



## State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

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### Special Committee on Domestic Biofuels

Department of Natural Resources  
Division of Forestry  
Paul DeLong, Administrator  
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Mr. Chairman and Committee Members:

Good morning. I appreciate this opportunity to appear before you to discuss the role of Wisconsin's forests in providing domestic biofuels. Developing a strategy for meeting our demand for domestic biofuels is complex. I am here today to talk to you about how Wisconsin's forests can be a part of that strategy and identify challenges and opportunities that should be assessed in the process. Wisconsin is well positioned to be a leader in providing renewable energy from forests. This is due to our:

- abundant and sustainably managed forest resource;
- leadership in providing certified wood;
- successful programs that promote the sustainable management of our privately owned forests;
- large pulp and paper industry; and
- leadership in research and innovation in renewable energy.

### **Wisconsin's Abundant Forests**

Forests cover nearly half of Wisconsin's landscape and provide benefits to each and every Wisconsinite. Yet our forests are often an overlooked part of Wisconsin's strategic infrastructure. Our forests are working landscapes, producing an array of benefits, many of which accrue to the public at large, not just the forest owner.

The benefits we derive from forests include clean air, clean water, wildlife habitat, flood control, carbon sequestration, wood products, jobs, renewable energy, displacement of fossil fuels, settings for recreation and tourism, and scenic beauty. Trees and forest also play a role in conserving energy in our developed communities.

The values we receive from the forest that are traded in the marketplace are the ones most often described. In Wisconsin, the value of wood products produced by our forest products industry exceeds \$20 billion annually. Wisconsin leads the nation in production of paper and in the value of forest product shipments. We remain second only to California in total employee wages from the forest products industry, which in Wisconsin is the number one employer in 23 counties and either second or third in an additional 15 counties. Forest-based recreation is estimated to add an additional \$5.5 billion in economic output in Wisconsin.

### **Wisconsin a Leader in Providing Environmentally Sustainable Wood**

Governor Doyle recognized the important role of Wisconsin forests in his original 2003 "Grow Wisconsin" plan. He directed the Department of Natural Resources and the Council on Forestry to explore opportunities to certify land in DNR administered programs to build the supply of verified,

sustainably produced source material. The Department moved quickly to complete forest certification and, as a result, we now have nearly six million acres of State Forest, County Forest, other state lands and private land enrolled in the Managed Forest Law program that either are or soon will be third party certified via the Forest Stewardship Council (FSC), Sustainable Forestry Initiative (SFI) and/or the American Tree Farm system. Our aggressiveness in certifying our forests positions Wisconsin well in the marketplace for both traditional forest products and renewable energy.

### **Successfully Promoting Sustainable Management**

The Managed Forest Law (MFL) program is the single most important tool the state has to ensure the long-term capacity of our private forest lands to provide the full array of public benefits over time. In 1985, when the original MFL program was passed, the legislature recognized that the economic and environmental benefits supplied by sustainably-managed privately owned forests are not guaranteed to be provided for any period of time. Therefore, the purpose of the MFL not only recognizes the need to produce wood to feed an important sector of the State's economy, but also the other public benefits our forests provide such as recreation, watershed protection and wildlife habitat. With most of the land in Wisconsin owned by private landowners, programs that provide incentives are needed to encourage sound forestry on these lands, and the resulting public benefits. Currently, nearly three million acres of private forest lands are enrolled in MFL, representing just over one-quarter of all private forest lands in Wisconsin. The DNR is working with partner organizations to assess how best to increase the percentage of private landowners willing to make a commitment to manage their land sustainably over the long-term.

### **Maintaining our Industrial Base**

Although we continue to lead the nation in paper production, the paper industry is under stress due to foreign competition, high energy costs and high fiber costs that have reduced companies' competitive position in the global marketplace. It is estimated that Wisconsin lost 15,000 jobs from 2000 to 2007 in the pulp, paper and printing sectors. The pulp and paper industry is restructuring globally and must add products and streamline operations to regain a competitive advantage.

The future health of the industry directly affects Wisconsin's economy; however, it also affects our ability to sustainably maintain forests. Our robust industry has provided an incentive to keep forest land forested and managed sustainably, and encouraged landowners to undertake activities to ensure the long-term capacity of their forests to provide an array of benefits, including feedstock for industry but also such things as recreation opportunities and clean air and water that benefit the public as a whole. As a result, the loss of industry is not only a detriment to Wisconsin's economy and our ability to produce domestic biofuels, but also to the health of our environment and quality of life in our state.

### **Pulp Mills as Biorefineries**

Wisconsin's large pulp and paper industry positions the state to take advantage of the existing infrastructure to add production of renewable energy at a large scale. The pulp and paper industry uniquely enables the state to be a significant producer of not only pulp and paper, but bioenergy, biochemicals and bio-feedstocks as well. As integrated "biorefineries" the mills could extract energy and other bi-products from wood while also making their traditional products. This has the potential to significantly increase their revenue stream from the same wood they currently bring into the mill. As a result, adding renewable energy to the products produced at our existing pulp mills would help keep the industry competitive globally while also helping Wisconsin achieve Governor Doyle's targets for renewable energy production.

### **Beyond the Biorefinery**

In addition to producing energy from wood used to produce value-added products, opportunities exist to utilize biomass from the forest that is not used by existing industry. The department estimates that

our forests contain over 600 million dry tons of biomass in our forests. Our forests already provide nearly 600,000 tons of wood for energy production today, and another one million tons of currently unutilized wood are available to use in energy production. This is all in addition to wood that might be used to produce energy prior to being pulped for the production of other products.

In order to ensure that our forests can sustain the production of woody biomass for energy, the Wisconsin Council on Forestry initiated an effort to develop harvest guidelines designed to assess how material can be removed from the forest in a manner that will maintain the ability of the forest to provide the array of other public benefits long into the future. The department has staffed this effort, which is scheduled to be completed next month.

The draft guidelines offer some encouraging news. Although there are some exceptions, the vast majority of our forests offer abundant opportunities to provide biomass for energy production in a manner that can sustain the full set of forest values.

### **Unintended Consequences**

Although Wisconsin's forests have the ability to significantly contribute to achieving our renewable energy goals, caution must be exercised to ensure unintended consequences do not result. For example, policies that promote bioenergy, if not carefully crafted, might tilt the marketplace in a manner that our existing forest products industry might not be competing on a level playing field. Using wood for energy clearly helps the State meet identified targets for renewable energy, thereby reducing our carbon footprint and increasing our use of "home grown" energy. On the other hand, to the extent that using wood for energy displaces using that wood for traditional products (e.g., pulp & paper, solid wood products) there is a significant drop-off in economic value. For example, it is estimated that a 40 MW biomass plant will use 400,000 tons of wood and employ about 30 people direct (100 jobs if indirect effects are included). That same 400,000 tons of wood used in one existing Wisconsin mill employs 500 people (2,200 including indirect) and produces a direct product value of \$328 million. This compares to one estimate of \$20 million of economic value for a utility burning biomass. Although there are a number of variables with this example, at a minimum it suggests the need to consider carefully the policies the State should advance in promoting bioenergy.

It is also important not to lose sight of all the different renewable energy products that can be produced from wood, such as transportation fuels, syngas, electricity and heat. Caution needs to be exercised to ensure that one product, such as transportation fuel, is not seen as the only or possibly even primary contribution of wood to energy. Wisconsin should carefully assess how policies might advance various uses of wood for energy, evaluating how to maximize the energy return to Wisconsin from our forest investment.

The free market will facilitate the efficient production of renewable energy, including wood-based energy. To the extent that government policy can provide signals to the marketplace, Wisconsin should carefully consider how to promote woody biomass for energy in a manner that does not adversely affect the sustainable production of all forest values, is additive to the State's economy and does not undercut existing industry.

### **Priming the Pump**

Since coming into office, Governor Doyle has worked to advance energy efficiency and move Wisconsin toward energy independence. As you know, the Governor has set a goal of generating 25% of electricity and transportation fuels from renewable sources by 2025, capturing 10% of the emerging bio-industry and renewable energy market by 2030, and becoming a national leader in groundbreaking energy research. The Governor also established the Wisconsin Energy Independence Fund (WEIF) for research and development, and commercialization or adoption of new clean energy technologies. Last

year Governor Doyle also committed \$50 million to build the Great Lakes Bioenergy Research Center. The synergy that is being created between the research center, the University of Wisconsin and the USDA Forest Products Lab positions Wisconsin to be the national leader in developing innovative solutions to meet our energy needs, from increasing biomass yields to working renewable energy solutions into the state, national, and global economies.

Additional state support that is either underway or on the horizon is to provide information about wood location and availability, encourage small landowners to consolidate harvest operations, and work with interested parties to assess how to effectively and efficiently aggregate biomass.

### **Wisconsin's Global Warming Task Force**

In 2007 the Governor signed Executive Order 191 creating the Global Warming Task Force. One of the missions given to the task force was to advise the Governor on ongoing opportunities to address global warming locally while utilizing an appropriate mix of fuels and technologies in Wisconsin's energy and transportation portfolios. I have handed out the recommendations of the task force which pertain to forests. As you review the recommendations, you will see they highlight how Wisconsin's forests can play several roles in mitigating climate change. In addition to sequestering carbon, our forests can provide a feedstock for generating renewable energy. By displacing fossil fuels, our forests reduce our collective carbon footprint. The production of biofuels creates another marketable product from our forests, increasing the incentive for private landowners to keep their forest land forested and, by extension, providing an array of public benefits.

### **Looking Ahead**

Our forests are a strategic asset that Wisconsin can use to help meet our future energy needs. In order to do so, we need to be thoughtful in how we approach use of our forests to best maximize the positive outcomes – ecologically, economically, and socially.

The biomass harvest guidelines being developed will go along way to providing the information to determine when, where and how much biomass can be taken from our forests. However, research on the impacts of biomass harvesting is not strong in certain areas. We must continue to research and analyze the impact of our actions to ensure the ability of future generations to continue to realize the full suite of values from our forests.

The marketplace is dynamic, creating a challenge for policymakers trying to guide development of new markets that increase the use of home-grown energy. We need to thoughtfully approach policy development to ensure there are not unintended consequences that may harm our essential existing forestry industry and by extension undercut the development of integrated biorefineries and the value-added energy production that can result.

Although Wisconsin's forests are not a renewable energy panacea, they can play an important part in meeting Governor Doyle's renewable energy targets, and in so doing provide a host of other economic and environmental benefits. The challenge for this committee, and all of us involved in this issue, is to put in place policies that will ensure our forests are used in a manner that maximizes the public values they produce. The DNR looks forward to continuing to work with you to help accomplish this.

I appreciate this opportunity to discuss these issues with you and would be glad to take any questions you might have.