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Good morning Chairman Stabenow, Ranking Member Cochran and Members of the Committee. My name is Jan Koninckx and I am the Global Business Director for DuPont Industrial Biosciences, which includes our biofuels and biomaterials initiatives. I am pleased to be here today to discuss our progress on renewable fuels. My testimony will cover the significant investment that DuPont has made in biofuels and how investments like these are bringing about a transformation from a petroleum based to a bio-based global economy. This tremendous shift in how we energize our planet is not only technically possible – it is real, it is happening today and it is due in large part to the visionary legislation enacted by Congress a few short years ago called the Renewable Fuels Standard, a successful policy that must endure.

DuPont Biofuels

Our deep commitment to biofuels and biobased products stretches across the country from our laboratories in California, to the corn fields of central Iowa and our headquarters in Delaware.

It starts with the seed. Our DuPont Pioneer seed division scientists work with farmers every day to optimize corn production. First, and most importantly, we continue to improve harvestable yield per unit of inputs. We also select certain seeds for ethanol potential and offer over 180 High Total Fermentables hybrids. As unpredictable weather events persist, DuPont teams have introduced drought tolerant corn to help farmers manage this uncertainty. While the drought of 2012 was devastating to many growers, grain production would have been much lower without the advances of these types of technologies. Beyond seed genetics, DuPont also produces enzymes to improve digestibility of the valuable byproduct from corn ethanol production that is used as feed. These advances combined enable more predictable corn production, delivering increasingly more food, more feed and more fuel per acre.

But that is only half the story. Because with more corn comes more corn residue. It is with this agricultural waste - these leaves and stalks and cobs that DuPont and others have started to harvest our heartland - that we will supply the complex infrastructure necessary to commercialize cellulosic biofuels at scale.

DuPont began its research into cellulosic technology a decade ago. From the early days in our laboratories, our findings lead us to steadily grow our teams, our technologies and our investments. In 2009, bolstered by the momentum of our progress, we opened a large demonstration plant in Vonore, Tennessee. This one of a kind research facility generated a key body of knowledge around cellulosic feedstocks for the global market.

But to take the next step forward, we needed to get out into the fields with farmers. For the past four years, we have brought together growers, academia, public institutions like the USDA and custom equipment makers to conduct harvest trials on corn stover. Together, we have developed an entirely new model for biomass harvest, transportation and supply to a biorefinery. It is cost competitive and fully sustainable – preserving the land for generations to come.

All this work culminated in the groundbreaking of a 30 million gallon per year facility in December of 2012 in Nevada, Iowa, located approximately 40 miles north of Des Moines. I am happy to report that the construction is progressing on track and the facility is scheduled to start processing in the fourth quarter of this year. This plant, and the handful of others now coming online, is extraordinary in the sense that we have achieved something that has never been done before. We have re-imagined how we fuel our planet from renewable resources and built a technology and an ecosystem to support that technology without adding any CO₂ into the atmosphere. It is a remarkable achievement.

When you look at this from the perspective of a science company – this has actually gone quite fast and interestingly by comparison, significantly faster than the fossil fuel industry developed over a century ago. The challenge before us was incredibly complex. We had to unlock the sugars trapped in cellulose, biochemically convert them into advanced liquid fuel and create an entirely new supply chain to deliver this raw material with economics capable of competing with fossil fuels. DuPont has over 210 years of bringing scientific innovation to market. In my estimation, we've never delivered this type of disruptive innovation so fast.

In addition to cellulosic ethanol, DuPont is pursuing another advanced renewable fuel with our partner BP in a 50/50 joint venture called Butamax™. The joint venture has developed and extensively tested bio-butanol, a higher alcohol fuel produced by fermenting biomass. Biobutanol has excellent fuel properties, with higher energy density than ethanol and the ability to be distributed via the existing gasoline infrastructure, including pipelines. It also reduces volatility, allowing butanol gasoline blends to be used in the summer in regions that currently require waivers from air quality regulation for the use of ethanol-gasoline blends. Because butanol has less affinity for water and is a weaker solvent than ethanol, it will be more compatible with existing equipment, including small engines. We are on track for commercial scale production of biobutanol in the U.S. in or after 2015.

Indeed, these are both tremendously exciting technologies coming online which squarely put the U.S. in a leadership position in the global biofuels market. But Members of the Committee, this is just the beginning. Here is where it gets truly exciting. Let me explain.

We start with biofuels. The technology to unlock the sugars in cellulose and the supply chains being developed to deliver those sugars at scale are enabling the commercial

deployment of cellulosic ethanol today. Tomorrow, these same sugars and supply chains will be enabling a whole new world of bio-chemicals and materials, delivering on the promise of a truly bio-based economy.

And we already have success in this regard. DuPont currently works through a joint venture with Tate and Lyle to produce Propanediol from biological origins. This Bio-PDO from plant starches used in DuPont's Sorona® carpet technology, automobile parts, de-icing fluids, and other personal and industrial applications. Manufacturing these products requires less energy and lowers greenhouse gas emissions. More of these advances will be possible when a renewable energy supply chain matures and enables lower cost and higher efficiency.

DuPont and USDA Memorandum of Understanding

To achieve a sustainable supply of feedstock for the bio-based economy, last year DuPont joined Secretary of Agriculture Tom Vilsack in Iowa to announce a Memorandum of Understanding (MOU) between DuPont and the USDA to work towards voluntary standards for the sustainable harvesting of agricultural residues for renewable fuel. Our sustainable farm to fuels approach for corn stover set the stage for this agreement between our company and the USDA's Natural Resource Conservation Service. The agreement is facilitating the development of conservation planning assistance for farmers who supply bio-based feedstocks to biorefineries as the industry begins to commercialize. A conservation plan is a voluntary document, written in cooperation with farmers, which helps them protect natural resources while promoting a farm's sustainability.

Through the MOU, DuPont and NRCS are working towards a process to work with cooperating farms to execute sustainable harvest practices that help keep soil in the field and out of rivers, streams and lakes; promote healthier soils which help reduce flooding through increased infiltration rates; and provide for the efficient use of nutrients.

This is a critical step forward in the development of the cellulosic biofuels industry as numerous players work with growers to undertake the development of these incredibly complex feedstock supply chains. Harvesting stover residue sustainably is not just the right thing to do for the stewardship of our fertile heartlands – it is also a business critical imperative if we hope to maintain the renewable raw materials to supply biorefineries for decades to come.

Defending the Renewable Fuel Standard

The Renewable Fuel Standard is the guiding policy that has paved the way for all this progress. It has and will continue to enable rural job creation, additional income for farmers, national security through homegrown biofuel, reduction of greenhouse gasses, and the safeguarding of natural resources and land productivity. The fact is that ending or reopening the RFS simply delays the realization of the long term energy, climate and economic goals that a strong bipartisan congressional majority committed to in 2007.

The fuels of the future are here today, and we can thank Congress for enacting the bipartisan bill containing the RFS2. This policy has brought us to the point where the first commercial facilities producing cellulosic renewable fuels are starting up, and several more are under construction. As a result of this innovative policy, the U.S. is the world leader in biofuels and is leveraging one of the U.S.' biggest competitive strengths, its very productive farmers, to attract billions of dollars of private-sector investment from all over the world.

The first chapter of the RFS has played out as predicted, with corn ethanol technology maturing and playing a substantial role in our fuel supply. Since its enacting, the RFS has made homegrown renewable fuel ten percent of our nation's gasoline supply, lowered greenhouse gas emissions by 33.4 million metric tons, added \$500 billion in value to America's farmlands, lowered gas prices by \$1.09 per gallon and created a real choice at the pump. The next chapter is unfolding now with the commercialization of advanced and especially cellulosic renewable fuels made from residues such as agricultural, wood waste, and trash. That commercialization is under way, thanks to the RFS and over a billion dollars of private capital building commercial scale facilities. Over the next several years, cellulosic renewable fuel will grow into a sizable commercial industry with over 400 million gallons per year projected globally by 2020.

The RFS2 is working as it was envisioned and the world is watching. We are delivering affordable clean fuels, to the envy of other countries. DuPont, along with others in the industry, have played a role in that transition, investing hundreds of millions of dollars and our best research talent to bring about this exciting new opportunity for the U.S. Reversing course on the RFS would undo all of the progress we've made and deny the country of an international competitive advantage, a true alternative fuel with real climate benefits and economic upside for consumers and producers across the U.S.

Farm Bill

For more than a decade, this committee has enacted significant policies that have been and are instrumental in the development of traditional and advanced biofuels, biofuels infrastructure, and a biobased economy. The Biomass Research and Development Act has been instrumental in fostering research that is unlocking the potential of cellulose and plant-based sugars as a feedstock that biorefineries are converting into biofuels and biobased products. These biobased products include ingredients for detergents, personal care products, carpet and apparel.

The Rural Energy for America Program (REAP) has played an important role in improving on farm energy efficiency, designing and implementing renewable energy systems, and recently in cost sharing the installation of blender and E-85 pumps. We are at a critical time when infrastructure investments must be made in order to achieve higher level blends of biofuels envisioned in the RFS. Incentivizing or offsetting the cost of blender and E-85 pumps is helpful, but the pace of infrastructure conversion will need to hasten. We were disappointed to see the new farm bill limit the availability of REAP

funds to be used for biofuels infrastructure. I urge this committee to work with the U.S. Department of Agriculture to identify alternative programs to invest in biofuel infrastructure. It would be very important to increasing the availability of E85 and other higher level blends if companies licensing their brand to service station owners were prohibited from requiring duplication of signage, different islands, canopies, and point of sale systems for stations desiring to offer advanced biofuels to their customers.

The Biomass Crop Assistance Program (BCAP) will play an increasingly important role as a number of advanced biofuels facilities come on line. The role of BCAP in collecting, transporting, and storing biomass will be significant over the critical next few years when the first tranche of cellulosic ethanol refineries come on line. As with any technology, the most risk is associated with the first facility. Subsequent risk is reduced as additional facilities incorporate what is learned from the initial construction, start-up and manufacturing runs. Policies that reduce risk during this process improve investment confidence. BCAP will also play an equally crucial role in establishment of dedicated energy crops in geographies where feedstocks like corn stover may not be plentiful.

We are also hopeful that increasing focus on renewable chemicals, including by adding eligibility for renewable chemicals under the Biorefinery Assistance Program loan guarantee program. DuPont applauds this Committee for extending authorization for these and other important energy programs in the Agricultural Act of 2014, commonly referred to as the Farm Bill. We also applaud this Committee's commitment to renewable energy by including mandatory funding for this title. This sends a strong message that the United States Congress continues to support expansion of renewable energy.

Another important program is the USDA BioPreferred Program. As the committee knows, this program requires the federal government to purchase products with biobased content as long as price, quality and performance are equal to conventional products. As discussed before, DuPont currently converts biomass into materials that are used in carpet, auto parts, and deicing fluid to name a few applications. Upon perfecting the commercial scale conversion of cellulose sugars, we plan to greatly expand the use biomass as a feedstock in a wide range of products where fossil fuels have traditionally been employed. In fact, a few blocks from here the National Corn Growers Association and the National Grains Council offices have carpet composed of DuPont's Sorona® technology. We ask this committee to support the USDA BioPreferred Program.

The technologies for converting cellulose to fuel are here today and soon cellulose to biobased products will be realized. The facilities that harness these transformative technologies are being built. Without the policy stability the RFS provides, none of this would have happened in the US. An entire biobased economy is waiting for us in the future, with all of the environmental, economic and energy security benefits this country is so anxious to achieve, if only we have the courage and commitment to stay the course.

In conclusion, I want to personally invite members of this Committee to visit our Nevada, Iowa cellulosic ethanol facility which is targeted to be completed in the fourth quarter of this year.