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FUNDAMENTALS AND FARMING: EVALUATING HIGH GAS PRICES AND HOW NEW RULES AND INNOVATIVE FARMING CAN HELP

HEARING

BEFORE THE

COMMITTEE ON AGRICULTURE, NUTRITION AND FORESTRY UNITED STATES SENATE

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FUNDAMENTALS AND FARMING: EVALUATING HIGH GAS PRICES AND HOW NEW RULES AND INNOVATIVE FARMING CAN HELP

Wednesday, March 30, 2011

UNITED STATES SENATE,
COMMITTEE ON AGRICULTURE, NUTRITION AND FORESTRY,
Washington, DC

The Committee met, pursuant to notice, at 10:30 a.m., Room SR–328A, Russell Senate Office Building, Hon. Debbie Stabenow, Chairman of the Committee, presiding.

Present or submitting a statement: Senators Stabenow, Klobuchar, Bennet, Roberts, Johanns, Grassley, and Thune.

STATEMENT OF HON. DEBBIE STABENOW, U.S. SENATOR FROM THE STATE OF MICHIGAN, CHAIRWOMAN, COMMITTEE ON AGRICULTURE, NUTRITION AND FORESTRY

Chairwoman STABENOW. Well, good morning and welcome to the Senate Agriculture, Nutrition and Forestry Committee. We are going to get started. We know we have other colleagues that are going to be joining us but we want to make sure we have as much time as possible to hear from witnesses. We thank you all for coming and to have an opportunity to ask questions.

We are here today to discuss an issue that affects everyone, all Americans, especially farmers and middle-class families across America. The high, volatile price of gasoline and diesel fuel and the role that new rules and American farmers are playing to address this problem.

We have seen reports that as many as 600,000 jobs could be at risk because of these recent spikes in gas prices. Certainly in Michigan as well as across the country, high prices are squeezing farmers. They are squeezing our middle class families, who live on tight budgets. When they pay more for gas at the pump, it is only logical that it means less cash in their pockets and less ability to purchase things that their families need.

When businesses pay more for fuel, they are unable to hire and retain employees which is a dangerous place to be in a very fragile economic national economy. A number of questions remain about what is causing these spikes. And that is why we are here today.

Certainly, supply and demand play a significant role, but we also know it is not quite as straightforward as that, which is why I have asked the Energy Information Administration to appear before us today to focus on what is happening.

We also know that what goes on in the markets plays a role, and we need to discuss the significance of that role, which is why we put in place tough new rules to stop abuses and manipulation; and I want to make sure that the CFTC has the tools and resources it needs to protect American consumers from oil prices that are out of line with market fundamentals.

But despite all the questions and the complexity surrounding the price of oil, the one certainty that there is in the marketplace is that oil prices are volatile which poses a real danger, again as I said, to our economy which is what we are extremely concerned about.

That is why we will hear about how America's farmers can help reduce our dependence on foreign oil. We need a real American energy policy, and agriculture has a very important leadership role to play and what more they may be able to do in the future to help us create that American energy policy.

Biofuels are the pioneers as we work toward a future where we have real alternatives to foreign oil, but there is much work ahead of us and a strong need for more innovation to diversify biofuel supply.

Our country cannot afford to lose another 600,000 jobs because of spiking fuel prices. This Committee stands ready to continue to do what we can to support American agriculture, our farmers, as we create alternatives to foreign oil and we will continue to work on real solutions. The oversight that is needed using the tools that the CFTC has been provided to bring relief to farmers and families.

So again, welcome to all of you and I turn now to my good friend from Kansas, our ranking member, Senator Roberts.

STATEMENT OF HON. PAT ROBERTS, U.S. SENATOR FROM THE STATE OF KANSAS

Senator ROBERTS. Madam Chairwoman, thank you very much. With apologies to my colleagues and all present, I am not as sick as I sound but I do have a cold.

I want to thank you for holding today's hearing and to our witnesses for taking time out of their valuable schedule for appearing before our Committee to help us provide insight on this important issue that you have so aptly described.

In particular, I want to thank Stan Townsend, who is from Weskan, Kansas, for traveling all this way, and I emphasize all this way, to give us a producer's perspective as of this morning which I think will be very helpful.

Stan and his family operate farm ground that has been in their family since 1875. He will tell you more about their experiences later, but I think it is important for this Committee to hear what he has to say.

Madam Chairwoman, whether it is powering our homes or fueling farm equipment or filling up our cars at the pump, the price of energy, as everybody knows, directly impacts the cost of goods and operating expenses for American producers.

While this hearing will examine energy costs under the purview of our jurisdiction, it is important we do not overlook the main factor of impacting gas prices, and that is the factor of global supply and demand.

With roughly 70 percent of the price of gasoline and diesel contingent on the price of crude, it is easy to understand that any fluctuations in global supply and demand of crude is the most important factor determining what consumers pay at the pump.

We can recall from 2008 and 2009, just a few short years ago, a weakened global economy drove down the demand of crude by almost 2 million barrels of oil per day, and the prices bottomed out at roughly $30 per barrel, and about a buck fifty at the pump. Increased demand and recent instability in the Middle East has again placed uncertainty on that global supply of crude.

For too long, our country has been overly reliant on foreign supplies of petroleum. That is probably the understatement of my statement. In my state, the oil and gas industry supports over 119,000 jobs and contributes $14 billion annually to the Kansas Gross State Product.

We must be careful not to pursue policies counter to this type of job creation. I realize we have job to do but let us not do anything that would run counter to this kind of contribution, not only in Kansas but in every oil and gas state.

I understand the President will be offering some remarks this morning on energy as well, and I know that he will probably follow up on what he said earlier this month while speaking in Brazil at a business summit where he explained how the U.S. is eager to help expand the Brazilian offshore oil development.

I think it is rather a paradox of enormous irony that with an estimated 86 billion barrels of oil reserves within the U.S., the outer continental shelf, that the President would be offering up technology and support for competitors abroad while all the while we here have real problems with production here at home.

I do not offer that in a pejorative way or a partisan way. I think it is just a fact.

This Committee does not have jurisdiction over the federal policies that play the largest role in the energy prices but we sure can have a positive impact in three key areas already gone over by the Chairwoman.

First, this Committee oversees the CFTC, the "cop on the beat" in the futures market. And Mr. Berkovitz is here today to tell us how they monitor the markets while allowing liquidity to flow.

Second, as Mr. Broin and Mr. Dale will tell us, agriculture is leading the way in the domestic production of alternative energy. And finally, and more fundamentally, U.S. producers like Mr. Townsend and his family continue to contribute to global stability by supplying our Nation and a troubled and hungry world with low cost, high quality food and fiber necessary to survive.

As the Agriculture Committee, we must not only understand this point but advocate on its behalf. Global hunger leads to instability in regards to any political situation all around the world.

Many times that instability occurs in areas of the world from which we rely on for the oil production. The more the U.S. farmer and rancher can do to reduce global hunger, the less pain at the pump we will all feel. There is a connection.

Madam Chairwoman, it is my hope that we all learn from these witnesses and begin moving away from the rhetoric and toward

comprehensive agriculture and energy policies that help stabilize rising fuel prices.

Chairwoman STABENOW. Thank you very much, Senator Roberts.

I want to just in welcoming all of you and I will introduce all of you and ask members to include opening statements in the record in the interest of time but I do want to indicate as, Mr. Townsend, I am getting a little feel for what it takes to get here from Kansas as Senator Roberts and I are setting up our first field hearings and we are trying to figure out, there are no direct flights to Wichita I just have found out. We need to work on that, Senator Roberts. We need to figure that one out.

Senator ROBERTS. Madam Chairwoman, I am not too sure there are any direct flights from Weskan to anywhere.

Chairwoman STABENOW. We need to work on that, too.

First, let me introduce all of our panelists. Dr. Richard Newell, we thank you for coming. Dr. Newell is the Administrator of the Energy Information Administration. Dr. Newell is responsible for collecting, analyzing, and disseminating independent and impartial energy information to help us make sound policy decisions. We welcome you.

Dr. Newell is currently on leave from his position with the Gendell Associate Professor Energy and Environmental Economics at Duke University's Nicholas School of the Environment. So we welcome you.

Dr. Dan Berkovitz is general counsel at the Commodity Futures Trading Commission. Previously, he served as counsel to the Senate Permanent Subcommittee on Investigations, chaired by my good friend, Senator Carl Levin.

In his capacity, Mr. Berkovitz led several major investigations into energy markets including the role of speculation and the trading of natural gas and crude oil contracts. And so we welcome you.

Senator Roberts, I do not know if you had anything more. I know you have introduced Mr. Townsend but I do not know if there is anything more you would like to say.

Senator ROBERTS. Just a few comments, Madam Chairwoman.

Chairwoman STABENOW. Yes please.

Senator ROBERTS. We are extremely fortunate to have on today's panel Stan Townsend, who is a producer from Weskan, Kansas. Weskan is about five miles from Colorado. I will tell my colleague.

Chairwoman STABENOW. All right.

Senator ROBERTS. And five miles away from being represented by you, sir. But in any rate about 15 miles away from the——

Senator BENNET. That is unfortunate.

Senator ROBERTS. Right.

[Laughter.]

Senator ROBERTS. Weskan is about 15 miles away from Mount Sunflower, which is our State's highest point of elevation. I am sure all of you are aware of Mount Sunflower and the wonderful skiing that we have there.

The trick is not to climb Mount Sunflower. The trick is to find it. I did that on the second time around to show my staff Mount Sunflower, and I think Stan would get a kick out of this.

We went too far. I did not think we did but we did. Then we saw a farmer in a truck coming down a gravel road the other way. We

stopped. My driver said how would you like to meet Senator Pat Roberts. He is your Senator.

And he said, "Well, I know you, Pat, but you are not my Senator. You are on Colorado."

[Laughter.]

Senator ROBERTS. So I appreciate Stan for coming all this way and taking time away from his operation because he is very busy, and his family, to provide us with an in-the- field account of the effects of high energy cost on our producers. He is a sixth generation farmer with corn, wheat, livestock, and fennel beans in their operation. To diversify their production, they also package and market their beans.

Townsend farms is unique in that some of their farm land has never been farmed by anyone other than a Townsend, dating clear back to 1875, and it takes a lot of work to keep any amount of land in one family for that long.

As he told me yesterday, you have to manage risk. You have to adapt to changing market conditions, and perhaps importantly, lay a proper foundation so that those who follow you can be successful.

I know, Stan that we can learn a lot from that message, and I thank you for being with us today.

Thank you, Madam Chairwoman.

Chairwoman STABENOW. Thank you very much.

And now we have Jeff Broin with us. I believe Senator Thune would like to make the introduction.

Senator THUNE. Thank you, Madam Chairwoman and Senator Roberts. I want to thank you for holding today's hearing on how increasing energy prices are impacting farm and ranch families across this country.

And I want to welcome Jeff Broin, who is the CEO and president of POET, which is based in Sioux Falls, South Dakota. Jeff and his family have been pioneers in the energy industry since 1987.

Jeff turned a small ethanol production facility in Scotland, South Dakota, which I think may be even small than Weskan, Kansas, he has turned that into the world's largest producer of renewable fuels. With 1.7 billions gallons of production capacity, Jeff and his team at POET continue to move the biofuels industry forward toward more efficient corn ethanol production and next generation cellulosic ethanol product.

I can attest to my colleagues on the Committee that POET is looking well beyond the corn belt, sees the potential for cellulosic ethanol production in every state, and I am very pleased that Jeff was able to join the rest of our witnesses this morning in discussing how we can lower energy costs for all of our agricultural producers.

Thank you, Madam Chairwoman, and Jeff welcome.

Chairwoman STABENOW. Thank you and welcome.

And last, certainly not least, Professor Bruce Dale. We were talking just before the meeting. This is your third time before the Committee testifying, and so welcome back.

Bruce Dale is professor of chemical engineering at Michigan State University, my alma mater. So I am very proud of you and your work and, of course, what is being done at Michigan State.

He is also the Associate Director for the Office of Bio-Based Technologies. Professor Dale's research and professional interests lie at the intersection of chemical engineering and the life sciences.

I want to thank you for really being a pioneer as we focus on cellulosic ethanol and other important areas. Specifically, I know you are interested in the environmentally sustainable conversion of plant matter to industrial products, fuels, chemicals, materials while meeting human and animal needs for food and feed.

So we welcome you. We welcome all of you and thank you for being here.

Dr. Newell, we will start with you.

STATEMENT OF RICHARD G. NEWELL, PH.D. ADMINISTRATOR, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, WASHINGTON, DC

Mr. NEWELL. Madam Chairwoman, I appreciate the opportunity to appear before you today. The Energy Information Administration is the statistical and analytical agency within the U.S. Department of Energy. EIA does not promote or take positions on policy issues and has independence with respect to the information and analysis we provide. Therefore, our views should not be construed as representing those of the Department of Energy or other federal agencies.

Starting with a high overview of the linkages between agriculture and energy, EIA estimates that energy use on farms accounts for about 1 percent of total U.S. energy consumption. In addition to direct farm use of energy, agriculture is indirectly affected by energy requirements in the fertilizer industry.

Agriculture also has an important current and potential future role as an energy supplier. Ethanol use in motor fuels has grown from 1.7 billion gallons per year in 2001 to an estimated 13.2 billion gallons per year in 2010. Other important energy supply opportunities for agriculture include biodiesel, energy sourced from farm wastes and the siting of wind turbines on farms in areas with attractive wind resources.

Turning to the near-term outlook for oil, gasoline, diesel and ethanol markets, EIA expects continued tightening of world oil markets over the next two years, particularly in light of recent events in North Africa and the Middle East, the world's largest oil-producing region.

Our latest forecast issued earlier this month projects that regular gasoline at the retail pump will average $3.70 per gallon this summer and $3.56 per gallon for the entire year, which is about $0.77 per gallon higher than last year's level. On-highway diesel fuel retail prices which averaged $2.99 per gallon in 2010, are expected to average $3.81 per gallon in 2011. There is significant regional variation in gasoline prices and also significant uncertainties surrounding these forecasts as discussed in my written testimony.

While ethanol production has increased nearly eight-fold since 2001, EIA expects slow growth in ethanol production over the next two years, with forecast production of 13.8 billion gallons in 2011 and 14 billion gallons in 2012, about 9.9 percent of the forecast volume of gasoline sales in those years. Until recently, federal regula-

tions limited the percentage of ethanol that could be blended for use on all gasoline powered vehicles to a maximum of 10 percent.

EPA, the Environmental Protection Agency, recently granted waivers for fuels containing up to 15 percent ethanol for use in model year 2001 and newer vehicles and there has been long-standing approval for the use or E85 gasoline blended with 85 percent ethanol in vehicles specially designed to accommodate that fuel. However, EIA expects slow market growth for E15 and E85 over the next two years for reasons again discussed in detail at my written testimony.

Turning to a longer-run prospective, EIA projects that biofuels use will continue to grow to 24 billion ethanol-equivalent gallons in 2022 and 39 billion gallons in 2035, contributing to an expected reduction in the role played by imported oil in meeting U.S. energy needs. Assuming no changes in existing laws and regulations, the net import share of the U.S. liquid fuels supply, which was 60 percent in 2006 and 49 percent in 2010, falls to 43 percent by 2035. As discussed in my written testimony, future policy changes, notably those involving fuel economy standards for cars and light trucks beyond the 2016 model year, could significantly alter this projection as could other factors.

The final topic in my testimony is the interaction between physical and financial markets for energy. EIA's traditional coverage of physical fundamentals such as energy consumption, production, inventories, and spare production capacity continues to be essential. But under our energy and financial markets initiative, EIA is also assessing other influences, including linkages between energy spot prices, energy derivative markets, other commodity markets, broader asset markets, and exchange rates as we seek to fully understand energy price movements.

My written testimony discusses the correlations we have observed over the past few months and how they can be interpreted and contrasted to those during recent past periods of rising oil prices.

Madam Chairwoman, members of the Committee, this concludes my testimony and I would be happy to answer any questions.

[The prepared statement of Mr. Newell can be found on page 54 in the appendix.]

Chairwoman STABENOW. Thank you very much.

Mr. Berkovitz, welcome.

STATEMENT OF DAN M. BERKOVITZ, GENERAL COUNSEL, COMMODITY FUTURES TRADING COMMISSION

Mr. BERKOVITZ. Good morning, Chairman Stabenow, Ranking Member Roberts and members of the Committee. I appreciate the opportunity to testify today regarding the Commodity Futures Trading Commission's regulation of derivatives markets. The mission of the CFTC is to ensure the integrity and transparency of derivatives markets.

With the passage of the Dodd-Frank Act, the CFTC's mission now includes the regulation of the swaps market in addition to the futures market. Like futures, swaps can include physical commodities such as wheat, corn, oil, and gasoline as well as financial commodities.

The CFTC strives to ensure that the markets within this jurisdiction are transparent and free from fraud, manipulation, and abusive trading practices.

The CFTC also seeks to ensure that the transactions within its jurisdiction do not pose systemic risks. The CFTC fulfills its statutory mandate through market surveillance, industry oversight, and enforcement.

In carrying out its responsibilities, the commission relies, in part, upon industry self-regulatory organizations such as the futures exchanges themselves to monitor trading and enforce compliance with trading rules and position limits. Ultimately, however, it is the commission that is responsible for the enforcement of the statute and its regulation.

As part of its surveillance function, the commission routinely collects and analyzes position reports that are required of large traders in the futures markets. These reports and other surveillance data allow the commission staff to see accumulating positions that may be disruptive of fair and orderly trading, to act to prevent such disruptions and, where appropriate, enforcement action.

Since fiscal year 2008, the commission has collected just over $236 million in civil penalties imposed in enforcement actions. Recently, the commission has seen an increase in the number of fraud cases, including Ponzi schemes. Since October of 2008, the commission has filed a hundred enforcement cases for fraud.

The Dodd-Frank Act repealed provisions of the law that prior to Dodd-Frank restricted the commission's authority to regulate the swaps market, including provisions which specifically related to the energy markets.

Under Dodd-Frank swaps dealers and major swap participants are required to register and are subject to capital and margin requirements, record keeping and reporting requirements, and business conduct standards.

The CFTC is directed to determine which swaps should be required to be cleared and swaps that are required to be cleared also must be traded transparently on swap execution facilities or designated contract markets. Non-financial end users hedging or mitigating commercial risk are exempt from the clearing and trading requirements.

The Dodd-Frank Act expands the CFTC's surveillance capabilities by requiring the reporting of basic data about each swap transaction to either the CFTC or a swap data repository.

The Act also provides the public with increased transparency in the swaps market. The Act directs the commission to establish speculative position limits as appropriate for futures contracts and economically equivalent swaps for agricultural and energy commodities. It also requires aggregate limits for these commodities.

This January the commission proposed a rule to implement these provisions. The comment period closed this Monday, March 28.

Dodd-Frank extended the commission's anti-manipulation authority to cover swaps. The Act further provides the commission with new anti-fraud authority as well as new anti-manipulation authority.

The Act also includes new prohibitions on disruptive trading practices, new protections and potential monetary recovery for

whistle blowers, a prohibition of the trading on the basis of non-public information obtained from the federal government, and authority to prevent evasions of the Act's provisions.

The Act also provides the CFTC with new authority to register foreign boards of trade that provide direct access to traders in the United States.

The CFTC is in the midst of the rule-making process with respect to many of these authorities. The CFTC has encouraged public comment on all of its rule-makings and is evaluating the comments it has received so far.

With respect to the CFTC's budget, the President's budget proposes that $308 million be appropriated for the CFTC for fiscal year 2012. This funding level is the estimated amount the agency needs to perform its responsibilities for its continuing oversight of the futures and options markets and in beginning to oversee the swaps market.

The CFTC's resources are primarily for staff and technology. The budget for 2012, the request is for $666 million for technology. This level of funding is necessary for the CFTC to be able to upgrade and expand its technology capabilities, to handles its new data and responsibilities under Dodd-Frank.

Thank you for this opportunity to address the Committee. I would be happy to answer any questions.

[The prepared statement of Mr. Berkovitz can be found on page 34 in the appendix.]

Chairwoman STABENOW. Thank you very much.

Mr. Townsend, welcome.

STATEMENT OF STANLEY R. TOWNSEND, ON BEHALF OF THE KANSAS FARM BUREAU, TOWNSEND FARMS, WESKAN, KANSAS

Mr. TOWNSEND. Good morning, Chairman Stabenow, Ranking Member Roberts and members of the Senate Agriculture Committee. I appreciate this opportunity to testify this morning about the role of energy prices and production on my operation. My fellow panelists have a broad range of experience in the development and regulation of energy.

I am here today as a member of the Kansas Farm Bureau to give the Committee my perspective on the impacts of energy prices in the field and the management practices my family employs to mitigate costs and manage risk.

Kansas Farm Bureau represents nearly 40,000 farm and ranch families across our diverse state who live, raise their families, and earn a living in these challenging economic times.

My name is Stan Townsend. I have the privilege to have married my sweetheart of 31 years and have two grown and married daughters and four grandsons from 4 to 11 months. We are a sixth generation farm.

Some of our operation consists of ground that has never operated by anyone other but a Townsend, some dating back to but the patent from the U.S. Government. That was prior to a deed to be given.

Currently the seventh and eighth generations of our family are helping on the farm and growing up with it as we raise corn, wheat and pinto beans, and we have a small feedlot that consists of 999

head capacity. It seems that today many businesses face increasing margins due in a large part increasing fuel costs and inflation.

Farming has not been spared this scenario. Investors view land as a potential safe haven resulting in land values that have increased 50 percent from just a short time ago. In 1988, maybe not a fair year to compare but this is when I started on my own, a new tractor was $41,000. That tractor today is $281,000. Chemicals we used then were $7 per acre. Today they are $30. NH3 fertilizer costs have doubled since prepay in December of 2010 although natural gas prices have not. It is decoupled and it is a concern of the inflationary things going on there.

Inconsistent input costs, even when coupled with high demand and high prices for our commodities, require us to strategically plan for the future through diversification and solid marketing. That strategy is especially true when it comes to petroleum-based products.

Bulk diesel today costs nearly 14 times what it did in 1988. That reality has a significant impact on our operation which relies heavily on trucking to transport our product. Those freight costs have doubled in the last year specifically related to increasing fuel costs.

There are segments of our society that seek to disparage the development of the ethanol industry and point to the price of corn as a result of development and then as the sole reason for increased costs at the grocery store. In reality, as a livestock producer, I understand the impact of the increased corn prices. That is part of the reason we produce the corn we do.

It allows us to feed our stock without entering the market to purchase that feed. Ethanol has also provided the industry with the unique opportunity to incorporate the use of high quality DDGs into our feed cycle. Using the product is one of the many ways we can mitigate our costs and remain profitable. In fact, estimates show that up to 60 percent of original corn inputs can be returned as DDGs.

We also frequently fail to realize the benefits of ethanol at the gas pump. Without its inclusion in our fuel mix, each of us would face gas prices 40 to 60 cents higher at the pump. One of our nontraditional attempts to diversify our operation is packing and marketing our pinto beans.

This effort provides our operation a direct connection between the farm and the grocery store consumer. It also offers a unique perspective on the true culprits in the increasing cost on the food supply.

Again, the answer can be found in the input costs of petroleum-based products. Our one pound packages of dryable beans contain 8 cents in the packaging film, 20 cents in trucking, and 30 cents that the farmer splits with the processor. Yet another example of the very tight margins across our family operation.

At this point I would be remiss if I did not mention the litany of regulatory costs that directly impact our operation. From environmental regulation to tax paperwork, we spend countless hours in compliance with the latest efforts of our government.

Recently, we have become concerned about the impact on our operation, providing health insurance reform documentation, W–2 re-

porting. Anybody that gets a W–2 we are going to have to produce insurance for.

My family has been sustained by this land for six generations or 130 years. We have endured drought, hail, whatever the debacle of that particular generation might have been.

Beginning in 1873, Townsends left up-state New York and took a risk and headed west. On the Welsh side of our family, their presence in the Great Plains dates to the Cheyenne Indians of which my grandmother was a member. This farm is my home and my livelihood.

I only have to look into my grandsons eyes to be reminded of my duty to ensure that my indebtedness or bad decisions does not impact their future on this land. I continue to hope that our generation will learn that lesson and apply that knowledge to our government. The future of the next great generation is at stake. Thank you. Any questions.

[The prepared statement of Mr. Townsend can be found on page 68 in the appendix.]

Chairwoman STABENOW. Thank you very much. We appreciate that very much.

Mr. BROIN. Welcome.

STATEMENT OF JEFF BROIN, CEO of POET, LLC, CO-CHAIRMAN OF GROWTH ENERGY

Mr. BROIN. Chairwoman Stabenow, Ranking Member Roberts, and members of the Committee, thank you for the opportunity to testify today. My name is Jeff Broin, and I am CEO of POET.

Our 27 plants are spread across rural communities in seven states and produce 1.7 billion gallons of ethanol and about 9 billion pounds of animal feed each year. Gas prices are increasing and I applaud the Committee for testing this issue.

A recent summary of several studies concluded that ethanol keeps U.S. retail gasoline prices about $0.17 per gallon lower. That translates into an annual savings of $100 per driver or $24 billion for all U.S. drivers.

The solution to keep gas prices lower for American motorists is to have an alternative to gasoline. That alternative is available today in home-grown renewable ethanol. But to realize this opportunity we must reform existing policies, allow competition and see beyond RFS, because today an artificial blend wall limits ethanol to 10 percent of the fuel supply.

We are exporting affordable American ethanol while importing more expensive foreign oil. There is also more than $1 billion of American assets sitting idle, ethanol assets, that could be providing American fuel and creating American jobs. Why are gas prices high? This is one reason.

Fortunately, the path for breaking through the blend wall is clear and early steps have already been taken. Based on overwhelming scientific data, the EPA approved blends of 15 percent ethanol, E15, to use in vehicles to 2001 and newer.

The certification process must be completed before drivers can use this fuel. I hope the Senate will block any attempts to deprive consumers the choice of E15.

The next step is Growth Energy's fuel freedom plan that will gradually scale back the ethanol tax credit and for a limited time redirect those funds toward blender pump installation. Add to that a low-cost flex vehicle requirement and allow ethanol pipelines access to loan guarantees.

With those elements in place, the oil would no longer enjoy exclusive access to 90 percent of the fuel supply. The best way to lower prices for consumers is to allow ethanol to compete with oil in the marketplace.

Beyond that, what all the industry will need is simple stability. With your support, the ethanol industry can help make oil price spikes a concern of the past.

Let me tell you about what POET is doing in another exciting area. Cellulose or more challengingly corn to convert into ethanol represents even a larger opportunity because it is the most common organic compound on earth.

Today, after more than a decade of steady process, POET has an operating pilot facility producing cellulosic ethanol from corn cobs and light stover.

Our first commercial project, Project Liberty, which is scheduled to start production late next year, will create 300 jobs and launch an industry that will create almost 90,000 direct jobs by meeting minimum targets in the RFS.

In the future, we plan to produce cellulosic ethanol from things like Georgian wood chips, Arkansas rice hulls and other sources of biomass that exist in all 50 states. But we cannot get there without stable government policy.

For example, to develop a biomass supply for cellulosic ethanol producers, Congress established Biomass Crop Assistance Program or BCAP to match bio-refinery payments to farmers up to $45 per ton in the first two years of production.

To the 85 farmers we contracted with for last fall's harvest, it was a sign of the country's commitment to cellulosic ethanol.

Earlier this year, legislation was introduced to eliminate BCAP just as the first payments were being made, casting doubt in the minds of many of those farmers. This uncertainty will make it more difficult to sign up the additional 200 to 300 farmers we need to produce commercial quantities of cellulosic ethanol.

Similar situations have had an impact on investors. Today, it is impossible to get financing for a cellulosic ethanol plant without a federal loan guarantee. I urge the Senate to continue funding for DOE's renewable energy loan guarantee programs.

POET has invested millions in developing our cellulosic technology, and construction of the facility is dependent on our pending DOE loan guarantee application.

Cellulosic ethanol can build on the accomplishments of grain ethanol, hold gas prices down, and make us less dependent on foreign energy. All we need is stable government policy.

Sustainable grain prices created by ethanol production helped U.S. farm income rise by 31 percent last year. That will be mirrored worldwide as farmers bring previously farmed land back into production because it is profitable for the first time in 50 years.

Stanford research shows one billion acres of vital crop land available for production, enough to feed and fuel the world.

In closing, I would like to emphasize that to keep gas prices lower we must create public policy stability and give ethanol the opportunity to compete with oil in the marketplace.

If we can accomplish this use for now, we will see that the emergence of the ethanol industry was an important turning point in our Nation and our world's history.

Thank you, and I would be happy to answer questions.

[The prepared statement of Mr. Broin can be found on page 43 in the appendix.]

Chairwoman STABENOW. Thank you very much.

Dr. Dale, welcome.

STATEMENT OF BRUCE E. DALE, PH.D., PROFESSOR OF CHEMICAL ENGINEERING, DEPARTMENT OF CHEMICAL ENGINEERING AND MATERIALS SCIENCE, MICHIGAN STATE UNIVERSITY

Mr. DALE. Thank you very much. I appreciate the invitation to be here today. As Senator Stabenow noted, this is my third experience testifying before this particular Committee. I first testified on biofuels when Senator Lugar chaired the Committee many years ago.

Between then and now we have made significant progress. We still have a long, long way to go. So I will be very frank and as honest as I know how to be. Unless we clearly understand our situation, we will not be able to solve the serious problems we face. I am going to start out by being quite sober but hopefully end on a more cheerful note.

So our economy depends very strongly on liquid transportation fuels, and that market is dependent almost completely in petroleum. The days of cheap, domestic oil are gone. No one should mistake this. Those days are gone, and they will not return. We burned up the cheap oil long time ago.

Likewise, the days of cheap foreign oil are rapidly ending. We are increasingly at the mercy of much more expensive oil, much more environmentally damaging oil, and much more insecure oil supplies. Not a pretty picture.

Three years ago, oil prices peaked at about $145 per barrel. Shortly thereafter, the stock market tanked, and we entered a severe recession. We ought to get the message. Every recession since the end of World War II has been preceded by increased oil prices. Oil prices are rising again and threatening to kill this fragile recovery.

So a very sobering scenario arises: high and volatile oil prices kill economic growth, sending us into recession which decreases oil prices somewhat, leading to a recovery in which demand for oil rises again, which recovery is killed again by rising oil prices. And with every such cycle, more and more of our national wealth disappears, making us less and less able to emerge from this vicious circle and achieve a more sustainable future. Again, not a pretty picture.

So what can we do to reduce our vulnerability to high oil prices and oil price volatility? We can and should decrease demand for oil by increasing fuel efficiency standards over time. We can and should increase domestic production of oil.

One way to do that is to combine carbon dioxide sequestration with enhanced oil recovery. But increased domestic oil supply is only a transition to get us to more sustainable, long term solutions. Increased oil supply cannot and must not be an end in itself because one day very soon that oil will also be gone, burned up again. No one should mistake this fact. And more fuel efficient vehicles will help, but they are also not enough. We require lots of sustainable liquid fuel if we are to continue our way of life.

Thus we need to increase production of oil alternatives, including biofuels. There simply is no way to a sustainable transportation sector without sustainable biofuels. I have worked for 35 years to help develop cellulosic ethanol, called second generation ethanol. Mr. Broin has discussed the corn ethanol industry, so called first generation ethanol.

That industry has received a lot of criticism, almost all of it unfounded. Corn ethanol is a much better product and much better for our economy and environment than most people realize. But my point is that a viable cellulosic ethanol industry will depend very strongly on a healthy, strong corn ethanol industry.

However, cellulosic ethanol has been essentially stalled, the commercialization essentially stalled for the past couple of years because of the blend wall that Mr. Broin has mentioned.

No one was able to move forward with cellulosic ethanol because there was no market for the additional ethanol, not because the ethanol is a poor fuel. It is an excellent fuel. But simply because we do not have the right vehicles and the right infrastructure to use all the ethanol we can produce.

So we should require that all new vehicles sold in the United States be flex fuel, and thereby give the consumers the real choice in the fuels they use. I encourage every Senator on this Committee to cosponsor The Open Fuel Standard Act in the 112th Congress.

And we need a lot more blender pumps so that infrastructure limitations are reduced. Since gas stations replace their pumps every ten years anyway, we should require that all newly installed pumps be blender pumps.

Ethanol and other renewable fuels have been criticized as mandates and contrary to free market principles. The folks who make these claims ought to know better. We already have a fuel mandate, and it is gasoline.

Worse than that, since we import 60 percent of our oil, the current mandate is effectively we fill up our cars with foreign gasoline. That is the mandate we have. Except for ethanol, we do not have fuel choice. And as for an open market, that is frankly ridiculous.

The current fuel system is a closed market in which only oil, mostly foreign oil, is allowed to compete. So some of the folks again who criticize the ethanol mandate, as they call them, also call for us to Buy American. I agree with them. We should open our fuel markets.

If we do not open our fuel markets, I believe we are doomed to have high priced fuels and very volatile fuel prices probably provoking one recession after another after another.

Now the cheerful note that I promised. Okay. The Department of Energy and the Department of Agriculture are advancing cellulosic biofuels. I would like to mention in particular the Bioenergy

Research Centers funded by the Office of Biological and Environmental Research in the Department of Energy.

These Centers bring together a large cross section of expertise to help provide how the integrated, fundamental understanding, a Manhattan Project, if you will, is critical large scale cellulosic biofuels. Without such a large, integrated effort, Manhattan Project progress is much slower or may not happen at all. So even in a time of tight budgets, we must press forward with research and development on cellulosic biofuels.

I am going to tell you one story and then I am done. I am fortunate to be able to participate actively in one of these Centers, specifically the Great Lakes Bioenergy Research Center, called the GLBRC.

In just a few years in the GLBRC, we have greatly improved our understanding of how to develop sustainable, large-scale cellulosic biofuels.

For example, many people question whether we can actually have a large-scale biofuels industry without causing food shortages or environmental devastation.

With GLBRC, my research group looked at how we could innovate in agriculture to provide large-scale cellulosic biofuels, ample food, and big environmental improvements.

The answer turns out or an answer at least turns out to be quite simple, grow a lot of double crops. Using about 300 million acres of crop land which is 70 percent roughly of our crop land, we analyzed what would happen if we planted double crops on about one third of our corn and soy land.

We found that by doing this one simple thing we could produce about 100 billion gallons of ethanol, roughly the amount of gasoline we import, provide all the food and animal feed the land currently produces, improve soil quality and biodiversity and reduce total U.S. greenhouse gas emissions by 10 percent, a very pretty picture, at last a win-win-win for national security, economic security, and climate security.

So I am confident that if we open our fuel markets to real competition, end the current mandate for foreign gasoline, and promote agricultural innovation, we can exchange our current precarious and expensive fuel situation for one that is both economically and environmentally attractive.

Thank you.

[The prepared statement of Mr. Dale can be found on page 50 in the appendix.]

Chairwoman STABENOW. Thank you very much and thank you to all of you for your testimony.

As we all know, the Committee's purview is very broad both in terms of advocating and supporting American agriculture, including our energy policy on biofuels, et cetera, and also overseeing the markets, and certainly under Dodd-Frank and the new efforts, new requirements under CFTC focusing on the swaps markets.

The reason for bringing all of you together today is that it really does fit when we are thinking about oversight in terms of what we need to be doing to make sure that there is not excessive speculation and manipulation in the marketplace but at the same time

what can we do to get off of foreign oil and be able to create real alternatives both to bring down costs as well as create jobs.

But let me start, Mr. Berkovitz, with you from the CFTC stand point because one of my real concerns is the fact that in passing the new law, the expectation was that it would take extra resources, new resources at least in the short run to be able to implement, to be able to get the rules in place, be able to do the oversight that is necessary.

And unfortunately we have seen nearly a 60 percent cut from what you indicated was in the President's budget that has come from the House of Representatives; and when we look at what that would do, I guess that really is my question.

If we are serious about the policing the markets that impact the daily lives of all of us, of farmers, of families, how would these cuts impact your enforcement division and the ability to police the markets, and when you layout the tools that are now available to you to be able to bring transparency and accountability and oversight?

I am concerned as to which of the new tools would the CFTC be unable to use at the funding levels that we are now seeing discussed and what are the risks to farmers and businesses and consumers if you are not able to use the accountability and oversight power that you have been given.

Mr. BERKOVITZ. Thank you for the question, Madam Chairwoman.

As I mentioned for fiscal year 2012, the President's budget request is $308 million. For fiscal year 2011 which we are operating in, it was $261 million. Under the continuing resolution, we have been operating at the fiscal year 2010 levels, continuing in 2011, of $168.8 million.

Under H.R. 1, which would take us back 2008 levels, the overall funding level would be, for the entire fiscal year of 2010, the year we are in, about $112 million. To get to that overall funding level, the agency has calculated that we are currently staffed at about 670, 680 employees. Under H.R. 1, we would have to lay off about 440 of our current employees so that would be

Chairwoman STABENOW. What does that mean for us that are all very concerned about this economy, very concerned what is happening on gas prices, on diesel fuel prices and so on, and what is happening in the marketplace and the fact that supply and demand cannot account for what is going on here.

As we have been hearing, that, in fact, usage is going down and yet prices are going up. I mean, what does this mean for the average person in terms of what you are able to do through the CFTC and what you are not able to do?

Mr. BERKOVITZ. At that level with that kind of reduction, we would not be able to fulfill the mandate that Congress has provided to us to effectively oversee the markets as Congress has directed.

Chairwoman STABENOW. Thank you.

Let me move to another type of question and ask Dr. Dale and Mr. Broin if we have time here to talk about cellulosic biofuel production. And I know, Dr. Dale, you and I have been meeting and talking about this for years.

We, in the last Farm Bill, put in the cellulosic ethanol tax credit and have been talking about where we can go on a commercial scale for a long time. And I know you have been working on that.

My question is when will we, do you believe, really be able to see large-scale quantities of biofuels in the marketplace coming from a wide variety of feed stocks; and then, secondly, under the 2007 USDA/Department of Energy study, they stated that we have the potential to produce 1.3 billion tons of cellulosic biomass per year which would displace about 65 percent of our oil consumption.

So obviously if we can get there and we can get there quickly, this would make a big difference. So I am wondering what do we need to do at this point?

Mr. DALE. Thank you. I will try to respond from the back to the front. Actually I think the USDA/DOE estimate of 1.3 billion tons is probably conservative. I think we probably can have more than that. A paper that I had left for you folks will indicate some ways to do that, particularly the cover crop approach.

Secondly, as to when we, and I do not want to dodge the question, but I want to be very frank again, as to when we will do this. We will do it when we choose. It is not so much a matter of technology. The technology is coming along as Mr. Broin has pointed out.

We will do this when we choose to open our fuel markets, when we provide stable policies that allow alternatives to petroleum to go up, and when we continue to support the necessary research and development to make this industry happen. It is more a matter of what we choose, Senator. I really believe that. It is a matter of our policies, our choices as individuals, as a society how fast we get to alternatives.

Chairwoman STABENOW. Thank you. I think in the interest of time as chair I want set a good example. My five minutes is up. So we will come back with a second round at this point and we can continue that discussion.

Senator Roberts, I will turn it to you.

Senator ROBERTS. Thank you, Madam Chairwoman. I think basically Mr. Dale said he needs more money.

Stan, you have highlighted the increased cost you have experienced over the years and most folks have no idea that a tractor can cost over $300,000. Yet many believe that the high commodity prices will taken up with the rising costs that you mentioned in terms of fuel, the input costs, all of that.

How do you manage these rising costs and keep your balance sheet in the black? How are you doing this?

Mr. TOWNSEND. Well, we have had a lot of practice. We went through ten years of drought from 1997 to 2007. My family has kept a history of weather. In 2002, we had two inches and seventy one hundredth, and that was the driest year in our recorded family history by seven inches.

We are currently having one of the driest springs we have had on record at this point in time. So we face tough conditions most of the time that kind of makes tough people.

We forward-contract. We prepaid our fertilizer into the December 2010, and those prices have doubled. If you could get 10340 today it would be $1000, and I do not think you can find it. They have

withheld the asset off of the market. So they have raised the product price to an astronomical level.

So it is just sheer practice. You learn it the hard way.

Senator ROBERTS. You have commented on the impact that energy prices have had on your farm. But you also mentioned that word that I have been hearing over and over and over again and I think every member of this Committee has, and that is regulations. Could you comment for this Committee how the cost of compliance with all of the government regulations that you face or all of the government regulations that you, there are some that you probably will face such that you are not aware of yet compared to these higher energy costs?

Mr. TOWNSEND. The thing that, the unfunded mandates, it affects all of us. One of the biggest ones right now is we have 36,000 gallons of fuel storage. We are having to build facilities.

There is some disagreement whether we have to have a $10,000 engineer per site or whether we can do that with a program that has been run on the Internet that shows the same thing that he would for $10,000.

The current one, of course, regulation of dust and spray nozzles and everything. Stay where your knowledge is at. In our country we raise the dust. There is nothing we can do about that.

We are spraying our crops. We are saving fuel. I have cut the hours on my tractors. Normally, prior to strip till and no till farming, we used to produce 1700 gallons of nothing but just waste oil. Now we are down to 300 gallons where our tractors run less hours, our equipment is bigger and we using more chemicals.

But we do not need to be regulated out for spray drift. We can control spray drift. We know what we are doing because if we drift on another farm we have to pay for that. There is a consequence.

So we try not to do those things.

Senator ROBERTS. And you also follow the label under FIFRA?

Mr. TOWNSEND. Yes.

Senator ROBERTS. All right. I really appreciate that.

I have about a minute I guess left to go. I am going to yield that time or add the time to Senator Johanns and then I have some other questions for the other witnesses.

Chairwoman STABENOW. Thank you very much.

We will first turn to Senator Bennet, and then I believe Senator Thune has left and so Senator Johanns will be next.

Senator BENNET. Thank you, Madam Chair. I want to thank you and the ranking member for assembling an excellent panel. Your testimony has been really terrific, and you should know that you have exceeded the bar of most of our Committees so thank you for doing that.

I also want to thank you for letting my two little daughters who have come today and they have been reasonably well behaved so I will thank them as well.

Mr. Newell, I wanted to start with you because there was, I think, in a period of very difficult political conversation over the last two years across the country and certainly in the State of Colorado, the one thing that people could rally behind no matter what town hall meeting they were in was the idea that we ought to

break our addiction to foreign oil, especially oil that we imported from the Persian Gulf.

I think, like the ranking member, I believe we need to move beyond rhetoric on this question and start to think about solutions to this problem in a way that will not disrupt our domestic economy.

I believe that rural America, rural Colorado may be the best place for the reasons Mr. Townsend stated to look, to gain an understanding of how vulnerable our addiction to oil makes us.

In rural areas where work can be 50 miles away from home and the mechanic 10 miles in the opposite direction, a fluctuation of just a few cents, as we have heard, in gas prices quickly can drive up the day-to-day cost of living.

It might mean choosing between driving to work and paying the heating bill or for a farmer it may mean running over budget even before getting seeds into the ground because the fields must be plowed regardless of the cost of fuel.

So I am glad this panel is here with a diversity of views on this. I wanted to ask you, Dr. Newell, because I know you have written extensively on energy policy options even before your tenure at EIA.

As you know, the DOE estimates that United States is between 2 and 3 percent of the world's oil reserves yet we consume about a quarter of the world's oil.

Since the price of oil is set on a world market, any new domestic development can easily be upset by a reduction of the output from OPEC which clearly creates an unsustainable arrangement situation.

I wonder what recommendations you have for Congress to reduce gas prices in the near term and in long term because in the near term, we know, and I come from a State with abundant wind, abundant sun, abundant natural gas, abundant biofuel production. But in 2004, the EIA analysis told us that opening up protected areas to new oil drilling might reduce gas prices in America by three to four cents, and those savings would not come until 2027.

So has there been a change in that estimate at all; and if not, what are your suggestions for how we do this in the near term?

Mr. NEWELL. Well, you correctly point out that the oil market is a global market. The United States is a significant consumer of oil. In terms of production of oil, the United States produces currently about 11 percent of the global liquids supply. So in terms of understanding the price impacts of particular actions that could be taken either on the demand side or the supply side is really important to put that in a global context.

The typical types of actions that are discussed are usually measured on the order of hundreds of thousands of barrels per day or, for major actions, maybe a million barrels per day which is a significant amount of oil for sure, but in the global market, which is close to 90 million barrels per day, these volumes tend to be a very small fraction and they tend to take place over an extended period of time.

Trying to identify a near-term price impact from actions that are a small increment of a global market is quite challenging. We typi-

cally see oil price fluctuations on a daily basis of 1 to 2 percent. Sometimes it is significantly greater than that.

So trying to separate the signal from the noise of these actions is very difficult if one focuses on prices.

Senator BENNET. What about over the longer-term?

Mr. NEWELL. Well, over the longer term, either policy actions or other market developments that reduce demand or actions that increase supply will both tend to point in the direction of lower prices.

The key question is what is the magnitude of the price change, which is going to depend upon the magnitude of the action-again put in a global context.

Any number of actions when added up across many different sources of supply or across many different sources of demand reduction will have an influence on market prices over a period of time. But again it is not just what occurs in the United States and it is not just what occurs from one individual action. It is really the aggregation of all these effects that will in the end determine global oil prices.

Senator BENNET. Thank you, Madam Chair.

Chairwoman STABENOW. Thank you very much.

Senator JOHANNS.

Senator JOHANNS. Thank you, Madam Chair, and I thank the ranking member for that courtesy. I appreciate that.

Mr. Townsend, loved your testimony. I can think of so many families back home in Nebraska who could talk like you do about just the very, very deep roots that they have laid down.

If your family survived this long, it means you survived the tough times of the dust bowl years. Anybody who can survive that has tough genetics in the background, in my personal opinion.

You talked about regulation, and I would like to focus on one aspect that I have been working on actually now for nearly a year and that is the 1099 requirement in health care bill. You even mentioned that, I think, in your testimony.

Give us a real life view of how that is going to impact your operation if you have to issue 1099s for all goods and services purchased over $600 during any calendar year. Just walk us through the mechanics of what challenges that is going to present to your operation.

Mr. TOWNSEND. I am going to take it to people. Our insurance provider in the paperwork we just filled out, one requirement was a W–2 or 1099 if we have to insure these part-time people. We have taken in several kids, and our goal is to teach them a work ethic.

Momma takes one and I take one. And through that time frame we try to teach them how to work, try to teach them management skills, teach them how to use the farm ground. There is any number of things. We just try to develop a better person.

If those kids become, even though they are at home, if we have to insure those individuals, that will put that into trouble with us because we are doing that for the kids. We are trying to build a better generation.

On the other side of it, we have part-time employees that come in. One of them we had to report worked for us for three weeks.

He had a job. He took his vacation and he helped us harvest. Would love to have him back, enjoyed it. But are we going to have to insure him as well?

So those questions I fear.

Senator JOHANNS. That deals with the actual insuring requirement. The requirement that I was referring to was the requirement that every time you make a purchase you would have to do a 1099 form. You would have to issue it to the IRS and to the vendor that you purchased from, and it is every purchase over $600.

How much paperwork is that going to cause you?

Mr. TOWNSEND. I probably in any given single day could make 20 purchases of at least that magnitude in any given day. So that would be an astronomical problem for me to keep track of.

Senator JOHANNS. On your operation, do you irrigate?

Mr. TOWNSEND. Yes, I do.

Senator JOHANNS. Center pivot or?

Mr. TOWNSEND. Yes.

Senator JOHANNS. What kind of engine? Is it electricity?

Mr. TOWNSEND. I use electric, natural gas, and diesel.

Senator JOHANNS. Okay. So you use all three. So in addition to the cost of fueling up the tractors, you have this additional cost.

Mr. TOWNSEND. Yes.

Senator JOHANNS. Mr. Broin, good to see you again.

Let me, if I might, ask you a question about ethanol. Been a supporter of ethanol for a long time, as you know. Supported it when I was Secretary of Agriculture. I can see the difference it has made in my State in Nebraska. It really has transformed the rural economy in many areas.

But the blenders credit, as you know, every time it comes up for renewal it just seems to be getting a tougher battle. You talked about, is there a point here where we start phasing that out and offering a tax credit or something to put the pumps in?

The more I have rolled that over in my mind it seems to me to be a wise policy to try to build that marketplace instead of relying on the credit because one of these times I am worried that we will not get that done.

Talk to me about how you think we could roll that out and how that would work. I would like to also just get your sense of how the ethanol industry would feel about that approach.

Mr. BROIN. Well, you probably are aware of the Growth Energy fuel and freedom plan. That is something we have been talking about where we would take our current incentive and take a portion of that and actually use that to build up the infrastructure, use that to build up the blender pumps.

We believe if we could get about 200,000 blender pumps put in this country in a five-year period which we think is attainable with those dollars, with some help for the people who have to put that in, and couple that with a requirement for flex-fuel vehicles, in addition to some government loan guarantees for pipelines because we need some pipeline infrastructure eventually here as well, that could make the difference and that would allow us to be head to head with oil.

The problem we have today is we are dealing with an industry that has a 90 percent monopoly. If we can truly open up that mar-

ket, the incentive becomes far less important to the industry. But today it is very important because we are competing in a marketplace where we are restricted to 10 percent of the market.

Senator JOHANNS. I will just wrap up and say you have caught my attention with that. I hope you will work with us, the ranking member and the chair. That they have some possibilities.

Thank you.

Chairwoman STABENOW. Thank you very much, and I do want to just mention for the record with the advocacy and hard work of Senator Johanns and many of us working on this 1099 issue, we are actually going to get this fixed. So you are not going to have to do that. That would take effect in January of next year, and I want to thank the Senator for his efforts on that.

Senator KLOBUCHAR.

Senator KLOBUCHAR. Thank you very much, Madam Chair. Thank you to all of you. I thought it was really good testimony, and I am just excited about some of the numbers we are getting out there on developing our own American energy, home-grown energy.

The North Dakota oil right next door to Minnesota, we see a doubling there of production since 2008. But most importantly in my State we see the value of biofuels.

I was really quite shocked myself, despite what I see in South Dakota, Mr. Broin, and Minnesota to know that we are now almost making as much biofuels as we import oil from Canada.

I think people do not quite understand what a major part of the market these home-grown fuels are and what the devastating effect would be if we suddenly pulled the rug out from under this industry.

And I guess my first question would be of you, Dr. Newell. There are proposals, and by the way I have a bill with Senator Johnson to ease down the VTECH issue and to acknowledge we are going to have to make changes there.

I appreciate Mr. Broin's testimony; but if we were to suddenly just get rid of any kind of support for ethanol as there is actually a motion now that would not even be in the context of a comprehensive energy plan where we maybe ease down that, do some things with oil to even the marketplace as well with oil subsidies, what do you think the effect would be on the marketplace?

Mr. NEWELL. Well, there are a number of different things that affect the production of ethanol, both market and policy related. There is the blender's credit for ethanol. There is the renewable fuels standard for ethanol, and then there is also the price of oil and gasoline with which ethanol is competing in the marketplace. So all of those things matter.

In terms of the blender's credit, right now the most important binding force on the level of ethanol production the renewable fuels standard as opposed to the blender's credit.

And so removing the blender's credit would not necessarily change the volume of ethanol significantly because, assuming that the renewable fuel standard was maintained, because it would continue to mandate that that happens.

But there is, even if both of those policies were removed, there would still be a level of ethanol particularly now that there has been significant capacity built that would be competitive given cur-

rent oil prices and the oil prices that we project. I would guess it would be smaller than what we currently see, given the renewable fuel standard and blender's credit.

But I do not think it would go to zero. Exactly what that amount would be, we have not done any specific analysis.

Senator KLOBUCHAR. A Chicago Tribune story, and I have asked other experts this, say that if we cease to produce ethanol, like if we just got rid of it, which by the way there are some of my colleagues that think we should do this, that the price would go up, if we ceased to produce the 14 billion gallons of ethanol that we make every year, prices would go up at the pump by as much as $1.40 per gallon. This would be if we eliminated it.

That is my concern, Mr. Broin, if we made some sudden change without any plan what do you think the effect would be on the industry?

Mr. Broin Without question, there would be some point in the near future where you would see production capacity curtailed and it would, I am sure, have an impact on prices.

There would be less fuel supply in the market which I assume would drive prices up. So it would have an impact.

Now, again, that is because we are competing with someone that has a 90 percent monopoly. If we can open up the market, that becomes a different discussion; but today we are competing against ourselves basically, competing against ourselves in a regulated market.

Senator KLOBUCHAR. Exactly. One of the things I often hear on the argument here is that the 25 percent, you know, that the oil companies are not really getting some sort of subsidy; but when you look at the breaks that they get for the taxes, I think it goes down from, like, 25 percent to 9 percent of what they are actually paying in taxes.

And it is hundreds of billions dollars that they have gotten over the years. So I think people have to remember that, that you are going against the tide here when you are going against a 90 percent monopoly.

Mr. Berkovitz, I just have a quick question. I talked to Mr. Gensler, Chairman Gensler, about the speculation issue, sent him a letter. We had a good talk this week.

I would just want to re-enforce the need to get these rules out. While I support a strong exemption for companies like everyone from Delta Airlines to Cargill that are legitimately hedging their bets on the prices, I am very concerned about the 60 percent of the speculators now that are out there for different reasons, and I wonder what the timetable you thought would be for getting these rules done.

Mr. BERKOVITZ. Thank you, Senator.

For the speculation rules in particular or?

Senator KLOBUCHAR. The position limit rules.

Mr. BERKOVITZ. Thank you. The position limit rule, as I mentioned, the comment period closed this past Monday.

Senator KLOBUCHAR. Right.

Mr. BERKOVITZ. The count that we have now is 5700 public comments on that rule. So we, as required by the Administrative Procedure Act, we will be carefully reviewing all of those comments.

Chairman Gensler has laid out his vision of the schedule going forward for all of the rules and the chairman has stated that his goal would be to have this rule in the middle of the package of rules, going to final rule with a goal of having that sometime this summer, that set of rules.

And so the positions limits under that goal would be within that middle tier, and the chairman said hopefully this summer.

Senator KLOBUCHAR. Okay. Very well. Thank you.

Chairwoman STABENOW. Thank you very much.

We will start with the second round on questions; and I very much appreciate again your really excellent testimony this morning; and I think to follow up, Mr. Berkovitz, on what Senator Klobuchar was talking about in terms of what is happening, concerns about how do we analyze what information that we have now really to look at supply versus demand versus what is happening, concerns about excessive speculation, we do not yet have a real picture on the swaps markets. Transparency is certainly a part of what we passed but I know you are still collecting information on this.

So I am wondering what you can provide us, and more importantly, provide consumers and American farmers at this point about the most recent understanding of current oil and other commodity prices and increases as to whether they accurately reflect supply and demand fundamentals, I mean, what is missing, what could be missing from the current analysis, what is your thinking about what is going on right now in the marketplace?

Mr. BERKOVITZ. We have a very active surveillance function within the commission. The surveillance office gathers data regarding the market fundamentals and analyzes that. We have weekly briefings with the commission. It is very active in terms of ensuring the integrity of the markets, ensuring that trading is fair and orderly and there are no undue influences on the market or market disruption.

So we are watching very carefully the markets and taking that as part of our surveillance function, looking at the market fundamentals.

Chairwoman STABENOW. At this point, are there red flags and what are they finding?

Mr. BERKOVITZ. We are very carefully looking at that and evaluating. And where there is enforcement action or other appropriate action, the commission will take it.

Chairwoman STABENOW. Thank you.

Mr. Broin, I had talked a little bit earlier about advanced biofuels, cellulosic ethanol in asking Dr. Dale about, you know, how do we get to large scale production.

I know that you indicated in your testimony that you have 300 jobs that are being created from a plant or a series of plants, I am not sure which it was, but certainly we were talking about scaling up and creating jobs.

But at this point, again what can we be doing more quickly? I hear loudly and clearly your concern about stable public policies and agree strongly with that that we need to send stable long-term policy so that we are creating a marketplace where business decisions can get made, investment decisions, and so on.

But we have been in the last Farm Bill again with the cellulosic ethanol tax credit and with other efforts, and as we look to this next Farm Bill and the energy title and so on, you know, what should we be doing at this point time in order to get us to the place where we can receive the benefit from the large quantities that we are talking about this morning of alternatives to oil?

Mr. BROIN. For these first few plants it is really critical that we are able to access the loan guarantee program, and we have been working with them for quite some time and we are making progress and to make that streamlined and efficient and make sure that it is funded, because we do not need loan guarantees forever. But the first couple plants do.

Once we have established the technology, it will be easy to finance them. In addition, we need to continue to support programs like BCAP. We are trying to get farms to collect a product they have never collected before.

And while I think POET is as good as anyone on the planet at dealing with farmers, we really understand how to deal with them, if they see the government wavering in their support of a government program, they back away.

It is hard enough to get them to the table in the first place to produce a brand new cellulosic product. We have 85 farmers that delivered 100,000 tons of cellulose this past fall, but we need 385.

The next 300 are not going to come if they see the first 85 not getting paid through the BCAP program on issues of not seeing funding. So it is very important to have stability around government policy in these areas.

Another point I wanted to touch on, if I may, for just a moment is, you know, we have been awash in grain in this country my entire lifetime and I still think there is a tremendous amount of opportunity in grain ethanol as well. Over the next 20 years we are going to double our grain yield in this country and that is more starch that can also go to ethanol while protein can go to the feed and food markets as well.

So we continue to see opportunities for both products.

Chairwoman STABENOW. Right. Thank you.

And finally, I have, Dr. Dale, just talk about Michigan for a moment since that is something of great interest to both of us.

And I am wondering as we look at the potential for advanced biofuels, not only around the country but in Michigan, what you see as the potential for us as a net fuel producer.

I know you have worked with the Mascoma project up in Kinross, up to our Upper Peninsula, which is going to utilize hardwood, pulp as a feedstock, but just as you look at Michigan, what are the opportunities for us?

Mr. DALE. Michigan, as well as almost every other state in the country, can become a net fuel exporter if they choose to. We have the land resources. We have the agricultural knowledge. If we continue moving forward with these alternatives with the stable policies and making sure that Michigan and almost every other state with any sort of an agri/forestry base can produce its own fuel.

Chairwoman STABENOW. Great. Thank you very much.

Senator ROBERTS.

Senator ROBERTS. All you need is some good luck on your basketball team.

Chairwoman STABENOW. There is always next year.

Senator ROBERTS. Always next year. Being from K State I agree with that

Chairwoman STABENOW. That is right.

Senator ROBERTS. And KU for that matter.

Mr. Newell, you state in your testimony that events such as unrest in the Middle East and North Africa, earthquakes in Japan or that terrible tragedy change expectations of future oil and supply demand, that is for sure, and increase the uncertainty of those expectations.

Do I correctly understand you believe that supply and demand factors primarily, the key word here is "primarily", are driving up oil prices rather than speculation in the derivatives market being the culprit?

Mr. NEWELL. Well, there is——

Senator ROBERTS. Primarily.

Mr. NEWELL. Right. The nuance to answering the question is that we have had——

Senator ROBERTS. So the answer is yes but go ahead.

Mr. NEWELL. We have had in Libya an actual loss of supply. They typically would export 1.5 million barrels per day. So that is off the market, clearly a supply side fundamental that would point in the direction of higher prices.

There is also an increased perception of risk in the market given the importance of that region and the general unrest in the region.

Now, that has not yet resulted in a current physical loss of supply but it has raised the possibility that there could be one in the future.

And that actually does enter in through activity in futures markets, and so in that sense there is a close tie between current spot prices and future places, and future prices depend upon not what is happening today but what we think might will happen in the next few months or the next few years, and so it is that sense in which they are tied.

But I think one could attribute the recent run-up in prices over the past several weeks to supply-side concerns, both actual and perceived increase in risk.

Senator ROBERTS. I appreciate that. Can you quantify, if there is any way could you quantify the additional dollars that the U.S. consumers have spent on gasoline in 2010 as opposed to 2009 due to the depreciation in the value of the dollar against other currencies?

Mr. NEWELL. I would not have that number. No.

Senator ROBERTS. All right.

Mr. Berkovitz, the CFTC just received or just levied an adjustment, that is a very nice word for a fine, totaling several hundred thousand dollars against the National Futures Association and the commodity exchanges for a mistake made by the CFTC in calculating the CFTC enforcement fees for the past fiscal years, years in which the CFTC had already sent the bill which had been paid. This is has never been done before.

By what authority are you penalizing these folks for a CFTC error?

Mr. BERKOVITZ. Senator, the notice that we sent to the entities that you described, it was not a penalty. It was an adjustment because the agency had made an error in the original calculations.

Senator ROBERTS. But they are going to have to pay it, right?

Mr. BERKOVITZ. They will have to pay the additional amounts, yes, Senator. The agency is obligated by statute to collect the amounts due the agency. It is regrettable the agency made the initial error, but we are obligated under the federal debt collections statutes to collect that debt owed to the United States.

Senator ROBERTS. I am not particularly happy with that response.

The CFTC has issued a proposal to impose federal position limits on speculation in energy and metals contracts in futures and swaps, and I have been told that the only study the CFTC cited in support of its proposal was issued by the Federal Trade Commission in 1926. That was when Stan's great great great great grandfather was farming his land.

My question is, do you have some more modern economic analysis to support that proposal?

Mr. BERKOVITZ. Senator, that rule is out for public comment. We are evaluating the comments and we have received some comments——

Senator ROBERTS. I know the comments. I am talking about the analysis to justify it. The President issued an executive order here January 18, saying that many regulations are duplicative, costly, and in some cases, stupid. His words not mine. Asked all the federal agencies to come up with a cost benefit analysis to justify the current regulations and the new ones.

I was told by your chairman that that did not apply to you folks at the CFTC because you are different because of something about congressional intent or you are a sub-agency or you are an independent agency; and then there is a whole paragraph of things that you could, you know, justify how you are exempt from these regulations. That is what I am really trying to figure out.

Will the CFTC's imposition of federal position limits lead to lower energy prices for consumers? And what is the economic theory supporting this belief?

Mr. BERKOVITZ. I cannot answer the question of what the energy prices on consumers are. I can say, Senator, in response to the question regarding cost benefit and information supporting the rule that we have received those comments and we are looking at that very issue in terms of the cost benefit analysis, in terms of the proposed speculative limits of those rules.

Senator ROBERTS. So you are going to comply with Executive Order?

Mr. BERKOVITZ. We are looking at the Executive Order to determine in which instances we can comply with the Executive Order consistent with the statute that we are operating under which determines——

Senator ROBERTS. I know the chairwoman and I would appreciate that as would the rest of the members of the Committee.

I would just say whether it is $108 million in the original CR sent over by the House or $168 million which you get now or $302 million recommended by the President in his budget, I am not sure that you are going to produce one gallon of gas.

I know that you are going to certainly try to produce transparency and aim at the speculation problem. However, I do not know. Maybe we could have a year's vacation from these regulations, and we could actually change your purpose. We could have the Lafayette Center refinery be one of the first ones built in many years.

You could do that. That would certainly add to a gallon of gas. I am being very facetious here and I apologize for that. You should not be on the receiving end of that.

I still have one minute.

Chairwoman STABENOW. Yes.

Senator ROBERTS. Thank you very much. You just want me to get done. I know you want to get done. All right.

Has the CFTC analyzed the possible costs and benefits, and I am still continuing under the President's Executive Order umbrella here, of its position limit proposal? What is the CFTC's estimated dollar value of the cost of its proposal? How did the CFTC arrive at that number?

I think that question is premature right now because you are going through that study so I am going to skip that and try to get to my last question.

Mr. Broin, we have the tightest corn stalks used ratio in history. What has been the biggest impact on today's corn price, the world corn demand, ethanol demand, smaller corn supplies or speculative interest in the futures market?

Mr. BROIN. Certainly, supply and demand has played a role in increasing grain prices and actually brought them to sustainable levels. But speculation has made the markets extremely volatile. There is a tremendous amount of speculation put out on the markets by non-commercials, people that do not use corn, never intend to take delivery of the corn.

And that has, without question in my opinion, added a lot of vulnerability to the market.

Senator ROBERTS. Madam Chairwoman, I am out of time. I would like a third-round if it is possible but I would certainly yield to you at this particular time.

Chairwoman STABENOW. Thank you. Just one question, and then I will be happy to let you finish up.

Mr. Broin, I guess back to you. But in your testimony, you talked about the blend wall and the new obviously rules that are coming out for ethanol and support removing it and adjusting it and so on.

I wondered if you could respond to some folks that had visited with me yesterday, actually in this very room, from the Michigan snowmobilers who were concerned, and I have heard this from engine manufacturers as well, about the affect it will have on small engines.

I wondered if you might respond at all to the concerns that they have about going to E15.

Mr. BROIN. Sure. We are certainly not taking away unleaded gasoline or E10 which works just fine in those small engines. E15 will

be an option for the consumer. It will be labeled at the pump, not for small engines.

And so they will still have the other fuels to put in those engines. So it seems to be somewhat of a mute point to me.

Chairwoman STABENOW. Thank you.

Senator ROBERTS.

Senator ROBERTS. Again, Mr. Broin, in your testimony regarding the production of corn ethanol and cellulosic ethanol in the same plant, you mentioned that you use a byproduct of cellulosic production to power the plant.

Could you explain that process further?

Mr. BROIN. Absolutely. Actually what we will do in the ethanol industry is build the cellulosic plant right next to the grain plant. That plant will take the light stover base to the cobs and the leaves and the husks off the same acres that we get the corn off of.

We will process the cellulose and hemi-cellulose and ethanol. The byproduct of that process is lignin, and there is enough lignin coming out of the back of a cellulosic plant to power both the cellulosic plant and a two ex size grain plant right next to us and export power after that.

So it is a tremendous greenhouse gas move for not just the cellulosic plant but the grain plant right next to it. And we are very, very excited about what that is going to do for the industry.

Senator ROBERTS. I share your excitement. We are trying to build one in western Kansas if we can get past some of the legal ramifications.

Mr. Dale, your testimony recommends extensive adoption of double cropping of grasses and legumes on corn and soybean fields. Is such an extensive use of double cropping possible in most regions of the U.S.?

You can ask Stan about that.

Mr. DALE. Thank you. No, it is not appropriate for all regions of the country, but we actually have colleagues up at Penn State University, Dr. Tom Richard, who with a group of people from the USDA looked in detail at what areas of the country where it could be done. So they looked at soil types, winter rains, and all the factors that go into it, and they believe that our estimate is actually too conservative.

They think that you can produce about 200 million dry tons per year of mostly winter rye and some other things in the areas of the corn belt, if you will, that get a lot of wet weather.

So it is not applicable everywhere but it is applicable in a lot of places and a lot more, in fact, than we analyzed.

Senator ROBERTS. This is a basic question in regards to cellulosic. So Mr. Broin and Mr. Dale, feel free to state what your opinion might have.

We have heard of all the promise of cellulosic ethanol but it is obvious we still have some issues in the way of making this technologically commercial and viable.

You mentioned in your testimony that vehicles require liquid fuels. That is obvious right now. Are we any closer today to converting all of this what some people call mass of stuff, i.e., organic material, out in the field or the forest into a presumably liquid form so we can actually transport it more efficiently for further

processing? Should we even consider that in the Finance Committee in regard to a tax incentive? Where are we?

Mr. Broin Yes, we are. I can speak as a person and company that has invested heavily in the research and development around cellulosic ethanol. We have been operating a pilot plant for two and a half years.

We have decreased the price of producing a gallon of cellulosic ethanol from $4.13 a gallon to about $2.30 a gallon.

While not yet competitive with grain ethanol, that is certainly competitive with gasoline. So we have come a long, long way.

Again with the approval of our loan guarantee, we will be starting construction on Project Liberty this year. We will start operation next year, and we have actually committed, I do not know if you heard about it or not but we have committed to a three and a half billion gallon amount of the RFS by 2022 at our company.

So we have said we will take three and a half billion gallons of the 16 billion gallons by 2022, and I think we can outperform that. We are probably being a little bit conservative.

Senator ROBERTS. I appreciate that detail.

Mr. Dale, do you have any comment?

Mr. DALE. Sure. Just one additional thing. It is being more and more recognized that we have to figure out ways to densify cellulosic biomass as close to the point of harvest as we can.

You can convert it to a liquid. You can make it into a dense solid. But we have to do that so that we can establish the logistics for large scale systems.

Mr. Broin has referred to one way. There are other ways that are being looked at and being developed quickly.

I do want to answer one question that you did not ask, if you will permit me. I was a new father, a 23-year-old father, when we had the first oil embargo. President Carter and those responding said we needed to get off foreign oil. Every president since then has said that.

Now I am a 61-year-old grandfather, and I am really concerned that my grandkids have a better, more stable economic environment than we have had recently.

So what we have to realize is this is going to take decades to do this. We use about 140 billion gallons of gasoline in this country every year and that it is going to take decades to get to a very, very large-scale replacement of that.

I wish I could be more optimistic but it is just going to take awhile. We have to keep going down the path we are going and not let ourselves be diverted because if we do not we are going to have a worse situation than it is.

But it is going to take a long time. I realize there is the short-term pain. I understand that. But we have to look at long-term solutions also, and we just have to continue. We can do it with cellulosic and other biofuels but it is going to take decades.

Senator ROBERTS. Mr. Dale, I want to thank you for that comment. It is not either/or. I just mentioned the tremendous impact that the oil and gas industry has in Kansas and what we rely on, and other states as well.

And I think sometimes that we get overly excited about one particular source of energy over another. Obviously, the situation in Japan now affects that as well but I think it is any and all.

That does not mean that you are picking and choosing so much as it is that you know that it is going to take a long time.

The chairwoman and I are very much aware that in the next several decades we are going to see the population of the planet go from 6 billion to 9.3 billion people.

I heard the term awash in grain. We are going to have to double our ag production to feed those folks, and that is a moral imperative. It started with Eisenhower and the Food for Peace Program, and others as well.

It is also a national security issue as well. In terms of any country that cannot sustain itself to feed its people, then you get into trouble. Then you get into problems that we see in the Middle East.

It is not only a problem for agriculture and for the farmer and rancher whose job it is that Stan has so elegantly spoken to but it is also a matter of feeding an increased population.

So I am not sure how to do this, Madam Chairwoman, but we are dedicated to that and I think your comments are certainly commensurate with that goal.

And I thank the chairwoman and I thank the panel. You have done an excellent job and thank you for taking time out of your very busy schedule to come and testify before us.

Chairwoman STABENOW. And I would just say thank you as well and join with my partner and ranking member in focusing on the challenges that we have, and I would only add that I think what is important that has come from today, one of the messages is that we have put in place a way to be able to create competition for foreign oil, an American-made source, homegrown fuel, and that we are making progress.

I think often times we do not hear that. You know, we hear concerns. Certainly, there are various concerns that are legitimate about how we move forward but I think we have heard today very clearly that we are making progress and that we need to continue to do that. That, in fact, part of our solution, and it could be a very big part depending on how much we are willing to be committed to it really comes from American agriculture and what we can do through focusing on advanced biofuels and the ability to have homegrown energy which is certainly in all of our best interests.

So thank you very much. We appreciate the excellent panel today.

[Whereupon, at 12:13 p.m., the Committee was adjourned.]

A P P E N D I X

MARCH 30, 2011

STATEMENT OF DAN M. BERKOVITZ

GENERAL COUNSEL, COMMODITY FUTURES TRADING COMMISSION

BEFORE THE

SENATE COMMITTEE ON AGRICULTURE, NUTRITION, AND FORESTRY

March 30, 2011

Good morning Chairman Stabenow, Ranking Member Roberts and members of the Committee. I am Dan Berkovitz and I am privileged to serve as the General Counsel at the Commodity Futures Trading Commission (CFTC or Commission). I appreciate the opportunity to testify today regarding the CFTC's regulation of derivatives markets.

CFTC Mission

The mission of the CFTC is to ensure the integrity and transparency of derivatives markets so that market participants may use these markets with confidence. Derivatives serve as tools that allow producers and merchants to be certain of the prices of commodities that they plan to use or sell in the future. Derivatives markets are used to hedge risk and discover prices, and the CFTC strives to ensure that the markets within its jurisdiction are transparent and free from fraud, manipulation, and abusive trading practices. The CFTC also seeks to ensure the financial integrity of all transactions that are within its jurisdiction and the avoidance of systemic risk.

Since the 1920s, the CFTC and its predecessors have been charged with overseeing the futures and commodity options markets. While the first futures markets traded only contracts for

future delivery of certain agricultural commodities, such as wheat, corn, and other grains, these markets have evolved to include futures contracts and options on futures contracts on energy and metals commodities, such as crude oil, heating oil, gasoline, copper, gold, and silver, as well as futures and options on futures on financial products, such as interest rates, broad-based security indexes, and foreign currencies.

These markets are but one part of a much broader derivatives marketplace, which includes futures, options, and swaps. With the passage of Title VII of the Dodd-Frank Wall Street Reform and Consumer Protection Act ("Dodd-Frank"), the CFTC's mission now includes the regulation of the swaps market. Like futures, swaps can include physical commodities and financial instruments. Firms use both futures and swaps markets to hedge their risks and for price discovery.

The CFTC fulfills its statutory mandate to ensure that trading is fair and free from abuse through market surveillance, industry oversight, and enforcement. The Commission oversees futures exchanges and clearinghouses, including the processing of designation and registration applications, as well as the review of exchange and clearinghouse rules and their enforcement. Since the 1930s, the Commission and its predecessors have had the authority to set speculative position limits on traders in order to prevent the undue burdens on commerce that arise from excessive speculation. In carrying out its responsibilities, the Commission relies upon industry self-regulatory organizations, such as the futures exchanges themselves, to monitor trading and enforce compliance with trading rules and position limits. Ultimately, however, it is the

Commission that is responsible for enforcing our regulations and the provisions of the Commodity Exchange Act (CEA).

As a part of its surveillance function, the Commission's Division of Market Oversight routinely collects and analyzes position reports that are required of large traders in the futures markets. These reports and other surveillance data allow the Commission staff to see accumulating positions that may be disruptive to fair and orderly trading, to act to prevent such disruptions, and, where appropriate, to refer matters to the Division of Enforcement to take enforcement action if there is a violation of the CEA or the Commission's regulations.

The Commission's enforcement program is designed to deter, prevent, and punish fraud, manipulation—including attempted manipulation—and other statutory and regulatory violations. Overall, since the beginning of fiscal year 2008, the Commission has collected more than $236 million in civil penalties imposed in enforcement actions. In recent years, the Commission has seen a significant increase in the number of fraud cases, including Ponzi schemes. Since October 2008, the Commission has filed 100 enforcement cases for fraud.

CFTC Expanded Authorities and Responsibilities

The Dodd-Frank Act significantly expanded the CFTC's authorities by expanding its oversight, for the first time, to include the swaps markets in addition to the futures markets. The Act specifically repeals provisions of the CEA that, prior to the Dodd-Frank Act, restricted the Commission's authority to regulate the swaps markets – including provisions that related

specifically to energy markets. The CFTC will have access to information about trading and positions and full authority to guard against fraud and manipulation and take enforcement action to prosecute violations in both markets. As required by the Act, trading in both markets will be transparent to the CFTC and to the public. The statute directs the CFTC to apply position limits in markets for both agricultural commodities and exempt commodities (primarily energy and metals), as appropriate, and to the market as a whole. Additionally, the Dodd-Frank Act enhanced the CFTC's basic enforcement authorities to prevent fraud and manipulation. The Securities and Exchange Commission (SEC) will have similar jurisdiction over the security-based swaps markets.

The Dodd-Frank Act

Specific new authorities provided by Dodd-Frank to the CFTC with respect to the swaps market include:

-- **Comprehensive oversight of the swaps market.** The Dodd-Frank Act calls for comprehensive regulation of the entire swaps market. Swap dealers and major swap participants are required to register and are subject to capital and margin requirements, recordkeeping and reporting requirements, and business conduct standards. The Act provides for regulation of trading venues and clearinghouses as well. The CFTC is directed to determine which swaps should be required to be cleared, and swaps that are required to be cleared also must be traded transparently on swap execution facilities or on designated contract markets if they are made available for trading. Non-financial end-users hedging or mitigating commercial risk are exempt from the clearing and trading requirements.

-- **Price transparency of swaps transactions**. The Dodd-Frank Act generally requires the real-time public reporting of price and volume data for transactions in swaps with exceptions for large (block) trades and trades that would reveal the identities of the counterparties.

-- **Comprehensive reporting of swaps transaction data.** The Dodd-Frank Act requires the reporting of basic data about each swap transaction to either a swap data repository or, if there is no repository for that data, the CFTC. This comprehensive transaction data will expand the CFTC's view of the market for surveillance purposes.

-- **Position limits on speculation in swaps.** The Dodd-Frank Act directs the Commission to establish position limits for both futures and swaps in a very specific manner. First, the Act directs the Commission to establish speculative position limits, as appropriate, for futures contracts for agricultural commodities and exempt commodities. Second, the Act directs that the Commission concurrently establish, as appropriate, speculative position limits on swaps that are economically equivalent to those futures contracts. Third, the Act requires the Commission to establish aggregate limits across the futures and swaps markets. On January 26, the Commission published a proposed rule to implement these statutory directives. The comment period closed on March 28. The Commission will evaluate the comments received before proceeding to a final rulemaking.

In connection with this new authority to establish speculative position limits in the swaps market, the Commission has issued a proposed rule to require data on large trader positions in

the swaps market. The CFTC currently obtains comprehensive data with respect to positions of large traders in the futures markets. Prior to Dodd-Frank, the CFTC could issue special calls to swap dealers for particular swaps position data, but the information obtained through this special call authority is limited to the swap positions of the reportable traders in the futures markets. Under the Commission's proposed large swap trader reporting rule, which would apply to swap dealers and cleared swaps, this new data would be used to calculate the appropriate position limits under the proposed position limits rule, as well as permit the Commission to begin to monitor all large positions in this market.

Over the past several years the Commission has taken a number of steps to increase the transparency of the futures market. For several decades, the Commission has published what is now the weekly *Commitments of Traders* (COT) report. The COT reports provide a breakdown of each Tuesday's open interest between commercial and non-commercial traders for markets in which 20 or more traders hold positions equal to or above the reporting levels established by the CFTC. In September 2009, the Commission began publishing a weekly Disaggregated COT report for physical commodity markets. It takes the Commercial category in the COT report and splits it into two groups—the "producer/merchant/processor/user" category and the "swap dealer" category. It also splits the Noncommercial category into two groups—the "managed money" traders and the "other reportables" category.

Also in September 2009, the CFTC began publishing a quarterly report of Index Investment in the physical commodity markets. This quarterly Index Investment report was converted to a monthly report beginning with the July 31, 2010, data.

In July 2010, the CFTC began publishing the *Traders in Financial Futures* report to add transparency to financial futures markets (comparable to that for physical commodity markets) through a weekly COT-type report using new classifications of large traders, into essentially the "buy side" and the "sell side." The "sell side" is reflected in the category "Dealer/Intermediary," while the buy side is subdivided into 3 groups: "Asset Manager/Institutional," "Leveraged Funds," and "Other Reportables."

Once the data regarding swap trader positions is available, the Commission will be able to provide the public with similar transparency into the swaps market.

-- **Enhanced enforcement authorities.** The Dodd-Frank Act enhanced the Commission's enforcement authorities in both the futures and swaps markets. It specifically extended the Commission's anti-manipulation authority to cover swaps. The Act further provides the Commission with new anti-fraud authority, as well as new anti-manipulation authority based upon similar anti-manipulation authority that the SEC, the Federal Energy Regulatory Commission, and the Federal Trade Commission have for securities and certain commodities in the cash market.

The Dodd-Frank Act prohibits certain specific disruptive trading practices, including the submission of bids or offers when a trader has no intent of making a trade and the intentional or reckless disregard of orderly trading during the settlement period. The CFTC was given authority to issue rules to prohibit other types of practices that disrupt fair and orderly trading.

The Act contains a number of additional new enforcement authorities. It provides new protections for whistleblowers and allows whistleblowers to recover up to 30 percent of any monetary sanctions recovered in enforcement actions resulting from original information they provide that leads to such sanctions, in cases where the recovery is in excess of $1 million. It prohibits trading on the basis of non-public information obtained from the Federal government. It gives the CFTC specific authority to issue regulations to prevent evasions of various requirements in the Act. It also makes it illegal to enter into a swap knowingly or in reckless disregard of the fact that the counterparty will use the swap as part of a device or scheme to defraud a third party.

-- **Registration of Foreign Boards of Trade.** The Dodd-Frank Act provides the CFTC with new authority to register foreign boards of trade that provide direct access to traders in the United States. The Act specifies that a foreign board of trade seeking registration must meet a number of identified conditions if it intends to provide direct access to traders in the U.S. to trade in its market contracts whose settlement price is based upon the price of a commodity listed for trading in the U.S. These conditions include the establishment of position limits for that contract, emergency authority to liquidate positions, the sharing of data on large traders with the Commission, and publication of aggregate reports on trader positions. This new authority is designed to ensure that U.S. traders cannot avoid speculative position limits on U.S. futures contracts or transparency requirements by directly trading economically equivalent contracts on a foreign board of trade.

The CFTC is in the midst of the rulemaking process with respect to these authorities. The CFTC has encouraged public comment on all of its rulemakings, and is evaluating the comments it has received so far.

FY 2012 Budget Request

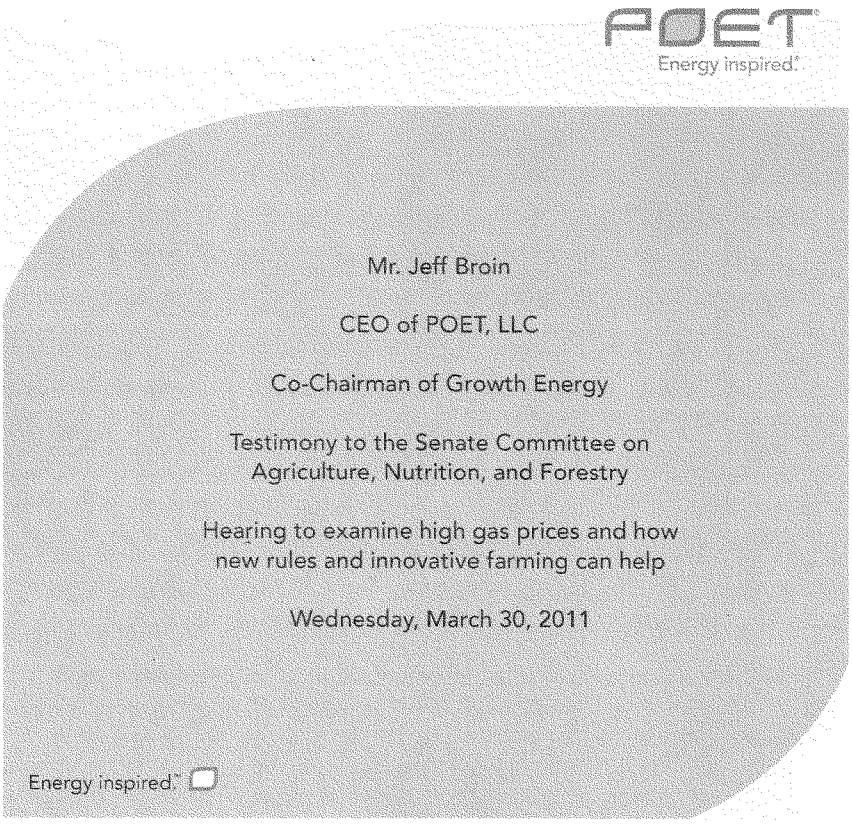
The President's Budget proposes that $308 million be appropriated for the CFTC for fiscal year (FY) 2012 to remain available until expended through FY 2013. This funding level is the estimated amount the agency needs to perform its responsibilities to continue overseeing the futures and options markets and to begin overseeing the swaps markets.

The CFTC's resources are used primarily on staff and technology. The agency currently has 676 personnel on staff. The President's budget would provide funding for 983 employees. The additional staff will be necessary for the Commission to fulfill its responsibilities in the futures and swaps markets.

The FY 2012 budget requests $66 million for technology. This level of funding is necessary for the CFTC to be able to upgrade and expand its technology capabilities to handle its new data and market surveillance responsibilities under Dodd-Frank.

Conclusion

Thank you for the opportunity to address the Committee. I'd be happy to answer any questions you may have.


POET
Energy inspired.
Mr. Jeff Broin
CEO of POET, LLC
Co-Chairman of Growth Energy
Testimony to the Senate Committee on
Agriculture, Nutrition, and Forestry
Hearing to examine high gas prices and how
new rules and innovative farming can help
Wednesday, March 30, 2011
Energy inspired.

Chairwoman Stabenow, Ranking Member Roberts, and members of the Senate Committee on Agriculture, Nutrition, and Forestry; thank you for the opportunity to testify today.

My name is Jeff Broin, and I am CEO of POET, the world's largest ethanol producer. I am also Co-Chairman of Growth Energy, a group committed to realizing the economic potential of ethanol.

Given our current situation, where activities across the world out of our control wreak havoc on gas prices and make importing oil even less desirable, this hearing couldn't come at a better time. Thanks to ethanol, high gas prices today are lower than they could be, and with a strong commitment to renewable fuel coupled with ingenuity from farmers and ethanol producers, we can do so much more to alleviate future price shocks. But first, I would like to tell you a little bit about who we are.

POET has come a long way in more than two decades of renewable fuel production. I am proud of the 1.7 billion gallons of ethanol and the 9 billion pounds of animal feed we produce each year. I am especially proud to know that we are doing our part to make our nation safer, our environment cleaner, our fuel prices lower and our country's citizens more prosperous.

Although we are a large company today, we are still closely tied to our agricultural roots. POET's 27 plants are spread across rural communities in 7 states, and we maintain close relationships with the farmers who provide us with our feedstock and the communities in which we work. We look forward to the near future in which new sources for ethanol – from cellulose – allow us to have a presence in communities all over the United States. POET has developed the technology to make that happen, and with stable policy and market access we can begin building it immediately.

But before we go into all of that, I'd like to give you some history for perspective. I'd like to tell you where POET began.

I got my start in ethanol production at a young age on our family farm near Kenyon, Minn. At the time, we were paid by the government to take land out of production, a concept that did not sit well with my family. My father could not allow good, productive farmland to sit idle.

So he took action. He set up a small, farm-scale ethanol plant on our property, where we could produce and use our own feedstock to make our own fuel. It was energy independence on a micro-scale, and it planted the seed for what was to come.

From there, we invested in our first ethanol plant in 1987 in Scotland, South Dakota. We mortgaged the family farm to buy the 1 million-gallon-per-year ethanol plant (which was large for the time). We learned every aspect of ethanol production while on the job, from plant operations to marketing to design and construction. I was the general manager of that first plant, and I actually lived in the plant while we upgraded the equipment prior to startup.

From that broad knowledge base and with help from a lot of really good people, we built a company. Back then, we never imagined POET would become what it is today, and we never knew that in 2011 the ethanol industry would replace 10 percent of our nation's gasoline supply.

Today, I see an industry and a fuel that is having significant positive impacts, not only for those who produce it and their rural communities, but for every driver in America who has the opportunity to use homegrown renewable fuel.

One of those impacts is needed today more than ever.

Gas prices are increasing, and I applaud the committee for calling this hearing to address the issue. When you ask how innovative farming can help, you are asking the right question. It was just a few years ago that skyrocketing gas prices led to passage of the Energy Independence and Security Act of 2007 (EISA) which called for 36 billion gallons of renewable fuels.

Several studies have shown that to be the right response. The National Renewable Energy Lab and McKinsey and Company recently summarized those studies and concluded that ethanol keeps U.S. retail gasoline prices about 17 cents per gallon lower. That translates into an annual savings of $100 per driver and approximately $24 billion in annual savings for U.S. drivers as a whole. Other studies have found the savings as high as 50 cents per gallon.

The study found that ethanol saves money for drivers in five ways:

- ethanol is the most economically competitive fuel component
- ethanol is significantly cheaper than other oxygenates
- ethanol increases the fossil gasoline yield at the individual refinery level, due to its high octane
- ethanol reduces expensive fossil gasoline imports
- ethanol contributes at the global level to the gasoline supply

So if you want to keep gas prices in check, passing EISA was the right thing to do. But that's already been done and gas prices are on the rise again, this time fueled by instability in oil-producing countries. What can be done today?

The most important thing we can do is to follow through on the promise of the Renewable Fuel Standard. Although that law calls for 36 billion gallons of renewable fuels, the industry is being prevented from reaching that goal by a 30-year-old administrative rule limiting ethanol blending to 10 percent of the fuel supply. Our industry has reached that blend wall and is being prevented from producing more than the 14 billion gallons we will produce this year.

This artificial "blend wall" has many consequences for America. First, because ethanol is limited to 10 percent, we are exporting lower-priced ethanol while importing more expensive foreign oil. That's worth saying again. Because the artificial limit on ethanol blending prevents us from meeting the Renewable Fuel Standard, economically competitive American ethanol is being shipped to Abu Dhabi while $100 per barrel oil is coming to America from Abu Dhabi. Meanwhile we've got more than $1 billion of American assets sitting idle, ethanol assets that could be providing American jobs.

The way to change this is to allow market access. What ethanol is doing today to lower gas prices is nothing compared to what it will do in the future if given the chance.

It is entirely within our power to create a level playing field where ethanol can offer consumer choice and true competition for the majority of the American fuel tank. The surest way to lower the price of gasoline is to allow another product the opportunity to compete with it. When consumers have choices, their pocketbooks are the true winners.

Under today's scenario, with the blend wall intact, we cannot provide any more relief to consumers suffering from climbing gasoline prices. New technology such as cellulosic ethanol cannot come to market. The full benefits from ethanol are not realized.

Fortunately, the path to breaking through the blend wall is clear, and in fact, the early steps have already been taken.

The EPA has approved blends of 15 percent ethanol – otherwise known as E15 – for use in vehicles 2001 and newer. This decision was made based on data from numerous studies that showed 15 percent ethanol is a safe and valuable fuel for cars and trucks on the road today.

There is still work to do through regulation and certification before drivers are allowed to use this fuel, and I hope the industry will continue to have the support of the Senate through this process by blocking any attempts to derail the implementation of E15.

Drivers of vehicles made in 2001 or newer use about 70 percent of the fuel in the U.S. today, and that percentage will continue to grow. Once E15 hits the market, the industry will be able to move forward once again.

E15 is an important step, but it is only short-term relief. The U.S. needs to rethink the way it looks at fuel, and that requires policy that sets the stage for a long-term change in infrastructure and the market.

POET supports reform, reform that focuses on the build-out of infrastructure. Growth Energy's Fueling Freedom plan is an outline for that.

Fueling Freedom would permanently scale back the current ethanol tax credit. For a limited time, that money would be redirected toward blender pump installation: an infrastructure upgrade that truly gives consumers the choice at the fuel station. Blender pumps allow consumers to choose what percentage of ethanol they'd like to use, including blends such as E10, E20, E50 or E85.

Add to that a low-cost Flex Fuel Vehicle requirement and allow ethanol pipelines access to loan guarantees.

With those elements in place, the oil industry and their suppliers would no longer enjoy exclusive access to 90 percent of American fuel tanks. As we all know, the best way to lower prices for consumers is to allow competition in the marketplace.

Beyond that, what the ethanol industry really needs is simple stability. Government incentives and blending targets are far less effective when their future is in doubt. Investors look at the long-term prospects of a project before getting involved, and uncertainty from Washington adds an element of risk to those projects.

With your help, the ethanol industry has the potential to make oil price spikes and other energy problems a concern of the past.

Speaking of potential, let me tell you a little about what POET is doing in another exciting area.

Corn ethanol has brought us a long way, and thanks to increasing yields, it will continue to be an important component of our fuel supply and offer opportunities to expand in the future. But it has also paved the way for the next big opportunity, which is cellulosic ethanol. Today, most of the ethanol comes from corn because farmers have become extremely efficient at growing the crop and it is relatively easy to convert the starch from the corn kernel into ethanol.

Cellulose, while more challenging to break down and convert into ethanol, represents an even larger opportunity because it is the most common organic compound on the face of the earth. A study from the USDA and DOE found more than one billion tons of biomass available in America each year from which we could produce 80 billion gallons of cellulosic ethanol. That is roughly equivalent to the amount of gasoline we consume from oil imports every year.

My company has been making steady progress toward the commercialization of cellulosic ethanol for more than a decade. But the 2007 Renewable Fuel Standard, along with support from the Department of Energy and the Iowa Power Fund, allowed us to dramatically speed up our efforts. Today, we have an operating pilot facility producing cellulosic ethanol from corn cobs and light stover and plans to construct a full-scale commercial plant later this year.

Our model for cellulosic ethanol builds on the foundation of our 1.7 billion gallons of corn ethanol production capacity. We will bolt cellulosic technology onto our corn ethanol plants so that we can benefit from the infrastructure that is already in place and our existing relationships with farmers, many of whom are investors in those plants. The corn ethanol plants will also become more efficient because a byproduct of the cellulosic will be used to power both the cellulosic and corn ethanol production facilities. Because we use a waste product to produce cellulosic ethanol and generate power, an independent report found that our process reduces greenhouse gas emissions by 111 percent in comparison to gasoline. Cellulosic ethanol is a carbon sink, not a carbon producer.

Nearly 100 people at POET are working on this project and our partners include universities, all levels of government, technology developers and hundreds of farmers. All are motivated to increase the production of clean, domestic energy.

This first project alone will create about 300 jobs and launch an industry that will create almost 90,000 direct jobs just by meeting minimum targets in the Renewable Fuel Standard.

Today, we are producing cellulosic ethanol from the abundance of corn crop residue in the Midwest. In the future, we can also produce it from Georgian wood chips, Arkansas rice hulls and other sources of biomass that exist in all 50 states of America. POET put forth a plan to produce 3.5 billion gallons of cellulosic ethanol by 2022. We will get there by adding cellulosic technology to our existing plants, licensing it to other ethanol producers and by getting into new raw materials like wood chips, energy grasses and waste products.

But we can't get there without stable government policy.

I'd like to share a short story about the impact of policy uncertainty in this important endeavor. To encourage farmers to supply biomass to cellulosic ethanol producers, Congress established the Biomass Crop Assistance Program, or BCAP, to match biorefinery payments to farmers up to $45 per ton. To the 85 farmers we contracted with for last fall's harvest, it was a sign of the country's commitment to cellulosic ethanol.

Earlier this year, legislation was introduced to eliminate BCAP just as the first payments were being made, casting doubt in the minds of many of those farmers. This uncertainty will make it more difficult to sign up the additional 2-300 farmers we will need to produce commercial quantities of cellulosic ethanol.

Equivocation on other policy supports for cellulosic ethanol has had a similar impact on investors. It's difficult enough to get investment in new technologies when government policy is stable. Today, it is impossible to get financing for a cellulosic ethanol plant without a federal loan guarantee.

As the Senate considers a Continuing Resolution to fund the government for the remainder of the 2011 fiscal year, we urge you to continue funding the Department of Energy's renewable energy loan guarantee programs (Sec. 1705 and Sec. 1703). POET has invested millions of dollars in developing our cellulosic technology, and construction of the facility is dependent on our pending DOE loan guarantee application. We have continued to invest in the project based on the good faith notion that the DOE programs would function as stipulated in law and as Congress intended.

Cellulosic ethanol can build on the accomplishments of grain ethanol, hold gas prices down and make us less dependent on foreign energy. All we need is stable government policy.

To close, I'd like to address a common criticism of the ethanol industry.

You've surely heard some of the ethanol industry's detractors talking about the price of food and blaming ethanol for every increase.

The fact is oil prices and strong food manufacturer profits are the primary drivers of those costs. Biofuels and the cost of corn play a small role. The USDA just last month updated its "Food Dollar" statistic to show that only 15.8 cents of every dollar spent on food goes to the farm, and corn is a small portion of that. Transportation, packaging, profits and other factors play a far larger role in the cost of food in America.

Those working to derail the ethanol industry like to claim that without ethanol, current grain production would be redistributed to lower costs and feed the hungry worldwide.

Any of us who can think back to before a strong ethanol industry existed know that is not the case.

I referenced earlier what my family's farm looked like before the ethanol industry took hold: acres of land sitting idle. Idle land feeds no one. Idle land fuels nothing. Idle land solves no problems.

The only thing idle land does is create another government program. Well, I work with farmers today. I grew up on a farm. I know that collecting money on idle land is NOT what American farmers are interested in doing, any more than American taxpayers are interested in doling out that money.

It wasn't too long ago that policies to provide cheap grain led to intense criticism of America. Our country was accused of bankrupting Third World farmers by subsidizing our own farmers and thereby depressing world crop prices.

Now, we've got a viable market for farmers in the United States, one that helped farm income rise by 31 percent in 2010. It is undeniable that a strong market for grain is helping those who work the fields.

That benefit will extend to those who work the fields in other countries as well. Yes, there will be some growing pains as farmers bring previously farmed land back into production, but strong, sustainable grain prices are an answer to worldwide hunger. In the long term, a revived agriculture industry in those nations will allow them to feed themselves rather than depending on subsidized American grain.

The potential is enormous: A Stanford study showed that there are 1 billion acres of idled cropland that could be brought back into production, producing enough grain to feed and fuel the world.

Agriculture has responded to every challenge the world has put before it. Instead of seeking to undermine the very roots of who we are, let's look at the potential for agriculture worldwide that can be realized thanks to a new food and energy market for farmers.

I firmly believe that years from now we will look back and recognize the emergence of the ethanol industry as an important turning point in our nation and world's history.

Thank you for inviting me to be here today, and I'd be happy to take any questions.

UNITED STATES SENATE

AGRICULTURE COMMITTEE

HEARING ON:

"FUNDAMENTALS AND FARMING: EVALUATING HIGH GAS PRICES AND HOW NEW RULES AND INNOVATIVE FARMING CAN HELP"

TESTIMONY OF PROFESSOR BRUCE E. DALE

MICHIGAN STATE UNIVERSITY

Wednesday, March 30, 2011 at 10:30 a.m. EST

Senate Agriculture Committee Hearing Room, SR-328A.

Senator Stabenow and Committee:

Thank you for the invitation to be here today. This is my third experience testifying before the Senate Agriculture committee about biofuels. I first testified when Senator Lugar chaired the committee, many years ago. Between then and now we have made significant progress...but we still have a very long way to go. So I will be as frank and honest as I know how to be. Unless we understand clearly our situation, we cannot hope to solve the serious problems we face. I will start out by being quite sober, but hopefully end on a more cheerful note.

Our economy depends very strongly on liquid transportation fuels, and that market is dominated almost completely by petroleum. The days of cheap, conventional domestic oil are gone. They will not return. We burned up that oil long ago. Likewise, the days of cheap, conventional oil produced outside our borders are rapidly ending. We are increasingly at the mercy of much more expensive oil, much more environmentally damaging oil, and much more insecure oil supplies. Not a pretty picture.

Three years ago, oil prices peaked at about $145 per barrel. Shortly thereafter the stock market tanked, and we entered the current severe recession. We are still struggling to emerge fully from it. Bad lending practices got most of the blame for this recession, and such practices certainly contributed to the problem. But we need to keep in mind that every recession since the end of World War II was preceded by increased oil prices. Oil prices are rising again, causing a lot of pain and threatening to kill this fragile recovery. A very sobering scenario arises: high and volatile oil prices kill economic growth, sending us into recession which decreases oil prices somewhat, leading to a recovery in which demand for oil rises again, which recovery is killed again by rising oil prices. And with every such cycle, more and more of our national wealth disappears, making us less able to emerge from this vicious circle and achieve a more sustainable future. Again, not a pretty picture.

So what can we do to reduce our vulnerability to high oil prices and oil price volatility? We can and should decrease demand for oil by increasing fuel efficiency standards over time. We can and should increase domestic production of oil. One way to do that is to combine carbon dioxide sequestration with enhanced oil recovery. We should do that—we need the oil and we need to sequester carbon. But increased domestic oil supply is only a transition measure to get us to more sustainable, long term solutions. Increased oil supply cannot and must not be an end in itself. Because one day soon, that oil will also be gone, burned up. And more fuel efficient vehicles will help, but they are also not enough. We require lots of liquid fuel, sustainable liquid fuel, if we are to continue our way of life.

Thus we need to increase production of oil alternatives, and that means biofuels. There simply is no way to a sustainable transportation sector without sustainable biofuels. I have worked for 35 years to help develop cellulosic ethanol, also called second generation ethanol, made from crop residues, woody materials , grasses, etc. Mr. Broin has discussed the corn ethanol industry, so called first generation biofuels. That industry has received a lot of criticism, almost all of it unfounded. Corn ethanol is a much better product and much better for our economy and environment than most people realize. But my point is that a viable cellulosic biofuel industry will depend very strongly on a healthy, strong corn

ethanol industry. It is going to be really tough to have second generation biofuels without first generation biofuels---you can't produce the child without having parents first.

Here is a case in point. Mr. Broin's firm, POET, is working hard and spending a lot of its own money to develop large scale cellulosic ethanol. POET provides one example why a strong first generation biofuel industry is critical to developing second generation biofuels. But large scale cellulosic ethanol has been essentially stalled for the past couple of years because of the so-called "blend wall". No one will lend the money for big cellulosic ethanol plants because there is no market for additional ethanol. Not because ethanol is not a great fuel...it is an excellent fuel. But simply because we don't have the right vehicles or the right infrastructure to use all the ethanol we can produce. As a result we are shipping our "excess" ethanol, over a billion gallons per year, out of the country, while importing ever more oil. How dumb is that?

So we should require that all new vehicles sold in the United States be flex fuel, and thereby give the consumers a real choice in the fuels they use. I encourage every Senator on this committee to become a cosponsor of The Open Fuel Standard Act in the 112th Congress. This act was introduced as Senate bill S.835 and House Bill H.R. 1476 in the 111th Congress. A tax credit could be provided for the small (roughly $100 per vehicle) added cost. And we need a lot more blender pumps, so that infrastructure limitations are reduced. Since gas stations replace their pumps every ten years anyway, we should require that all newly installed pumps be blender pumps, again giving fuel users some real choices, and minimizing the transition costs.

Ethanol and other renewable fuels have been criticized as "mandates" and contrary to free market principles. The folks who make these claims should know better. We already have a fuel mandate—it is gasoline. Worse than that, since we import 60% of our oil, the current mandate is effectively that we fill up our cars with foreign gasoline. Except for ethanol, we don't have fuel choice. And as for an "open market"...that is frankly ridiculous. The current fuel system is a closed market in which only oil is allowed to participate.

Some of the folks who criticize the "ethanol mandate", as they call it, also call for us to Buy American. I agree with them. We should open our fuel markets to genuine competition, let biofuels compete with petroleum fuels, eliminate the foreign gasoline mandate and make it possible for consumers to buy domestic biofuels. Corn ethanol and biodiesel are doorway biofuels. These first generation biofuels will open the door to large scale cellulosic biofuels, which will be much less expensive, and more stably-priced than gasoline and diesel. If we do not open our fuel markets, I believe we are doomed to have high priced fuels and very volatile fuel prices... probably causing one recession after another.

Now I will end on the cheerful note I promised. The Department of Energy and the Department of Agriculture are advancing cellulosic biofuels through research, development and extension activities. I would like to mention in particular the Bioenergy Research Centers funded by the Office of Biological and Environmental Research in the Dept. of Energy. These Centers bring together a large cross section of expertise: plant scientists, microbiologists, enzymologists, biogeochemists and even a few chemical engineers like myself, to help provide the integrated, fundamental understanding critical to large scale

biofuels. Without such a large, integrated effort, a "Manhattan Project" if you will, progress is much, much slower—or may not happen at all. Even in a time of tight budgets, we must press forward with research and development on cellulosic biofuels—the future of our country could well depend on it.

I am fortunate to participate actively in one of these DOE Bioenergy Research Centers, specifically Great Lakes Bioenergy Research Center, called the GLBRC. In just a few years in the GLBRC we have greatly improved our understanding of how to develop sustainable large scale cellulosic biofuels. Here is one example. Many people question whether we can actually have very large scale biofuels without causing food shortages or environmental devastation. Because of the GLBRC, my research group looked at how we could innovate in agriculture to provide large scale cellulosic biofuels, lots of food and big environmental improvements.

The answer turns out to be quite simple—grow lots of double crops. Double crops are annual grasses and legumes planted after the corn or soy crop is harvested in the fall and then harvested in the late spring before the new corn or soy crop. Using about 300 million acres of cropland (70% of our cropland), we analyzed what would happen if we planted double crops on about 1/3 of our corn and soy land. We found that doing this one simple thing would allow us to produce about 100 billion gallons of ethanol, roughly the amount of gasoline we import, provide all the food and animal feed the land currently produces, improve soil quality and biodiversity...and reduce total US greenhouse gas emissions by 10%. A very pretty picture indeed, a "win-win-win" for national security, economic security and climate security.

So I am confident that if we open our fuel markets to real competition, end our current mandate for foreign gasoline and promote agricultural innovation, we can exchange our current precarious and expensive fuel situation to one that is both economically and environmentally attractive.

Thank you for this opportunity to speak on these critical issues.

Two attachments to Professor Dale's testimony:

- "Ten Reasons Why It's Different This Time" Bruce E. Dale. *Biofuels, Bioproducts and Biorefining.* Vol. 4 pp 1-3 (2010).
- "Biofuels Done Right: Land Efficient Animal Feeds Enable Large Energy and Environmental Benefits" Bruce E. Dale, Bryan D. Bals, Seungdo Kim and Pragnya Eranki. *"Environmental Science and Technology"* Vol. 44, No. 22. Pp 8385-8389 (2010).

STATEMENT OF RICHARD G. NEWELL

ADMINISTRATOR

ENERGY INFORMATION ADMINISTRATION

U.S. DEPARTMENT OF ENERGY

before the

COMMITTEE ON AGRICULTURE, NUTRITION, AND FORESTRY

UNITED STATES SENATE

March 30, 2011

Madam Chairwoman and Members of the Committee, I appreciate the opportunity to appear before you today to discuss developments in energy markets and their possible implications for agriculture.

The Energy Information Administration (EIA) is the statistical and analytical agency within the U.S. Department of Energy. EIA collects, analyzes, and disseminates independent and impartial energy information to promote sound policymaking, efficient markets, and public understanding regarding energy and its interaction with the economy and the environment. EIA is the Nation's premier source of energy information and, by law, its data, analyses, and forecasts are independent of approval by any other officer or employee of the United States Government. The views expressed in our reports, therefore, should not be construed as representing those of the Department of Energy or other Federal agencies.

Energy use in the agricultural sector

The agriculture industry is both a user and producer of energy. For 2007 (the most recent year in which the quinquennial Census of Agriculture was conducted), EIA estimates that energy use on farms totaled about 900 trillion British thermal units (Btu), nearly 1 percent of total U.S. energy consumption of 101.7 quadrillion Btu. The components of farm energy consumption are as follows: diesel accounts for 33 percent of total use, motor gasoline accounts for 23 percent, natural gas accounts for 17 percent, liquefied petroleum gas (LPG or propane) accounts for 8 percent, electricity accounts for

16 percent, and other fuels account for 3 percent. In addition to direct farm use of energy, agriculture is indirectly affected by energy requirements in the fertilizer industry, specifically in nitrogenous fertilizers. In 2009, the energy requirements of the fertilizer industry, in terms of thermal content, were about 568 trillion Btu, most of which is natural gas because natural gas is the main feedstock in the production of ammonia fertilizer. In recent years, many domestic ammonia producers have idled or retired many of their plants, with 7.7 million metric tons (MMT) of production (based on nitrogen content) recorded in 2009, compared to 8.2 MMT in 2006 and 10.2 MMT in 2002.

Based on energy use on farms and in closely related sectors, every dime added to the price of gasoline and diesel oil, sustained over one year, costs U.S. agriculture $381 million annually. Every dollar added to the price per thousand cubic feet of natural gas costs agriculture more than $152 million annually in direct expense. Every penny increase in the price per kilowatthour of purchased electricity costs agriculture about $410 million annually in direct expense. The farm sector has also seen volatility in fertilizer costs, particularly ammonia. The average annual ammonia price paid by farmers rose from $250 per ton in 2002 to $680 per ton in 2009, but has declined to $499 per ton in 2010.

Agriculture as an energy supply source

Testimony on the interaction between energy markets and agriculture would once have focused exclusively on agriculture's demand for energy. Today, however, the recent

increase in the use of ethanol in motor fuels has focused attention to agriculture's current and potential role as an energy supplier. Ethanol use in motor fuels has grown from 1.7 billion gallons per year in 2001 to an estimated 13.2 billion gallons per year in 2010. However, notwithstanding its recent growth, ethanol still accounts for a relatively small share (somewhat less than 10 percent by volume) of overall fuel use by gasoline-powered vehicles, which totaled 138 billion gallons in 2010.

While ethanol from corn grain is by far the largest current energy supply activity in agriculture, other opportunities are also receiving increasing attention. Over the past decade, production of biodiesel fuel from oilseed crops has grown, but it fell last year with higher oilseed prices and the lapse of the $1 per gallon biodiesel tax credit that has since been reinstated. Recently, the mandates for biodiesel and advanced biofuels under the Renewable Fuel Standard (RFS) have been providing a significant additional incentive for biodiesel production. Farm wastes are increasingly being recognized as an energy resource, and their development is being promoted by Federal incentives and renewable energy portfolio mandates in many States. Farm operators are also benefiting from the growth of wind power, which is providing extra income from leases and royalties to farm operators in areas with attractive wind resources.

Recent oil market trends and the short-term outlook

Turning to the outlook through the end of 2012 for oil, gasoline, diesel fuel, and ethanol, I will be relying on EIA's latest *Short-Term Energy Outlook*, released March 8, 2011, which is updated each month.

Since the outlook was released, Japan, the world's third-largest oil consuming economy behind the United States and China with 2010 estimated oil consumption averaging 4.4 million barrels per day, was struck by a major earthquake. Initial assessments suggest the oil market impact will likely be two-tiered. First, the disaster will cause a temporary reduction in Japanese oil demand, partly offsetting the recent Libyan supply shortfall. While much recent attention has focused on Japan's nuclear power generation infrastructure, the scope of the damage is broader and includes thermal power generation, refineries, factories, ports, roads, and other transport logistics that directly affect the use and movement of oil. In the longer term, however, Japan's oil demand is expected to rebound in order to support reconstruction efforts and make up for some part of the loss in nuclear power generation. The timing of the transition from the first phase to the second, which will mark the bottom in Japanese oil demand, is not yet clear.

Global oil markets. EIA expects continued tightening of world oil markets over the next two years – particularly in light of the recent events in the Middle East and North Africa (MENA), the world's largest oil producing region. The current situation in Libya increases oil market uncertainty because much of that country's 1.8 million barrels per

day of liquids production, which represents about 2 percent of total world supply, has been shut in and it is unclear how long this situation will continue. Many participants in oil markets remain concerned that the unrest in the region could continue to spread. This concern, along with other factors influencing prices, is reflected in the prices of spot market crude oil and related futures and options contracts, as discussed below.

Crude oil and wholesale gasoline prices. West Texas Intermediate (WTI) and other crude oil spot prices have risen about $15 per barrel since mid-February partly in response to the disruption of crude oil exports from Libya. Continuing unrest in Libya as well as in other MENA countries has led to the highest crude oil prices since 2008. As a result, EIA has raised its monthly *Short-Term Energy Outlook* forecast for the average cost of crude oil to refiners to $105 per barrel in 2011, $14 higher than in the February edition of the *Outlook*. EIA projects a further small increase in crude oil prices in 2012, with the refiner acquisition cost for crude oil averaging $106 per barrel.

It should be noted that, in EIA's view, recent Brent price movements are more representative of trends across broader crude oil prices than are recent WTI price movements. WTI prices are currently heavily influenced by storage capacity and the supply/demand balance at Cushing, OK, the delivery point for the WTI futures contract traded on the New York Mercantile Exchange.

Retail gasoline and diesel fuel prices. The recent rapid increase in crude oil and wholesale gasoline prices has led to a significant rise in the retail price of gasoline at the

pump. Absent a near-term decline in crude oil prices, motorists currently experiencing a jump in pump prices will likely see further increases from now through the spring since the recent increase in crude oil prices has not yet been fully passed through to retail gasoline prices. EIA expects the retail price of regular-grade motor gasoline in the United States to average $3.56 per gallon in 2011, 77 cents per gallon higher than the 2010 average, and $3.57 per gallon in 2012. EIA projects gasoline prices will average about $3.70 per gallon during the peak driving season (April through September) in 2011 with considerable regional and local variation. The projected increase in gasoline prices suggests that vehicle fueling costs for the average U.S. household will be about $700 higher in 2011 than they were in 2010. On-highway diesel fuel retail prices, which averaged $2.99 per gallon in 2010, average $3.81 per gallon and $3.82 per gallon in 2011 and 2012, respectively.

While EIA strives to provide accurate forecasts, it is important to recognize that there is significant uncertainty surrounding these projections. For example, as of March 25, the market value of futures and options contracts for gasoline was suggesting about a one-in-four chance that the national monthly average retail price for regular gasoline could exceed $4.00 per gallon during summer 2011. EIA regularly tracks the uncertainty regarding future oil and gasoline prices implied by the market price of energy-related derivatives in a *Market Price Volatility and Forecast Uncertainty Report* that is issued alongside each month's *Short-Term Energy Outlook.*

Ethanol. In 2010, ethanol production was about 13.2 billion gallons, representing about 9.6 percent of 2010 average daily gasoline consumption. While ethanol production has increased nearly eight-fold since 2001 and almost tripled since 2006, EIA expects slow growth in ethanol production over the next 2 years, with forecast production of about 13.8 billion gallons in 2011, and 14 billion gallons in 2012.

The projected slowdown in ethanol capacity, production, and demand growth occurs for several reasons. First, forecast domestic production rates exceed the mandates for conventional biofuels in 2011 and 2012 under the RFS program. Second, ethanol production is approaching 10 percent of the U.S. gasoline market; projected domestic ethanol production in 2011 represents about 9.9 percent of all gasoline sold. Federal regulations have until recently limited the percentage of ethanol that could be blended for use in all gasoline powered vehicles to a maximum of 10 percent (E10).

Recently, EPA has granted waivers for fuels containing up to 15 percent ethanol (E15) for use in model year 2001 and newer vehicles, which constitute about two-thirds of the current light duty vehicle fleet. However, concerns over potential misfueling liability, infrastructure limitations both in the distribution system and at gas stations for handling a new grade of fuel, and the related cost of fuel pump modification and recertification are expected to slow market penetration of E15. E85, a fuel blend with 70 percent to 85 percent ethanol content, may also be sold, but only for use in vehicles that have been specifically designed to accommodate E85. However, E85 is presently consumed in very limited volumes (about 5,600 barrels per day in 2008) with only about 2,600 E85 pumps

nationwide (as of early 2010), and it is not expected to show significant growth over the short term.

The longer term outlook

Turning to the longer-term outlook through 2035, the discussion that follows relies on EIA's *Annual Energy Outlook 2011* (*AEO2011*) Early Release Reference case, released last December. That Reference case projects an increase in the consumption of biofuels (ethanol, biodiesel and biomass-to-liquids fuels), even as consumption of petroleum-based fuels remains essentially flat. It also projects an increase in other nonhydroelectric renewable energy sources, together with accelerated improvements in energy efficiency throughout the economy. The growth in biofuels contributes to a gradual reduction in the role played by imported oil in meeting U.S. energy needs. Assuming no changes in existing laws and regulations, the net import share of U.S. liquid fuels supply, which was 60 percent in 2006 and 49 percent in 2010, is projected to decline to 43 percent in 2035.

Generally, reductions in projected oil consumption are largely reflected as reductions in oil imports. One of the most important factors affecting the projected level of oil consumption is the level of motor fuels use in light-duty vehicles, which is in turn sensitive to vehicle fuel economy. The *AEO2011 Early Release*, which reflects current laws and regulations, does not include a further increase in fuel economy standards for model years 2017 through 2025 that is now under consideration in the regulatory process. The forthcoming release of the full *AEO2011* will include alternative scenarios of

increased light-duty vehicle fuel efficiency to illustrate how further actions by policymakers in this area could affect projected U.S. oil use and imports over the next 25 years.

Alternative fuel use. The use of non-petroleum liquid fuels is projected to increase substantially in the Reference case as a result of the higher prices projected for traditional fuels and the support for alternative fuels provided in recently enacted Federal legislation, including the Energy Independence and Security Act (EISA). Biofuels use grows in the *AEO2011* Reference case from 12 billion ethanol-equivalent gallons in 2009 to 24 billion gallons in 2022 and 39 billion gallons in 2035. After 2022, the combination of the rising cost of petroleum-based fuels and steadily lower costs for biofuels technology results in the continued growth in biofuels consumption. The projected biofuels consumption in 2022 is less than the 36 billion gallons mandated in EISA largely because of the difficulties that EIA foresees in rapidly ramping up the production of cellulosic biofuels to the target levels set in that Act for the middle of the next decade. However, the targets for the use of 15 billion gallons of corn-based ethanol and not less than one billion gallons of biodiesel are projected to be achieved.

From a marketing perspective, biofuels that are substitutes for diesel fuel, such as biodiesel and biomass-to-liquids fuels, are expected to be blended into the same diesel supply as petroleum-based diesel. Ethanol use for gasoline blending grows to the 17–to-18-billion-gallon level between 2022 and 2035, while E85 consumption grows from 3 to 9 billion gallons over that same time period.

The outlook for ethanol and other biofuels presented above hinges on the level of crude oil prices and a number of other technology and market factors that are highly uncertain. For biofuels the uncertainties include the actual implementation of the RFS program, the continued difficulty second-generation biofuels technology developers are facing with financing and building projects in the United States and globally, and whether intermediate ethanol blends in gasoline above E10 levels will become prevalent.

Interactions between physical and financial markets for energy

As part of its Energy and Financial Markets Initiative, launched in late 2009, EIA is examining the various factors that may influence oil prices--fundamental factors as well as those related to trading and financial markets. Events in Egypt, Libya and Japan have been reflected in financial as well as physical markets. Over the January 27 to March 23, 2011 period, when the price of oil rose by 23 percent, implied volatility -- a measure of uncertainty regarding future oil prices based on the market value of options contracts for future delivery -- rose by over 6 percentage points. Price and implied volatility are often negatively correlated, but they can exhibit co-movement during times of uncertain future supply. Such co-movement was not observed in 2008, when implied volatility remained relatively unchanged.

Average daily open interest for WTI futures contract trading on NYMEX reached a record level in the first quarter of 2011. Open interest is the total number of outstanding

contracts and is an indicator of market activity. As uncertainty about the future supply and demand fundamentals surrounding crude oil rises, more producers and end users will enter into the market to try and hedge their risk; speculators will often take the other side of these trades and assume that risk. The clearest example of this behavior can be seen in the Commodity Futures Trading Commission's Commitment of Traders report where non-commercial and commercial net open interest are both currently at historic highs. In the disaggregated report, money managers' net open interest increased sharply as the events in Egypt and Libya unfolded.

There is also interest in how oil price movements are related to movement in the prices of other commodities. All else equal, a high degree of correlation in price movements suggests the possibility of a significant role for drivers with broad effect, such as changes in expectations of global economic growth or financial market behavior towards commodities as a broad asset class. Similarly, a low degree of correlation suggests a more significant role for commodity-specific factors.

During the first quarter of 2011, daily price movements in crude oil futures have diverged from corn, wheat, soybeans and copper contracts, a change from the situation in 2009 and 2010, when there was significant positive correlation in daily price movements across a broad spectrum of commodities. Movements in the S&P 500 were slightly negatively correlated with crude oil for the first quarter of 2011, also reflecting a break in the pattern of positive correlation that prevailed in 2009 and 2010. Both of these shifts are consistent with a view that the recent increase in oil prices driven by supply concerns, together with

other coincident events such as the earthquake in Japan, may have negatively affected expectations for economic growth. Finally, there has also been a significant change in the co-movement of crude oil and the U.S. dollar, which were largely uncorrelated during the first quarter of 2011 after having shown a significant inverse correlation over the last two years. It should be noted that the Japanese yen is a significant part of the exchange rate index, which raises the likelihood that movements in that index during this month would reflect both the impact of the recent earthquake and the subsequent intervention by central bankers in Japan and other G-7 countries to stabilize the yen in the wake of that disaster.

The wide variety of factors affecting oil price movements, and their interrelationships, are the focus of EIA's Energy and Financial Markets Initiative. Our aim is to improve energy market transparency, support sound policy and efficient markets, and increase public understanding—activities that are central to EIA's mission. EIA's traditional coverage of physical fundamentals such as energy consumption, production, inventories, spare production capacity, and geopolitical risks continues to be essential, but EIA is also assessing other influences, such as speculation, hedging, investment, and exchange rates, as it seeks to fully understand energy price movements.

Events such as the unrest in the Middle East and North Africa or the earthquakes in Japan change expectations of future oil supply and demand, and increase the uncertainty of those expectations. Since the beginning of this year, EIA expectations of world oil consumption in 2011 have increased approximately 200,000 barrels per day in

anticipation of continuing economic growth. In contrast, given the recent MENA political events, specifically those in Libya, forecast OPEC production for this year has been revised down around 400,000 barrels per day, increasing the need for inventory draws. Market participants' assessment of future supply and demand may change rapidly as information about such events unfolds, and can result in large and rapid price movements even if current supply and demand do not appear to have changed. Market participants may demand higher premiums as a result of greater uncertainty surrounding future supply and demand.

This concludes my statement, Madam Chairwoman, and I will be happy to answer any questions you and the other Members may have.

KANSAS FARM BUREAU
The Voice of Agriculture

STATEMENT OF STANLEY R. TOWNSEND

U.S. SENATE COMMITTEE ON AGRICULTURE, NUTRITION AND FORESTRY

"Fundamentals and Farming: Evaluating High Gas Prices and How New Rules and Innovative Farming Can Help"

March 30, 2011

Good morning Chairwoman Stabenow, Ranking Member Roberts and members of the Senate Agriculture Committee. I appreciate the opportunity to testify this morning about the role of energy prices and production on my operation.

My fellow panelists have a broad range of experience in the development and regulation of energy. I'm here today as a member of the Kansas Farm Bureau to give the committee my perspective on the impacts of energy prices in the field and the management practices my family employs to mitigate costs and manage risk. Kansas Farm Bureau represents nearly 40,000 farm and ranch families across our diverse state who live, raise their families, and earn a living in today's challenging economic climate.

My name is Stan Townsend. I have the privilege to have married my sweetheart of 31 years and have two grown and married daughters and four grandsons' ages 4 to 11 months. We are a 6th generation family farm. Much of our operation consists of ground never operated by anyone other than a Townsend, some dating back to the original Patent from the U.S. Government. Currently the 7th and 8th generations of our family are

helping or growing up on our farm where we raise corn, wheat and pinto beans which we process and package. We also have a feedlot which can hold up to 999 head of cattle.

It seems that today many businesses face increasing margins due in large part to increasing fuel costs and inflation. Farming has not been spared that scenario. Investors view land as a potential safe haven resulting in land values 50% higher than they were just a short time ago. In 1988 a new tractor ran $41,000. Today that machine costs $281,000. Back then, the chemicals we use to protect our crops were $7.00 per acre. Today that product is $30.00 per acre. Our NH3 fertilizer cost has more than doubled over the last 12 months despite decreasing natural gas prices.

Inconsistent input costs, even when coupled with high demand and high prices for our commodities require us to strategically plan for the future through diversification and solid marketing. That strategy is especially true when it comes to petroleum based products. Bulk diesel today costs nearly 14 times what it did in 1988. That reality has a significant impact on our operation which relies heavily on trucking to transport our products to market. Those freight costs have doubled in the last year specifically related to increasing fuel costs.

There are segments of our society that seek to disparage the development of the ethanol industry and point to the price of corn as a result of development and as the sole reason for increases in the cost of food at the grocery store. In reality, as a livestock producer, I understand the impact of the increased corn prices. That's part of the reason

we produce the corn we do, it allows us to feed our stock without entering the market to purchase that feed. Ethanol has also provided us with the unique opportunity to incorporate the use of high quality DDGs into our feed cycle. Using the co-product is one of the many ways we can mitigate our costs and remain profitable. In fact estimates show that as much as 60% of original corn inputs can be returned as DDGs.

We also frequently fail to recognize the benefits of ethanol at the gas pump. Without its inclusion in our fuel mix each of us would face gas prices 40 to 60 cents higher at the pump.

One of our non-traditional attempts to diversify our operation involves packing and marketing our pinto beans. This effort provides our operation a direct connection between the farm and the grocery store consumer. It also offers a unique perspective on the true culprits in the increasing cost of our food supply. Again, the answer can be found in the input costs for petroleum based products. Our one pound packages of dry edible beans contain 8 cents for packaging, 20 cents for trucking, and 30 cents worth of beans which is divided between the processor and the producer. Yet another example of the very tight margins across our family operation.

At this point I would be remiss if I didn't mention the litany of other regulatory costs that directly impact our operation. From environmental regulation to tax paperwork, we spend countless hours ensuring compliance with the latest efforts of our government. Recently, we've become very concerned about the impact on our operation

in simply providing health insurance reform documentation – 1099 reporting requirements to be blunt.

My family has been sustained by this land for 6 generations over 130 years. We've endured drought, hail, whatever the debacle of that particular generation might have been. Beginning in 1715 when Townsends from Townsend Hollow in up-state New York took a risk and headed west. On the Welsh side of our family, their presence in the Great Plains dates to the Cheyenne Indians of which my Great Grandmother was a member. This farm is my home and my livelihood. I only have to look into my grandsons eyes to be reminded of my duty to ensure that my indebtedness or bad decisions don't impact their future on this land. I continue to hope that our generation will learn that lesson and apply that knowledge to our government. The future of the next great generation is at stake.

Thank you.

Kansas Farm Bureau represents grass roots agriculture. Established in 1919, this non-profit advocacy organization supports farm families who earn their living in a changing industry.

QUESTIONS AND ANSWERS

MARCH 30, 2011

Senate Committee on Agriculture, Nutrition & Forestry
Fundamentals and Farming: Evaluating High Gas Prices and How New Rules and Innovative Farming Can Help
Questions for the record
Mr. Dan Berkovitz
March 30, 2011

Senator Stabenow

(1) I have heard concerns about an increase in the number of commodity ETFs (Exchange Traded Funds) and the impact that they could have on markets ranging from copper to crude oil. Given the significant presence of ETFs in the commodity space and their relationship to the futures markets, has the Commission looked at the potential impact of these ETFs on commodity prices or their influence on the price discovery process? Are there authorities either in statute that would require either ETF registration with the CFTC or regulatory approval from the CFTC? What other authority does the CFTC have over these entities and is the Commission monitoring their activities?

The CEA requires the registration of Commodity Pool Operators (CPOs) including CPOs that offer commodity pools whose shares are publicly offered and listed for trading on a national securities exchange. Like ETFs generally, these commodity ETFs may passively seek to track or replicate the performance of a specific commodity or commodity index or they may actively trade commodity interests. To the extent that such pools are fully regulated by the SEC under the Securities Act of 1933 and the Securities Exchange Act of 1934, the CFTC has recognized the SEC regime as providing investor protection and granted relief from duplicative requirements such as the manner in which required CPO disclosures are provided in connection with investor prospectuses.

Through its large trader reporting system, the CFTC obtains position information for traders whose positions in futures contracts and in options on futures contracts exceed specified levels. To the extent the ETF, as a commodity pool, has a reportable position, it is subject to the CFTC's large trader reporting regime.

Some ETFs are structured in such a way that their shares may not be securities, but cash market transactions. These "physical commodity-based ETFs" hold physical commodities, such as gold or silver, rather than futures or commodity options. To date, these ETFs have listed their shares on national securities exchanges subject to SEC regulation. National securities exchanges have also elected to list options and security futures on such shares; however, to the extent such a product is a commodity options or futures contract, it is subject to the CEA's requirement that it be traded on a CFTC-designated market. The CFTC has provided exemptive relief to such products in recognition of the fact that they are subject to the SEC's regime of customer protection.

Senator Thune

(1) Have CFTC economists determined that there is a definitive causal link between speculation and price volatility? Are commodity index traders increasing or decreasing price volatility?

Commission economists study and analyze markets including consideration of the role and impacts of particular classes of market participants. When adopting position limits, the Commission traditionally has sought to ensure that the markets were made up of a broad group of market participants with a diversity of views and to prevent markets from being characterized by overly-concentrated positions.

At the core of the Commission's obligations is promoting market integrity, which the agency has historically interpreted to include ensuring markets do not become too concentrated. In its currently proposed rule, the CFTC seeks comment from the public regarding the role and impacts of various types of traders in the commodity markets, and the extent to which position limits can be appropriately tailored to foster well-functioning markets.

(2) The CFTC has proposed rules in January that would keep individual traders from holding more than a certain percentage of the market in several commodities, including oil. For these commodities, the CFTC has proposed a cap on spot-month positions to 25% of deliverable supply for a given commodity. For oil, how many traders would this impact? How would this impact liquidity and price transparency? Does the commission have enough market data to implement a final rule? How these proposed position limits compare to regulations enforced by other regulatory agencies that oversee foreign markets?

In its proposed rule, the Commission relied on past practice of establishing spot month position limits at 25% of deliverable supply. Exchanges today generally use estimates of deliverable supply for the purposes of setting their spot-month position limits. In proposing this customary approach to spot month limits, the Commission expects that implementation will be facilitated and data readily available. Dodd-Frank requires that the Commission consider a number of factors when establishing position limits. One factor is that the limits are to be set at levels that ensure sufficient market

liquidity for bona fide hedgers. The Commission welcomes comment from the public regarding expected impact of the proposed rule on market liquidity.

The Commission is consulting with foreign regulators to promote consistent and robust regulations in the global derivative markets. In addition to considerable coordinating efforts with regard to over-the-counter derivatives, the agency is also working closely with counterparts regarding position limits. For example, the Commission is consulting with the European Commission as it develops plans to introduce a position management regime for derivatives contracts as part of revisions to the Markets in Financial Instruments Directive (MiFID). The European Commission is considering empowering national regulators to impose position limits in certain derivatives markets, also taking account of the physical market for the relevant commodities. In addition, in April 2011, the G20 Finance Ministers agreed that regulators should have "formalized position management powers, including authority to set ex-ante position limits where appropriate."

(3) Are there specific recent market conditions and world events, particularly political unrest in oil producing countries, that would lead to a legitimate increase in speculative activity in the futures marketplace?

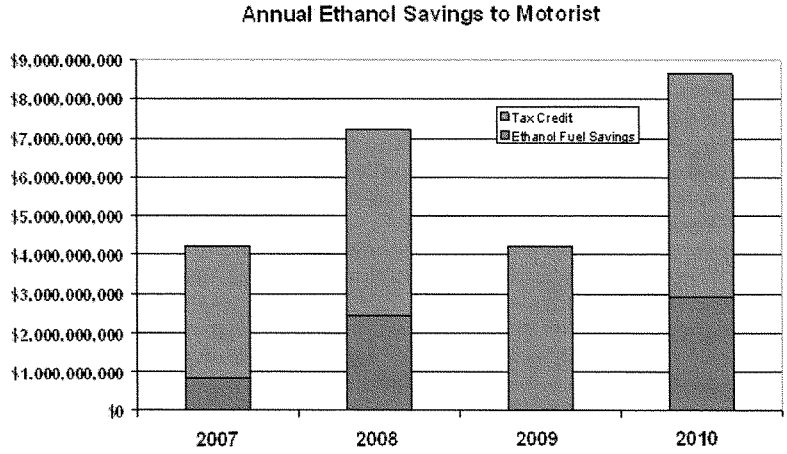
In the course of its surveillance activities the Commission staff takes note of events that are considered of importance in the conduct of trading in the regulated markets. The CFTC has processes to ensure that exchanges have procedures in place to protect market participants and ensure fair and orderly trading, free from fraud, manipulation and other abuses. Futures markets provide critical risk management tools for producers, consumers and other market participants and their impact extends beyond participants to the broader economy. With regard to the impact of speculative activity, the Commission has traditionally used position limits as a tool to relieve the burdens on interstate commerce that may occur due to excessive speculation, by ensuring that the marketplace reflects a diversity of views.

Senate Committee on Agriculture, Nutrition & Forestry
Fundamentals and Farming: Evaluating High Gas Prices and How New Rules and Innovative Farming Can Help
Questions for the record
Mr. Jeff Broin
March 30, 2011

Senator Thune

(1) Has increased ethanol production over the past several years had a positive impact on gasoline prices? What would happen to retail gasoline prices if we removed the ethanol from our gasoline supply?

The savings consumers enjoy thanks to ethanol extend far beyond the value of VEETC. As the chart below shows there are additional savings when ethanol is priced lower than gasoline. This has proven to be the case three out of the past four years.



According to a recent Merrill Lynch study, Ethanol reduces the price of gasoline by 15%. The national average price of gas on April 11, 2011 was $3.79. A 15% increase in that price would make the average price $4.35 per gallon if ethanol was not part of the fuel supply.

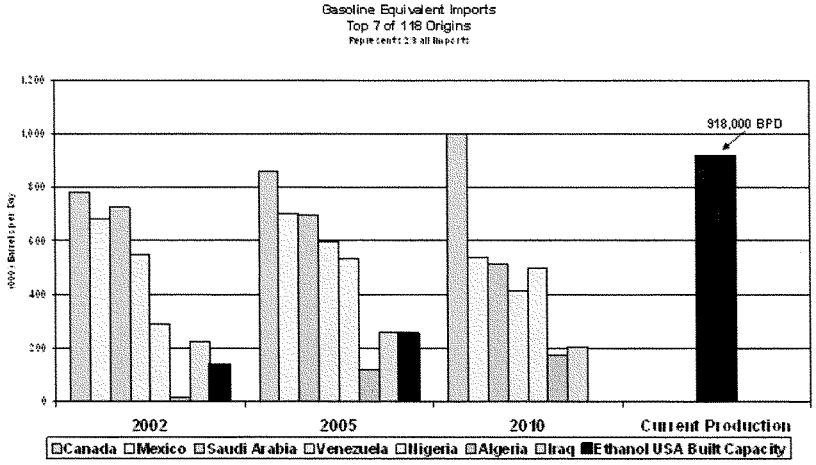
Removing ethanol from the gasoline pool would also lower the overall fuel supply and drive up prices further. The best example of this was August 2005 when hurricanes Katrina and Rita shut-in roughly 900,000 barrels per day of refining capacity across the Gulf Coast. That is roughly 450,000 barrels per day of gasoline, or 50 percent of daily ethanol production. The impact from this tragedy was immediate: The US saw rapid price increases at the pump and

record imports of finished gasoline flowing into the U.S from countries overseas (1.4MM bbls per day of finished gasoline imports, an increase from 950,000 bbls per day).

Another factor to consider if ethanol was pulled out of the fuel supply in the United States would be the replacement component. Ethanol is the least expensive octane source which is required in the fuel supply. If Petroleum had to manufacture gasoline to meet EPA air quality regulations the cost of gasoline would go up substantially and gasoline yield per barrel at the refineries would decrease.

(2) What impact has domestic ethanol production had on the need to import foreign oil? What impact could it have in the future?

Ethanol has nearly exceeded Canada when ranking the largest importers of gasoline-equivalent barrels into the U.S. Today ethanol production is roughly 918,000 barrels per day. As stated in RFS2, this could grow by an additional 1.4MM barrels per day by 2036, which would certainly continue to lower our dependence on foreign countries to provide energy to the U.S.



Conversely, removing ethanol would significantly increase the need for crude oil imports.

According to a report for the National Renewable Energy Laboratory, ethanol as an octane substitute for fossil-based enhancers "allowed the nation to eliminate 280 million barrels of high-cost, imported gasoline, reducing U.S. spending on foreign gasoline imports by $22 billion [over the period 2005 to 2007]."

Whether the U.S. continues to import foreign oil and renewable fuel also depends on the competitive advantages (production and regulatory) the U.S. holds over other energy-

producing countries. Any significant addition to the world's energy supply, though, should ease prices and reduce the need for foreign energy.

In the future, the U.S. could eliminate oil imports just by using surplus grain and available biomass for both grain-based and cellulosic ethanol.

(3) Should we allow corn-based ethanol to qualify as an advanced biofuel if it meets the 50 percent reduction of lifecycle greenhouse gas emission threshold? If so, when? Will we achieve the RFS targets for advanced biofuel production without allowing corn-based ethanol to qualify?

The Energy Independence and Security Act of 2007 (EISA) created a special category for advanced biofuels in the Renewable Fuel Standard (RFS). Currently, any fuel that reduces greenhouse gas emissions by at least 50 percent can qualify for this category as long as it is not corn-based ethanol. Blocking corn-based ethanol from this category provides no regulatory incentive for existing corn-based ethanol plants to improve their greenhouse gas efficiency or for future plants to improve beyond the 20 percent threshold needed to qualify for the RFS.

POET is constantly developing technologies to deploy renewable power, improve efficiency and reduce greenhouse gas emissions. We have corn-based ethanol plants that are powered by waste wood, landfill gas, co-generation and biogas. Allowing highly-efficient corn-based ethanol plants to qualify as advanced biofuels would give an incentive to increase alternative energy use and decrease greenhouse gas emissions.

For that reason, we believe that all fuels that reduce greenhouse gas emissions by at least 50 percent should be allowed to qualify for the advanced biofuels category, regardless of their feedstock.

It is difficult to assess the long term ability of the country to meet the RFS targets for advanced biofuel under any scenario. But the 2.2 billion gallons per year of imported ethanol, essentially from Brazil, in the EPA's Primary control case for RFS2 in 2022, seems like a very difficult target to hit. The EPA's primary control case anticipates imports of sugarcane ethanol every year between now and 2022 in order to meet the advanced biofuel standard (Table 1.2-3 of the Renewable Fuels Standard Program (RFS2) Regulatory Impact Study, February, 2010). Rather than being a net importer of sugarcane ethanol from Brazil in 2011, we anticipate that the U.S. will be a net exporter of corn ethanol to Brazil.

Senate Committee on Agriculture, Nutrition & Forestry
Fundamentals and Farming: Evaluating High Gas Prices and How New Rules and Innovative Farming Can Help
Questions for the record
Dr. Bruce Dale
March 30, 2011

Senator Thune

(1) What impact has domestic ethanol production had on the need to import foreign oil? What impact could it have in the future?

Answer: We are currently producing about 14 billion gallons per year of domestic ethanol, with an energy content equal to about 10 billion gallons per year of gasoline, roughly 7% of our total gasoline consumption. Since we use around 20 million barrels of oil per day, 60% of it imported, our domestic ethanol production is sufficient to replace about 8% of our oil imports.

In the future, we could replace ALL of our oil imports with domestic ethanol—we certainly have the agricultural production capacity to do that. But this will not be possible from corn alone. We must also develop and roll out ethanol from cellulosic materials, and that will take a couple of decades even under the best of circumstances.

(2) Should we allow corn-based ethanol to qualify as an advanced biofuel if it meets the 50 percent reduction of lifecycle greenhouse gas emission threshold? If so, when? Will we achieve the RFS targets for advanced biofuel production without allowing corn-based ethanol to qualify?

Answer: If it meets the targets set in the law, then it should qualify immediately. If it does not, then it should not qualify. I think it is unlikely we will meet the RFS targets in the time frame set unless corn based ethanol qualifies. But it should not be a matter of "allowing" corn ethanol to qualify. It should qualify or not based on strict greenhouse gas accounting applied equally to corn ethanol and gasoline.

Department of Energy
Washington, DC 20585

June 23, 2011

The Honorable Debbie Stabenow
Chairwoman
Committee on Agriculture, Nutrition and Forestry
United States Senate
Washington, DC 20510

Dear Madam Chairwoman:

On March 30, 2011, Dr. Richard G. Newell, Administrator, Energy Information Administration, testified regarding "Fundamentals and Farming: Evaluating High Gas Prices and How New Rules and Innovative Farming Can Help".

Enclosed are the answers to seven questions that were submitted by Senators Thune and Nelson for the hearing record.

If we can be of further assistance, please have your staff contact our Congressional Hearing Coordinator, Lillian Owen, at (202) 586-2031.

Sincerely,

Brad Crowell
Deputy Assistant Secretary
For Senate Affairs
Congressional and Intergovernmental
Affairs

Enclosures

QUESTIONS FROM SENATOR THUNE

Q1 Has increased ethanol production over the past several years had a positive impact on gasoline prices? What would happen to retail gasoline prices if we removed the ethanol from our gasoline supply?

A1 (This answer was prepared by the Energy Information Administration (EIA).) In recent years, ethanol blending has been above the levels required by the Renewable Fuels Standard (RFS), which suggests that gasoline prices would likely have been higher if ethanol had not been available.

The overall level of ethanol blending is influenced by the price of ethanol (which is driven by feedstock and conversion costs – currently corn is the primary feedstock used to produce ethanol and accounts for well over 95 percent of total production), crude oil and gasoline prices, the ethanol blending tax credit (45 cents per gallon), requirements for the use of Reformulated Gasoline (RFG) in some regions of the country, and the Renewable Fuels Standard (RFS).

Ethanol is projected to make up 10.1 percent of U.S. gasoline supply in 2012 according to the May 2011 edition of EIA's *Short-Term Energy Outlook* and 12.5 percent in 2022, according to the EIA *Annual Energy Outlook 2011* (*AEO2011*) Reference case. The impacts of removing ethanol from U.S. gasoline supply would vary across the different uses of ethanol within the overall gasoline pool. U.S. refiners depend on ethanol to meet requirements for gasoline quality, especially in U.S. regions that are required to use Reformulated Gasoline (RFG). Tax incentives and the RFS provide further economic incentives and mandates for ethanol use which have underpinned increases in ethanol use

to almost 10 percent of gasoline. Given this sizable share, a loss of ethanol for use in RFG would result in a significant supply issue in some regions of the country. Removal of ethanol from the overall gasoline supply would be less disruptive in the market for conventional gasoline, where its primary role is to enhance fuel volume.

The interplay of air quality requirements and economics are not the only reason for ethanol's presence in the U.S. liquid fuels pool. The complete removal of ethanol would be extremely difficult to attain under the current RFS. Up to 15 billion gallons of conventional, corn-based ethanol can be used to meet the RFS. The rest of the requirement for up to 36 billion ethanol-equivalent gallons must be met with advanced biofuels. Volumes of advanced biofuels in excess of 21 billion gallons could be used to replace corn-based ethanol. The *AEO2011* projects substantial market penetration of advanced biofuels, including biomass-based diesel and cellulosic biofuels. Nonetheless, the legislative requirements for advanced biofuels are not projected to be met by 2022. Technological uncertainty and higher production costs of advanced biofuels are the reasons for projected use below the requirement. Increasing the use of advanced biofuels to legislated levels of advanced biofuels plus conventional ethanol would therefore likely raise projected liquid fuels prices.

Q2 What impact has domestic ethanol production had on the need to import foreign oil? What impact could it have in the future?

A2 (This answer was prepared by the Energy Information Administration (EIA).) In 2010, the United States produced 0.9 million barrels per day (or 13.2 billion gallons per year) of ethanol. This represents a volume equal to 9.5 percent of U.S. gasoline consumption. If

the additional net petroleum consumption (above that for gasoline) used in production and transport of corn and ethanol is ignored, a rough estimate would be that this production displaces a volume of oil imports with an equivalent energy content. Taking into account ethanol's lower energy content relative to crude oil, this would be roughly 0.52 million barrels per day (5.7 percent of total crude imports in 2010). The EIA *Annual Energy Outlook 2011* (*AEO2011*) Reference case projects that by 2035 the United States will produce 1.6 million barrels per day (24.2 billion gallons per year) of ethanol. Applying the same methodology, this ethanol will displace approximately 0.96 million barrels per day of crude oil (11.9 percent of total crude imports).

(Crude oil has an average energy content of 5.8 million Btu per barrel, or approximately 138,000 Btus per gallon. Undenatured ethanol has an energy content of approximately 84,000 Btus per gallon. Thus a gallon of ethanol is 60.8 percent as energy dense as a gallon of crude oil.)

Q3 In terms of transportation fuels, what is the most promising and likely domestic alternatives to imported petroleum over the next 25 years?

A3 (This answer was prepared by the Energy Information Administration (EIA).) The evolution of the transportation fuel supply over the long term is highly uncertain. Consumer demand, alongside new and existing policies may cause a significant shift in the transportation fuel market. However, liquid fuels, whether derived from fossil or renewable resources, will likely remain the primary energy source for the transportation sector for at least the next two decades. There are currently several non-petroleum fuel types with the potential to displace petroleum over the long term, including starch and

cellulosic ethanol as well as other liquid fuels that are compatible with existing fuel distribution infrastructure, including biomass, coal-to-liquids, and renewable fats and oils. Multiple industries will be developing at the same time and market outcomes will depend on both their relative and absolute success in overcoming economic and technical challenges. In the EIA *Annual Energy Outlook 2011* (*AEO2011*) Reference case, domestic production of non-petroleum fuels is expected to grow from 0.9 million barrels per day in 2010 to 2.8 million barrels per day by 2035 (more detail shown in Figure 1).

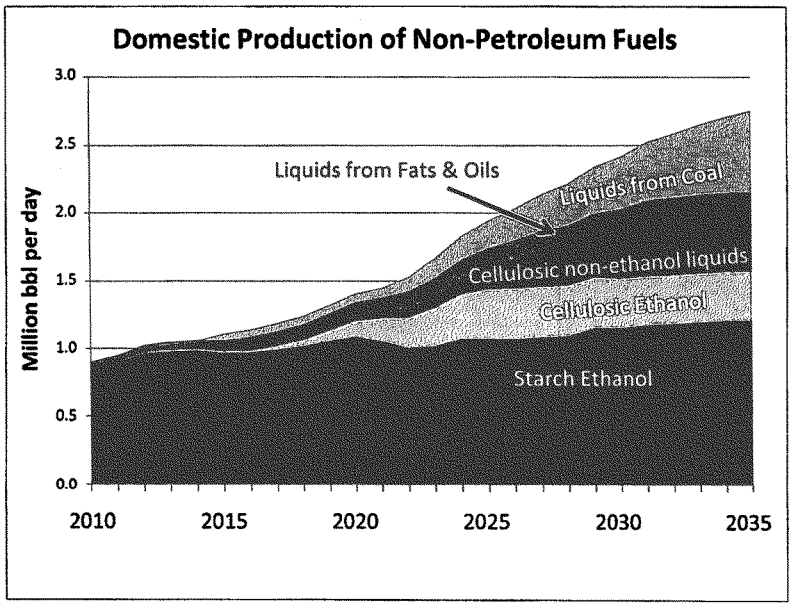
Electricity and compressed natural gas currently (CNG) provides 0.1 percent of the total energy consumed by the U.S. transportation sector, and by 2035 is projected to provide 0.2 and 0.5 percent, respectively. The largest share of non-petroleum transportation fuel is natural gas used to operate pipelines and is projected to decline from 2.4 percent in 2010 to 2.1 percent in 2035 of total energy consumed by U.S. transportation activities. EIA has previously investigated and described in prior Annual Energy Outlooks that CNG use in motor vehicles grows slowly because CNG vehicles cost significantly more than diesel or gasoline vehicles and there is limited CNG fueling infrastructure.

Domestic petroleum supply (crude oil and natural gas liquids) is projected to grow by 1.4 million barrels per day between 2010 and 2035. Most of the increases in petroleum production will come from the following sources:

- 0.9 million barrels per day of natural gas plant liquids,
- 0.8 million barrels per day of carbon dioxide (CO_2) enhanced oil recovery (EOR),
- 0.3 million barrels per day of shale oil (e.g., tight oil),
- 0.1 million barrels per day of oil shale (e.g., kerogen).

Meanwhile, Alaska oil production is projected to decline 0.2 million barrels per day between 2010 and 2035, and conventional crude oil excluding CO_2 EOR to decrease 0.6 million barrels per day (onshore lower-48 oil wells only).

Figure 1: *AEO2011* reference case non-petroleum market shares



Q4. How long does it typically take for a new onshore or offshore lease to start producing oil and natural gas? Are higher oil and gas production numbers in 2010 from Federal areas both onshore and offshore on account of new leases issued during this administration or previous administrations?

A4. (This answer was prepared by the Energy Information Administration (EIA).) The time needed to produce oil and gas from a new lease will depend on factors such as the lease

location, permitting requirements, and the commercial viability of the prospect. As a general rule, once a lease has been issued, a lessee will typically go through a step-by-step process to evaluate a lease:

- Geophysical and geological evaluation – A lessee will often perform a detailed evaluation of the prospect to determine if an exploratory well is warranted. This process might include performing additional seismic operations. The typical period for this phase of development will range from 6 months for an onshore lease to 2 years for a deepwater frontier prospect.
- Exploratory drilling and evaluation – Based on the initial geophysical and geological assessment, the lessee might proceed with the actual drilling of one or more exploratory wells. The typical period to complete this phase will range from 1 to 2 years for an onshore lease to 4 years for a deepwater frontier prospect.
- Development after a confirmed discovery – If it is determined that there are commercial quantities of oil and gas available, the lessee will proceed with the development of the lease. This will typically include drilling additional wells and installing production equipment and pipelines.

Most Federal leases do not contain commercial quantities of oil and gas and will eventually be returned to the Government without any production ever occurring.[1] On the leases containing confirmed discoveries, the length of time to obtain actual production will vary greatly from lease to lease. But, assuming that there are no permitting delays and existing pipeline infrastructure is available, the time to get production from an

[1] http://www.gao.gov/products/GAO-09-74

onshore lease could range from 1 to 3 years once the development phase has begun. Because of technical complexities, deepwater leases may require up to 7 years once the development phase has begun.

EIA has not assessed how much of the current production is from Federal leases that were issued beginning in 2009. However, it is safe to assume that most of the current production is from leases that were issued prior to 2009.

Q5 In terms of global daily supply, how have the uprisings in the Middle East impacted daily supply? If we had an additional one million barrels of oil in domestic energy production, how would that impact our ability to weather supply shocks from foreign oil markets?

A5 (This answer was prepared by the Energy Information Administration (EIA).) The most significant and sustained source of disruption to oil supplies as a result of recent unrest in the Middle East and North Africa has occurred in Libya. The vast majority of that country's 1.8 million barrels per day of liquids production, or roughly 2 percent of total world supply, has been shut in due to ongoing turmoil. The Libyan disruption began during a time of reduced demand for crude oil, both because many refineries were down for seasonal maintenance, and because of the Japanese tsunami which temporarily closed down some Japanese refineries. However, this reduced demand for crude oil did not fully offset the Libyan supply losses, and the market responded to this disruption, as well as the perceived risk that unrest could spread to other oil producers, through higher prices.

Given that oil is traded in an integrated global market, the effects of a hypothetical increase in domestic oil production of one million barrels per day would not be confined to the U.S. market. Although greater domestic oil production would impact local

economic activity, net oil imports, and the associated U.S. international trade balance, this additional production would not isolate the United States from the repercussions of global supply shocks or the price effects thereof. The effects of greater U.S. oil production could differ from the short-term to the long-term as demand and supply adjust to different price signals. In addition, there is the question of how OPEC producers would respond to an increase in non-OPEC supply, and would they lower their production levels in order to keep prices higher.

Q6 Only seven deepwater drilling permits issued [sic] over the past year. How will this period of very few new permits impact offshore oil and gas production over the next three to five years? How will that impact energy prices and foreign imports of oil?

A6 (This answer was prepared by the Energy Information Administration (EIA).) The drilling moratorium was officially lifted in October 2010, but new permit application requirements and the review process have slowed the awarding of permits because operators must upgrade their previous practices by demonstrating that they have equipment and systems on hand to contain a subsea blowout. However, as of May 10, 2011, 29 of the 70 deepwater drilling permit applications received that require demonstration of subsea containment have been approved and it is expected that the rate of permit approvals will accelerate as best practices are achieved and adhered to by operators.[2]

The effects on natural gas production and prices are muted because the United States is already amply supplied with natural gas due to massive increases in onshore shale gas production, and because export opportunities are very limited. Additionally, deepwater

[2] http://www.gomr.boemre.gov/homepg/offshore/safety/well_permits.html

wells account for a relatively small share of Gulf of Mexico (GOM) natural gas production.

The effects on oil production are more significant, but difficult to quantify. Reduced drilling and permitting due to the moratorium, the time necessary to restart drilling projects, and the ongoing regulatory uncertainty will reduce GOM oil production in 2011 and subsequent years. EIA forecasts that, by 2012, GOM oil production will decline by about 320 thousand barrels per day (bbl/d) as compared to 2010 production levels. About half of the forecasted decline is associated with the recent moratorium on deepwater drilling and the time required for resumption of drilling in those areas. Forecasted GOM production trends also reflect the natural decline rate of production from existing projects, including some of the major projects that were recently brought into production as a result of the past expansion of leasing, exploration, and development activity in deepwater GOM areas. Most of this decline will be replaced by increased imports.

Given the global nature of oil markets, the forecast for GOM production should be considered in the context of overall world liquids supply, of which U.S. production is currently only 11 percent and GOM production is less than 2 percent. The expected production loss due to the moratoria and subsequent regulatory changes is in the range of 0.2 percent of global liquids supply, and would not therefore be expected to have a measureable impact on global oil prices.

QUESTION FROM SENATOR NELSON

Q1. I would like to submit to EIA a document put together by the Clean Fuels Development Coalition on mid-level ethanol blends' ability to displace and dilute carbonaceous aromatics and other sources of pollutants in gasoline; reduce fine particulate emissions; reduce greenhouse gas emissions; control ozone formation; and help increase net gasoline yield.

I hope the information provided in this document is beneficial to the Agency when evaluating the need for increase the use of biofuels in the U.S. auto fleet.

A1. Thank you Senator Nelson, this document was referred to the Office of Energy Efficiency and Renewable Energy for review.

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