



Environmental and Energy Study Institute

Carol Werner, Executive Director

Developing Sustainable Bioenergy: A Tool to Revitalize Forest Ecosystems and Rural/Local Economies

EESI is currently undertaking a two-year initiative, **Developing Sustainable Bioenergy: A Tool to Revitalize Forest Ecosystems and Rural/Local Economies**. Our goal is to develop policies and incentives that will help diversify feedstocks and technologies to build an environmentally sustainable bioenergy industry, with a focus on the utilization of wood residues, timber slash, and small-diameter, low-quality trees, from forest operations and the forest products industry.

There is a growing consensus and understanding among politicians, scientists, and other decision makers that the overwhelming threat of global climate change is and needs to be an important consideration when determining the impacts of any activity. Climate change has the potential to produce widespread and devastating repercussions throughout the environment, the economy, and society itself. This understanding provides a strong incentive for a national emphasis on increasing energy efficiency in every sector of the economy and reducing emissions of carbon dioxide and other greenhouse gases. Collectively, U.S. forests act as a colossal carbon store. Depending on the nature and extent of forest management, this carbon store can act either as a carbon source, a sink, or a carbon-neutral flux. When forests are harvested unsustainably or burn down in increasingly catastrophic wildfires, they act as carbon sources – contributing to the pool of greenhouse gases in the atmosphere and exacerbating global climate change. When annual removals, from both harvests and natural disturbances, are equal to or less than annual forest growth, forests will act as carbon-neutral fluxes or even sinks, capturing some of the atmospheric carbon and storing it as biomass. Because of the cyclic nature of this carbon store and the minimal processing required in its use, wood has the lowest carbon emissions and the greatest energy-efficiency when compared to other common structural materials, such as cement or steel. For the same reason, the energy contained in wood can be captured and used to generate heat and power with little or no carbon-emissions.

In addition to their valuable role in the carbon cycle, forests provide a number of other vital ecosystem services, filtering and storing water, building soils, reducing erosion, providing habitat, offering recreation, and protecting our communities and landscapes from catastrophic weather events. Yet the loss of forest product markets, steadily rising property taxes and rising management costs are threatening the long-term viability of our forests, both public and private, as forests are being lost to alternative land uses, such as suburban development, at an accelerating rate. The poor utilization and lack of markets for small-diameter and low quality trees make it difficult to implement silvicultural prescriptions among the full range of size classes, leading to the poor management practice known as 'highgrading' in which only trees above some minimum value are harvested. The inability to utilize these trees not only prevents good management and reduces revenue, it often totally precludes management for values other than commercial timber production, such as early-successional wildlife habitat and hazardous fuels reduction treatments. The National Fire Plan currently prescribes fuels reduction treatments for millions of acres as part of the national strategy to reduce the threat of catastrophic wildfires. The majority of these acres will never be treated due to limited budgets and the lack of an outlet for use of the thinnings.



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Production of energy from woody biomass will add value to low-quality forest materials and can make it logistically possible for forest managers to successfully implement management objectives. Foresters, landowners, and local officials are increasing aware that development of wood-based energy enterprises can help to slow encroachment from urban sprawl, reduce the intensity of forest fires, improve forest health, and drive local economic development through the creation of rural jobs and markets, all while providing a clean, sustainable source of domestic energy.

Wood-based Energy Discussion Series

EESI would like your help in bringing together a diverse group of foresters, academics, NGOs, and civic officials, as well as those involved in the production of wood-based energy products, for a series of discussions on the future of wood-based energy and sustainable forest management. **The primary motivation behind these discussions will be the accelerated development of a sustainable wood-based energy industry, one that complements the existing forestry infrastructure, facilitates management for a wide variety of values and objectives, contributes to local communities and reduces greenhouse gas emissions as well as our dependence on fossil fuels.**

Two main goals of these discussions are:

1. To define needed research for the production of sustainable wood-based energy, including such needs as national and regional biomass assessments and investigation of a wide portfolio of diverse regional feedstocks.
2. To determine the principal opportunities and barriers, both political and economic, to achieving the widespread adoption of wood-based energy.

A stakeholder discussion series will help in achieving these goals by providing a forum for the sharing of information and ideas, the exploration of problems and solutions, and the building of a general consensus on the needs and conditions of the industry and our forests. In addition, the networks and contacts made as a result of these discussions will continue to serve into the future as a valuable resource to those interested or invested in wood-based energy.

For more information or to participate in the discussion series contact Jetta Wong at jwong@eesi.org, (202) 662-1885 or Jesse Caputo at jcaputo@eesi.org, (202) 662-1882. In addition, please see our web site at <http://www.eesi.org/programs/agriculture/forestenergy.htm>.