



State of Wisconsin
Jim Doyle, Governor

Department of Agriculture, Trade and Consumer Protection
Rod Nilsestuen, Secretary

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Testimony to the Joint Legislative Council Committee on Domestic Biofuels

Good Morning Senator (*Pat*) Kreitlow and Representative (*Scott*) Suder and members of the Joint Legislative Council Committee on Domestic Biofuels. It is my pleasure to be with you today. This is an impressive committee and I know you will all learn a great deal from each other.

Some have said the development of a bioeconomy represents the greatest economic opportunity for rural America since rural electrification in the 1930s. As currently structured, the bioeconomy can and does have a significant impact on our Wisconsin and Midwest economy in terms of rural jobs, the stability of the family farm and value added opportunities for many business sectors – from metal fabrication and manufacturing to transportation to the convenience store on the corner. Without question for our state, and our nation, working together toward greater energy independence simply makes sense from a national security perspective, a climate stewardship vision and for a pathway toward greater rural economic revitalization. But these bold goals will not occur without some strategic planning from government combined with private sector investment and entrepreneurship.

Reading the mainstream media newspapers this past year you would get the impression that all biofuels are worse than traditional gasoline. Nothing could be further from the truth.

All biofuels are better than traditional gasoline for a wide variety of reasons.

Foremost, domestically produced biofuel means greater energy security when the majority of today's oil supplies are in the hands of government-run oil cartels, and some in rogue nations hostile to US economic policy interests.

Second, the modern ethanol plant combined with modern corn growing practices (aka much higher corn yields than in the past) produces a lower carbon fuel than traditionally refined gasoline. In fact, as we get our petroleum product from the Canadian tar sands and other tough to mine or drill places the gasoline carbon footprint will get worse. That is why the race is on to create cellulosic ethanol, but for today we have domestic ethanol meeting a market need.

This does not mean that renewable fuel advocates can ignore some very legitimate environmental concerns with some very specific agricultural practices surrounding growing very large volumes of corn, or for that matter any monoculture crop. But it is time to return to some sanity in this societal debate about energy and our renewable future.

MGA Starting Point:

The Midwest Governors, under the bipartisan leader of Wisconsin Governor Jim Doyle and Minnesota Governor Tim Pawlenty, set forward a clear framework for this strategic plan when in November of 2007 they agreed to the Energy Independence and Climate Stewardship platform. I strongly urge you to take a closer look at the recommendations contained in the Midwest Governors Association

Agriculture generates \$51.5 billion for Wisconsin

Platform -- that by the way are now being further refined by a broad based Midwestern stakeholder review process – because the MGA platform sets forward ambitious, yet achievable goals for our region.

I am pleased to say as President of the North Central Bioeconomy Consortium (NCBC) – an organization comprised of the 12 Midwestern State directors of the State Departments of Agriculture, University Extension offices and Land Grant University Experiment Research Stations – that we played a key role in the early stage development of the MGA platform.

The North Central Bioeconomy Consortium continues to work with the MGA, the Midwestern Legislative Conference, and a wide range of public and private sectors partners on research and policy development through our grant from the Energy Foundation and in conjunction with our business partner the Great Plains Institute.

You probably know that our 12 Midwestern states – Indiana, Ohio, Michigan, Illinois, Wisconsin, Minnesota, Iowa, Missouri, Nebraska, Kansas, South and North Dakota – are the biofuel leaders of our nation. As of last month, of the 13.6 million gallons (**or 13,615,000 gallons**) of annual ethanol production capacity in the United States, a whopping 11.8 million gallons of that capacity (**or 11,815,000 gallons**) annually comes from our twelve (12) Midwestern states **for a total of 86.7 percent of the domestic biofuel capacity**. The State of Texas (oil industry country) is the only non-Midwestern state in the top dozen states for production (tenth behind Wisconsin which has a 498 million gallons per year production capacity). This past year we have heard a wide range of attacks on the corn to ethanol sector, but we should thank these early stage business leaders in the corn to ethanol sector for creating this important first stage of biofuel development that will lead us to a carbon reducing future.

We can also thank those who are making biodiesel in Wisconsin.

I believe ethanol production will continue its upward surge as consumers continue their demand for competitively-priced alternative fuels and vehicles, and as policy makers respond with incentives that encourage both businesses and consumers.

Federal policy makers are already driving the development of biofuels and the bioeconomy. I want to highlight some major policy steps:

Federal Energy Policy

1.) The biggest first step was with federal incentives was the Energy Policy Act of 2005 (*EPAct 2005*). The bill created the nation's first Renewable Fuels Standard (RFS), which went into effect on September 1st, 2007, setting new reporting, registration, and compliance requirements for major refiners, fuel blenders, and fuel importers.

2.) Even more important, in December 2007, the **Energy Independence and Security Act of 2007** was signed into law. The Act expands the Renewable Fuels Standard (RFS), beginning with 9 billion gallons of biofuels in 2008. This will ramp up to 36 billion gallons of biofuels by 2022.

It is worth noting that within a year of the EPAct 2005 enactment, more than 400 E85 pumps were installed nationwide, offering a renewable fuel containing E85 (85 percent ethanol and 15 percent

petroleum) to consumers and fleets with flexible-fuel vehicles. Unless the ethanol industry experiences a downturn and some production capacity goes uncompleted or unused, industry should easily exceed the first RFS requirements.

2008 U.S. Farm Bill

3.) In May, 2008, the U.S. Congress passed the Food, Conservation and Energy Act of 2008 (aka: the New Farm Bill). The new farm bill will accelerate the commercialization of advanced biofuels, including cellulosic ethanol, encourage the production of biomass crops, and expand the current Renewable Energy and Energy Efficiency Program. Section 9003 provides for grants covering up to 30% of the cost of developing and building demonstration-scale biorefineries for producing "advanced biofuels," which essentially includes all fuels that are not produced from corn kernel starch. It also allows for loan guarantees of up to \$250 million for building commercial-scale biorefineries to produce advanced biofuels.

I think the New Farm Bill (Energy Title) provisions may ultimately create some great opportunities for Wisconsin farm and forest land owners because our greatest competitive advantage is biomass-to-energy.

The Biomass Crop Assistance Program (BCAP) directs the USDA to establish project areas in which potential biomass producers and a biorefinery or other facility agree to produce and use biomass crops for conversion to advanced biofuels or bioenergy. It would pay producers up to 75% of costs for establishing and planting crops, plus annual payments to be determined. The program also provides cost-share payments for collection, harvesting, storage, and transportation costs at a rate to match the biomass sale price, up to \$45 per dry ton. Program criteria will include requirements for conservation and forest stewardship plans and community ownership will be a desirable condition. *(Rule making for this section should be closely monitored because the Congressional Conference Manager's Report expresses a preference for perennial crops and highly energy efficient annual crops, and preserving natural resources. This committee may want to track that rule making process closely.)* The Biomass Crop Assistance Program (BCAP) is funded with uncapped mandatory funding. A Congressional estimate puts this program at costing approximately \$70 million over five years.

One important provision that was stuck into **Energy Independence and Security Act of 2007** bares some further discussion by this committee and that is call for the Environmental Protection Agency (EPA) to develop a Low Carbon Fuel Standard (LCFS). Some members of the North Central Bioeconomy Consortium (NCBC) recently met with a broad range of stakeholders to discuss the potential impacts of a Low Carbon Fuel Policy. In the worst case, a Low Carbon Fuel Standard could greatly constrain the current ethanol infrastructure, and in a best case, it will continue to catalyze a next generation of renewable fuels from a diverse set of feedstocks. Like most public policy the devil is in the details and the EPA rule process bares close scrutiny.

Governor Doyle, and his Office of Energy Independence, have stressed for Wisconsin that a robust bioeconomy means developing not just biofuels, but also greater use of biopower (heating buildings and/or electricity) and fostering the future of bioproducts (made from non-petroleum based materials). This committee is studying maybe only one leg of this three legged stool by looking at domestic biofuels. It is important to remember they are often all tied together by the biomass feedstocks.

What are Wisconsin advantages and what are the challenges for furthering our bioeconomy and specially biofuels?

- **Transportation obstacles:** like other alcohols (and unlike gasoline, natural gas and oil), ethanol absorbs water and chemicals. For that reason, ethanol cannot travel through the established pipelines and tanks that move petroleum products without picking up excess water. Furthermore, as gasoline travels through pipelines or tanks, it leaves some solids that ethanol will pick up and dissolve into itself if it flows through the same pipeline or tank. Ethanol also corrodes pipelines, making the fuel unusable. To remain uncontaminated, ethanol must be transported by land separately from gasoline and it must be blended with gasoline just before distribution. This lack of infrastructure for shipping and blending ethanol with gasoline adds cost to the end product and eats away at profits.
- **Logistics:** Most current ethanol plants are situated in the Midwest due to the close proximity of the current corn feedstock. The further a region is from the corn belt, the higher the shipping costs and the higher the price at the pumps.

As you know we have a rail monopoly in the U.S. and the ethanol industry is constrained by this shipping issue. Rail shipping is controlled in the U.S. by four companies who have 96 percent of the rail lines. They often bypass Wisconsin which constrains shipment of distillers grains and is a concern for biomass shipping in the future.

These are among the many reasons for the push to develop technology that can economically produce ethanol from cellulosic biomass feedstocks such as switchgrass, wood waste and others. Wisconsin can and should be the leader in developing other feedstocks for cellulosic ethanol and I know Tim Donohue, Director of the Great Lakes Bioenergy Center will tell you more about how Wisconsin can be at the forefront of cellulosic ethanol development.

- **E85 infrastructure:** only a small portion of the 168,000 service stations in the U.S. pump E85. Even with E85 incentives in place, the scarcity of E85 fueling stations means that most flexible fuel vehicle (FFV) owners end up filling their tanks with gasoline instead of ethanol. Wisconsin and the Midwest Governor's Association platform call for boosting that infrastructure.
- **Environmental Concerns**
Growing corn requires applications of fertilizer and pesticides, which can have an impact on the environment. While many of our producers are good stewards of the land there is some concern with over applying of nitrogen. Some potential cellulosic energy crops can be drought-tolerant and use less water and longer-term less nitrogen fertilizer than corn. The science is still not fully development on the indirect land use impact of biomass-to-energy, but it merits further study and monitoring to make sure we look to sustainable management of biomass feedstocks.

Where can Wisconsin move ahead of the pack in growing the bioeconomy and move eventually to cellulosic biofuels?

We can start by building up the use of other biomass feedstocks such as switchgrass and hybrid poplar with smaller scale energy projects such as pelletization to heat. This goes back to my earlier comments about don't ignore the linkage between biofuels, biopower and bioproducts. DATCP had a recent study on switchgrass that makes some very positive recommendations on these smaller scale projects.

I highly recommend Wisconsin consider an advanced renewable tariff or what are sometimes called feed-in tariffs. This could create a tremendous catalyst for greater use biomass to energy in Wisconsin. It can open the door to a faster track for biomass aggregation for cellulosic ethanol too.

Advanced renewable tariffs or feed in tariffs

- We need to encourage renewable energy from methane capture, biomass to energy, wind, solar and other renewable power generation by providing a standard offer contract or feed in tariff.
- Wisconsin could pass legislation creating a **Feed-In Tariff** or Standard Contract Offer Model (Michigan, Minnesota, and Illinois had bills drafted last year.)
- Methane digesters have two positive climate effects. First, they generate electricity and thereby reduce the need for coal generated electricity. Second, they capture and burn methane that would otherwise have been emitted to the atmosphere.
- Feed-in tariffs offer a long-term, fixed payment to **renewable energy generators**, where the Renewable Portfolio Standard (RPS) seeks to create price competition between renewable generators to meet defined targets at least cost, and typically define maximum cost through a price cap instrument.
- As of 2007, feed-in tariffs had been adopted in 18 European Union countries, Brazil, Indonesia, Israel, Korea, Nicaragua, Norway, Sri Lanka, Switzerland and Turkey. Most of the laws in those countries require utilities to interconnect all eligible renewable generation, thereby guaranteeing that renewable electricity can "feed in" to the electric grid.
- Germany's renewable feed-in tariff has made that nation a world leader for wind and solar energy in a very short amount of time.
- In Germany, regional transmission authorities evenly distributed feed-in costs among national rate payers.
- A feed-in tariff can enable greater cooperative ownership models or community ownership

models for Wisconsin which can reduce not in my backyard debates (aka: NIMBYism), diffuse market control by a handful of players, and create a more distributed and democratic energy system.

We can start to build the growing, harvesting, collecting, storage and delivery infrastructure that will be needed for switchgrass or woody biomass. Smaller scale biomass to energy projects are a key starting point for Wisconsin. We should look to enhance the Fuel for Schools program, convert more state burners to biomass burners, encourage ethanol plants to shift to biomass for power, enhance the use of Combined Heat and Power. That can encourage the small wood lot owners to develop something like biomass supply cooperatives or for farmers to grow switchgrass and work with our network of farm supply cooperatives to aggregate and deliver switchgrass for energy.

That infrastructure is needed for us to make the next step to cellulosic ethanol. Once we build that infrastructure, the big step to an integrated cellulosic biorefinery that makes biofuels, likely bioproduct or co-products, and is heated or maybe fully run on biopower. That integrated cellulosic biorefinery is when we will have a robust carbon reducing and true energy independent bioeconomy in Wisconsin. We can start to build that system today.

I thank you for listening and will try to answer your questions.