Testimony before the Senate Agriculture Committee

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Thank you Chairwoman Stabenow and Senator Roberts for inviting me to testify today. I am Marc Verbruggen, the Chief Executive and President of NatureWorks LLC, based in Minneapolis, MN the home state of committee member Senator Klobuchar.

I also want to recognize Senator Nelson. We have worked with him for many years, going back to his time as governor, to bring bio-based products to market. I also would to thank Senator Johanns from Nebraska for his work with us as well. Our manufacturing plant is located in Blair, Nebraska. We employ about 100 people and are presently investing tens of millions of dollars to improve efficiencies and further expand our production capacity in response to double digit global demand.

This demand is creating jobs and spurring new product growth for our customers – from manufacturers in Ohio like Clear Lam and PolyOne to manufacturers in Michigan like Fabrikal – one of our biggest global customers. This is also supporting corn demand, as well as driving low carbon footprint packaging for leading US brands like StonyField Yogurt in New England and global retailers like Wal-mart.

More nascent, but of tremendous opportunity in Michigan, is the leading interest from auto companies in replacing the lightweight, performance materials in their cars with biobased versions. Ford Motor Company in particular is highlighting its interest and long term technology leadership in biobased materials including what it's already done with soy-based polyurethane foams – including some manufactured by our parent company Cargill.

Bio polymers represent an extraordinary sustainable manufacturing platform. While other industries may still be struggling, this industry is beginning to flourish globally, with high profile IPO offerings and Venture Capital investments.

According to a recent report Minnesota venture capital investing numbers in green chemistry are up for two consecutive quarters. For several years running medical technology has been the top funded sector, but green chemistry technology may be taking over. The medical technology industry in Minnesota has established roots, while the green chemistry space has taken to the state more recently. While most green chemistry companies in Minnesota do not

have the long history of NatureWorks, there is a growing renewable chemical cluster which fits nicely with venture capitalists looking to take part in the all important green economy. This tracks with national trends as well, with potential for all regions in the US to benefit.

Between 1997 -2003, the US trade balance in chemicals plummeted from a $20B surplus to $10B deficit. According to a recent jobs report issued by the Biotechnology Industry Organization ("BIO"), this Committee could help create over 237,000 direct US jobs in the sustainable chemistry sector, and help improve the balance of trade in the chemical sector. High value bioproducts could help turn around the job loss in the US chemicals industry. With the help of the Committee, US renewable chemical companies could capture a projected 19% of a new estimated $1 trillion global biochemical market.

To illustrate, NatureWorks' one plant directly supplies over 50 manufacturing customers in the US, and there is a tremendous multiplier effect, as each of those manufacturers in turn, supplies their customer base, with the cascade effect rippling on through the channel to market. NatureWorks is proud to be part of this fast-growing sector in Minnesota, Nebraska, the US, and around the globe.

With that broad context of the renewable polymers and chemicals industry established, I'd like to talk to you about NatureWorks.

I want to recognize up front that the NatureWorks story you're going to hear – the development of this world class, sustainable manufacturing platform - was supported in part by an R&D grant from the Energy Efficiency and Renewable Energy Program within the U.S Department of Energy. This project, "Making Industrial Biorefining Happen" leveraged significant private investment to achieve efficiency and operating productivity.

NatureWorks LLC was the first company to commercialize a broad family of bio-polymers, derived from 100 percent renewable resources. We engineered and built the first ever large scale bio-polymer plant, with the required economies of scale to compete head-to-head with traditional oil-based polymers. Our proprietary PLA (polylactic acid) polymer, marketed globally under the Ingeo™ brand name, can today be found in a wide variety of applications, from rigid and flexible disposable packaging, to wipes, diapers, and, in blended form, in an ever increasing range of (semi-) durable products (gift cards, mobile phones, computer and copier housings). Global brands and retailers such as Coke, Pepsi, Danone, Nestle-Purina, Toyota, and Walmart have Ingeo products in their global portfolio.

NatureWorks is a typical representative of the broader bio-polymer and green chemical industry, and is proud to be a Presidential Green Chemistry Challenge Award recipient, in recognition of Ingeo providing a number of benefits, including:

- The carbon footprint of the industry's products, as demonstrated through a wide variety of third party Life Cycle Analysis, is 50% or less than of traditional plastics;
- Our products are 100% based on renewable resources, which are abundantly available in U.S., and as noted earlier, based on present feedstock economics, PLA can compete very well with disposable oil-based plastics such as Polystyrene and PET.
- The Ingeo PLA renewable feedstock requirement can be easily met domestically with materials such as starch from conventional corn. As a result, we create a highly valuable bio-plastics product, which is a tremendous addition of value for both our input suppliers and our customers.
- Additionally, Ingeo™ and other renewable polymers convey environmental benefits when the PLA waste gets composted or is re-cycled and reprocessed into new PLA products.

As to be expected from a "new-to-the-world" innovation, the journey to commercialize Ingeo™ has not been an easy one. Initial manufacturing plant yields were very low, manufacturers didn't really know how to work with the product, and frankly and there wasn't much initial market demand. We were a bit ahead of the curve. As a result, NatureWorks suffered through a period of sizeable financial losses. Further, to commercialize a new plastic on a global scale required a large commercial organization, which had to be built from scratch and resulted in very high upfront annual expenses.

Thankfully, the last couple of years have seen a dramatic improvement in our operations – operating plant yields are now comparable with traditional plastic plants, consumers around the world have been driving the demand for "sustainable" plastics and global brands see the value in "low carbon" product launches.

The marketplace is now changing. During the economic downturn, not only did we survive, we continued to grow. Throughout the global recession, we grew on an annualized rate of close to 10 percent. We are now experiencing a year-over-year growth exceeding 30%. Our business fundamentals are in a much better place. Our customers are household names. Consumers and brands care, and we believe that growth will continue at a consistent high rate. Green chemistry and agricultural innovation in general, hold significant promise.

As it relates to the Congress, we would stress several important policy principles that can serve the sector well:

1. USDA BioPreferred: Maintain and expand USDA's successful BioPreferred consumer labeling program. NatureWorks is one of the first to be certified for the BioPreferred Program, and ClearLam - our Ohio manufacturing customer I referenced earlier, was the first manufacturer to get the entire packaging line which it supplies to Walmart, certified

"BioPreferred." I thank the Committee for its leadership in creating BioProferred, which has sent a strong message to the marketplace, and I urge increased support in the next Farm Bill.

2. Government support – incentives or tax benefits – should be predictable, stable and multi-year. Significant capital is required to build and operate large scale bio-polymer plants, some of them being "first-of-a-kind" and capital markets still considers the bio-polymer industry as carrying sizable risk. Consequently, only multi-year, predictable incentive programs will be seen as lowering the investment risk and assisting job creation.
3. Incentives should not be biased toward one type of product or feedstock versus another. Bio-based innovation projects should have equal access to any form of assistance the government offers. As an example, future bio-refineries will have economics similar to oil-based refineries, needing a balance of high volume and high margin (bio-plastics) products to be viable. At present, the US government does not recognize this required balance in its present incentive programs. The US should not walk away from America's competitive advantage at corn dextrose and renewable oils during the transition to next generation technology.
4. Industry incentives should be competitively awarded. This ensures that projects are appropriately reviewed not only for the science involved, but also with an element of commercial viability.
5. Government should expect that private capital be a part of the equation. The pledge of private capital is a strong signal that those involved believe a project is promising. Government can and should support, but it should not be a disproportionate source of funding.
6. Policy and government involvement needs to be coordinated. We need the farm bill, bio-based incentives, and tax policy to be aligned, so that the commitment to green chemistry is well coordinated. Enactment of the Biobased Production Tax Credit, a priority for NatureWorks, though outside the jurisdiction of this Committee, would greatly enhance job creation and help this sector tremendously.
7. Government should work as hard to promote manufacturing investment as it does investing in innovation. Innovation is essential, but manufacturing investment and commercialization of products are the sources of jobs. Bio-polymer start-up companies face a number of investment hurdles, the largest one bringing "new-to-the-world" technology to scale. A number of private financing options exist to build pilot or demonstration plants but far fewer options exist to build a large scale plant. In the absence of US investment options, there is a material risk that plants will be built overseas and/or overseas industries will gain ownership of US bio-polymer companies. Other countries are offering significant incentives to lure this sought after renewable industry abroad.

Conclusion

I thank the Committee for its leadership in holding this hearing, and look forward to working collectively on the proposals discussed today. With a sense of urgency, the U.S. can capture a projected $190 Billion of the $1 trillion global renewable chemical market, as well as all the value chain jobs that go with this sector. However, the industry needs similar manufacturing-scale incentives that have been provided to other industries in their early stages such as those provided to the petrochemical, biofuels, wind, solar and other renewable industries – or the US will lose jobs and the historic opportunity to lead global sustainable chemical manufacturing.

The primary reason I am raising these principles is that the potential for bio-plastics such as Ingeo PLA is now recognized globally. While the U.S. is the world's most efficient producer of corn, there are other feed stocks that are a suitable substitute – most notably cane sugar or starches from alternative plants such as cassava. Multiple sugar- or starch- producing countries in Southeast Asia, Europe or South America are working hard to attract manufacturing investment that will benefit local farmers by maximizing their crop value and while creating high wage industrial jobs. One S.E. Asian country is now providing an incentive package containing a15-year tax abatement for investors in the bio-plastic industry. Since the bio-polymer industry will come of age in the next 5 years, we believe it is a critical time for the U.S. to remain a strong base for innovation; but the US must remain equally focused on bringing these innovations to scale if it wants to be home to the manufacturing of these innovations.

Let me conclude by reiterating that the US is still on the forefront of bio-polymer technology, from enzymes to fermentation to chemical technologies. It is home to the best developed agricultural infrastructure, and the base of some of the largest agricultural and chemical companies in the world. It still has the largest plastics market. It has qualified labor and competitive energy rates. It is therefore uniquely positioned to benefit from the emerging bio-polymer industry, which will grow to a multi-billion dollar enterprise over the next decade.

In the end, only the marketplace will decide which innovations succeed. We are a firm believer that "green" plastics with economics tied to renewable resources will be one of the key growth drivers for the next decade, creating numerous "green" jobs tied to domestic feedstocks rather than imported oil. Where the U.S. government can help is to support innovation through competitively awarded research funds, and at this point probably most important, re-double efforts through tax policy to attract the manufacturing base that many other countries are now working so hard to get.