

**Statement Of**

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Forestry Committee  
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Preamble:

Mr. Chairman and distinguished committee members, thank you for the opportunity to visit with you today. My name is Jeff Lutt. I am Executive Vice President of Corporate Operations for POET. I would like to talk with you today about food, fuel and feed production; today and tomorrow.

## **POET – INTRODUCTION**

POET, headquartered in Sioux Falls, South Dakota, is the largest producer of biofuels in the world. POET is an established leader in the bio-refining industry through project development, design and construction, research and development, plant management, ownership, and product marketing. The 20-year old company has twenty-three (23) ethanol production facilities and three more under construction that will all be commissioned this fall. We will then be producing and marketing more than one and half billion gallons of ethanol annually and producing over four million tons of dried distillers' grains, a high protein animal feed marketed throughout the world.

The POET development model is unique. It started on the Broin family farm in the 1980's and has spurred the growth of investment by thousands of farmers and individual main street investors. POET's business model is to invest in, develop, design, construct and manage ethanol production facilities. The facilities are independent limited liability companies (LLC) owned primarily by individuals and local farmers that provide the corn feedstock. POET employs the facility's general manager and on-site technical engineer. All other employees are employed by the LLC. POET also has significant investment and Board of Director representation at each plant.

By leveraging business size and position, POET has created the most successful and profitable ethanol facilities in the industry. POET has achieved breakthrough progress beyond ethanol processing, extracting extraordinary new value from each kernel of corn.

POET is also a leader in the development of cellulosic ethanol. We have been working on cellulosic ethanol for several years. Our strategy in cellulosic ethanol production involves the utilization of existing corn-to-ethanol plants. We are doing this in order to capitalize on the existing infrastructure, utilities, roads, rail lines, and material handling. Our focus is on corncobs as the primary cellulosic feedstock, using the corn ethanol plant's existing farmer network to collect cobs. We are also looking to eliminate the use of fossil fuels by processing waste streams from the cellulosic ethanol process to energy to power the entire plant.

This approach will allow rapid deployment of the cellulosic ethanol process across an expansive corn ethanol base through a "bolt-on" approach. POET is implementing this strategy through what is called Project LIBERTY, an integrated corn and cellulose biorefinery.

Project LIBERTY will transform POET Biorefining-Emmetsburg, an existing dry mill ethanol plant located in northwest, Iowa, into an integrated corn-to-ethanol and cellulose-to-ethanol biorefinery. Once complete, this facility will produce 125 million gallons of ethanol, 25 of which will come from the cellulosic feedstocks of corn fiber and corncobs. Project LIBERTY will require almost no fossil fuels to operate. The total cost of the project will be in excess of \$200 million. POET is partnered with the Department of Energy whereby the DOE, will contribute up to forty (40) percent, or \$80 million, in project costs. Construction is projected to begin on Project LIBERTY in 2009 and become operational in 2011.

## **STATE OF INDUSTRY**

One year ago, there were 123 ethanol plants producing 6.4 billion gallons annually. Today, there are 163 operating plants producing 9.5 gallons of ethanol annually, a 47% increase in capacity. There are an additional 40 plants under construction and 7 plants under expansion that will increase the overall capacity to 13.6 gallons. These are gallons of a domestically produced, renewable product that is displacing millions of barrels of foreign oil.

However, our industry is facing some major challenges. The cost of plant construction has risen dramatically over the years. Just 10 years ago, most ethanol plants' capacity was 10-15 MGPY. POET's first plant was 1 MGPY and was one of the largest in operation at the time. Traditional ethanol plants were built in corn producing states which put incentives in place to stimulate investment by farmers and other local main street investors. Incentives stimulated development of an industry at a time when new interest was sparked by technology advancements. Public policy, which was driving these incentives, was sparked by the oil crisis in the 1970's and the clean air initiatives that followed. The cost per gallon to build and fund working capital for these plants was approximately \$1.75 per gallon or a total of \$20-25 million dollars.

Those plants are small by today's standards. Most dry mill ethanol facilities are now designed at 50 – 125 MGPY capacity. The cost of an ethanol plant project just five years ago was \$1.20 per gallon capacity. Today, the design and construction costs exceed \$2 per gallon, reaching upwards of \$250 million to \$300 million or more to deliver a completed project. The significant increase is due to inflation of construction materials and labor. Most notably are stainless, steel, concrete, other metals and qualified, skilled, manpower.

Construction for cellulosic ethanol plants is expected to be even higher. For Project LIBERTY, we are expecting costs to exceed \$200,000,000 to add 25 million gallons of cellulosic ethanol production to an existing site with existing infrastructure. That equates to \$8 per gallon. Early cellulosic development will be expensive not only with plant costs, but in biomass collection, storage and transportation as well.

The ethanol industry has been the target of a public relations defamation campaign that has severely damaged our industry's reputation. This campaign has inaccurately pitted food against fuel. Indeed, food prices have risen recently. However, many international and domestic factors such as the doubling of energy prices, skyrocketing transportation costs, oil based packaging cost increases, world raw-material demand growth led by China and India's emerging middle-class, a weak U.S. dollar, global droughts, specifically wheat crops in Australia in the past couple of years, and the significant rise of index fund speculation driven by investor inflation fears, have all contributed most significantly to these unprecedented price increases in commodities over the past two years.

A prime example is the recent fluctuation in corn prices. In 2008, the price of a bushel of corn has risen from \$4.80 to nearly \$8.00 only to drop back to the mid \$5.00 range within the last 6 weeks. This price change means that corn has gained and then subsequently lost one-third of its total product value. All of this price fluctuation has occurred while corn demand has remained basically unchanged. The divergence of market fundamentals and price has been due to the historic rise of speculative trading volume in commodity markets, not ethanol production. Even the President's own Counsel of Economic Advisors attributed 97% of the food price increases to factors other than ethanol production.

Food or fuel is not a choice we have to make. It does not need to be one or the other. It can be both. And it will be both if we have the will to do so.

Energy independence for the United States can be a reality. Brazil is a good example of what can be done. What they have done with ethanol and how they have changed their entire energy platform is something we should applaud and use as a model here in the United States. They have shown a great deal of commitment. It is important to note they used their own natural resources to lessen their dependency on oil. In the U.S, we should do the same.

The U.S. has an incredible natural resource of biomass. We could be considered to be the Saudi Arabia of biomass. For a number of years U.S. farmers overproduced grain and sold it at a hefty loss while the U.S. taxpayer made up the difference in the form of farm subsidies. Now, with the growth of biofuels, another market has been created for grain allowing grain prices to be above the cost of production for the first time in decades. This is already creating a worldwide explosion of agriculture. According to the *World Agricultural Supply and Demand Estimates* (WASDE) report from August 12, 2008, world grain production is projected to set a new record in 2008/09. It is projected to be up 3.5 percent over last year and 9.3 percent higher than two years ago.

A recent study from Stanford University showed there is over one billion acres of idled farmland around the world. This will soon go into production since the farmer can now make a profit on his labor. We are already seeing record agriculture investments in Africa. The idled farmland around the world (not rainforests) has the potential to replace nearly all of the world's gasoline usage if it were to be used to produce ethanol.

With these tremendous opportunities, agriculture companies are investing heavily in new technologies to improve productivity. DuPont predicts corn yields will increase by 40% in the next 7 years. And Monsanto forecasts 300 bushel per acre corn by 2030.

With these yield improvements, grain-based ethanol has the potential to continue to grow by leaps and bounds without substantially increasing food prices. We believe we could produce 50 billion gallons of grain based ethanol per year here in the U.S. in the next two decades.

Grain ethanol production is also getting more efficient and more environmentally friendly. According to a recent study by Argonne Laboratories, in just the last five years, the dry-mill ethanol industry has reduced energy consumption by 22% and water usage by 26%. Developments are also being made to reduce and possibly eliminate natural gas usage by the biorefineries.

One example is our plant in Chancellor, SD which in the next couple of weeks will commission a solid fuel boiler that will burn wood waste to power 60% of the plant's power needs. A pipeline is also being installed to a nearby landfill which will pipe methane gas to the biorefinery. Eventually, this will replace nearly all of the plant's natural gas usage. After these technologies are employed, ethanol will use less than one-third the amount of fossil fuel energy as gasoline to deliver one BTU to an automobile.

POET has been in the ethanol industry over twenty years and our technologies have continued to improve along the way. What is exciting is that we continue to discover new opportunities to improve our processes. The ethanol industry continues to improve by making the process more efficient, becoming more environmentally friendly and utilizing new sources of renewable feedstocks.

The grain-based ethanol industry is also the foundation for cellulosic ethanol. This dream gets closer to reality every single day. A report from DOE / USDA showed there is over one billion tons of available biomass in this country. This biomass can eventually be turned into energy – a tremendous amount of energy – if our nation is committed to do so. This also presents an incredible new opportunity for agriculture around the country. As a great deal of this biomass is in the form of agricultural residue, this presents a new income stream for farmers, new investment in equipment and new jobs.

One billion tons of biomass has the potential to turn into 85 billion gallons of cellulosic ethanol annually. If you combine this with the grain-based ethanol opportunity, we could eventually produce 135 billion gallons of ethanol, which is over 90 percent of our nation's gasoline usage!

Also, the biorefinery of tomorrow will be producing several other products in addition to ethanol and distillers' grains. Our research team is making strides in developing other biotech products. As many products have developed from petroleum, many additional goods will come from the renewable resources we use to make ethanol. For example, biochemical, nutraceuticals, specialty proteins and biopolymers will one-day be produced at the same biorefinery that today produces ethanol and distillers' grains.

The resources are right here is the U.S. to make this happen. However, an issue that clearly needs to be understood is that there is currently a small market for ethanol in the U.S. Contrary to many beliefs, there is not an undersupply of ethanol today; but rather, an oversupply. That is why ethanol is selling for approximately one dollar under gasoline right now. (This does not even include the tax credit the blenders receive.)

Since most of the vehicles in this country are only for E10, we are essentially limited to ten percent of the gasoline supply. This is commonly referred to as the "blend wall". The current gasoline usage in the United States is approximately 140 billion gallons annually. Ten percent of that is 14 billion gallons. However, it's not realistic to penetrate every single gallon, so experts predict the blend wall to be around 12.5 billion gallons. We expect to crash into this wall sometime in 2009.

Flex fuel vehicles along with higher blends of ethanol are certainly a big part of the long-term solution. But this will take several years to accomplish. To continue on the path of reducing our dependence on foreign oil, higher blends of ethanol are needed today. If the ethanol market is allowed to expand, investors will have the confidence they need to continue to invest in cellulosic ethanol production. Without higher blends, there is literally no place for any additional ethanol to go which will threaten the development of the commercial cellulosic ethanol industry.

Additionally, there has been much recent discussion on removing the tariff on Brazilian ethanol. If foreign ethanol were allowed to enter this country without a tariff as the U.S. ethanol industry is approaching the blend wall, the goal for energy independence will be set back decades. The U.S. biofuels industry will be crushed. Investment has already slowed down considerably due to the blend wall. With tariff-free, Brazilian ethanol entering our country, investment will cease. And this will apply to not only grain-based ethanol, but cellulosic ethanol development as well. Additionally, if the tariff were to be dropped, the U.S. taxpayer would actually be subsidizing Brazilian ethanol because its use would be subject to the blender's tax credit just the same as U.S. produced ethanol.

That doesn't make much sense. And why would we want to trade a dependence on foreign oil with a dependence on foreign ethanol?

POET is one of the leading developers of cellulosic technology. We have invested tens of millions of dollars in cellulosic ethanol research and are prepared to invest hundreds of millions more to make this a reality. The commercialization of cellulosic ethanol is not far off. POET announced last week it will be producing cellulosic ethanol at our pilot scale facility later this year at Scotland, South Dakota. Construction of our commercial scale facility in Emmetsburg, IA is scheduled to begin in 2009. The plant is expected to commence commercial production in 2011.

But if we are suddenly faced with an influx of Brazilian ethanol in our market while we are simultaneously running into an ethanol blend wall, we will not be able to see this dream become a reality. Nor will the many others who are diligently working on this process.

The bottom line is; there is not an ethanol supply problem in the U.S. There is a market problem with the 10% blend. So, foreign ethanol will not replace even one single gallon of foreign oil. Instead, every gallon of foreign ethanol will displace a gallon of U.S. produced ethanol. And this will cripple the future of the U.S. biofuels industry. That should not be an option.

Few will argue that our nation's dependency on foreign oil is a dangerous situation. Ethanol is clearly the most readily available fuel to compete with oil. How can the solution to the problem of dependence on foreign energy be dependence on a new foreign energy?

## **RECOMMENDATIONS**

If we truly wish to see a change in our nation's transportation fuel supply, we need to do the following:

1. Create a larger market for ethanol by allowing higher blends in today's vehicle fleet. The 10% blend wall will stop investment in both grain-based and cellulose-based ethanol development.
2. Mandate that all new vehicles are flex fuel. It takes 17 years to convert our automobile fleet. It is minimal cost to make a new car flex fuel and we should not delay this any longer.

3. Incentivize the installation of blender pumps throughout the nation. Blender pumps give the consumer the choice of multiple ethanol blends. We need to allow the American consumer to choose his or her fuel blend based on performance and price.
4. Support cellulosic development. The recent Farm Bill has three important provisions that will help which USDA needs to implement on a timely basis:
  - a. Loan Guarantee
  - b. Repowering
  - c. Harvesting, storage and transportation
5. We need to focus on a U.S. solution. The natural resources are available. It is important we continue to support the upstart biofuels industry. Today's grain-based ethanol is the foundation for cellulosic ethanol. The tax credit and tariff are critical pieces of legislation that will allow the nation's energy potential to be fully realized.

The U.S. ethanol industry has demonstrated in the past that we can meet the challenge and we stand by ready to do so in the future. Make no mistake; this problem is solvable in the United States. The natural resources, ingenuity and technology are all right here. We simply need our nation's will.

## **SUMMARY**

Thank you for the opportunity to testify today. On behalf of POET and the entire renewable fuels industry, we thank you for past legislation that is truly making a difference in our nation's energy supply.

POET looks forward to working in partnership with the Congress and the Administration to reach the national goal of 36 billion gallons of renewable fuel produced per year by the year 2022.