



National Alliance of Forest Owners  
*Investing in the Future of America's Forests*

April 15, 2010

Via electronic filing  
The National Academies  
BANR MS 686  
500 Fifth Street, NW  
Washington, DC 20001

Re: National Alliance of Forest Owners' (NAFO) response to solicitation of written input regarding the study of current and projected biofuel production, use and impacts.

Dear Sir or Madam:

The National Alliance of Forest Owners ("NAFO") welcomes this opportunity to respond to the National Research Council's request for input regarding the study of current and projected biofuel production and impacts.

NAFO's mission is to protect and enhance the economic and environmental values of private forests through targeted policy advocacy at the national level. At the time of this submission, NAFO's members represent 75 million acres of private forests in 47 states. NAFO was incorporated in March 2008 and has been working aggressively since then to sustain the ecological, economic, and social values of forests and to assure an abundance of healthy and productive forest resources for present and future generations.

NAFO and its members fully embrace the nation's renewable energy goals. NAFO's members look forward to serving an instrumental role in realizing the congressionally established renewable fuel mandates by providing renewable forest biomass.

In addition to this written input, we intend to actively participate in your May 3, 2010, public meeting where you have invited stakeholder groups to address specific questions including: 1) what are some of the potential benefits of the RFS mandate to the forest industry; and 2) what are the potential positive and negative impacts on the resource.

## **I. Private Forests Play a Fundamental Role in National Energy Policy**

Private, working forests are a fundamental part of the strategic natural resources infrastructure of our nation, producing renewable, recyclable and reusable wood and paper products, sustaining plants and wildlife, producing clean water and air and providing recreational experiences. Working forests also play a substantial role in helping the United States achieve energy independence while reducing greenhouse gas (GHG) emissions. Forest biomass is a renewable energy feedstock that can help meet our national renewable energy goals in all regions of the country, if placed on a level playing field with other renewable energy sources, and will account for as much as one-

third of the renewable energy contemplated in various policies pending before Congress. As cellulosic ethanol from woody biomass develops into a commercially-viable technology, the contributions of domestic forests to American energy independence will become even more significant.

## **II. Using forest biomass to produce renewable fuel has significant carbon benefits**

In evaluating the GHG emissions associated with fuels, a lifecycle analysis (“LCA”) incorporates all steps in a “product system” to evaluate broader environmental impacts of products and processes. Work by the Consortium for Research on Renewable Industrial Materials, for example, has documented how managed forests can produce sustained, overall net GHG emission *reductions* when carbon is stored in enduring harvested wood products and/or when harvested wood products are substituted for products with higher energy/carbon footprints.<sup>1</sup> Similarly, the U.S. Department of Energy recognizes the GHG emissions reductions that would result from the use of cellulosic biofuels, stating that, “Cellulosic ethanol use could reduce GHGs by as much as 86%.”<sup>2</sup>

## **III. U.S. Forests are Managed Under A Mature Framework of Laws, Regulations and Policies that Promote Sustainable Forest Management**

There are currently 755 million acres of forestland in the United States, nearly 90 percent is naturally regenerated and 57 percent is privately-owned. 38 percent of the land area is owned by non-industrial, private landowners and 20 percent is owned by corporate landowners. (SAF, 2007; Clutter 2010) Forests in the United States were converted to other land uses, such as food production and cities, during European settlement. However, over the past 100 years forest acreage in the United States has remained relatively stable, and over the past 50 years total growing stock has risen 49 percent. (SAF, 2007; Clutter 2010)

The types of renewable forest materials that can serve as feedstock for renewable fuel include logging residuals, mill residuals, thinnings, pulpwood, and biomass crops, such as switchgrass and poplars, interplanted within land holdings managed primarily for timber. (Lucier, 2010; Clutter, 2010).

NAFO acknowledges there are concerns over the sustainability of our forest resources with additional markets such as biomass energy. However, private forestry operations are governed by a complex set of laws, regulations, and non-regulatory policies at the federal, state and local level in addition to voluntary, third-party certifications. The resulting framework has developed over many years and is now mature and adapted to resources conditions and needs of individual jurisdictions. The effectiveness of this framework has made the United States a world leader in sustainable forest practices.

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<sup>1</sup> See Bruce Lipke et al., CORRIM: Life-Cycle Environmental Performance of Renewable Building Materials, 54 Forest Prod. J. 8 (2004).

<sup>2</sup> U.S. Department of Energy. Ethanol Benefits. Retrieved from the Internet on February 8, 2010 at [www.afdc.energy.gov/afdc/ethanol/benefits.html](http://www.afdc.energy.gov/afdc/ethanol/benefits.html).

We can expect this leadership to continue as we continue to utilize our forest resources for renewable energy and other public benefits. (NAFO, 2009)

#### **IV. The Introduction of New Markets for Biomass will Promote the Conservation of Working Forests.**

Private working forests depend upon reliable markets for continued viability. The U.S. has experienced sustained growth in its forest resources in concert with an ever-increasing demand for renewable forest products. This is attributable at its core to the fact that viable markets for forest products keep forestland economic compared to other uses – spurring investment in forest management and limiting forest conversion to other land uses that realize a greater economic return. (Lucier, 2010; Lubowski, 2005)

Viable markets for biomass from forests not only help conserve forests as forests, but help improve overall forest health. Markets for forest thinnings help landowners fund silvicultural treatments to improve the health of their forests. These treatments are ecologically beneficial because they, “typically reduce wildfire hazard, improve wildlife habitat, and/or increase forest resistance to pests and drought.” (Lucier, 2010) Removing logging residuals can have positive and negative ecological affects that are site specific. Lucier discusses ecological objectives and considerations, including greenhouse gas mitigation, nutrient conservation, reforestation, soil and water conservation, and wildlife/biodiversity conservation. (Lucier, 2010)

Important to understanding the relationships between markets and sustainability is to understand how private landowners respond to new markets, like bioenergy. Dr. Mike Clutter addresses this relationship in the attached paper *A Developing Bioenergy Market and its Implications on Forests and Forest Products Markets in the United States: Economic Considerations*. Clutter documents the relationship between decreased capacity and prices for pulp and paper and stumpage for other forest products and the corresponding reductions in investments in silvicultural treatments on private forestlands resulting in reduced forest productivity. Using economic modeling to predict landowner behavior in response to new bioenergy markets, Clutter concludes:

- There exist substantial regional differences in forest resources in the United States. Attributes such as species composition, stand type, ownership patterns, etc. are important trends to consider when assessing wood-to-energy opportunities. These regional differences will impact how quickly and to what extent wood-to-energy markets develop.
- There exist substantial opportunities to increase forest productivity through intensive silviculture – particularly in plantations in the Pacific Coast and Southern regions of the United States. However, a primary component of that strategy will be prices that induce private forestland owners to invest in silviculture.
- Landowner responses to developing markets can play an important role in meeting the future timber needs of a developing wood-to-energy sector. While

supply may be inelastic in the short-run, it becomes less so in the medium and long-run.

- Emerging local bioenergy markets will focus initially on currently available raw materials in that locality. Hence, where wood is plentiful it will be recognized as an important element of the bioenergy answer – as long as it is not precluded by regulation. (Clutter, 2010)

## **V. Project Development Must be Accurately Forecasted to Understand Impacts on Forest Biomass Feedstock Supplies**

In addition to landowner responses, which affect supply, it is important to accurately predict demand. Dr. Brooks Mendell and Amanda Hamsley Lang have developed a screening methodology to predict likely capacity of the biomass markets to produce energy based on publicly available information for announced facilities. The attached paper, *A Practical Guide for Tracking Wood-Using Bioenergy Markets*, describes the methodology. Looking at the U.S. South, 129 announced or operating wood-consuming bioenergy projects in the South represent 47 million tons per year of announced capacity of which 18.7 million tons per year of capacity is predicted to be in operation by 2020. (Mendell 2010)

Mendell and Hamsley Lang presume that no cellulosic biofuel facilities will be operating by 2020 based on the current trends in the development of commercially viable technology. Nonetheless, the methodology they provide is a useful screen for all project announcements and any corresponding potential impacts on forest biomass supply. Overall, this methodology provides realistic expectations about demand and underscores the likely gradual ramp-up of renewable energy production, which will allow forest owners to adjust more gradually to market demand. (Mendell, 2010; Clutter, 2010)

## **VI. Current Policy Discourages Forest Biomass Utilization for Renewable Energy and Should be Improved**

Despite the ability of domestic forests to contribute to the nation's renewable fuel goals, current law prohibits production of renewable fuels across most forests. (Lucier, 2010) As currently written, the Energy Independence and Security Act of 2007 (EISA) RFS definition of qualifying renewable forest biomass places confusing parameters on significant acreages of private forestlands in the form of land use restrictions. These restrictions limit the ability of forest biomass to contribute to meeting the ambitious mandate to produce 36 billion gallons of renewable fuels annually by 2022. This definition also significantly restricts the use of forest biomass from naturally growing and regenerating forests, which make up more than 90 percent of our nation's non-federal forests. (Lucier, 2010; Clutter, 2010)

Definitions of qualifying renewable energy feedstocks should provide a level playing field for market access across all feedstock sources and encompass the full range of

forest biomass, including trees and other plants, forest residues (e.g., tops, branches, bark, etc.), interplantings of bioenergy crops, and byproducts of manufacturing.

NAFO continues to recommend that the law be changed to allow for a broad, inclusive definition of eligible feedstock from forests. The 2008 Farm Bill and the definition included in the House-passed American Clean Energy and Security Act (H.R. 2454) are examples of such definitions. The existing framework of federal laws, regulations, and practices coupled with the conservation benefits of new markets will help provide both a viable source of raw materials and sustain the working forests that provide them over the long term. (NAFO, 2010)

A federal RFS that does not appropriately include all forms of forest biomass not only limits our country's ability to produce cost-effective renewable fuels, it significantly limits the carbon benefits associated with using fuels derived from such biomass in regions of the country where forests are the dominant land use. Additionally, an inclusive definition of biomass that qualifies for the RFS will help to conserve our working forests by preventing conversion to other land uses and helping maintain and restore forest health.

## **VII. Conclusion**

NAFO and its members clearly have the requisite policy, technical and economic expertise to help the National Research Council with its evaluation of the economic and environmental impacts of increasing biofuels production. We appreciate the opportunity to provide written comments and look forward to participating in the May 3<sup>rd</sup> public meeting.

Thank you for the opportunity to participate in this dialogue. We look forward to further discussions.

Sincerely,



David P. Tenny  
President and Chief Executive Officer

## **References**

***A Developing Bioenergy Market and its Implications on Forests and Forest Products Markets in the United States: Economic Considerations.*** Clutter, Abt, Greene, and Siry. National Alliance of Forest Owners. April 2010.

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