assume that there will be NAFTA sugar.

Mr. POMEROY. OK. So we have got a 2-year deal, they are going to buy a little sugar, make a little ethanol, didn't run it by the corn guys but doesn't matter because it is not much, it is not for long.

Thank you very much, I yield back.

The CHAIRMAN. The gentleman from Nebraska, Mr. Osborne.

Mr. OSBORNE. Hello. I would like to thank both of you for being here today.

A quick question for the Governor. I am somewhat intrigued with your State's decision to go to an E–20 mandate and do you find any conflict with those who would like to have market forces determine the price? Has this been an ongoing debate in your State and if so could you summarize the debate and your logic and others in Minnesota?

Governor PAWLENTY. Mr. Chairman, Congressman, I think there is certainly a group of folks within Minnesota and I think nationally who would be what we would say the invisible hand, Adam Smith approach to energy and renewable energy and that the Government shouldn't meddle or incentivize or subsidize and those voices continue to express their views in Minnesota. The flip side of the coin of course is to get the industry up and running and to try to achieve some of the goals and benefits that we have talked about earlier in terms of environmental benefit, national security benefit, rural economic development benefit, energy policy, that those incentives at least in the early stage of the industry are worthwhile. But clearly those voices that you have described or referenced have been in the debate and they have not been ignored but I think on balance people have been willing to incentivize at least in the early stages move beyond those voices. And as has been describe by Dr. Collins and Congressman Gutknecht and others as it turns out, the economics of the ethanol industry are getting better to the point where it may be even after incentives and subsidies close to a draw at least at these oil prices.

Mr. OSBORNE. My question certainly does not reflect a negative attitude on my part. I was just wondering what your experience had been.

A couple questions for Dr. Collins. One is I have a sense that maybe some of the spin-offs from the ethanol industry could long-term benefit rural America even more than the ethanol industry itself and that may not be your area of expertise but biodegradable plastics from wet milling, creatine, some pharmaceutical crops can

be, I think spin offs. Do you have any thoughts on that or do you have any data on that at all?

Mr. COLLINS. I would, Mr. Osborne, I would say you are exactly right. In this area of the byproducts of ethanol production, creating new value added products is a big area of research. One of the issues that comes up all the time is the production of glycerin for example and how that could create a problem because there would be too much of it for the glycerin industry. That is just one example. We have a research program at ARS that is looking at making polymers out of glycerin and bacteria for byproducts out of glycerin. So there is a range of research going on now not only to improve the feed quality by taking phosphorus out of DDGs, not only improving the feed quality but also creating a whole new range of products for this new generation of biorefineries that people hope will be part of the bio based product industry of the 21st century.

Mr. OSBORNE. All right. And I have one more question so it may be rather technical. But I noticed in your charts at the back here, you indicate that corn and sorghum production would go up, price would go up, and probably the biggest flag would be in sorghum. And I was wondering why that would be because normally the primary ingredient for ethanol is corn when we go to the 8 billion——

Mr. COLLINS. Right.

Mr. OSBORNE. If we go to the 8 billion mandate. And it looked like soybeans was going to go down. And with biodiesel I would assume, so I wondered if you had any thoughts or could explain that.

Mr. COLLINS. Yes, sir. First, with respect to biodiesel, we did not make explicit assumptions about biodiesel.

Mr. OSBORNE. OK.

Mr. COLLINS. The Department of Energy didn't in their analysis of the RFS–8 and we followed that. We did not make explicit assumptions either. So we have a fairly minimal biodiesel production in there. More biodiesel production would of course have a bigger impact. But biodiesel at least in a hundred or a couple hundred million gallon level which is way beyond what we are producing right now would represent a very, very small portion of vegetable oil or animal fat production in the United States. So it is probably not going to have much of an impact. With respect to sorghum, what we have seen over the last decade is a fairly sizeable decline in sorghum acreage in the United States. So to get acreage back into sorghum, it takes a little bit more of a price kick. We have also seen in the Southern Plains, a big interest in turning sorghum into ethanol. There has been a lot of pioneering research on new ways of converting grain sorghum into ethanol. And so we think there will be an opportunity there to use sorghum in ethanol production. We think the economics are improving to convert sorghum into ethanol production. And with the decline in sorghum acreage, we think that would give it a little bit more of a price boost. And I think that is probably the logic behind what is in those charts.

The CHAIRMAN. The time for the gentleman has expired and we recognize the gentleman from Georgia, Mr. Barrow and then we are going to go vote.

Mr. BARROW. Thank you, Mr. Chairman.

I have no questions. I just have a word of explanation. Like Mr. Osborne, I serve on the Education and Workforce Committee but

unlike him, we had amendments marking up this morning that I was sponsoring so I appreciate his being here and I express my regret for not being able to attend the full hearing. Thank you very much.

The CHAIRMAN. We have about 6½ minutes remaining before we go vote. I think that has completed it with everybody so Governor Pawlenty, thank you very, very much. I know you had to adjust your schedule some to be with us today.

Dr. Collins, you are always welcome. This has been a very, very good panel and we thank you for your contribution.

Governor PAWLENTY. Thank you, Mr. Chairman.

The CHAIRMAN. And you are dismissed. We will take up the second panel after the vote.

[Recess.]

The CHAIRMAN. The committee will be in order. And we would now like to invite our second panel to testify, Mr. Dave Frederickson, president of the National Farmers Union of Washington, DC; Mr. Leon Corzine, president of the National Corn Growers Association of Assumption, Illinois; Mr. Douglas Faulkner, owner and operator of the Virginia Biodiesel Refinery of West Point Virginia on behalf of the American Soybean Association; Mr. James Mason, general manager of the Virginia Poultry Growers Cooperative of Hinton, Virginia on behalf of the National Turkey Federation and the National Chicken Council; Ms. Lori Perine, executive director of the American Forest and Paper Association of Washington, DC.

I would remind all of you that your full statements will be made a part of the record. We ask that you limit your comments to 5 minutes and we will start with Mr. Frederickson, welcome.

STATEMENT OF DAVE FREDERICKSON, PRESIDENT, NATIONAL FARMERS UNION, WASHINGTON, DC

Mr. FREDERICKSON. Thank you, Mr. Chairman.

It is indeed a pleasure to be here today. I want to also thank Ranking Member Peterson who is not in the room at the time and also Congress Gil Gutknecht from my home State of Minnesota. Good to see you, Congressman.

I am Dave Frederickson, president of the National Farmers Union. Mr. Chairman, I want to thank you for convening this hearing on renewable fuel standard and how farmers and ranchers can participate in the development of a comprehensive energy policy for the United States. And I might add that over the years but for the persistence of farmers and ranchers on this very issue, Mr. Chairman, we probably wouldn't be here today because there were so many opponents. And Congressman Gutknecht and I share some history. We remember those days and we remember the opponents but for the persistence of farmers and ranchers, we wouldn't be here discussing this very important issue and I thank you for that.

It is especially timely, the hearing, as the energy bill conferees our meeting as we speak to hammer out the differences between the House and Senate energy package both of which contain distinctly different renewable fuel standards. And let me make one thing very clear from the State. The National Farmers Union and a wide coalition of farm groups and the ethanol and biodiesel in-

dustry supports the Senate position for the RFS in the Energy Conference Committee proceedings and that language is reflected in this particular piece of legislation.

Again, I want to specifically thank Mr. Peterson along with Mr. Gutknecht and Ms. Herseth, Mr. King, Mr. Osborne, Mr. Boswell, Mr. Moran, and Mr. Salazar, and others for recently introducing the Renewable Fuels Act of 2005. Through legislation in the Senate, the RFS package would establish a very strong renewable fuels standard mandate for the use of 8 billion gallons of ethanol in our Nation's transportation fuels by the year 2012 and it contains very tough waiver language and anti-backsliding provisions to protect gains we have made in the Clean Air Act. We certainly encourage you to insist on this language in the final energy conference report. Our farmers and ranchers will settle frankly for no less than 8 billion gallons by the year 2012. And the other important and vital language included in your legislation and the Senate energy package.

Due in part to encouraging public policy and the 2002 farm bill, ethanol and biodiesel production cooperatives, Mr. Chairman, are flourishing. In fact, in the agricultural sector where markets are increasingly controlled by a handful of large multi-national companies, ethanol production markets appear to be one of the few U.S. markets that have become more and more competitive and to that we are thankful.

This past February, delegates to the National Farmers Union annual convention approved a special order of business encouraging the production of fuels from the farm. In fact, the National Farmers Union Policy shows that as far back as 1978 when gasohol was the prevailing term, our members supported a mandate for ethanol use in gasoline way back then and we have continued to work on this policy ever since.

And I know, Mr. Chairman, this is of special interest to you today but today five Farmers Union State chapters operate a cooperative in Congressman Peterson's district just a little bit north of Mr. Gutknecht's district line in Redwood Falls, MN that is producing biodiesel from rendered animal fats and oils and for that, Mr. Chairman, we thank you for adding that very strong provision in the language. It is a farmer owned biodiesel production facility. Others are being construction in North Dakota in addition to a large ethanol plant in Oklahoma both sponsored, Mr. Chairman by members of the National Farmers Union and the State organizations. House and Senate RFS legislation also provides a tax incentive for biodiesel that will be extremely important in stimulating new production of biodiesel from both soybeans, as well as, from animal fats. We strongly support extending the biodiesel tax credit or tax incentive to the year 2010.

And to your point early on, with the last panel, Mr. Chairman, we stand with you on the issue of parity. We understand, certainly that there are perceived losers and perceived winners. And certainly in the area of parity for other products to be utilized in the production, we stand in support of that provision making sure that we have parity and then certainly making sure that we maintain parity throughout the commodity and so we are proud and pleased to stand with you on that.

With that, Mr. Chairman, I will cease and let the balance of my testimony be included into the record. Thank you so much.

[The prepared statement of Mr. Frederickson appears at the conclusion of the hearing.]

The CHAIRMAN. Well thank you, Mr. Frederickson. I am pleased to hear you say that.

Mr. Corzine, welcome.

STATEMENT OF LEON CORZINE, PRESIDENT, NATIONAL CORN GROWERS ASSOCIATION, ASSUMPTION, IL

Mr. CORZINE. Chairman Goodlatte, Ranking Member Peterson if he were here and I am sure he will be back and members of the committee, I want to thank you for giving me this opportunity. This is an opportunity to come from my farm where my son was working me pretty hard yesterday to our Nation's capitol to address you all at this very important time. Only in America do we have these opportunities and I certainly appreciate that.

We are talking about a key issue facing our Nation today. It is about energy, national and economic security. With gasoline prices at near record levels, petroleum imports rising, domestic energy production declining, and the Nation's energy crisis, slowing economy growth, now is the time to maximize the production and the use of domestic renewable fuels by supporting the 8 billion gallon renewable fuel standard.

My name, as you mentioned, is Leon Corzine. I am president of the National Corn Growers Association. My wife Susie and my son Craig who is our sixth generation and I grow corn and soybeans and a few angus cows on a family farm in Assumption, Illinois. NCGA was founded in 1957 and we currently represent the interest of more than 300,000 corn farmers across the Nation that contribute to the check off.

The renewable fuels industry took another step toward making an 8 billion gallon RFS a reality on June 28, Mr. Chairman, when you joined Ranking Member Peterson and representatives Gutknecht, Osborne, Herseth, King, and Moran in introducing H.R. 3081. The introduction of 3081 came at a very important time in the committee negotiations increasing the support from the House on the 8 billion gallon RFS and that is critical.

For more than 20 years, NCGA has worked side by side with farmers, industry, and the Government to build the ethanol industry to where it is today. The ethanol market is the single most successful and fastest growing value added market and rural development opportunity for farmers in rural America. Nearly 60 percent of the U.S. ethanol plants are farmer owned. Our record 11.8 acre billion bushel corn crop in 2004 highlights the importance of the growing ethanol industry for corn growers seeking markets for our products. In 2004, the industry processed 11 percent of Nation's corn crop into ethanol. This year it is expected to reach nearly 13 percent. The resulting co-products will continue to provide a quality food supply for cattle, swine, and poultry. There is still plenty of room for the ethanol market to grow without limiting the availability of corn. The 8 billion gallon RFS will require the use of 2.4 billion bushels of corn by 2012. And while these represent significant increases from the 2005 levels, the 8 billion RFS will not even

use the increase in corn production that we will have in that same time period. The increased production of ethanol will result in the large supplies of distilled or dried grains and this medium protein feed component will find its largest demand in the beef and dairy cattle industries but DDGs have shown to be beneficial to turkeys and are being used in both broiler and egg laying operations and we are participating in studies to enhance that.

While ethanol production creates greater demand for corn, it is not just corn growers who reap the benefits. Each ethanol plant serves as a rural economic engine for the surrounding areas creating high paying jobs, value added markets for farmers, and increased local tax revenue. And it is the local schools in rural areas that rely on this tax support. It is the main street merchants who depend on rural families with reliable incomes. All those who live and do business in an area where an ethanol plant exists, benefit from the economic activity that it generates.

Today, the U.S. ethanol industry has the capacity to produce more than 3.8 billion gallons. Enactment of an 8 billion RFS would continue to expand the domestic ethanol and biodiesel production. This is not a mandate on the States. This is a requirement of refiners and blenders. Ethanol facilities are extremely energy efficient and actually yield more energy than refining gasoline and the gasoline additive MTBE. According to the USDA, the net energy balance of ethanol indicates that ethanol products 67 percent more energy than it takes to generate.

Ethanol's energy efficiency comes from the fact that corn plants are very efficient solar panels that take energy from the sun and collect them and store them and we turn them into fuel. New technology and processes will have dramatic effect on the energy required for ethanol production, greatly reducing the input that is required in the production of ethanol. Those who claim that ethanol production is a net energy loser has been talked about this morning already and are using outdated information, old technology, and our conveniently forgetting to mention that there is no fossil fuel that can have a positive energy balance.

Farm income would also rise as ethanol production rapidly expands. According to the USDA, ethanol adds 20 to 40 cents of additional value to every bushel of corn, ownership and increased value, boosts the ag economy leading to reduce net farm program costs and taxpayer outlays. In fact, with the enactment of an 8 billion gallon RFS, the Congressional Budget Office estimates that spending for farm programs would decline by approximately $4.8 billion between 2007 and 2015. NCGA has always and our membership has always wanted to get our income from the marketplace and not from Government programs. Our Nation's dangerous dependence on foreign oil comes with the financial and human cost of military involvement in the Middle East making us vulnerable to the whims of OPEC oil ministers and volatile and militant foreign governments. An 8 billion gallon RFS would provide a stabile demand for the use of ethanol while reducing the Nation's dependence on foreign oil displacing over 2 billion barrels of crude oil. It is a very important step as we work towards energy independence.

The fuels provision included in the Senate version of the energy bill includes the 8 billion gallon national RFS to be phased in by

2012. Moreover, it phases out the use of MTBE, includes the anti-backsliding provisions that will preserve the air quality benefits of reformulated gasoline and provide significant new flexibility for refiners in the use of renewable fuels by limiting the application of credits generated by the RFS program. The NCGA urges you to support the Senate position on this RFS. The 8 billion gallon RFS is about reducing America's dangerous dependence on foreign oil and the economic and military costs that will result from this dependence. It is about our keeping our air and water clean through the use of safe, clean burning fuels. It is about improving our economy by building new domestic industries that can meet the demands of consumers and keep American dollars here at home rather than filling the coffers of foreign unfriendly governments. It is about the future of U.S. agriculture and out Nation as a whole. Congress needs to enact a comprehensive energy policy now that includes the 8 billion gallon RFS.

Chairman Goodlatte, Ranking Member Peterson, and members of the committee, I want to thank you for the opportunity to testify once again on this timely and very important issue. Thank you.

[The prepared statement of Mr. Corzine appears at the conclusion of the hearing.]

The CHAIRMAN. Thank you, Mr. Corzine.

Mr. Faulkner, welcome. We are pleased to have you with us. I understand that you had a pretty well known visitor to West Point a few weeks ago and I was sorry I couldn't get over to be there with the President when he visited your biodiesel refinery, but that was a great opportunity for you and for Virginia to have the President highlight renewable fuels for us. So we welcome you today and look forward to your testimony.

STATEMENT OF DOUGLAS FAULKNER, VIRGINIA BIODIESEL REFINERY, WEST POINT, VA

Mr. FAULKNER. Chairman Goodlatte, Ranking Member Peterson, thank you very much for giving America's soybean farmers the opportunity to testify on agriculture's role in growing our way towards energy security through the use of renewable fuels like biodiesel.

My name is Doug Faulkner. I am a member of the Virginia Soybean Association and I sit on the board of the Virginia Soybean Association. My father, brother, and I currently own and operate a biodiesel refinery in West Point, VA approximately 30 miles east of Richmond. This plant demonstrates the ability of biodiesel to be produced on a regional basis privately and profitably.

Earlier this summer as you had referred, I was honored to have President Bush deliver a speech at our facility. In his speech he highlighted three things, the energy bill, Social Security, and the environment. The common thread that he made was that as the most developed and prosperpus generation in the history of the world today, we have an obligation to two generations out to leave them with better than a dirty planet, no energy, and a broken Social Security system.

Mr. Chairman, the issue raised today is a critical issue with soaring petroleum prices but there is something we can do to control that. The renewable standards would battle the high price of

gasoline and diesel fuel. And my fellow soybean farmers and biodiesel industry companions are ready to carry this battle forward.

Mr. Chairman, the soybeans grown right here at home by the American farmer can be used to make fuel called biodiesel. Biodiesel is an alternative made from agricultural products like soybean oil. It will never replace diesel fuel. 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 ever diesel engine type and diesel application. It has similar torque, horsepower, and fuel economy but it burns significantly cleaner and has premium fuel attributes. My personal vehicle runs 100 percent on biodiesel.

Last year, Congress approved and the President signed into law legislation that created tax incentives for diesel transportation fuels made from soybean oil, other vegetable oils, and agricultural byproducts. Specifically, this program amounts to a penny per percent of biodiesel blended with petroleum diesel for agri-biodiesel such as that made from soybean oil and a half-penny per percentage for biodiesel made from other sources.

As you are aware, the biodiesel tax incentive will expire December 31, 2006. While the tax incentives have been successful in boosting the demand, probably more successful than what you had ever anticipated, in order to attract additional capital to building additional plants and continue the growth of biodiesel, we need an extension of this program well beyond 2006. With Congress considering comprehensive energy legislation, it is critical that we retain and extend this extension to secure capital from other sources.

Mr. Chairman, while the tax extension is critical to the long-term viability of biodiesel, one thing that will enhance the growth of the biodiesel is the renewable fuels standard. With rising crude oil and fuel prices hurting consumers and record petroleum imports exacerbating our trade imbalance, we need to be maximizing the use of homegrown biodiesel. Enacting an RFS that would provide a market of 8 billion gallons by 2012 demonstrates a firm commitment to reducing this Nation's foreign oil dependence while providing a significant impact to the American economy. The production and use of 8 billion gallons of biodiesel and ethanol and other renewable fuels would displace over 2 billion barrels of crude oil.

The reality is that the biodiesel industry is positioning itself to meet greater demand by welcoming new producers to the fuel market. Demand has been stimulated in part by the passage of the Federal tax incentive. That must be extended to draw capital for more plants to be built. Today there are currently 32 biodiesel plants operating and 23 biodiesel plants are proposed. In total, the 55 eligible plants have the potential to add more than 350 million gallons of domestically produced biodiesel to the existing transportation fuels marketplace.

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 U.S. to embrace energy policies that will help farmers improve our energy security, protect the environment and stimulate our economy. Thank you.

[The prepared statement of Mr. Faulkner appears at the conclusion of the hearing.]

The CHAIRMAN. Thank you, Mr. Faulkner.

Mr. Mason, you are particularly welcome as my constituent and as the new general manager of the Virginia Poultry Growers Cooperative which we are all very proud of in the valley, helped to save a disaster situation for many poultry farmers and would have had a ripple effect I am sure through the economy of the area to say nothing of the hundreds of workers in the processing plant that you operate as well. So one of the things that have made you a success so far are low grain prices and I know you want to keep it that way so we are welcome to hear your testimony today as well.

STATEMENT OF JAMES L. MASON, GENERAL MANAGER, VIRGINIA POULTRY GROWERS COOPERATIVE

Mr. MASON. Thank you and I appreciate you and the chairman giving me the opportunity to testify here today. It is especially nice to have the opportunity to come and visit you 2 weeks in a row where you work.

The National Turkey Federation and the National Chicken Council have concerns about the renewable fuels standard as contained in H.R. 3081 and in both versions of the energy bill. Mandating the use of a certain quantity of fuel ethanol directly impacts the demand for corn which in turn directly impacts the economic viability of animal agriculture. It is our hope that our comments and efforts today can contribute to an energy policy that provides for a renewable fuel program without jeopardizing the more than 40,000 family farms involved in producing chicken and turkeys for the American consumer.

My name is Jim Mason and I am the general manager of the Poultry Growers Cooperative in Hinton, Virginia. I previously worked for more than 20 years as a senior executive of Wampler-Longacre, Inc., serving as president of Wampler Foods from 1993 to 1997. I am a former executive committee member of the National Turkey Federation, a past president of the Virginia Poultry Federation, and a former member of the National Chicken Council.

The VPGC was created last year after Pilgrim's Pride decided to consolidate all its turkey processing operations into the company's Pennsylvania facilities. Through your many efforts, Mr. Chairman, and the hard work of many others, we were able to form the VPGC and continue proving a processing outlet for 143 family farmers who otherwise might have been forced to give up turkey production on their farms. Today, the VPGC is processing turkeys raised in Virginia and West Virginia into 150 million pounds of high quality nutritious turkey products and we are employing 530 people at our plant in Hinton. We are excited about this venture and optimistic about our future. But make no mistake about it, we are a start up operation. We remain extremely vulnerable to outside forces that could undermine our profitability and long-term success. That is why we have grave concerns about H.R. 3081, about the energy bill now pending in conference committee and about the general concept of a renewable fuels standard.

Feed can account for as much as 70 percent of the cost of raising poultry. The availability and cost of corn has a direct impact on the

profitability of poultry producers and on the profitability of those who process their products. In the mid–1990's, grain supplies became very tight with the corn stock to use ration dropping well below 10 percent. Competition for the limited corn supplies was fierce and feed costs soared to more than 30 cents per pound for turkeys in 1996. That year, the turkey industry lost about almost 7 cents on every pound it produced. The chicken industry can tell a similar story. Only twice in recent memory has chicken production decreased from one year to the next. In both of these instances, it was the result of Federal Government imposing policies that disrupted normal market forces and conditions. Our organizations and the family farmers and companies we represent, appreciate the committee's sensitivity to our situation and the opportunity to talk to you about the RFS.

H.R. 3081 and the Senate version of the energy bill both call for refiners to blend 8 billion gallons of renewable fuel into gasoline by the year 2012. The House version of the energy bill provides for 5 billion gallons by 2012. Those who support the RFS say livestock and poultry producers do not need to worry about the feed markets because the trend line on corn yields is increasing and because gasoline refiners will start using products other than corn based ethanol to meet the standard. They also point out that ethanol refining produces dry distillers grains that can be used in feed. We sincerely hope the ethanol components are right on the first two points but it was just 3 years ago that we had a 9 billion bushel corn crop and the continuing dry weather this year in the Midwest underscores the ongoing risk of short corn harvests. There may be some increased diversity of renewable fuels by 2012 but with a capacity approaching 4.5 billion gallons, the corn based ethanol industry has a tremendous head start on their competitor.

Finally, the ethanol refining process removes the starch leaving only protein in the dried distiller's grains. Poultry generally can utilize no more than 10 percent in feed rations so there is little room for additional DDG consumption. That is why the National Turkey Federation and National Chicken Council strongly believe Congress should hold the RFS to 5 billion gallons and at the same time should include provisions that explicitly protect animal agriculture producers in the event of a large crop shortage or outright failure.

Right now, about 11 percent of the corn crop is being diverted to ethanol. At 8 billion gallons under the wrong circumstances, the RFS could divert almost 35 percent of the corn crop to ethanol. At 5 billion gallons, the maximum diversion is probably closer to 20 percent. Congress also should recognize that the RFS at any level could put livestock and poultry producers at a competitive disadvantage in a tight corn market. Because gasoline refiners will be mandated by the RFS to purchase a specific amount of renewal fuel, they can pass along almost any cost increase to their customer.

I believe I am out of time but would I be allowed to continue?

The CHAIRMAN. Without objection.

Mr. MASON. Historically, when feed costs increase, livestock and poultry producers begin liquidating flocks and herds to cut costs and increase chances of financial survival. There is no Federal

mandate to purchase meat and poultry so these markets overloads, drive down retail prices severely limiting the ability to pass cost increases along to consumers. On the producers with the deepest pockets will survive. That is why a pressure relief valve is a reasonable safety precaution.

Both the NCC and NTF strongly recommend Congress include a provision in the RFS that would protect livestock and poultry producers from a crop disaster. You will find a copy of our proposal attached to our written statement. This amendment would require review by EPA to adjust the RFS if the stocks to use ration drops below 10 percent which is the level at which livestock and poultry producers almost always begin to experience financial crisis. Poultry producers understand that feed costs will go up and when supplies are short and we accept that market risk. We would ask Congress to recognize the potential distorting effect of the RFS on our markets and provide us with a way to alleviate at least some or a portion of that disruption. We think this is a fair proposal and one that would be utilized only rarely. The risk to ethanol producers in this proposal is small and we would hope Congress would consider it a reasonable trade off given the market advantages the ethanol industry will be gaining.

One final note on our proposed amendment, the waiver language in H.R. 3081 and the waiver language in both versions of the energy bill will not work. A waiver process is too lengthy and the decision is too entirely discretionary on the part of the EPA administrator. We want to make the process timelier and less subjective to insure that any RFS adjustments provides a real benefit to livestock and poultry producers.

We thank you for the opportunity to testify and we would be pleased to answer any questions when the time arises.

[The prepared statement of Mr. Mason appears at the conclusion of the hearing.]

The CHAIRMAN. Thank you, Mr. Mason.

Ms. Perine, we are pleased to have your testimony as well, welcome.

STATEMENT OF LORI A. PERINE, EXECUTIVE DIRECTOR, AGENDA 2020 TECHNOLOGY ALLIANCE, AMERICAN FOREST AND PAPER ASSOCIATION

Ms. PERINE. Thank you very much, Mr. Chairman. And I would like to thank you and Ranking Member Peterson and the other members of the committee for inviting me to testify today about this important topic. I welcome the opportunity to present the views of the forest products industry and to testify about our potential for fulfilling the 8 billion gallon renewable fuel standard as proposed in H.R. 3081. I have submitted a more detailed statement for the record but I would just like to touch on the view of the main points here in my oral statement today.

My name is Lori Perine. I am here in my role as executive director of Agenda 2020 which is our industry's technology alliance and a special project of AF&PA. AF&PA is the national trade association for our industry representing more than 200 member companies and related associations affiliated with manufacturers of pulp paper, paperboard, and wood products. Our products literally touch

every facet of our society. As an industry, we account for approximately 7 percent of total U.S. manufacturing output. We employ 1.3 million people and we rank among the top 10 manufacturing employers in 42 States.

We believe that our industry is positioned to be an important resource in accomplishing the biofuel goes of this legislation. The provision in the bill would provide an important incentive to drive private and public investments in integrated biorefineries located at our industries mills. Biorefineries that would have the potential to annually produce nearly 2 billion gallons of ethanol and another 1.09 million barrels of other renewable transportation fuels including biodiesel. These biorefineries would facilitate growth in the domestic production capability for renewable fuels based on existing manufacturing infrastructure. In addition to reinvigorating our industry, these biorefineries would actually help to serve to revitalize the communities where our industry is based which were primarily rural communities throughout the Nation. And finally, introduction of these integrated biorefineries will help advance national goals for energy, environmental performance, and economic competitiveness of U.S. industries.

Through Agenda 2020, we have created partnerships with Federal Government and other industries to drive this biorefinery vision. The vision is really to evolve our existing infrastructure into distributed facilities that process both forest and agricultural materials to reduce renewable bioenergy and bioproducts. We can do this while persevering the traditional product lines that we now create and in addition to creating new and better paying jobs, strengthening the communities that we serve, and opening domestic and international markets for forest products companies.

This is very much a win-win situation for all around as these integrated biorefineries would contribute to reducing greenhouse gas emissions and dependence on foreign fossil fuel by substituting domestic renewable materials as feedstock for products that are now derived from non-renewable carbon. If fully developed and fully commercialized, we show by early estimates that we could reduce fossil energy consumption by over 250 trillion BTUs per year and have the additional benefit of cutting approximately 40 million tons of carbon emissions annually.

This general concept that we are talking about, the Integrated Forest Products Biorefinery has green components. First, we look at taking the wood before it goes into our pulping operations extracting certain components and creating ethanol or chemical feed stocks out of those components. These technologies will be in commercial scale demonstration within 3 years and if over—at least 75 percent of our mills adopt the technology, we could be annually producing ethanol in the range of 2 to 2.4 billion gallons each year.

We also look as a second component at taking the residuals from our mills and from other operations, gasifying those residuals, and creating a variety of fuels and chemicals. The biomass gasification technologies for our spent pulping liquors are currently being commercialized and are in demonstration including in demonstration in your State, Virginia, Mr. Chairman. And the process is to convert the syngas from that gasification into transportation fuels should be on line commercially within the next 5 years. This gives

us a potential to produce 1.09 billion, million barrels as I stated before of renewable fuels. And with a little additional research, we know that we could turn that syngas into ethanol, as well as, other high value products.

The third area we look at is related to the feed stock itself through sustainable forest productivity. As we develop the advance technology to grow faster growing feed stocks of high quality, we can improve the life cycle of the feed stocks and the energy consumption of the integrated biorefinery. In the short-term, our biorefineries will draw from the existing consumption of the industry but in the longer term through the advance forest management practices that we are enabling, we will be able to customize the biomass that goes into these biorefineries both for traditional products and for the new biofuels that it can produce.

This is an incredible vision that we have that is very near to commercialization that would provide a considerable potential in terms of the filling the renewable fuel standard of 8 billion gallons of ethanol but we do need your assistance in addressing several key challenges that I touch on briefly. The first is in terms of the definitions of renewable fuels, biomass, and cellulosic fuels and ethanol that are in various pieces of Federal legislation and that are used by the Federal agencies. Those definitions generally are inclusive but we run into situations where one or more of the key components of wood are excluded which means that various parts of our industry are not eligible for participation in these programs and activities. We would like to work with you and Members of Congress and the relevant Federal agencies to construct inclusive definitions of biomass and renewable energy that includes all components of forest materials. Second, sustained and adequate funding of RD&D partnerships are essential for us to move forward with this vision of the integrated forest biorefinery. They are especially important programs in terms of the joint USDA DOE biomass research on which we depend to make these technologies viable. We would like to work with you to ensure adequate funding of those programs. And third, we would like to work with you to ensure that programs within USDA such as the forest products laboratory are appropriately structured to meet the research needs that we see here with the forest biorefinery but also obviously are consistent with U.S. Forest Service mission imperatives.

We consider this to be an incredible opportunity to support the goals that you are trying to move forward, Mr. Chairman and we look forward to working with you, this committee, and other Members of Congress to maximize the industry's role to contributing to these goals.

Thank you very much for allowing me to testify this morning and I look forward to answering any questions that you and members of the committee may have.

[The prepared statement of Ms. Perine appears at the conclusion of the hearing.]

The CHAIRMAN. Thank you, Ms. Perine.

Well let me start by asking Mr. Faulkner if you could tell us how your biodiesel plant has benefited your community and its farmers economically.

Mr. FAULKNER. In terms of the farmers I will start there first because they mean the most to me. All of the farmers that we service, we also have an oil company and all of them use biodiesel. Some of them use a 2 percent blend, some of them use a 20 percent blend. In terms of the community, it doesn't take a lot of people to make biodiesel so we haven't hired a lot of people. We have added to the tax base. We have in terms of the—if I may be so bold as to refer to my community as the State of Virginia, we have sold more diesel, more biodiesel out of the State than in the State and, therefore, we have taken the product of Virginia soybeans, sent them over the lines and brought money back in. And that money keeps circulating among the farmers and among the other processors. So the economic activity we use a multiplier of 3 to 1. So for every $10 million worth of sales, you create about $30 million worth of economic activity.

The CHAIRMAN. I understand that you mentioned that you will increase production in your plant by a million gallons by the end of the summer. Is this a sign that demand for biodiesel is growing in Virginia and the surrounding area?

Mr. FAULKNER. You guys did a real good job in increasing the demand for biodiesel. And today was the first that I have heard and it sent chills up my spine that we may actually start importing biodiesel to meet the demands. There is not enough biodiesel.

The CHAIRMAN. Very interesting. If so, can this demand be met without increasing the price of feed that concerns the fellow to your left there?

Mr. FAULKNER. In my opinion, yes. And I would probably need a little but more time to really think it through but I can probably tell you that the oil from soybeans has long been a drag on the market. And so until we got to the point where we were doing zero exports to the international market, it would seem to me that any increase value to the oil would reduce the crusher's need to increase the price of the meal for feed. So given a $5 or $7 bushel of beans, the more you get for the oil, the less you need to charge for the meal. Oil has long been a drag to the crush. It is possible that the price could go down.

The CHAIRMAN. Mr. Mason, if feed costs again reach the level of 1996 which was a pretty bad year, what would be the effect of that on the Virginia Poultry Growers Cooperative?

Mr. MASON. It wouldn't be a very good one. I don't know if we maybe able to survive it but it would be debatable. We are such a young company that companies that have been inexistence a lot longer than us would probably have a lot better chance of surviving something that happened that soon to us, then it would be if we had been in business a lot longer. So we did a lot of what ifs with our start up models and we put some of those high prices in and we couldn't last too long because we haven't had enough time to generate that war chest if you know what I mean.

The CHAIRMAN. A renewable fuel standard would offer some new opportunities for production of renewable fuels from animal waste and fats. What would be the process, would that process be of significant benefit to your cooperative?

Mr. MASON. You mean from like the offal from the poultry plants?

The CHAIRMAN. Both the offal and the litter. I mean both of those are potential sources of energy.

Mr. MASON. Oh, absolutely if that technology was available today to do that. And I hear that a lot of that is being worked on but we haven't seen any of it actually in production yet other than maybe the production of biodiesel from animal fats. And that is kind of a double edge sword because animal fat is used heavily in the production of chicken and turkey as a feed additive. But I think the bottom line of your question was yes, that would benefit us.

The CHAIRMAN. And what about the distillate that I hear about that is a byproduct of the production of ethanol? Is that something that you can use?

Mr. MASON. Very little of it because in our turkey rations, our nutritionist has a problem with it today which may be corrected as it gets more refined but there is such a difference between the level of quality between one ethanol plant and the other that it is hard for a nutritionist to formulate. And in the best case scenario, 10 percent is the most we can use. Because the starch has been taken out and we have to add back lysine to make it work in our rations. So it just has a minimal effect for us in poultry and may have a better use in livestock.

The CHAIRMAN. So some additional research on ways to make the product more consistent and to find a way to balance out the lack of starch would be helpful to you?

Mr. MASON. If it could be better utilized by the turkey or chicken, yes.

The CHAIRMAN. I see, good, thank you.

Well my time has expired. It is my pleasure to recognize the gentlewoman from South Dakota and it looks like you can take as much time and ask as many questions you want.

Ms. HERSETH. I appreciate it, Mr. Chairman.

I thank all of the witnesses today for your testimony and your written statements as well.

Mr. Faulkner, you said your vehicle currently runs 100 percent biodiesel. In your opinion or perhaps Mr. Frederickson or Mr. Corzine you would like to add, do you believe that an 8 billion gallon renewable fuel standard will also help facilitate the development of the distribution network as well as flex fuel vehicles in the domestic automotive industry?

Mr. FAULKNER. Yes, I do. People are not going to go in it for a year or two. And what you are doing is setting up a—you are giving a hurdle and allowing a very, very young industry at least a childhood to get onto its own feet. And I think there is no doubt in my mind the way that it runs, the way that it performs, and the effects of it. It will be a success. It is just a question of how fast do you want it.

Go ahead, Leon.

Mr. CORZINE. Well I would add that very well put this is an industry still in its infancy. We can learn, I think from some of the examples from Brazil because they saw the need to do something about their energy needs 20 years ago and did that. We are seeing a lot of new technology working with the auto industry. I drove a test truck for General Motors for a while to—working on the higher percentages of ethanol and seeing assurances of that growth which

it helps not only the side of technology and bringing that new technology forward and we have been very supportive and worked with the cellulostic folks on making ethanol from other things besides corn. We have been supporters of ethanol and biodiesel from all sources and that is an important thing that we have been part of. And what we are finding is not only when we get there to be efficient and keep that investment, we have got to have that kind of assurance because those are the kind of things I get asked by people in the scientific community and at the universities that are working on these things, as well as, with the auto industry.

So we will continue to get more efficient. As we do that, the first cellulostics technology will be used to get more fiber out of the corn kernel. Because the corn kernel is already in the ethanol plant, in the current ethanol plant, so we don't have the added transportation costs of switch grass and some of the other forms. So as we do that, we will also improve, continue to improve the feed product, the dry distiller's grain. We are seeing a lot of interest there. We are working very hard, very diligently on a national perspective and as number of States on feeding trials and doing feeding things with the poultry industry. We have very good examples of one of the leaders has been Perdue Farms. There is a company called Commodity Specialist Company based in Minneapolis that markets over 1.8 million metric tons of DDGs or about a fourth of the industry. Out of that total, about 95 loads or 2,375 tons per week of DDGs go to Hormel and Golden Plump Turkeys. And the biggest customer of CFC, individual customers, Perdue Farms. In Southern Illinois where they send 35 rail cars per week at 100 tons per car or 3,500 tons per week. They are using the products. CFC sends approximately another rail cars per week to Tyson Chickens or 1,500 tons per week.

So with this new technology, we are getting not only more efficient in helping the ethanol industry but we are also helping our friends in the poultry industry. They are using the product now. And as I mentioned, the increase that the RFS does in corn to ethanol doesn't even keep up with the increase in corn production. We are talking about a disaster. We keep going back to a disaster that happened 10 years ago. Since then, we created last year, 11.8 billion bushels of corn. All of us have seen the yield curves of corn production. That is going to continue. With the new technologies we have talked about, the drought in central Illinois. That is where I am from. That is home base. We have had some rains come through now. We are going to have an average crop, probably above average on my particular farm because I have been fortunate and the Lord has looked after me in this case. But with technologies that we have in seeds, as well as, equipment, we are not seeing the drop from a disaster from inclement weather that we have seen in the past.

So it is important to take a look at the future. There are also for all of the people that use corn products, there are risk management things that can be used. There is a thing called the Chicago Board of Trade where you can go ahead if the price is right and buy. We do that on our end. The users of our grain that we deal with do it on their end as well.

Ms. HERSETH. Mr. Corzine, you answered one of my other questions already but I have heard what you heard on a different matter that you referred to in terms of advancements in technology and what we do to make the dry distiller's grains more usable for different livestock and so I want to make sure I give Mr. Mason an opportunity to perhaps respond to some of the points you made as it relates to the use of DDGs. In the poultry industry, you mentioned a number of larger companies and so in light of the fact that Mr. Mason's entity is a cooperative, I would just like be interested to hear your thoughts and whether or not you feel at this point you could incorporate DDGs from ethanol production as a feed stock for your business.

Mr. MASON. That would be a nutritionist decision. And the other companies he refers to are very, very large companies and probably no more than 10 percent of their ration is made up of the DDGs. That would be my guess. I mean, you just think of who they are, Tyson and Pilgrim's or Perdue. There also may be some technological things that they are doing that I am not aware of. But at this point in time, my nutritionists are telling us 10 percent at most in our rations which isn't a lot. And you would have to add lysine which is an added cost.

But the main point I would like to make though is everybody is saying that there is no threat to the production because of improved seeds, less drought resistance, the curve is going to keep going up. And if that is true, no one should have any objection at all to what we are asking for. If the people making the predictions are right, everything will be fine, there is no need for me even to be here today. If they are wrong, they get up tomorrow morning and go back to work. If they are wrong, my people get up and go and sign up for food stamps. And so that is why we are asking for the protection.

Ms. HERSETH. I can appreciate your concern again in some measure because of the business model that you all have used with cooperatives and I want to pose a question about the role cooperatives have played in the renewable fuels industry here as well. But I would just for the record encourage you. I know that there is additional research going on at South Dakota State University with the laboratory that is focused on kind of a nutrient issue here of the DDGs as it relates to feed for cattle. And I would assume that there are partnerships as we bring in and I think the pork producers are involved in that partnership as well just to look for opportunities where we can address the nutrient issue within DDGs as a feed for other livestock and certainly in the poultry industry as well.

A quick question for you, Ms. Perine. You had indicated here in terms of how the 8 billion gallon RFS would facilitate your association's existing infrastructure, the integrated forest products, biorefineries. Where in the country predominately are you located and kind of concentrated in one part of the country and do you think that the 8 billion RFS would not only promote the use of the products of your association to develop a renewable fuel but also increase the potential for new infrastructure in different parts of the country?

Ms. PERINE. Yes. Actually, the forest products mills existing forest products mills both pulp and paper and wood products manufacturing facilities are actually located all around the country. We are in approximately 42 States of the country. Transforming that infrastructure into integrated forest biorefineries in the way where we are protecting the current production of traditional pulp and paper, wood products but basically adding on the production of biofuels allows us to have a geographically distributed basis of biofuel production. That means that we can work locally with farmers, the farming communities, with cooperatives that deal with forestry protection and our looking out for the health and maintenance of forests. We can work locally with the U.S. Forest Service on public lands in order to use biomass in addition to what our normal consumption of wood is to make that biofuel production to ensure the healthy forest.

What we can also do because that technology, that core technology affiliated with our infrastructure actually can be separated out and placed separate from a paper mill or a wood products mill. We can work in conjunction with others who are interested in forming independent biorefineries and have those located in other areas where biomass whether it be woody biomass or agricultural biomass are conveniently located and can economically be sent to that production facility.

Ms. HERSETH. Thank you.

And just one last question that Mr. Frederickson, Mr. Corzine, or Mr. Faulkner may want to comment on and that is the role that you feel farmer owned cooperatives that as we know some of the cooperatives also allow investment majority shareholders, majority investment by farmer owners but also other investors and communities of all sizes in rural America, the role that cooperatives have played here in the development of renewable fuels and also the importance of extending the tax incentives. And you heard in the earlier testimony some who are opponents would point to the tax incentives that we have targeted toward developing these infinite industries that can be good for the national energy policy but at the same time they don't take into effect then the impact that that has on cost savings in other areas. So perhaps you might want to comment or not and I just be interested in your thoughts on that.

Mr. FREDERICKSON. Well, Mr. Chairman, Congresswoman Herseth, I think tax incentives are absolutely essential for bringing in some cases new product development on line and I think ethanol development obviously is a classic example of that and I think in order to continue to move these concepts forward, we have to dangle that out in front. So I am certainly a strong supporter of that.

I wanted to if it would be all right just to jump back a little bit to Mr. Mason's comments and concerns and I certainly recognize and understand those but we have long been an advocate of some kind of energy reserve. We have an oil reserve for goodness sakes across the country. So to take the highs and lows if that is the concern, that we ought to look and you ought to look and I would challenge you to look seriously at some kind of an energy reserve that could indeed take the highs and lows out and reduce the angst that many producers of other products are having. And also to look strongly at considering some kind of an animal fats processing fa-

cility in your backyard that would utilize the offal and utilize the product that you are actually growing. And I think that could be successful. In Minnesota for example with the Redwood Falls plant, the future it looks as though about 20 percent of the market will come from animal fats processed at that facility or the demand rather in 20 percent of the total need for the product will come from the animal fats facility.

So I think there are a variety of ways and having spent most of my life on the farm, the rising tide in so many cases lifts all boats and so I would like to challenge the department, Mr. Goodlatte to take a look at what has happened with cattle prices, with what has happened with hog prices, what has happened with poultry prices, and to make the parallel to find out where they have tracked and if, in fact, the rising tide does indeed lift all boats.

Mr. CORZINE. If I could take a cut at the tax credit issue. I think it is very important that we retain these tax credits because if you look at the ethanol industry and the way we have been able to grow it to this point, it is a model for rural development. I would submit it is the best rural development opportunity that we have ever seen in not only my State of Illinois but also in South Dakota and Iowa and Minnesota and North Dakota and Nebraska. All those States that can grow corn and have had a problem with markets, livestock being the primary market and other than that they had to transport out and now they are able to participate in the added value of their product corn themselves and having things in place.

We have worked very hard to try to have a structure and with your help we have gotten there. So it is important to continue that because this is still an industry in its infancy. We are still working with a lot of new technologies. And for our farmer owned plants in our rural communities to be able to participate in that technology, they are expanding. And the added growth, they need to expand their plants and get new technology into their plants and they are doing that. And we are also finding more places to put ethanol plants in some cases right next to the livestock facility so they can now maybe use the co product, the dry distiller's grain without drying them to use and there are a lot of those things that we still need help.

If you would compare as far as our fuels industry, the petroleum industry has been around a long, long time and there are still tremendous incentives and tax credits in a lot of things for the petroleum industry. So for us to compete, we are still in infancy and so it is extremely important we maintain those. It is exciting where we have gone, where we have gotten to from where we started but we aren't there yet. In South Dakota, even corn prices not only that but also the rural communities, the resurgence in those communities that would not have happened without the tax structure that we have today for the incentives for this to happen. And it needs to continue.

Mr. FAULKNER. We started selling biodiesel about 7 years ago. And what we would do is call out to the Midwest and order a tanker load and they would bring it in and we would share it among some other people because our farmers were interested in having it. About 6 years ago, we teamed up with the Virginia Soybean As-

sociation and together a private company and the Virginia Soybean Association which was really a representation of the farmers moved forward. The farmers did not put any money in. They bought the product. The continued to buy the product. They supported the product. When they bought enough of the product that we felt that we could afford the risk of what we were selling versus the minimum amount of what we would have to produce to operate a plant, we went ahead and built the plant. At that time, we were going to build the plant anyway. Most of our business was 2 percent biodiesel. But it is not a coop, it is entirely private money and it is based on the fact that the farmers are purchasing, they are our largest class and not our largest volume. They are our largest class of account. Well as soon as you put the excise tax in, it took off. There is a tremendous demand. And once people start it and once they tried it, they like it and they continue to use it. And gosh I am really sorry to even have the words come out of my mouth but a country like ours, as developed as ours, as rich as ours, as prosperous as ours without an energy policy and getting banged around like we are, it is time.

Ms. HERSETH. Thank you, Mr. Faulkner and to all of you and I appreciate again, I just want to reiterate my appreciation to Chairman Goodlatte for having this hearing today and to reemphasize the importance of the timing of this hearing to highlight the importance of what we are talking about here, at the same time addressing some of the concerns that folks have as we move forward in the conference committee as the chairman does in the conference committee and others in both chambers on both sides of the isle so that we can hopefully have not only a comprehensive national energy policy but one that includes an important component of renewable fuels that is good in creating jobs in rural America as well. Thank you.

The CHAIRMAN. I thank the gentlewoman and I am going to head over to that energy conference in just a few minutes. But before I do, I want to take the opportunity to ask Ms. Perine a few more questions about renewable fuels and the forestry industry.

Ms. PERINE. Certainly.

The CHAIRMAN. I just want to be sure I understand how the biofuels production process would impact the production of paper at an integrated forest product biorefinery. As I understand it, a facility would continue to produce pulp and paper while still producing ethanol, while also producing ethanol and perhaps even syngas. Would paper production be curtailed at all in order to achieve this?

Ms. PERINE. Thank you very much for asking that question, Mr. Chairman. Actually the beauty of this model is that not only would this not affect pulp and paper production, that goes on as usual. But what we are finding on our initial trials is that these technologies will actually improve our pulp and paper operations. What we are finding is that we are able to use less energy in our pulping process because we don't—some of the materials that we move, remove before pulping to create the fuels actually is something that creates problems for us in the pulping and paper making process. So we have eliminated one of our problems that we have had to solve in that manufacturing process and we get higher quality pulp and higher quality paper from it. We also find that when we do the

biofuel production, the syngas production at the back end of the pulping process, the type of technologies that we are using, the gasification which would replace a recovery cycle, recovery boiler cycle that we have, actually improves our environmental performance dramatically. We get an 80 to 90 percent emissions reduction by using those technologies.

Not only do we get to keep our pulp and paper, the operations continue as usual. There is no disruption in that operation but basically the processing is improved and our plant environmental footprint actually is reduced in that production.

The CHAIRMAN. You mentioned plantation forestry. Do existing pine plantations represent a viable feedstock for a forest biorefinery in the short-term? And assuming that wood from existing private forests could be used for this purpose, does the industry believe that the production of biofuels would lead to sustainable pressures on our private force?

Ms. PERINE. Let me speak to the last question first. I think that in any situation where wood for energy is put in direct competition with wood for other uses, there may be some pressures that occur. One of the things that we are doing as an industry is explicitly creating our integrated biorefinery model by using the existing wood consumption wood that is already going into a production facility is the wood that we want to be using to create biofuel so that we are not in those situations where our mills are in areas where there is already high competition for fiber coming into a mill. We don't want to increase that competition.

On the other hand, the existing plantations and those that we hope to create going forward, those are excellent resources for us both for integrated and stand alone biorefineries because those obviously will supply the need for our traditional products but also if we are going in a specific cycle, we can time that cycle for both production independently and integrate it with mills of energy.

The CHAIRMAN. I know that our southern private forests are vast and in need of improved market conditions. And I also know that many of our western public lands are overstocked and much of the industry infrastructure has been lost due to declining sales of Federal timber in the west. Can you comment on where the greatest potential for wood as a source of biofuels is geographically?

Ms. PERINE. Well in general terms, because of the model that I spoke to before that we are looking at biofuel production based on our existing wood consumptions. In general terms, that potential is everywhere where we have a presently installed facility. So in those 42 States, we have the potential to use that existing supply that is going into our mills. Obviously what we want to look at our places where we can work with the owners of private and public lands where there are places of overstock, dangers of forest fires, need for fuel treatment where at the moment it is not economically possible to remove some of that woody biomass that causes the fire danger but if we had an integrated forest biorefinery or even an independent biorefinery near those locations, we could economically be helping restore the health of our forests and producing biofuels at the same time. So those areas are perhaps going to provide even more potential than what we are seeing just with our existing infrastructure.

The CHAIRMAN. Thank you very much.

Ms. PERINE. Thank you.

The CHAIRMAN. I want to thank everybody on this panel. It has been very interesting and enlightening for me.

Mr. Mason, I want to assure you and the Turkey Federation and the Chicken Council that I take very much to heart your concerns about the effect of competing demand for corn and soybeans and other grains that can be also used to make renewable fuels and we will work very closely with you to make sure that any effort that is made has input from you and also we will hopefully have both a good look at where you might find alternative sources and also even more importantly, a good look at what can be done to make sure that mandates do not cause the price to spike so high that you are put a competitive disadvantage to your foreign competition. That greatly concerns me. I am obviously very supportive of your industry and it is the largest employer in my district so we will continue to work on that.

As for the rest of you, I have become a new supporter of renewable fuels and I think they have tremendous potential not only for corn and soybeans which are obviously taking the lead and doing a great job. We will be out in the Midwest here next month and I hope to visit some ethanol and other renewable fuels plants while I am out there and continue to learn more about what you are doing and I congratulate you on the success you have had in driving down the cost of production. That spells, I think I great future. I tell people in my district and everywhere to plant corn. My poultry guys want me to say that, too, soybeans as well.

And then of course as far as we don't have anybody here from a cattle or dairy interest in this but they too should have an interest in what can be done to dispose of a tremendous amount of waste that is produced that has a very, very good source of energy just as it is with the wood products industry and we want to make sure that all of you are treated fairly in that process so that everybody can compete for the opportunity to create new renewable fuels. I think we have an unlimited need for this and as we go forward, I think that will become more, and more, and more evident. We are going to in this conference make sure that we push for as much utilization of agriculture to produce energy as possible and I thank you again for your contribution today.

Without objection and somehow I don't think there will be any, the record of today's hearing will remain open for 10 days to receive additional material and supplemented written responses from witnesses to any question posed by a member of the panel. And with that, this hearing of the House on Agriculture is adjourned.

[Whereupon, at 1:35 p.m., the committee was adjourned.]

[Material submitted for inclusion in the record follows:]

STATEMENT OF HON. TIM PAWLENTY

Chairman Goodlatte, members, it is my honor to be here today.

The Congress is about to make a crucial decision regarding the Renewable Fuels Standard. The difference between a 5 billion gallon level and 8 billion may not seem that significant, but you are a whole lot more comfortable with billions here than we are in Minnesota. The decision you make can propel us toward an energy future that not only strengthens our economy but our security as well. I will share my ob-

servations on ethanol and the ways in which the Federal Government can help maximize its benefits for our country.

The president has shown excellent leadership in pursuing our renewable energy fuel future. His Departments of Energy and Agriculture have provided good scientific and technical support to the development of renewables. We need to capitalize on that leadership.

The States have been called the laboratories of democracy. I came out here to tell you about our fabulously successful experiment with renewable fuels. With the leadership of people like Rep.Gutknecht, we are achieving great things.Minnesota has no oil, natural gas or coal deposits. We imported most of our energy—that is until we got into renewables. Now we are little by little gaining a greater share of our independence. It's a success story the Nation should embrace.

II. Minnesota's Experience with Ethanol

Minnesota's investment in ethanol has been a huge success. It has strengthened our rural economy, it has improved our air quality, and it has reduced our reliance on foreign oil.

Our investment started more than two decades ago, in the early 1980's. By the early 1990's, we had passed a law requiring that most gas sold in the Minneapolis-St. Paul metropolitan area contain a 10 percent blend of ethanol during the winter months. This requirement was designed to improve our air quality. In 1995, the requirement went year-round, and in 1997 it expanded to include the entire State.

In addition to our distinction as the first State to require ethanol-blended gasoline, Minnesota is remarkable in that our ethanol industry is dominated by a collection of local farmer-owned cooperatives. This ensures that the economic benefits are spread throughout the rural communities where the plants are located.

Minnesota has 14 ethanol plants, with two more under construction. All told, these plants produce more than 450 million gallons of ethanol every year. The ethanol plants support more than 5,000 Minnesota jobs and generate $1.3 billion for our State economy.

Minnesota corn growers send approximately 15 percent of their crop to ethanol plants, and that increases the prices they get for their crops. Specifically, Minnesota Department of Agriculture experts tell me the local cash price for corn in areas near ethanol plants tends to be 7–10 cents per bushel higher than it otherwise would be.

Minnesota's environment also benefits from our use of ethanol. Studies have shown blending ethanol into gasoline helps reduce fine particulate emissions. The use of ethanol in our gas is one reason the American Lung Association recently praised Minnesota for its "green" energy policies. As the association pointed out, Minnesota has the highest per-capita renewable fuel use in the Nation. Not coincidentally, we're also one of the few States with every county recording an acceptable ozone level.

Beyond the economic and environmental benefits of our ethanol use, there is another benefit that has become increasingly important in recent years. By replacing 10 percent of our conventional gasoline with home-grown ethanol, we are reducing our reliance on foreign oil.

According to the Renewable Fuels Association, America currently imports petroleum to meet about 62 percent of its needs. By 2025, it is projected that we will import 77 percent of our petroleum. Despite progress with renewable fuels, the Nation's economic security and quality of life still depend too much on oil from the Middle East. Right now a good portion of our oil comes from other regions, but two-thirds of the world's remaining known oil reserves are located in Middle East countries. Pair these supply concerns with a rapid increase in demand for oil in emerging countries like China and India, and you have a recipe for sky-high prices. I am convinced that for the sake of our long-term economic stability, we must start breaking this unhealthy dependence. Minnesota is showing the way by using more home-grown ethanol.

Despite some early concerns in the 1990's, Minnesotans have embraced ethanol and its benefits. We lead the Nation in the use of renewable fuels, boasting the highest renewable fuel use per capita in the Nation. Roughly 120,000 Minnesotans now drive flexible fuel cars designed to burn either gasoline or E–85 (an 85 percent ethanol blend). We have North America's largest network of retail stations selling E–85—nearly 150 at last count. In fact, to help expand that network, our State legislature just allocated $500,000 for grants to help filling stations cover the cost of adding E–85 pumps.

III. Taking Minnesota to the Next Level

As much as we've accomplished, we want to do even more. In May, I signed into law a bill that will double the amount of ethanol in gasoline in Minnesota by increasing the ethanol content from 10 percent to 20 percent by 2013. I first proposed this so-called "E–20" bill last September as a way to take Minnesota to the next level of renewable energy. This proposal received strong bipartisan support in the Minnesota Legislature.

There are several ways we can reach this goal of 20 percent market share for ethanol. One is to increase the use of E–85 by promoting flexible fuel vehicles, and making sure that those consumers who buy flex fuel vehicles are aware that they can use E–85. The second way we can reach this goal is by increasing to 20 percent the amount of ethanol blended into the regular gas sold in Minnesota. This would require getting a waiver from the Environmental Protection Agency, and to get that, we may need to conduct research on the impacts (or lack of impacts) of 20 percent ethanol blends on conventional cars and trucks. This is an area where I am hopeful our partners in the auto industry and the renewable fuels industry will be able to help us.

Going to E–20 is a logical next step for Minnesota. Doubling our ethanol use doubles our benefits, including a stronger rural economy, cleaner air, and reduced dependence on foreign oil. It also puts our State at the leading edge of a very promising industry, and it gets us closer to the goal I set of making Minnesota the Saudi Arabia of renewable fuels. Economic studies from our State agriculture department show that going to E–20 in Minnesota could boost ethanol's economic impact to $1.58 billion and 6,157 jobs.

And our renewable energy focus goes beyond ethanol. Later this summer, Minnesota will implement a provision requiring a 2 percent blend of biodiesel in almost all diesel fuel sold in the State. As you know, biodiesel is to soybeans what ethanol is to corn, and biodiesel offers many of the same economic and environmental benefits.

IV. Expanding the Benefits Nationwide

Given our great success with ethanol in Minnesota, I was honored to be named chair of the Governors' Ethanol Coalition (GEC). The GEC is a group of 31 States from coast to coast dedicated to increasing ethanol use and decreasing the Nation's dependence on imported energy.

My goal as chair is to raise the visibility of ethanol as a viable and beneficial fuel additive, and to work for Federal energy policies that benefit expanded production and use of renewable energy. I also want to get the other 49 States to use E–10, as we do in Minnesota.

There's no reason why we can't expand the benefits of ethanol to all 50 States. Plants are expanding across the country—12 new plants were built last year resulting in a total of 3.9 billion gallons of U.S. ethanol production. With 16 new plants under construction across the U.S. and three major plant expansions underway, production capacity will expand to 4.9 billion gallons of ethanol by the end of 2005.

In addition to encouraging other States to make the move to ethanol, another priority for me at the GEC is to push for greater support of ethanol and other renewable fuels at the Federal level.

Minnesota's success with renewable energy would not have been possible without strong leadership and support over the years from elected officials in St. Paul. We need that same strong leadership and support in Washington, D.C., if we are to expand the benefits nationwide. At a time of skyrocketing oil prices and increasing international energy demand, it is critical that Congress pass an energy bill with a strong renewable fuels component.

In the past year, the GEC developed recommendations to increase the production of ethanol from a variety of feedstocks. Those recommendations were published in a GEC report titled "Ethanol From Biomass: America's 21st Century Transportation Fuel."

We are grateful to note that many of our recommendations were incorporated into legislation (H.R. 3081) introduced by Congressman Gutknecht with the support of Chairman Goodlatte, Ranking Member Peterson, and other members. The recommendations were also incorporated into a Senate bill.

Just recently, the GEC sent a letter to conference committee members asking for support of three critical recommendations.

First, we advocated for the Senate's Renewable Fuels Standard of 8 billion gallons by 2012. The House passed language calling for a 5 billion gallon standard, but with ethanol production increasing by more than 600 million gallons a year, this is a

level we could exceed by the end of next year—nearly 7 years before 2012. We believe the time has come for America to set its sights even higher.

Adopting the 8 billion gallon RFS would mean more than 214,000 new jobs across the country. We would also replace more than 1.6 billion barrels of foreign oil with home-gown ethanol. For farmers, the 8 billion gallon RFS would increase the demand for grain by an average of 1.4 billion bushels over the next decade.

Second, we advocated for a targeted investment in research to figure out how to more efficiently make ethanol from a wider range of biomass inputs such as corn stover, grasses and wood wastes. The Senate energy bill has language in Senate Amendment 919 calling for that research, and we strongly support it. Unfortunately, no such language exists in the House bill.

Third, we pointed out to Congress the need to create more financial incentives for the production of cellulosic-derived ethanol and other biofuels until these new processes become part of the mainstream production of ethanol. This step, along with the research funding I mentioned, will help ensure the long-term viability of ethanol by allowing other regions of the country to more fully experience the benefits the industry has to offer. Again, Senate Amendment 919 includes language to this effect.

These measures are important if we are to expand the benefits of ethanol production in the corn belt and beyond. After all, the best way to ensure broad support for renewable fuels is to make sure they are more than just a regional industry, and that the benefits are truly national in scope.

I know there will be some who ask what impact the increased use of corn for ethanol will have on the availability and price of animal feed. This question has particular importance for Minnesota, which ranks among the top ten States in dairy, pork and turkey production.

In response to the question, I should point out that even in Minnesota, the Nation's leader in per capita ethanol consumption, we still use less than 20 percent of our corn crop for ethanol. And those bushels of corn that go into ethanol plants are not lost entirely as feed. As you know, one of the co-products of ethanol production is a feed product called dried distillers grains. Dried distillers grains (DDGs for short) are a nutritious livestock feed that many Minnesota farmers incorporate into their animals' rations. I am told that livestock do well on the feed, and the price is very competitive.

As is often the case with ethanol and other renewable fuels, the end result of DDG production is a win-win. Not only do these farmers (and their livestock) benefit from having access to high-quality feed, but the ethanol plants benefit from having another reliable revenue stream through the sale of DDGs to farmers. Last year, Minnesota's ethanol plants sold $627 million worth of ethanol. They also sold $145 million worth of DDGs to farmers. According to a 2003 University of Minnesota study, the sale of DDGs can contribute up to 20 percent of the total operating revenue of an ethanol plant. This extra source of income helps make Minnesota's small, farmer-owned plants more financially stable and profitable.

V. CLOSING

In order to do an effective job of representing our people, we all need to be students of history, especially the history of technology. Every new technology that comes along has its disruptive effects and therefore its critics.

A relative of the Wright Brothers a couple of generations before them said railroad were dangerous because the human body would fall apart if it traveled more the 40 MPH.

Alexander Graham Bell had a terrible time finding a customer who could image a use for his crazy telephone invention.

When the Apple folks got going, there efforts were met with this derisive question: "Why would anybody want a computer in their home?"

Ethanol and renewable fuels are a revolutionary technology. Stephen Covey taught us to seek Win-Win situations. Ethanol and renewables are a Win-Win-Win-Win-Win situation. Cleaner air. Jobs in rural America. Higher farm income. Lower energy prices. And greater energy independence.

All great public policy ideas go through three stages: 1. It will never work. 2. It costs too much. And, 3. I thought it was a great idea all along.

The Minnesota experience proves ethanol and renewable are legit. I hope you have the courage to push the envelope and approve the 8 billion gallon level. It never pays to drag your heels when you are chasing the future.

STATEMENT OF KEITH COLLINS

Mr. Chairman and members of the committee, thank you for the invitation to today's hearing to discuss and agriculture's role in the Renewable Fuels Standard (RFS). The RFS would increase the production and use of renewable fuels, which would provide important economic benefits to U.S. agriculture. I would like first to comment briefly on renewable fuel production today and then summarize the key effects of a future increase in renewable fuel production on the agricultural economy.

RENEWABLE FUEL PRODUCTION TODAY

The major renewable fuel today, and the fuel most affected by the RFS, is ethanol. Ethanol production has grown from a few million gallons per year in 1979 to a forecast of nearly 4 billion gallons this year, accounting for about 3 percent of the Nation's gasoline use. During the 2004–05 crop year, 1.325 billion bushels of corn are expected to be used in ethanol production. For the upcoming 2005–06 crop year, we estimate 1.5 billion bushels of corn will be used in ethanol, 14 percent of projected U.S. corn production. Corn represents 97 percent of the feedstock used to make ethanol, sorghum accounts for 2 percent and agricultural wastes, such as cheese whey, 1 percent.

There are 88 ethanol plants with about 3.9 billion gallons of production capacity per year in 20 States. In addition, 16 plants and 3 major expansions representing over 1 billion gallons of new capacity are under construction. Plant sizes range from 1 million gallons per year to 300 million gallons per year. Most of the new production capacity added in recent years is farmer-owned dry mill plants.

Fifty-one percent of the ethanol produced is sold in the Reformulated Gasoline Program, about 9 percent of ethanol is used in the Winter Oxygenated Program, and the rest is sold primarily as an octane enhancer (ethanol has an octane rating of 113).

Despite one recent report that ethanol requires more energy to produce a gallon than the energy contained in a gallon of ethanol, a recent USDA study, using more recent estimates of energy use in corn and ethanol production, found just the opposite: ethanol has a positive net energy balance. The 2004 study estimated that each gallon of ethanol made from corn contains 67 percent more energy than the energy used to make the ethanol. This positive net energy balance is expected to continually improve over time, because corn yields per acre will continue to increase; the corn input industry, such as the fertilizer industry, will become more energy efficient; the ethanol yield per bushel of corn will increase toward its theoretical limit; and, ethanol plants will become more energy efficient.

A small but rapidly growing renewable fuel is biodiesel. Production, at less than 1 million gallons in 1999, rose to about 25 million in 2004. There are 35 active plants producing biodiesel with a production capacity of about 100 million gallons. The majority of biodiesel is made from soybean oil, but some producers use other oilseed crops or recycled oils to make biodiesel.

Because it has similar properties to petroleum diesel fuel, biodiesel can be blended in any ratio with petroleum diesel fuel and is most often blended at the 20 percent level (B20). Today, most B20 is used by government motor fleets, urban bus fleets, and school buses. It is also been used in farm equipment, marine engines, and furnaces as a replacement for heating oil. A market for biodiesel as a lubricity additive is also emerging. Diesel fuel must have good lubricity properties, because the fuel lubricates the diesel engine. There has been an increasing need for lubricity additives, because diesel fuel lubricity levels have been declining, due to the need to desulfurize diesel fuel to meet tighter air quality standards.

EFFECTS OF AN RFS

USDA has assessed the effects on the farm economy of a RFS. The House-passed energy bill contains an RFS provision that would require the applicable volume of renewable fuel to increase from 4 billion gallons in 2006 to 5 to billion gallons in 2012. The Senate-passed bill would require the applicable volume of renewable fuel to increase from 4 billion gallons in 2006 to 8 billion gallons in 2012. To conduct our assessment of the RFS, we used our Food and Agriculture Policy Simulator (FAPSIM) econometric model of crop and livestock markets. To illustrate the range of effects of a RFS on agriculture, we examined a RFS that requires 8 billion gallons in 2012. We assumed that all of the expansion in renewable fuels during 2006–2012 would come from the conversion of corn and grain sorghum to ethanol. Currently, there is no operational U.S. commercial cellulosic biomass ethanol plant and very

little production is expected prior to 2012. However, a RFS of 8 billion gallons would provide an incentive to invest in cellulosic ethanol production and may accelerate the timeline for commercial production.

Compared with ethanol, biodiesel production is quite small, although growing at a rapid rate. We believe the tax credit provided by the American Jobs Creation Act of 2004 will be the primary factor behind future expansion of biodiesel production in the United States. Beyond 2012, production of biomass ethanol and biodiesel would account for a more significant part of the growth in the renewable fuels consumption.

Our analysis only considers the direct and indirect effects on the farm economy associated with a change in the level of ethanol production from the President's Budget baseline. The analysis does not consider the impact that changes in ethanol production may have on gasoline prices, changes in Federal tax revenues due to the Federal Fuel Tax Credit, or the economic effects of ethanol displacing domestically refined or imported gasoline.

Under a RFS of 8 billion gallons, demand for corn used for production of ethanol is estimated to increase, on average, by about 685 million bushels during crop years 2006–07-2012–13, compared with commodity baseline projections underlying the fiscal year 2006 President's budget. The increase in demand for ethanol use increases the price of corn by an average of about 8 percent during 2006–07-2012–13, and by 2012–13, the price of corn is projected to be up about 30 cents per bushel, or 12 percent.

The production of ethanol results in a range of coproducts. For example, coproduct supplies in 2004 ranged from 7 to 8 million tons of Distillers Dried Grains (DDGs); 3 million tons of corn gluten feed; 600,000 tons of corn gluten meal; 400,000 tons of corn oil and an undefined amount of CO^2. We assume that 75 percent of the increase in ethanol production due to the RFS would be through the construction of dry mill plants. As a result, our analysis indicates slightly lower farm prices for soybeans due to increased production of DDGs, which partly substitute for soybean meal. The decline in soybean prices, only 4 cents per bushel on average during 2006/07–2012/13, is limited by higher prices for corn, which cause producers to shift land from the soybean production to corn production. Acreage planted to corn is projected to increase, on average, by 1.5 million acres during 2006–07-2012–13, while area planted to soybean declines, on average, by 1.2 million acres over the same period.

Some have raised concerns over the supply of food and the effects of bringing more land into production to satisfy a large RFS. The shifts in acreage just noted, which are averaged over the projection period, are fairly modest and do not suggest any strain on the Nation's ability to produce food. The acreage effects are slightly larger when considering the last crop year of the RFS phase-in, 2012–13. By 2012–13, acreage planted to corn is projected to be 3 million acres above baseline projections, while acreage planted to soybeans is 2.3 million acres lower. While there is some area shifting among crops, total acreage planted to wheat, rice, corn, sorghum, barley, oats, upland cotton and soybeans in 2012–13 is projected to be 249 million, compared with 248.7 million in the baseline.

Broiler and turkey production are projected to expand due to lower prices for soybean meal, while production of all other livestock declines due to higher prices for corn and other feed grains. The adjustments in livestock prices and production are modest, averaging less than 1 percent during 2006–12.

The effect of a RFS of 8 billion gallons on retail food prices is minor. Our model analysis projects no effect on the Consumer Price Index (CPI) for food until 2009. From 2009–12, the CPI for food rises from 0.1 percent in 2009 to 0.3 percent in 2012, with most of the increase attributable to small increases in livestock product prices.

Farm cash receipts increase significantly under a RFS of 8 billion gallons due to higher prices for corn, other feed grains and livestock. Over the period of 2006–12, farm cash receipts increase, on average, by $2.2 billion. Net farm income increases, on average, by $1.4 billion, or 2.3 percent, over the period.

Higher corn prices for the 2006–07-2007–08 crops would reduce government payments by nearly $1 billion over those 2 years. Because the fiscal year 2006 President's budget baseline projects that corn prices will rebound to levels that do not trigger countercyclical payments or significant marketing loan outlays for crop years 2008–09-2012–13, no savings are forecast for those crop years. However, actual market conditions will likely vary from projections. If prices are weaker, farm program payments would be higher which could lead to a situation where the RFS would reduce farm program outlays more than estimated in our analysis. If prices are higher than our baseline projections there could be no savings.

The increased demand for ethanol under a RFS of 8 billion gallons increases the value of U.S grain and feed exports and lowers the value of soybeans and soybean

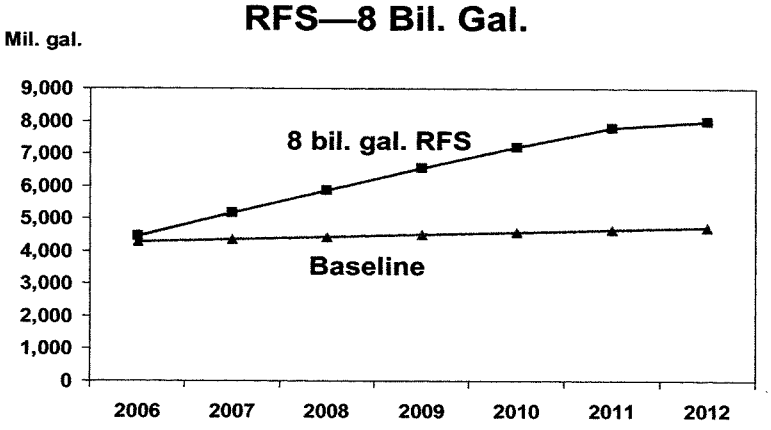
product exports. The total value of U.S. agricultural exports increases, on average, from the baseline by $0.3 billion during fiscal year 2006–12.

We used an input-output model to roughly estimate employment generated by the production of 8 billion gallons of ethanol. The increase in ethanol production generates an additional 23,500 jobs in ethanol production, feed grain production, service and manufacturing sectors. However, higher corn prices and increased use of co-products from the conversion of corn into ethanol reduces employment in other sectors, so the net new jobs created is placed at 8,900.

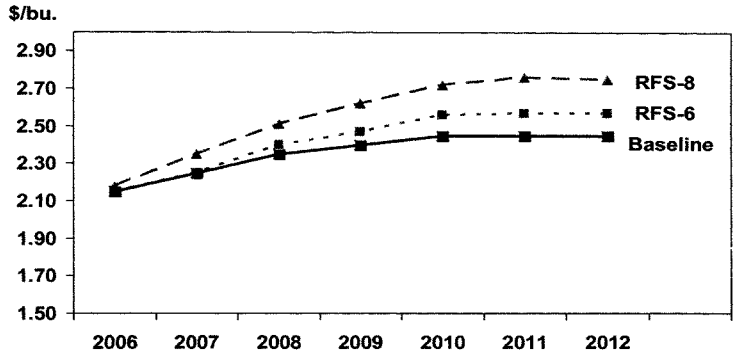
In conclusion, according to our analysis, a RFS of 8 billion gallons could have a positive effect on the farm economy. While impacts vary by commodity, net farm income would increase. The construction boom in ethanol plants experienced over the past 5 years would continue, generating rural jobs. The Nation's reliance on crude oil and gasoline imports would decline slightly, and its fuel sources would become more diversified. The ethanol production boost provided by the RFS would attract more financial capital into ethanol production that would improve the production and delivery infrastructure and in all likelihood continue the advances in production efficiencies that are reducing ethanol's cost of production.

Mr. Chairman, that completes by statement.

Projected Ethanol Production: RFS—8 Bil. Gal.

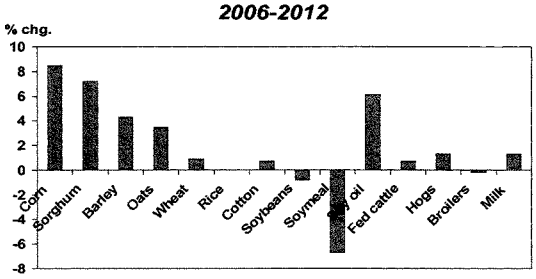


Projected Corn Prices: RFS— 6 & 8 Bil. Gal.



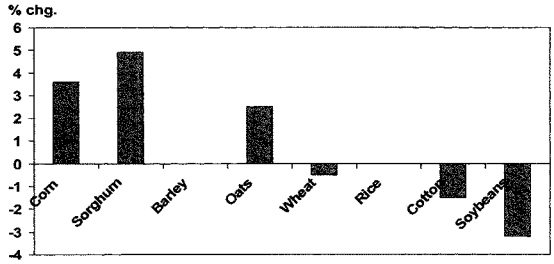
Projected Farm Prices: RFS—8 Bil. Gal.

Percentage change from baseline averaged over 2006-2012



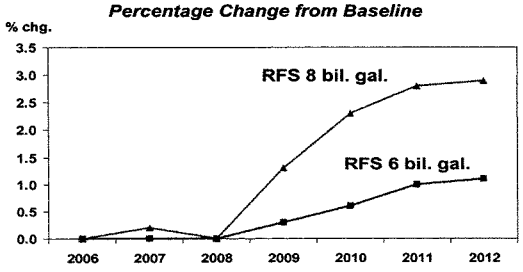
Projected Planted Area: RFS--8 Bil. Gal.

Percentage change from baseline in 2012/13



Projected U.S. Net Farm Income: RFS—6 & 8 Bil. Gal.

Percentage Change from Baseline



TESTIMONY OF LEON CORZINE

Chairman Goodlatte, Ranking Member Peterson and members of the committee, thank you for giving me the opportunity to testify before you today about a key issue facing our Nation today: energy, national and economic security. With gasoline prices at near record levels, petroleum imports rising, domestic energy production declining, and the Nation's energy crisis slowing economic growth, now is the time to maximize the production and use of domestic renewable fuels by supporting an 8 billion gallon Renewable Fuels Standard (RFS).

My name is Leon Corzine, and I am president of the National Corn Growers Association (NCGA). My wife, Susie, and son Craig, and I grow corn and soybeans on our family farm in Assumption, Illinois.

NCGA was founded in 1957 and represents more than 33,000 dues-paying members from 48 States. NCGA also represents the interests of the more than 300,000 farmers who contribute to corn checkoff programs in 19 States. NCGA's mission is to create and increase opportunities for corn growers and to enhance corn's profitability and use.

The renewable fuels industry took another step toward making an 8 billion gallon RFS a reality on June 28, Mr. Chairman, when you joined Ranking Member Peterson, and Representatives Gutknecht, Osborne, Herseth, King and Moran to introduce H.R. 3081, the Renewable Fuels Act of 2005. The introduction of H.R. 3081 came at an important time in the RFS debate. With the House and Senate currently in conference committee negotiations, increasing support from the House for an 8 billion gallon RFS is critical.

The passage of comprehensive energy legislation that includes an RFS has long been a top legislative priority for NCGA. For more than 20 years, NCGA has worked side by side with farmers, industry and government to build the ethanol industry from the ground up. The ethanol market is the single most successful and fastest growing value-added market for farmers. Nearly 60 percent of all U.S. ethanol plants are farmer-owned.

Our record 11.8 billion bushel corn crop in 2004 highlights the importance of the growing ethanol industry for corn growers seeking markets for their products. In 2004, the U.S. ethanol industry processed a record 1.26 billion bushels of corn into ethanol, 11 percent of our Nation's corn crop. This year it is expected to reach nearly 13 percent. As the ethanol industry continues to grow, opportunities for corn growers will expand as well. The resulting co-products will continue to provide a quality food supply for cattle, swine and poultry. There is still plenty of room for the ethanol market to grow without limiting the availability of corn.

AIL

While ethanol production creates greater demand for corn, it's not just corn growers who reap the benefits. The ethanol industry will spend an estimated $6 billion (2005 dollars) to build 4.3 billion gallons of new ethanol capacity between 2005 and 2012. According to an analysis conducted by John Urbanchuk with LECG, LLC, the ethanol industry will spend nearly $70 billion (2005 dollars) on goods and services required to produce 8 billion gallons of ethanol by 2012. Purchases of corn, the primary feedstock for ethanol production, alone will total $43 billon (2005 dollars) between 2005 and 2012. Each ethanol plant serves as a rural economic engine for the surrounding area—creating high-paying jobs, value-added markets for farmers and increased local tax revenue. It's the local schools in rural areas that rely on tax support. It's the main street merchants who depend on rural families with reliable incomes. Banks, implement dealers, community newspapers, grocery stores, repair shops—all those who live and do business in an area where an ethanol plant exists benefit from the economic activity that it generates.

Today, the U.S. ethanol industry has the capacity to produce more than 3.8 billion gallons, and 17 production facilities and three major expansions under construction will add an additional 900 million gallons of capacity. Enactment of an RFS would continue to expand domestic ethanol and biodiesel production. In 2004, ethanol production reached a record 3.4 billion gallons, doubling the industry's capacity from 2001. By the end of 2005, the U.S. ethanol industry is expected to produce 4 billion gallons. An 8 billion gallon RFS would double current ethanol production by 2012. This increase in capacity is due to the commitment of the Nation's corn growers who are building more ethanol plants, with dozens of ethanol projects in development throughout the Corn Belt.

Ethanol facilities are extremely energy efficient and actually yield more energy than gasoline and the gasoline additive MTBE. According to the U.S. Department of Agriculture (USDA), the net energy balance of ethanol indicates that ethanol pro-

duces 67 percent more energy than it takes to generate. Ethanol's energy efficiency comes from the fact that corn plants are very efficient solar panels for collecting and storing energy. Out of necessity, farmers have become more efficient in producing their product. In addition, a separate USDA analysis has found corn growers today use half the energy to produce a bushel of corn than they used just 25 years ago. As American farmers have become more efficient, so has ethanol production. New technologies and processes have had a dramatic effect on the energy required for ethanol production greatly reducing energy input without adversely affecting the amount of ethanol and valuable co-products created. Those who claim that ethanol production is a net energy loser are using outdated information, old technology, and conveniently forgetting to mention that no fossil fuel can have a positive energy balance.

There are many other positive impacts resulting from an 8 billion gallon RFS. Farm income would also rise as ethanol production rapidly expands. An RFS will reduce the cost of the farm bill by raising the price of corn, creating more value-added opportunities through farmer-owned cooperatives and strengthening rural economies. According to USDA, ethanol adds 20 to 40 cents of additional value to every bushel of corn produced in the U.S. Ownership and increased crop value boost the agriculture economy, leading to reduced farm program costs and taxpayer outlays. In fact, with the enactment of an 8 billion gallon RFS, the Congressional Budget Office estimates that spending for farm programs would decline by approximately $4.8 billion between 2007 and 2015.

Our Nation's dangerous dependence on foreign oil comes with the financial and human costs of military involvement in the Middle East, making us vulnerable to the whims of OPEC oil ministers and volatile and militant foreign governments. An 8 billion gallon RFS would provide a stable demand for the use of ethanol, while reducing the Nation's dependence on foreign oil. The production and use of 8 billion gallons of domestically produced renewable fuels by 2012 would displace over 2 billion barrels of crude oil and dramatically reduce the outflow of dollars to foreign oil producers. That's fuel not controlled by the global market, leading to cost savings at the pump for consumers and a higher level of energy security. The increased use of ethanol in our Nation's fuel supply is not the singular answer for America's dangerous dependence on foreign oil, but ethanol is already playing an important role in our Nation's overall energy policy, and will play an integral part in finding a long-term energy security solution.

Today's record-high gasoline prices are hurting consumers, and record petroleum imports are aggravating our trade imbalance and slowing economic growth. According to a recently released report by the Consumer Federation of America, the increased use of ethanol would help to reduce gasoline prices by as much as 8 cents a gallon. Ethanol refiners have demonstrated their ability to produce ethanol-blended reformulated gasoline at competitive prices and as market demand for ethanol has grown, that is having a positive impact on fuel prices. Ethanol is the most cost-effective octane additive available today and will play an important role in stabilizing gas prices in the future.

The environmental benefits of ethanol have been proven time and time again. Ethanol adds oxygen to gasoline helping it burn more completely, significantly reducing tailpipe emissions. The use of ethanol in reformulated gasoline reduces carbon monoxide tailpipe emissions by 25 percents and dilutes other harmful components found in gasoline. A recent study by the Argonne National Laboratory notes that in 2003, ethanol use in the U.S. reduced greenhouse gas emission by approximately 5.7 million tons, or the equivalent of removing the emissions of 853,000 cars from the road.

The fuels provisions included in the Senate version of the energy bill include an 8-billion gallon national RFS to be phased-in by 2012, beginning with a 4 billion gallon standard in 2006. Moreover, it phases-out the use of MTBE, includes anti-backsliding provisions that will preserve the air quality benefits of reformulated gasoline, and provides significant new flexibility to refiners in the use of renewable fuels by limiting the application of credits generated by the RFS program to the year they are generated. NCGA urges you to support the Senate position on the RFS.

The RFS is about reducing American's dangerous dependence on foreign oil and the economic and military costs that result from that dependence. The RFS is about keeping our air and water clean through the use of safe, cleaner-burning fuels. The RFS is about improving our economy by building new domestic industries that can meet the demands of consumers and keep American dollars here at home instead of filling the coffers of foreign, unfriendly governments. The RFS is about the future of U.S. agriculture.

Our Nation's farmers are the best in the world at growing corn, which means that we must continually grow existing markets and discover new ones for our product.

Corn growers have proudly invested in this growing ethanol industry that is doing good things for America.

Congress needs to enact a comprehensive energy policy now that includes an 8 billion gallon RFS. Our ability to produce food and fuel for our Nation and the world depends on this kind of a sound energy policy.

Chairman Goodlatte, Ranking Member Peterson, and members of the committee, thank you for the opportunity to testify today on this timely and important issue. NCGA looks forward to working with you in advancing ethanol legislation today and in the future.

STATEMENT OF DOUGLAS FAULKNER

Chairman Goodlatte, Ranking Member Peterson, thank you for giving America's soybean farmers the opportunity to testify on agriculture's role in growing our way toward energy security though the use of renewable fuels like biodiesel.

My name is Doug Faulkner. I am a member of the Virginia Soybean Association and Virginia Soybean Board. I currently own and operate the Virginia Biodiesel Refinery plant located approximately 30 miles east of Richmond, Virginia, in the town of West Point. Virginia Biodiesel Refinery has the capacity to produce 2 million gallons of biodiesel and has plans to expand to 3 million gallons later this summer. The plant operates 24-hours a day, 6 days a week.

Earlier this summer, I hosted President Bush where he delivered a speech. In his speech, the he said high petroleum prices highlight how consumers and lawmakers need to look towards domestic energy sources, and he pressed Congress to pass a comprehensive energy bill.

Mr. Chairman, the issue raised today, is a critical issue with soaring petroleum process—but there is something that can help alleviate the price pressure on consumers—a national renewable fuels standard (RFS). American farmers stand ready to be the foot soldiers in this battle of high gasoline and diesel prices, and my fellow soybean farmers, and biodiesel industry companions are ready!

BIODIESAL

Mr. Chairman, the soybeans grown right here at home by the American farmer can be used to make fuel called biodiesel. Biodiesel is a diesel fuel substitute made from agricultural products like soybean oil.

Biodiesel is produced through a process, which separates the glycerin in the oil, and the resulting compound acts similarly 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 percent biodiesel with 80 percent petroleum diesel, and B2; a blend of 2 percent 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.

U.S. soybean farmers have invested more than $40 million through their checkoff programs into biodiesel. Biodiesel sales were approximately 500,000 gallons nationwide in 1999. The industry has seen aggressive growth to approximately 25 million gallons in 2003, and for 2005, we expect to break yet another record. According to the U.S. Department of Energy, biodiesel has become the fastest growing alternative fuel in the country. It offers enhanced lubricity and cetane, plus similar horsepower and torque when compared to petroleum diesel. Over 500 major fleets use biodiesel nationwide such as the National Park Service, State departments of transportation and the military.

LEGISLATIVE SUCCESS

Last year, Congress approved and the President signed into law legislation creating tax incentives for diesel transportation fuels made from soybean oil, other vegetable oils and agricultural byproducts. —Specifically, this program, amounts to a penny per percent of biodiesel blended with petroleum diesel for "agri-biodiesel," such as that made from soybean oil, and a half-penny per percentage for biodiesel made from other sources, like recycled cooking oil. It will lower the cost of biodiesel to consumers in taxable and tax exempt markets.

As you are aware, the biodiesel tax incentive will expire December 31, 2006. While the tax incentives have been successful in boosting the demand, the biodiesel industry is a young industry and it will certainly continue requiring support beyond 2006. For this reason, soybean farmers and biodiesel businesses have made the extension of the tax incentive their top priority for 2005.

With Congress considering comprehensive energy legislation, it is critical we retain this extension as was passed in the Senate bill. Thanks to Senate Finance Committee Chairman Chuck Grassley (R-IA), the bill extends the biodiesel tax incentive through December 31, 2010, offers tax incentives for farmers who wish to build biodiesel plants, and tax incentives for fueling infrastructure for B20 blends at retail stations. The provisions have received strong bipartisan support from leaders such as Senator Blanche Lincoln (D-AR) and Representative Kenny Hulshof (R-MO).—

THE FUTURE

Mr. Chairman, while the tax extension is critical to the long term viability of biodiesel, one thing that will enhance the growth of biodiesel is the RFS. With rising crude oil and fuel prices hurting consumers, and record petroleum imports exacerbating our trade imbalance, we need to be maximizing the use of home-grown biodiesel. Enacting an RFS that would provide a market of 8 billion gallons by 2012 demonstrates a firm commitment to reducing this Nation's foreign oil dependence while providing a significant impact to the American economy.

The production and use of 8 billion gallons of biodiesel, ethanol and other renewable fuels by 2012 will displace over 2 billion barrels of crude oil and reduce the outflow of dollars largely to foreign oil producers by $64.1 billion between 2005 and 2012. As a result of the RFS, America's dependence on imported oil will be reduced from an estimated 68 percent to 62 percent.

The renewable fuels sector will spend an estimated $6 billion to build 4.3 billion gallons of new ethanol and biodiesel capacity between 2005 and 2012, and nearly $70 billion on goods and services required to produce 8 billion gallons of ethanol and biodiesel by 2012. Purchases of corn, grain sorghum, soybeans, corn stover and wheat straw alone will total $43 billion between 2005 and 2012.

SKY IS THE LIMIT

The reality is that the biodiesel industry is positioning itself to meet greater demand by welcoming new producers to the fuel market. Demand has been stimulated in part by the passage of a Federal tax incentive.

Mr. Chairman, currently, 32 biodiesel plants are operating and 23 biodiesel are being constructed or considered. In total, the 55 eligible plants have the potential to add more than 350 million gallons of domestically produced biodiesel to the transportation fuels marketplace at a time when domestic fuels supplies are extremely tight.

Investment in expanding renewable fuels industries in biodiesel and ethanol, offer many benefits to the U.S. production facilities across America's countryside serve as local economic engines, providing high-paying jobs, capital investment opportunities, increased local tax revenue, and value-added markets for family farmers. In addition to the economic development impacts these industries have on our economy, renewable fuels are an important component of this country's strategy to diversify its energy portfolio and reduce our dependence upon foreign sources of oil.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 U.S. embrace energy policies that will help farmers, improve our energy security, protect the environment, and stimulate our economy.

STATEMENT OF LORI A. PERINE

The American Forest & Paper Association (AF&PA) welcomes this opportunity to present its views, and potential for fulfilling, the 8 billion gallon renewable fuel standard, as proposed in H.R. 3081. The forest products industry can be an important resource in accomplishing the legislation's biofuel goals. The proposed mandates will provide an important incentive to drive private/public investments in Integrated Forest Products Biorefineries (IFPBs), which have the potential to annually produce nearly 2 billion gallons of ethanol and another 1.09 million barrels (oil equivalent) of other renewable transportation fuels. This will facilitate growth of domestic production capacity for renewable fuels using the industry's existing infra-

structure. In addition to re-invigorating a critical sector of the U.S. economy, IFPBs could revitalize the primarily rural communities where our industry is based. Finally, introduction of IFPBs will advance national goals for energy, environmental performance, and economic competitiveness of U.S. industries.

THE FOREST PRODUCTS INDUSTRY

AF&PA is the national trade association of the forest and paper industry and represents more than 200 member companies and related associations that engage in or represent the manufacturers of pulp, paper, paperboard, and wood products. The forest products industry is proud to be one of the Nation's primary materials manufacturers, making products that literally touch every facet of our society. Our industry accounts for approximately 7 percent of total U.S. manufacturing output, employs 1.3 million people, and ranks among the top 10 manufacturing employers in 42 States with an estimated payroll of $50 billion.

As is the case with many U.S. manufacturing industries, we face serious domestic and international challenges. Since 1997, 101 pulp and paper mills have closed in the U.S., resulting in a loss of 70,000 jobs, or 32 percent of our workforce. An additional 67,000 jobs have been lost in the wood products industry since 1997. New capacity growth is now taking place in other countries, where forestry, labor, and environmental practices may not be as responsible as those in the U.S. In addition, globalization, aging process infrastructure, few technology breakthroughs, as well as recent financial performance and environmental concerns, hinder the ability of U.S. companies to make new investments. Each year without new investments, new technologies and new revenue streams, we lose ground to our overseas competitors.

AGENDA 2020: CREATING VALUE THROUGH INNOVATION

One approach being taken by our industry to address these challenges is represented by Agenda 2020, our industry's technology alliance. Agenda 2020 was initiated in 1994 in partnership with the Department of Energy to improve energy efficiency and accelerate the delivery of new technologies to our manufacturing processes. Now organized as a membership alliance within AF&PA, Agenda 2020 is building on a decade of tangible results to expand its Federal and State partnerships, and establish new international and cross-industry collaborations. Current Federal partnerships, in addition to the existing efforts with the Department of Energy, include projects with the U.S. Forest Service and the CSREES (Cooperative State Research, Education and Extension Service) programs of the U.S. Department of Agriculture (USDA), as well as the National Science Foundation.

Agenda 2020's technology initiatives leverage these collaborative partnerships to drive innovation in the forest products industry's processes, materials, and markets. Technology objectives are defined to address shared industry and national strategic goals. The research, development and deployment (RD&D) projects coordinated through Agenda 2020 provide the foundation for new technology-driven business models. The objective is to create options to meet industry's competitive challenges, while contributing solutions to strategic national needs associated with energy, the environment, and the economy.

Agenda 2020 builds on our industry's strategic advantage as stewards of abundant, renewable and sustainable forest materials. Since we are also owners of the fundamental infrastructure for its conversion, our industry has the potential to produce new renewable bio-based products—fiber, fuels, chemicals, and power—with "smart" properties and high performance characteristics. Agenda 2020 initiatives are designed to use emerging technologies, such as biotechnology and nanotechnology, coupled with breakthrough advances in process and conversion technologies, to create and capture value from both new and traditional products.

INTEGRATED FOREST PRODUCTS BIOREFINERIES (IFPBS)

Through Agenda 2020's Advancing the Forest Biorefinery initiative, the forest products industry can evolve existing infrastructure to develop Integrated Forest Products Biorefineries (IFPB)—geographically distributed facilities that process both forest and agricultural materials to produce renewable ″green″ bio-energy and bio-products This can be done while preserving existing traditional product lines, creating higher skilled and better paying jobs, strengthening rural communities, and opening new domestic and international markets for forest products companies. These IFPBs would contribute to reducing greenhouse gas emissions and dependence on foreign fossil fuel by substituting domestic, renewable ligno-cellulosic materials as the feedstock for products now derived from nonrenewable carbon. If fully developed and commercialized, these technologies could produce enormous energy

and environmental benefits for the industry and the Nation both, including contributing to a diversified, more secure national energy supply. Early estimates show an industry-wide potential to reduce fossil energy consumption by over 250 TBTUs/yr, with an additional benefit of cutting approximately 40 million tons of carbon emissions annually.

The general IFPB concept features both cultivation and conversion of ligno-cellulosic materials to produce bio-energy and bioproducts in conjunction with manufacturing traditional forest products. High-quality feedstocks can be cultivated in specially engineered softwood and hardwood plantations. Once the trees have been harvested, IFPBs present opportunities to make bio-based fuels or chemicals at several points in the manufacturing process. Hemicelluloses can be extracted from residuals from wood manufacturing or from wood chips destined for pulping. The hemicelluloses are then converted to ethanol or chemical intermediates. After the wood has been pulped, the residual pulping liquors can be gasified. The resulting synthetic gas can be converted to electric power, transportation fuels (including ethanol), hydrogen, and/or to high value chemicals.

Agenda 2020 is focusing on three component areas to develop and implement the enabling technologies for the IFPB:

• Value Prior to Pulping seeks cost-effective, high-yield processes to separate and extract selected components from wood prior to pulping, and to process the extracted components to produce commercially viable chemical and liquid fuel products. Researchers are particularly interested in extracting hemicelluloses for conversion to ethanol or a biochemical feedstock. Commercial-scale demonstrations of these technologies are possible in 3 years. Assuming adoption by 75 percent of existing Kraft pulp mills, potential annual production of ethanol would be in the range of 1.9 to 2.4 billion gallons.

• New Value Streams from Residuals and Spent Pulping Liquors addresses the opportunity to manufacture bio-products from the co-products of the pulping process. The objective is to use gasification technologies to convert biomass, including forest residues and spent pulping liquor (black liquor), into a synthetic gas (syngas), which subsequently is converted into liquid fuels, power, chemicals and other high-value materials. These IFPB processes will maximize utilization of energy streams and minimize waste. Gasification technologies are currently being commercialized, and the processes to convert to transportation fuels could come online within 5 years. The potential production volume for renewable fuels is 1.09 million barrels. Additional research in syngas fermentation would be needed to support ethanol production.

• Sustainable Forest Productivity applies biotechnology and nanotechnology breakthroughs to sustainable forestry to manage U.S. forest land at a high intensity to supply affordable, sustainable biomass supplies of high quality. This longer-term research focuses on developing fast-growing biomass plantations designed to produce economic, high-quality feedstocks for bio-energy and bio-products. From an energy "life-cycle" perspective, these feedstocks could be vastly superior to the current use of crops or residues. In the short-term, IFPBs will draw from an abundant sustainable supply of forest-based biomass (estimated by USDA and DOE to be 368 million dry tons/year), which is 2.5 times current consumption. In the long term, the advanced forest management practices and customized biomass cultivation enabled by this research will not only augment IFPB yield, but will also lead to healthier forests.

The forest products industry's manufacturing facilities are an ideal foundation to develop the IFPB. Those facilities, which today produce pulp, paper and wood products, also are geared to collect and process biomass. Rather than creating a "greenfield" operation, additional bioconversion or thermochemical processes can be built around existing mills (either as extensions of the mill or as "across-the-fence" operations) to generate bio-energy or manufacture bio-products. This presents industry with dramatic potential to increase the productivity and profitability of its manufacturing infrastructure. Possible benefits include: improved efficiency of raw material utilization, protection of traditional product lines, creation of higher skilled and better paying jobs, and access to new domestic and international markets for bio-energy and bio-products.

The choice of whether to manufacture power, fuels and/or chemicals would be driven by mill economics and location. The 8 billion gallon renewable fuel standard proposed in H.R. 3081 could provide an important market signal to drive private/public investments in RD&D need to bring IFPB technologies into full commercial use. This is especially important to our industry, as our renewable fuel production capabilities will kick in more fully after 2009.

The IFPB uses an abundant, renewable, sustainable resource: forest material. Because forest material is carbon neutral, the bio-energy it produces helps reduce greenhouse gas emissions. Bio-energy also helps ease dependence on foreign fossil fuel by substituting for products now derived from nonrenewable carbon. By installing key IFPB technologies such as black liquor gasification, existing facilities could reduce emissions by 80–90 percent. Since forest products mills are located throughout the country, renewable bio-based fuels can be supplied more economically throughout the country. This improves both the diversity and security of the national energy supply.

Both the U.S. national and regional economies stand to benefit from implementation of the IFPB. Global competition has led to numerous domestic mill closings as production moves overseas. These closings impact mostly rural communities. The IFPB offers an opportunity to preserve high paying, skilled jobs and revitalize manufacturing facilities in these communities—all while creating a new domestic bioindustry based on one of the world's largest sustainable biomass supplies.

These benefits cannot be realized if forest products mills continue to move overseas. H.R. 3081 would assist the development of domestic market demand that will make it economically feasible to keep operating existing infrastructure and install IFPBs throughout the country.

WORKING TOGETHER TO ADDRESS KEY CHALLENGES

Our industry welcomes the opportunity to work with the committee to address some key challenges to realizing our potential as an important contributor to national biofuels goals.

First, there are various definitions for renewable energy, biomass, and cellulosic fuels in Federal legislation and in the Federal agencies. Wood and other ligno-cellulosic materials have three primary components: cellulose, hemicellulose, and lignin. Some Federal definitions exclude one or more of these key components, all of which can be converted to carbon neutral, renewable energy. At present, many companies in our industry produce energy from both cellulose (ethanol) and lignin (electric power). With IFPB technology, it will also be possible for us to directly convert hemicellulose to ethanol, and convert the lignin-based materials to a variety of bio-fuels and/or chemicals. Some of this technical capability will be transferable to the agricultural industry. Our industry would like to work with Congress and the relevant Federal agencies to construct an inclusive definition of biomass and/or renewable energy which includes the cellulose, hemicellulose, and lignin content of forest materials.

Second, sustained and adequate funding of RD&D partnerships are essential to overcome remaining barriers to achieving IFPB technical goals. For our industry, strong and sustained partnerships with the Federal Government are essential for accelerating the development and adoption of the new technologies. This is particularly important for the IFPB, where adequate co-investment for RD&D can help mitigate the technical risks (especially integration with capital-intensive, legacy infrastructure) of early adopters of emerging IFPB technologies. Our industry plans to continue to work with Congress in order to ensure adequate overall funding of the joint USDA/DOE biomass research program and to ensure inclusion of forest industry priorities for development of IFPB enabling technologies and demonstration of integrated forest-based biorefineries.

Third, federally-funded research institutions such as the U.S. Forest Service's Forest Products Laboratory (FPL) are home to scientific expertise and research facilities that the industry relies upon to address IFPB research goals. The FPL's capabilities have been diluted by budget difficulties that have delayed facilities construction and resulted in cuts in scientific staff. Our industry would like to work with you to recommend programmatic restructuring within FPL, to make more effective use of its research capabilities to meet both industry technical needs and USFS mission imperatives.

NEXT STEPS

Transforming forest products mills into IFPBs promises to reinvent the forest products industry and rapidly advance national goals for energy, environmental performance, and new domestic bioindustry. We look forward to working with this committee and other Members of Congress to maximize the industry role in contributing to these goals. The forest products industry recognizes the existing opportunities to advance these goals in both H.R. 3081, as well as the ongoing energy bill conference process. We also realize the potential for achieving these goals within the context of the 2007 farm bill. As this committee begins to work towards the reauthorization

of the farm bill, we look forward to working with you to ensure all opportunities are realized.

STATEMENT OF JAMES MASON

Good morning, Chairman Goodlatte, and thank you and the committee for the opportunity to testify here today. The National Turkey Federation and the National Chicken Council have concerns about the Renewable Fuels Standard (RFS) as contained in H.R. 3081 and in both versions of the energy bill. Mandating the use of a certain quantity of fuel ethanol directly impacts the demand for corn, which in turn directly impacts the economic viability of animal agriculture to feed corn. This hearing can serve as an important opportunity to more fully address the issues confronting livestock and poultry production with respect to the RFS.

It is our hope that our comments and efforts can contribute to an energy policy that provides for a renewable fuels program that does not jeopardize the more than 40,000 family farms involved in producing chickens and turkeys for American consumers.

My name is Jim Mason, and I am general manager of the Virginia Poultry Growers Cooperative (VPGC), which is headquartered in Hinton, Virginia. I previously worked for more than 20 years as a senior executive with Wampler-Longacre, Inc., including serving as president of Wampler Foods from 1993 to 1997. I am a former executive committee and officer of the National Turkey Federation and a past president of the Virginia Poultry Federation. During my years at Wampler Foods, I also was an active member of the National Chicken Council.

The VPGC was created last year after Pilgrim's Pride decided to consolidate all its turkey processing operations into the company's Pennsylvania facilities. Through your many efforts, Mr. Chairman, the hard work of local leaders in the Shenandoah Valley and the cooperation of Pilgrim's Pride during the transition process, we were able to form the VPGC and to continue providing a processing outlet for 143 family farmers, who otherwise might have been forced to give up turkey production on their farms.

Today, the VPGC is processing the turkeys raised in Virginia and West Virginia into 150 million pounds of high-quality, nutritious turkey products, and we are employing 530 people at our plant in Hinton. We are extremely proud of what we have accomplished in a short period of time, we are grateful for the strong support of people like yourself and we are extremely optimistic about our future.

But, make no mistake about it: we are a start-up operation. Like all new companies, the first few months and years are going to be critical to our long-term success. We remain extremely vulnerable to outside forces that could undermine our profitability and long-term success. That's why we have grave concerns about H.R. 3081, about the energy bill now pending in conference committee and about the general concept of a Renewable Fuels Standard (RFS).

Feed can account for as much as 70 percent of the cost of raising poultry. On some individual farms, the percentages can be even higher. Corn by far is the number-one ingredient in poultry feed rations. The availability and cost of feed has a direct impact on the profitability of poultry producers and on the profitability of those who process their products.

For example, in the mid–1990's, grain supplies became very tight, with the corn stocks-to-use ratio dropping well below 10 percent. In such a tight market, competition for the limited corn supplies was fierce, and feed costs soared to record levels, more than 30 cents per pound for turkeys in 1996. As a result, the turkey industry was losing almost seven cents on every pound it produced. A variety of market forces increased the grain supply during the late 1990's, and feed costs dropped at one point to below 20 cents per pound. During that period, the industry made an average of more than 10 cents on each pound of turkey sold.

The chicken industry can tell a similar story. Only twice in recent memory has chicken production decreased from 1 year to the next. In both those instances, it was the result of the Federal Government imposing policies that disrupted normal market forces and conditions.

Clearly, access to grain that is available in an open and competitive market is vital to the success of livestock and poultry operations. That is why our organizations, and the family farmers and companies we represent, appreciate the opportunity to talk to you about the energy policy provisions that could, during a shortfall in the normal corn harvest, result in severe disruptions to poultry producers and processors.

H.R. 3081 and the Senate version of the energy bill both call for refiners to blend eight billion gallons of "renewable fuel" into gasoline by 2012. The House version

of the energy bill provides a slightly more modest mandate of five billion gallons by 2012.

Proponents of the RFS claim that the standard will help further America's energy independence while having a minimal effect on the market for livestock and poultry feed. I'm going to focus strictly on the second claim.

Those who support the RFS say livestock and poultry producers do not need to worry about the feed markets because the trend line on corn yields is increasing, thus ensuring corn harvests will routinely look like last year's 11.8 billion-bushel crop. They say that gasoline refiners will increasingly use products other than corn-based ethanol to meet the Renewable Fuels Standard. And, they point out that refining corn into ethanol produces dried distillers' grains (DDGs) that can be used in feed rations.

We sincerely hope the ethanol proponents are right on the first two points. The trend line for corn yields is increasing, but we must remember that a trend line does not predict the size of a harvest in any individual year. It was just 3 years ago that we had a nine billion-bushel corn crop, and—as the growing concerns about dry weather this year in the Midwest indicate—there always is a risk that individual corn harvests will be short. We also agree that there will be a greater diversity of renewable fuels by 2012, but the corn-based ethanol industry will have a capacity of 4.4 billion gallons by the end of the year. They have a tremendous head start on their competitors. We appreciate the committee's efforts in H.R. 3081 to encourage development of a wider variety of renewable fuels, but it will be several years, at best, before we enjoy the benefits of those provisions.

Finally, dried distiller's grains cannot replace corn on a one-to-one basis. The ethanol refining process removes the starch, leaving only protein in the DDGs. Poultry generally can utilize no more than 10 percent DDGs in feed rations, and when we use DDGs, we have to add supplemental lysine to the ration. Put simply, there is little room for additional DDG consumption.

That's why our message today is relatively simple: when the final energy legislation is written, Congress should approve a reasonable RFS and, at the same time, should include provisions that explicitly protect animal agriculture producers in the event of a corn crop shortage or outright failure.

Right now, about 11 percent of the corn crop is being diverted to ethanol. At eight billion gallons, under the wrong circumstances, the RFS could divert almost 35 percent of the corn crop to ethanol. Under the best circumstances, an 8 billion-gallon RFS would divert more than 20 percent of the corn crop to ethanol. By contrast, a realistically bad year at 5 billion gallons would divert about 20 percent of the corn crop. Basically, a good year at eight billion gallons is still marginally worse for livestock and poultry than a bad year at 5 billion gallons. That is why the National Chicken Council and the National Turkey Federation strongly urge Congress to adopt the 5 billion-gallon RFS contained in the House version of the energy bill.

Congress also should recognize that an RFS at any level could put livestock and poultry producers at a competitive disadvantage in a tight corn market. Because gasoline refiners will be mandated by the RFS to purchase a specific amount of renewable fuel, an increase in corn prices will not affect ethanol producers in the same way as livestock and poultry producers. If you can pass along the majority—perhaps all—of your cost increases to the consumer, you can afford to bid more for corn.

Historically, when feed costs increase, livestock and poultry producers begin liquidating their flocks and herds to cut costs and increase the chances of financial survival. There is no Federal mandate to purchase meat and poultry, so these overloads on the market drive down retail prices, severely limiting the ability of producers to pass their cost increases along to consumers. Only the livestock and poultry producers with the deepest pockets can survive in such an environment. That's why a "pressure-relief valve" is a reasonable safety precaution.

Both NCC and NTF strongly recommend Congress include a provision in the RFS that would protect livestock and poultry producers from a crop disaster. You will find a copy of our proposal attached to our written statement. This amendment would require a review by EPA, USDA and the Energy Department if the corn stocks-to-use ratio falls below 15 percent. It would require an adjustment of the RFS if the stocks-to-use ratio drops below 10 percent, which as I noted at the outset, is the level at which livestock and poultry producers almost always begin to experience a financial crisis.

Poultry producers understand that feed costs will go up when corn supplies are short, and we accept that market risk. We would ask Congress to recognize that the RFS in certain situations could have a market-distorting effect and that Congress provide us with a way to alleviate at least some portion of the potential market disruption.

We think this is a fair proposal and one that—if history is any indicator—would be utilized only rarely. The risk to ethanol proponents in this proposal is minimal, and we would hope Congress would consider it a reasonable trade-off, given the significant market advantages the ethanol industry will be gaining in the RFS. If ethanol proponents are asking us and Congress to bet on the projection of great future corn crops, it doesn't seem inappropriate to ask those proponents to share that gamble to a very small way.

One final note on our proposed amendment: the waiver language in H.R. 3081 and the waiver language in both versions of the energy bill will not work. The waiver process is too lengthy; by the time any waiver was granted, the damage would be done. The waiver proposals in the bills also make the waiver decision entirely discretionary on the part of the EPA administrator. We want to make the process less subjective and less political and to ensure that any RFS adjustment provides a real benefit to livestock and poultry producers.

We thank you for the opportunity to testify, and we would be pleased to answer any questions you may have.

SDA The Soap and Detergent Association

Statement
Before
The Committee on Agriculture
of the
United States House of Representatives
on
Agriculture's Role in a Renewable Fuel Standard

Presented by
Dennis C. Griesing
Vice President, Government Affairs
July 21, 2005

Mr. Chairman and members of the Agriculture Committee, my name is Dennis Griesing and I am the Vice President of Government Affairs for the Soap and Detergent Association (SDA). The SDA is a 100 member national trade association representing the detergent and cleaning products industry as well as the United States oleochemical industry. Oleochemicals such as fatty acids and fatty alcohols are produced from seed and animal oils. In the United States, the principal oleochemical raw material source is tallow, an historically cost competitive agricultural by-product. In other parts of the world, oleochemical manufacturers use their own indigenous fats and oils such as palm, rapeseed and castor oils. Until the introduction of modern synthetic detergents, all soap came from tallow or other agricultural sources, hence the historical relationship with the SDA. Oleochemistry was "green chemistry" before that term was even conceived.

On behalf of its oleochemical members, SDA respectfully urges care and caution in the development of policies related to the promotion of renewable fuels from agricultural sources. While current energy market conditions are driving the expanded use of agricultural crops for fuels, the incentivization of agri-based fuels should not distort existing markets or put well established, traditional industries at risk. Yet, this is exactly what has happened to the U.S. oleochemical industry under the biodiesel incentive provisions of the Volumetric Ethanol Excise Tax Credit (VEETC) of the American Jobs Creation Act of 2004.

VEETC created two levels of incentive: "agri-biodiesel" at $1/gallon and "biodiesel" at $0.50/gallon. The incentives are material-based. "Agri-biodiesel" includes virgin seed oils and "animal fats." "Biodiesel" includes used oils such as so-called "yellow grease" which is used fryer grease. It is the inclusion of "animal fats" in the agri-biodiesel category that threatens the domestic oleochemical industry by distorting the market value of tallow.

Historically, under longstanding free market conditions, "animal fats," including tallow, were priced in the same range as "yellow grease." In fact, in an earlier iteration of the

VEETC provisions, this historical relationship was reflected in the fact that tallow was included in the lower incentive category. In its advocacy efforts, SDA clearly stipulated that it had no problem with this original configuration precisely because it replicated historical raw material price relationships.

However, with the elevation of "animal fats" to the "agri-biodiesel" category, the market value of tallow has been artificially inflated. SDA has analyzed the resulting raw material economics. Based on our findings, we predict a significant distortion of raw material markets with the result that significant volumes of tallow will be diverted from traditional applications for soaps, food, animal feed and oleochemicals to tallow-based biodiesel. A copy of our analysis accompanies this statement.

SDA anticipates that the floor price of tallow will approach that of soybean oil and may exceed palm oil. Some believe that tallow prices will rise to $0.28/lb. on a permanent basis. As tallow prices rise, palm oil from Southeast Asia will become more attractive as the U.S. oleochemical industry's competitive raw material advantage in tallow is lost. Under these conditions domestic manufacturers will either import palm oil to stay competitive or simply import the finished oleochemicals and close their plants. This all derives from incentivizing "animal fats" at a level having no basis in established raw material markets. From whatever perspective we look at the issue, the current subsidy structure threatens the future of the U.S. oleochemical industry. This is why we urge future caution in policy development with respect to renewable fuels.

This situation is further complicated by the fact that tallow supply is relatively inelastic. Cattle are raised for their meat, not their tallow. Consequently, the tallow market is very supply/demand sensitive.

The full impact of the market distortions caused by VEETC are not fully visible as yet. There is a lag caused by the fact that there is a lot of construction currently underway. According to the June, 2005 edition of Biodiesel Magazine, there are 35 plants currently operating and 24 more under construction. We will begin to see the full impact when construction turns into production next year.

For its part, SDA continues to seek modifications to VEETC which will minimize the anticipated market distortion. Prospectively, however, we would urge this Committee, as well as others, to be cautious in developing agriculture-based energy policies which disadvantage long standing relationships in favor of new ones. America's bountiful agricultural resources can serve all interests well and equitably if care is taken in the development of our agricultural policies.

On behalf of America's oleochemical industry, I want to take this opportunity to thank the Committee for the opportunity to present our perspective on the profoundly important role of agriculture and renewable fuels. Please view us as a partner and resource on this issue. I would be happy to answer any questions, either now or in the future.

SDA The Soap and Detergent Association

VEETC Biodiesel Provisions
Impact on Oleochemical Raw Material Markets
Prepared By
The Soap and Detergent Association
December, 2004

Based on an analysis of long term comparative prices of soybean oil (SBO), bleachable fancy tallow (BFT) and yellow grease, SDA estimates that the current VEETC provisions will have the following effects:

Tallow will become the preferred raw material for biodiesel production.

Both SBO and YG are profoundly disadvantaged under the current VEETC provisions.

Subsidized tallow-based biodiesel will have an estimated $0.48/gal wholesale price advantage over petro-diesel based on current price.

The same economic drivers stand to increase the price of tallow by up to more than 50% thereby endangering the United States oleochemical industry for which tallow has historically been the preferred feedstock. This, in turn, will open the door to cheaper, Southeast Asian sources of oils and oleochemicals which may also be used in their production of biodiesel by domestic US biodiesel producers as well as oleochemical manufacturers.

There is a strong rumor that one large meat packing company intends to open three biodiesel production plants, two of which will use the tallow from its own facilities thereby further reducing the supply of tallow to the open market.

The analysis of relative raw material costs is based on third-party price data collected on a monthly basis by "The Jacobsen Publication" over the 18 year period from January, 1987 to November, 2004 inclusive. The fuel cost analysis is based on current data. The underlying detailed analyses are found in a series of spreadsheets attached to this document.

The clear finding from either analysis is that applying the "agri-biodiesel" subsidy to tallow results in substantial raw material market distortion and will tend to divert tallow from oleochemicals, food, animal feed, and soaps. In turn, this will impact a wide range of consumer product prices from tires to toothpastes and plastics which rely on tallow and tallow-based oleochemicals. Raw material substitution will, in many cases, require product reformulations; the impact will ripple through the economy at-large.

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Historical Raw Material Commodity Data

SDA has analyzed 18 years of Chicago-based commodity price data, collected on a monthly basis by "The Jacobsen Publication," for the following commodities: soybean oil (SBO), bleachable fancy tallow (BFT), and yellow grease. The results are as follows:

SBO - the average price for SBO is $0.2169/lb.
BFT – the average price for BFT is $0.1555/lb.
YG - the average price for YG is $0.1206/lb.

Analysis of these numbers results in the following historical price comparisons:

SBO is historically priced 39.49% higher than BFT
SBO is historically priced 79.85% higher than YG
BFT is historically priced 28.93% higher than YG

Based on these long-term market price differentials, one would expect an orderly preference first for yellow grease, then tallow and finally, soybean oil. However, by including "animal fats" in the "agri-biodiesel" incentive category, the natural economic selection is completely distorted. As will be shown, this distortion creates an overwhelming economic preference for tallow-based biodiesel.

Impact Of VEETC Incentives On Raw Material Costs

In the following, we analyze the cost impacts of the current VEETC incentives from two perspectives: raw material and final biodiesel costs.

Raw Material Cost Analysis

VEETC incentivizes tallow derived biodiesel as "agri-biodiesel" at the rate of $1.00/gal. At this rate, the biodiesel producer's raw material costs are virtually paid by the incentive. In addition to this, on a circulating basis, some producers also receive commodity credit corporation payments on the incremental increases in their biodiesel production under a plan administered by the USDA. In addition, biodiesel producers will have the revenue resulting from the glycerin co-product on what is effectively a no cost basis.

Refined glycerin currently sells for $0.40/lb, a price which will inevitably lower as supplies increase. This means that oleochemical producers will lose revenue and be forced to raise prices and face competitive pressures from overseas. Biodiesel producers will also see their glycerin revenue reduced but suffer little similar impact because the glycerin is subsidized and in the case of tallow-based product, virtually free.

With respect to biodiesel yield, there is very little difference between SBO, tallow and yellow grease. The variances are within 2%. Consequently, raw material comparisons on a per unit basis are possible without consideration of yield differences.

Tallow

Tallow prices fluctuate daily in response to market conditions. To minimize the influence of daily price shifts, the following analyses are based on long-term data (1/87 – 11/04).

The long-term average cost of BFT is $0.1555/lb. A gallon of biodiesel weighs 7.35 lbs/gal subsidized at a rate of $1.00/gal., or, $0.136/lb. Subtracting the subsidy on a per pound basis from the tallow cost gives the "net" raw material cost of the tallow.

The following calculations indicate the impact of the respective subsidies on a biodiesel producer's cost of tallow:

Tallow Cost: $0.1555/lb
"Agri-biodiesel" Subsidy: $1.00/7.35 = $0.1360/lb
Subsidized Tallow Cost: $0.1555 - $0.1360 = $0.0195/lb.
Net per Gallon Cost to Producer: $0.0195 X 7.35 = $0.143/gal

Tallow Cost: $0.1555/lb
"Biodiesel" Subsidy: $0.50/7.35 = $0.068/lb
Subsidized Tallow Cost: $0.1555/lb - $0.068/lb = $0.0875/lb.
Net Cost to Producer per Gallon; $0.0875 X 7.35 = $0.643/gal

Soybean Oil

Our data indicates a long term average SBO price of $0.2169/lb., 39.49% higher than tallow. Again, biodiesel weighs 7.35 lbs/gal. If we multiply $0.2169 X 7.35lbs/gal, the result is an unsubsidized SBO raw material cost of $1.59/gal of biodiesel.

SBO Cost: $0.2169/lb.
"Agri-Biodiesel" Subsidy: $1.00/7.35 = $0.1360/lb
Subsidized SBO Cost: $0.2169/lb - $0.1360/lb = $0.0809/lb.
Net Per Gallon Cost to Producer: $0.0809 X 7.35 = $0.5946

Yellow Grease

Yellow grease is incentivized at the lower "biodiesel" level of $0.50. Using the long-term average price of $0.1206/lb., a gallon of yellow grease-based biodiesel (7.35 lbs X 0.1206) would have raw material costs of $0.89/gal, but would receive only $0.50/gal incentive. $0.50 divided by 7.35 yields an incentive rate of $0.068/lb. $0.1206 minus $0.068 equals $0.0526/lb. net material cost to the producer

YG Cost: $0.1206/lb
"Biodiesel" Subsidy: $0.50/7.35 = $0.068/lb.
Subsidized YG Cost: $0.1206/lb - $0.068 = $0.0526/lb
Net Per Gallon Cost to Producer: $0.0526 X 7.35 = $0.387/gal

The economic/market distortion created providing the "agri-biodiesel" incentive to tallow is clear.

Net Raw Material Costs Per Gallon w/Appropriate Credit Applied

Tallow ("agri-biodiesel)	14.3 cents
Tallow ("biodiesel")	64.3 cents
Soybean Oil	59.5 cents
Yellow grease	38.7 cents

As the numbers indicate, the advantage provided tallow under the current incentive program completely undoes historical market relationships between these raw materials.

To understand fully the potential impact of the VEETC provisions on the full spectrum of tallow consumption, the following numbers are instructive:

Total US Tallow and Grease Production in 2003 was 8.6 billion lbs. broken out as follows:

Edible	1.6 billion
Inedible Rendered Tallow	2.0 billion
Inedible Packer Tallow	2.0 billion
Choice White Grease	1.0 billion
Yellow Grease	2.0 billion

We estimate 2003 petro-diesel consumption at 34.47 billion gallons. Since a B-5 blend can be used anywhere, year round, 5%, or, 1.7255 billion gallons of petro-diesel can be displaced each year. The density of biodiesel is 7.35 lbs/ gal.

1.7255 billion/gals X 7.35 = 12.682425 billion pounds of tallow/greases.

Consequently, potential demand will exceed supply by 4.082425 billion lbs.

Perhaps more interesting is who will be impacted by this demand. Edible and Technical tallows total 1.6 billion/lbs with the following market shares:

Baking/Frying	28%
Export	29%
Pet Food	14%
Soap	5%
Fatty Acids/Derivatives	14%
Other	10%

Inedible tallows and greases total 5 billion/lbs, and are used as follows:

Animal Feed	49%
Export	22%
Fatty Acids/Derivatives	18%
Soap	11%

Fuel Cost Analysis

Note: The underlying analyses for the following conclusions are attached to this document.

Using current market prices, SDA estimates the following impact on the diesel fuel market. The "agri-biodiesel" credit will result in tallow-biodiesel being $0.60/gal cheaper than soy-biodiesel. For a B-20 blend, the tallow product will be $0.12/gal cheaper. Moreover, at the current $1.36 wholesale price of petro-diesel, tallow biodiesel at a subsidized $0.88/gal will have a $0.48/gal. wholesale advantage.

Soy-biodiesel will simply not be competitive against tallow-based. Moreover, the wholesale price advantage of tallow-based biodiesel versus petro-diesel will stand to create an even greater basic demand for tallow-biodiesel generally.

Titre/Cloud Point Issues

The issue of cloud point has been posed as a limiting factor on the use of tallow-biodiesel. However, this is not an absolute limit by any means and should have very little impact on limiting tallow-biodiesel use. At B-5, there is no question as to its ability to be used in any winter condition. Higher concentrations are possible with the addition of

simple mechanical devices such as fuel pre-heaters. Moreover, tallow-based can be used in combination with soy-based in a 1 to 2 ratio.

There is no simply no doubt that the overwhelming price advantage provided to tallow-based product and the rigorous competitive nature of fuel economics will drive the use of tallow-based product over other raw materials.

Tallow Supply Issues

There is little question but that the floor price for tallow will increase because of the greater demand occasioned by the VEETC provisions. SDA is deeply concerned over the impact on the domestic oleochemical and bar soap industries in the United States for which tallow is a strategic raw material.

SDA anticipates that tallow will approach soybean oil in pricing and may exceed palm. In general terms, the price of tallow may be reasonably anticipated to rise to $0.18 - $0.23 from its current level of $0.15, an increase of between 20% and 53%. There are some who foresee prices at $0.28/lb. These would be permanent fundamental changes. As tallow-based oleochemical prices rise, palm-based fatty acids and other oleochemicals from Southeast Asia will become more attractive. These will compete against today's domestically produced tallow-based oleochemicals.

Oils prices tend to move in some degree of sympathy to each other because of degrees of substitutability and supply and demand pricing. Under traditional market conditions, soybean oil prices would tend to set the upper limit. The threshold question for industry is whether or not those traditional conditions are still relevant.

As to increased tallow supplies, cattle are not raised for tallow. Consequently, the supply is not expandable. There are effectively no new sources of tallow. It is a by-product of the rendering industry. And, if there is substance to one current rumor, some packers may decide to become biodiesel producers and consume their own tallow production to an even greater cost advantage.

Glycerin Market

Glycerin is a globally traded commodity and is extraordinarily sensitive to supply/demand relationships as was demonstrated in the Fall of 2003 when prices doubled to historical high 20's/lb. This was caused by the Canadian BSE situation compounded by the gift of 50 million pounds of tallow from the United States to Pakistan under the "Food for Progress."

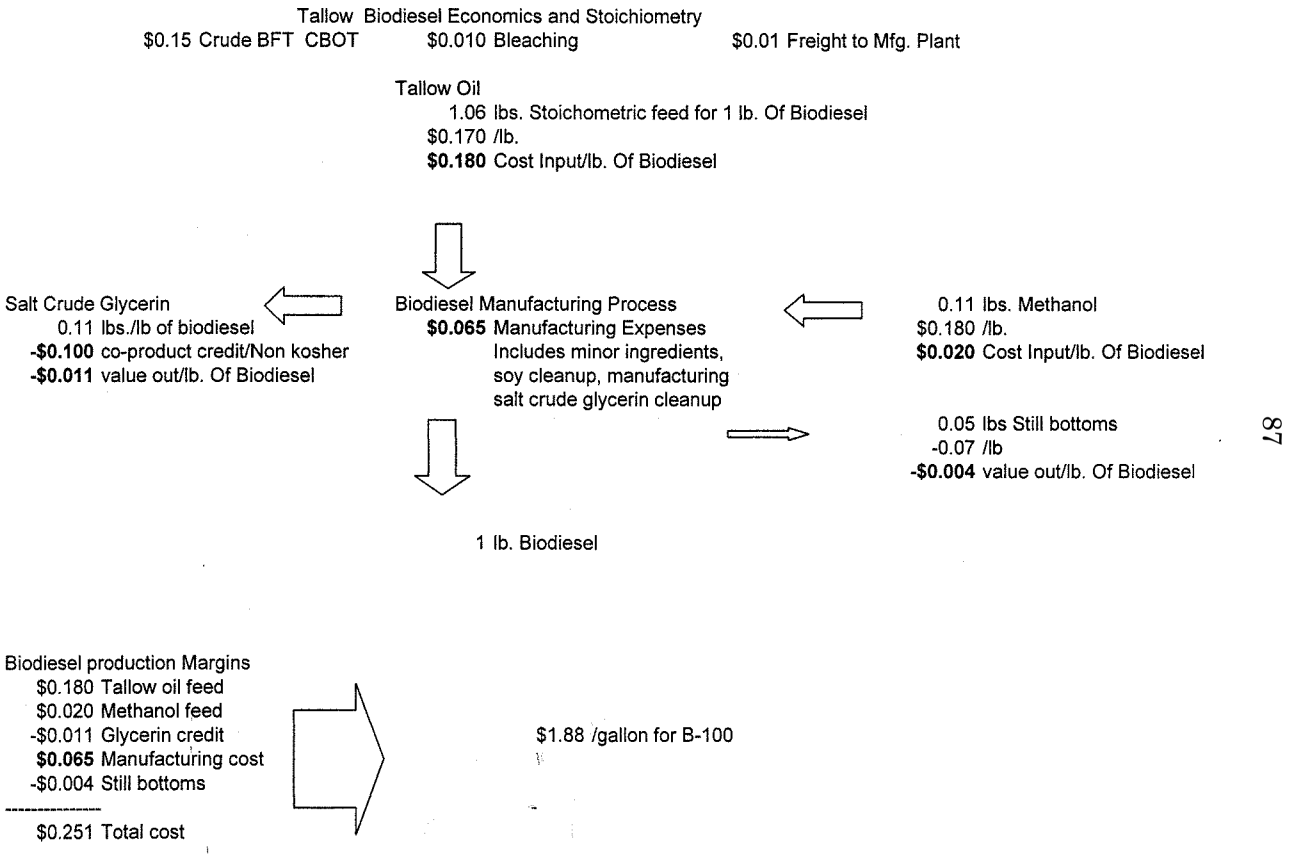
Glycerin is a co-product of oleochemical processing and soap making; it cannot be turned off. In addition, there was some synthetic glycerin production. However, as petroleum prices rose and glycerin prices declined due to oleochemical expansion, synthetic glycerin facilities began to close down in the early 1990s.

From 1974 until 1994, the glycerin market was viewed as demand-led. Since 1994, however, the market has been driven by supply with 90% of demand supplied by natural, co-product glycerin. Since 1997, the supply driven aspect of the market has been emphasized because of the growth of the Southeast Asian oleochemical and biodiesel production.

The simple global market fact of glycerin is that increased supply depresses prices. Lower prices mean less revenue. Less revenue means higher prices for US oleochemicals. Higher US oleochemical prices induce competition from Southeast Asia.

The VEETC biodiesel provisions threaten the continued global viability of the domestic oleochemical industry and threaten to dry up raw material markets for bar soaps.

It is essential that VEETC be repaired.


Tallow Biodiesel Economics and Stoichiometry
$0.15 Crude BFT CBOT
$0.010 Bleaching
$0.01 Freight to Mfg. Plant
Tallow Oil
1.06 lbs. Stoichometric feed for 1 lb. Of Biodiesel
$0.170 /lb.
$0.180 Cost Input/lb. Of Biodiesel
Salt Crude Glycerin
0.11 lbs./lb of biodiesel
-$0.100 co-product credit/Non kosher
-$0.011 value out/lb. Of Biodiesel
Biodiesel Manufacturing Process
$0.065 Manufacturing Expenses
Includes minor ingredients, soy cleanup, manufacturing salt crude glycerin cleanup
0.11 lbs. Methanol
$0.180 /lb.
$0.020 Cost Input/lb. Of Biodiesel
0.05 lbs Still bottoms
-0.07 /lb
-$0.004 value out/lb. Of Biodiesel
1 lb. Biodiesel
Biodiesel production Margins
$0.180 Tallow oil feed
$0.020 Methanol feed
-$0.011 Glycerin credit
$0.065 Manufacturing cost
-$0.004 Still bottoms
$0.251 Total cost
$1.88 /gallon for B-100

Impact of the move of Tallow Biodiesel from "non-Virgin" to "Agri" With Resulting $1.00/Gal Tax Credit

Tallow considered to be Non-virgin

Biodiesel Economics — **Long term average Commodity Averages for The BD Feedstocks with Today's Petro**

Assumptions: All Key off of these commodity prices: Soy Oil/lb. **$0.215**
Change BOLD Numbes only — Tallow **$0.150**
Wholesale Diesel/Gal **$1.360** **This is today's wholesale diesel rack price**

Virgin Biodiesel/lb Wholesale: $0.330 per Gal.: $2.48 **Tax Credit = $1.00/gallon** This puts Soy BD nearly priced at Petro Diesel
Non virgin BD/lb. Wholesale: $0.250 per Gal.: $1.88 **Tax Credit = $.50/gallon** This puts Tallow BD nearly priced at Petro Diesel

Biodiesel % in Blend	Blended Virgin Petro/Bio Wholesale/Gal	Less Tax Credit $/gal	Biodiesel Blend Subsidized Cost	Net Gap over Diesel
1%	$1.3712	-$0.010	$1.3612	**$0.0011**
2%	$1.3823	-$0.020	$1.3623	**$0.0023**
3%	$1.3935	-$0.030	$1.3635	**$0.0034**
4%	$1.4046	-$0.040	$1.3646	**$0.0046**
5%	$1.4158	-$0.050	$1.3658	**$0.0057**
10%	$1.4715	-$0.100	$1.3715	**$0.0115**
20%	$1.5830	-$0.200	$1.3830	**$0.0230**

Biodiesel % in Blend	Blended Non Virgin Petro/Bio Wholesale/G	Less Tax Credit $/gal	Biodiesel Blend Subsidized Cost	Net Gap over Diesel
1%	$1.3652	-$0.005	$1.3602	**$0.0002**
2%	$1.3703	-$0.010	$1.3603	**$0.0003**
3%	$1.3755	-$0.015	$1.3605	**$0.0005**
4%	$1.3806	-$0.020	$1.3606	**$0.0006**
5%	$1.3858	-$0.025	$1.3608	**$0.0008**
10%	$1.4115	-$0.050	$1.3615	**$0.0015**
20%	$1.4630	-$0.100	$1.3630	**$0.0030**

Conclusion: At the 50% Non-virgin Tax Credit Soy and Tallow based Biodiesel are at reasonable Market Parity

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Tallow moved to "Agri diesel"

Biodiesel Economics — **Long term average Commodity Averages for The BD Feedstocks with Today's Petro**

Assumptions: All Key off of these commodity prices: Soy Oil/lb. **$0.215**
Change BOLD Numbes only — Tallow **$0.150**
Wholesale Diesel/Gal **$1.360** **This is today's wholesale diesel rack price**

Virgin Biodiesel/lb Wholesale: $0.330 per Gal.: $2.48 **Tax Credit = $1.00/gallon** This puts Soy biodiesel nearly at petro diesel
Tallow AgriBD/lb. Wholesale: $0.250 per Gal.: $1.88 **Tax Credit = $1.00/gallon** **This prices tallow BD well under petro diesel**

Biodiesel % in Blend	Blended Virgin Petro/Bio Wholesale/Gal	Less Tax Credit $/gal	Biodiesel Blend Subsidized Cost	Net Gap over Diesel
1%	$1.3712	-$0.010	$1.3612	**$0.0011**
2%	$1.3823	-$0.020	$1.3623	**$0.0023**
3%	$1.3935	-$0.030	$1.3635	**$0.0034**
4%	$1.4046	-$0.040	$1.3646	**$0.0046**
5%	$1.4158	-$0.050	$1.3658	**$0.0057**
10%	$1.4715	-$0.100	$1.3715	**$0.0115**
20%	$1.5830	-$0.200	$1.3830	**$0.0230**

Biodiesel % in Blend	Blended Non Virgin Petro/Bio Wholesale/G	Less Tax Credit $/gal	Biodiesel Blend Subsidized Cost	Net Gap over Diesel
1%	$1.3652	-$0.010	$1.3552	**-$0.0049**
2%	$1.3703	-$0.020	$1.3503	**-$0.0097**
3%	$1.3755	-$0.030	$1.3455	**-$0.0146**
4%	$1.3806	-$0.040	$1.3406	**-$0.0194**
5%	$1.3858	-$0.050	$1.3358	**-$0.0243**
10%	$1.4115	-$0.100	$1.3115	**-$0.0485**
20%	$1.4630	-$0.200	$1.2630	**-$0.0970**

Conclusion: With tallow granted a full "Agri" tax Credit the economic incentive to use tallow instead of Soy is $.12/gallon for B-20
Tallow biodiesel is granted a subsidy that makes it a lower cost than petro diesel. This will drive the use of tallow if petro stays high.

Impact of the move of Tallow Biodiesel from "non-Virgin" to "Agri" With Resulting $1.00/Gal Tax Credit

Tallow considered to be Non-virgin

Biodiesel Economics — **Long term average Commodity Averages for Petro and The BD Feedstocks**

Assumptions: All Key off of these commodity prices:
Change BOLD Numbes only

Soy Oil/lb.	**$0.215**
Tallow	**$0.150**
Wholesale Diesel/Gal	**$0.700**

Virgin Biodiesel/lb Wholesale: $0.330 per Gal.: $2.48 **Tax Credit = $1.00/gallon**
Non virgin BD/lb. Wholesale: $0.250 per Gal.: $1.88 **Tax Credit = $.50/gallon**

Biodiesel % in Blend	Blended Virgin Petro/Bio Wholesale/Gal	Less Tax Credit $/gal	Biodiesel Blend Subsidized Cost	Net Gap over Diesel
1%	$0.7178	-$0.010	$0.7078	**$0.0078**
2%	$0.7355	-$0.020	$0.7155	**$0.0155**
3%	$0.7533	-$0.030	$0.7233	**$0.0233**
4%	$0.7710	-$0.040	$0.7310	**$0.0310**
5%	$0.7888	-$0.050	$0.7388	**$0.0388**
10%	$0.8775	-$0.100	$0.7775	**$0.0775**
20%	$1.0550	-$0.200	$0.8550	**$0.1550**

Biodiesel % in Blend	Blended Non Virgin Petro/Bio Wholesale/G	Less Tax Credit $/gal	Biodiesel Blend Subsidized Cost	Net Gap over Diesel
1%	$0.7118	-$0.005	$0.7068	**$0.0068**
2%	$0.7235	-$0.010	$0.7135	**$0.0135**
3%	$0.7353	-$0.015	$0.7203	**$0.0203**
4%	$0.7470	-$0.020	$0.7270	**$0.0270**
5%	$0.7588	-$0.025	$0.7338	**$0.0337**
10%	$0.8175	-$0.050	$0.7675	**$0.0675**
20%	$0.9350	-$0.100	$0.8350	**$0.1350**

Conclusion: At the 50% Non-virgin Tax Credit Soy and Tallow based Biodiesel are at reasonable Market Parity

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Tallow moved to "Agri diesel"

Biodiesel Economics — **Long term average Commodity Averages for Petro and The BD Feedstocks**

Assumptions: All Key off of these commodity prices:
Change BOLD Numbes only

Soy Oil/lb.	**$0.215**
Tallow	**$0.150**
Wholesale Diesel/Gal	**$0.700**

Virgin Biodiesel/lb Wholesale: $0.330 per Gal.: $2.48 **Tax Credit = $1.00/gallon**
Tallow AgriBD/lb. Wholesale: $0.266 per Gal.: $1.88 **Tax Credit = $1.00/gallon**

Biodiesel % in Blend	Blended Virgin Petro/Bio Wholesale/Gal	Less Tax Credit $/gal	Biodiesel Blend Subsidized Cost	Net Gap over Diesel
1%	$0.7178	-$0.010	$0.7078	**$0.0078**
2%	$0.7355	-$0.020	$0.7155	**$0.0155**
3%	$0.7533	-$0.030	$0.7233	**$0.0233**
4%	$0.7710	-$0.040	$0.7310	**$0.0310**
5%	$0.7888	-$0.050	$0.7388	**$0.0388**
10%	$0.8775	-$0.100	$0.7775	**$0.0775**
20%	$1.0550	-$0.200	$0.8550	**$0.1550**

Biodiesel % in Blend	Blended Non Virgin Petro/Bio Wholesale/G	Less Tax Credit $/gal	Biodiesel Blend Subsidized Cost	Net Gap over Diesel
1%	$0.7118	-$0.010	$0.7018	**$0.0018**
2%	$0.7235	-$0.020	$0.7035	**$0.0035**
3%	$0.7353	-$0.030	$0.7053	**$0.0052**
4%	$0.7470	-$0.040	$0.7070	**$0.0070**
5%	$0.7588	-$0.050	$0.7088	**$0.0087**
10%	$0.8175	-$0.100	$0.7175	**$0.0175**
20%	$0.9350	-$0.200	$0.7350	**$0.0350**

Conclusion: With tallow granted a full "Agri" tax Credit the economic incentive to use tallow instead of Soy is $.12/gallon for B-20

30%	$1.2325	-$0.300	$0.9325	**$0.2325**

Soy Biodiesel Economics and Stoichiometry

$0.215 Crude Soy CBOT $0.025 Refining to RBD $0.01 Freight to Mfg. Plant

Soybean Oil
1.04 lbs. Stoichometric feed for 1 lb. Of Biodiesel
$0.250 /lb.
$0.260 Cost Input/lb. Of Biodiesel

Salt Crude Glycerin
0.09 lbs./lb of biodiesel
-$0.150 co-product credit/ Kosher
-$0.014 value out/lb. Of Biodiesel

Biodiesel Manufacturing Process
$0.065 Manufacturing Charge
Includes minor ingredients, soy cleanup, manufacturing salt crude glycerin cleanup profit

0.11 lbs. Methanol
$0.180 /lb.
$0.020 Cost Input/lb. Of Biodiesel

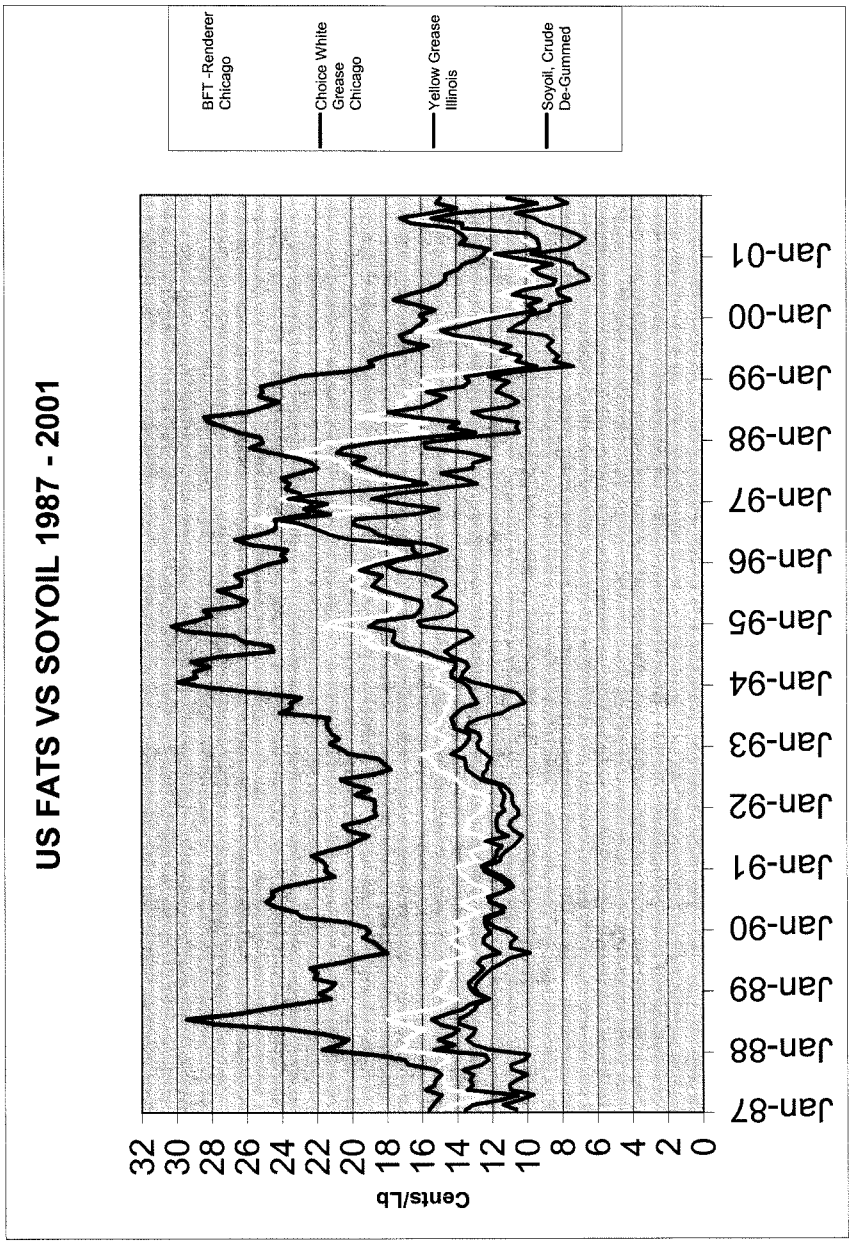
0.06 lbs Still bottoms
-0.07 /lb
-$0.004 value out/lb. Of Biodiesel

1 lb. Biodiesel

Biodiesel production Margins
$0.260 Soy Oil Feed
$0.020 Methanol feed
-$0.014 Glycerin credit
$0.065 Manufacturing cost
-$0.004 Still bottoms

$0.327 Total cost

$2.45 /gallon for B-100


US FATS VS SOYOIL 1987 - 2001
BFT -Renderer Chicago
Choice White Grease Chicago
Yellow Grease Illinois
Soyoil, Crude De-Gummed
Cents/Lb
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
Jan-87
Jan-88
Jan-89
Jan-90
Jan-91
Jan-92
Jan-93
Jan-94
Jan-95
Jan-96
Jan-97
Jan-98
Jan-99
Jan-00
Jan-01

STATEMENT OF DAVE FREDERICKSON

Chairman Goodlatte, Ranking Member Peterson, members of the committee, I am Dave Frederickson, president of the National Farmers Union. Thank you for convening this hearing on the Renewable Fuels Standard (RFS) and how our farmers and ranchers can participate in the development of a comprehensive energy policy for the United States.

It is especially timely as the energy bill conferees are meeting as we speak to hammer out the differences between the House and Senate energy packages, both of which contain distinctly different Renewable Fuels Standards.

Let me make one thing clear from the start, National Farmers Union, and a wide coalition of farm groups and the ethanol and biodiesel industry, supports the Senate position for the RFS in the energy conference committee proceedings, and that language is reflected in your legislation.

I want to specifically thank you and Mr. Peterson along with Mr. Gutknecht, Ms. Herseth, Mr. King, Mr. Osborne, Mr. Boswell, Mr. Moran, Mr. Salazar, and others for recently introducing the Renewable Fuels Act of 2005. Your legislation, and the Senate RFS language, would establish a strong renewable fuels standard mandate for the use of eight billion gallon of ethanol in our Nation's transportation fuels by 2012, and it contains tough waiver language and anti-backsliding provisions to protect gains we have made in the Clean Air Act.

We encourage you to insist on this language in the final energy conference report. Our farmers and ranchers will settle for no less than 8 billion gallons by 2012, and the other important and vital language included in your legislation and the Senate energy package.

This robust RFS would more than double the production and use of domestic renewable fuels produced from biomass, and will create vital opportunities for family farmers and ranchers and their rural communities.

Over the last 5 years, we have worked diligently with Senator Lugar, Senator Johnson, Senator Talent, former Senator Daschle, and others to craft this carefully balanced legislation. I can think of no legislation in the past few years that has created such enthusiasm, and hope, in farm and ranch country.

A strong RFS would increase domestic demand for surplus farm commodities, lower Federal outlays of Federal farm subsidies, improve the environment, and decrease our reliance of foreign oil. Our farmers and ranchers want to be part of our Nation's energy solution, and we are ready and willing to work hard.

The RFS framework outlined in your legislation, and in the RFS provisions in the Senate energy package, will send a strong signal towards the launch of a comprehensive national renewable fuels program that will benefit all of us. Americans deserve a comprehensive, bi-partisan, and meaningful renewable fuels standard that addresses today's pressing energy needs.

Farmers urgently want to participate in the production of renewable fuels in America, and have entered innovative markets—including renewable fuels production by forming cooperatives. Due in part to an encouraging public policy in the 2002 farm bill, ethanol and biodiesel production cooperatives are flourishing. In fact, in the agriculture sector where markets are increasingly controlled by a handful of large multinational companies, ethanol production markets appear to be one of the few U.S. markets that have become more competitive.

Farmers and ranchers in America fight to be self-sustaining and look for opportunities to expand their rural communities, and farmer-owned ethanol and biodiesel cooperatives are a useful tool to meet those goals. The success of these cooperatives is proof that forward-looking policy can produce positive ripple effects for rural America. The National Farmers Union firmly believes the RFS will help continue that economic growth.

Our members recognize the importance of encouraging renewable fuel use. This past February, delegates to the NFU annual convention approved a "special order of business'" encouraging the production of "fuels from the farm". In fact, National Farmers Union policy shows that as far back as 1978, when "gasohol" was the prevailing term, our members supported a mandate for ethanol use in gasoline way back then, and we have continued to work on this policy ever since. We are determined.

Today, five Farmers Union's State chapters operate a cooperative in Redwood Falls, Minnesota, that is producing biodiesel from rendered animal fats and oils, and a farmer-owned biodiesel production facility is being constructed in North Dakota in addition to a large ethanol plant in Oklahoma, both sponsored by our members.

House and Senate RFS legislation also provides a tax incentive for biodiesel that will be extremely important in stimulating new production of biodiesel from both

soybeans as well as from animal fats. We strongly support extending the biodiesel tax incentive to 2010.

Over the past 6 years, we have worked with the Governor's Ethanol Coalition, other farm and commodity organizations, the renewable fuels industry, and public health advocates to develop consensus support for the nationwide use of ethanol and biodiesel. I am proud of our members and their policies that have led the way towards a sound future for domestically produced, clean alternative fuels. It is vital that our farmers and ranchers participate in the solutions that will help revitalize our rural communities, and improve our national energy security and air quality.

We believe the future of the ethanol and biodiesel industry depends upon the construction and operation of facilities throughout the Nation, such as the biodiesel production facility that the president visited recently in rural Virginia.

We recognize that previous attempts to pass comprehensive energy legislation have been hindered by the debate over liability protection for the makers of the fuel additive MtBE. It is critical that Congress establish a means of ensuring that past and future MtBE contamination is cleaned up, without creating new financial burdens for states and municipalities.

Finally, Mr. Chairman, and members of the committee, I would like to explore with you at some later date the concept of a Strategic Renewable Energy Reserve, based on the model of the Strategic Petroleum Reserve. We feel that in order to stimulate and protect the growth of a robust RFS, it would be strategic that a limited, renewable energy commodity reserve be established to defend the economic feasibility of a national renewable fuels program. It seems logical to us that at some point we should stabilize the availability of affordable energy feed stocks for an expanding RFS, and in our proposal, this renewable commodity feed stock reserve would be isolated from the traditional, commercial agricultural market. We'd be glad to brief you and your staff on this matter at any convenient time.

A strong, robust, and environmentally sound national Renewable Fuels Standard will allow and encourage the expansion of renewable energy resources from agriculture that will reduce our dependence on foreign oil, be an integral part of a national energy plan, provide enhanced environmental benefits and, importantly for producers, boost farm income in both the short and long-term.

We continue to be committed to working with you as the House and Senate considers energy legislation in the coming weeks to see that these provisions become law, and thank you for the opportunity to share these priorities with you.