



# MEDIA STATEMENT

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## Advancing Renewable Energy: Component to maintaining healthy economy and security

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**Madison, Wis.—** A key component to maintaining our national security and the health of our nation's economy rests on America's ability to develop alternative sources of energy and fuel. Doing so will reduce our dependence on foreign oil and reduce emissions of harmful greenhouse gases.

This week the Secretaries of the U.S. Departments of Energy and Agriculture are hosting a national renewable energy conference called *Advancing Renewable Energy: An American Rural Renaissance* at the America's Center in St. Louis. The goal of the conference is to help build the necessary partnerships and strategies for hastening the development and commercialization of domestic renewable energy systems.

As a nation, we already produce over 4 billion gallons of ethanol each year from corn, so corn is obviously an important source of biofuel. But as its use increases rapidly, soon corn for ethanol will be competing with corn for food. What the nation really needs is a breakthrough technology for producing ethanol or other transportation fuels from cellulose.

There are two enormous sources of cellulose, crop residues and wood-which lumped together are called biomass. A recent report issued by the two agencies hosting the conference estimated there are 1.3 billion tons of biomass available annually for conversion to energy. The fact is that as a nation we are fortunate to possess many sustainable sources of bioenergy, and to have a successful national program that makes a significant impact, we need to draw on all of them. And we need to make a commitment to fund the research institutions that can deliver the needed technologies.

The USDA Forest Service, Forest Products Laboratory (FPL) has been around for close to 100 years, and has been studying how to convert wood to fuel and chemicals almost since inception. One point of historical significance happened during World War II. Because of a growing shortage of petroleum, it was critical that other fuel sources be developed. FPL played a major role in creating a process whereby wood was transformed into ethanol. However, the allied forces fortunately ended the war before this technology needed implementation. After the war, the need for alternative fuel sources became less critical, and FPL focused its research program into other national needs such as housing and paper production. Today,

however, I believe we have again reached a critical juncture in our nation's history and in the need to develop alternative energy sources.

Wood holds a vast potential for being turned into fuel. America's forests constitute a valuable and renewable resource. The forests contain more than 30 billion cubic meters of commercial timber and produce annual biomass growth that exceeds current consumption by a factor of more than 2:1.

The major stumbling block to effectively turning wood into liquid fuel has always been overcoming the difficulty of converting wood back into the sugars from which it was made. Nature designed cellulose to be a tough molecule to break down. However, recent advances at FPL and other research institutions are narrowing that gap.

Currently, the economics of producing energy from wood are poor. However, as conversion yields improve and key technical barriers are overcome, the unused forest biomass produced annually—conservatively estimated at 360 million tons per year—could meet 30% or more of America's needs for liquid fuels. Increased forest productivity and new conversion technology could significantly increase that share.

Another important benefit is that much of the material that could provide this fuel could come from small trees that need to be thinned from our nation's forests to improve their health. We have all seen the devastating fires that have ravaged our country over the past few years. Much of this is due to high fuel loads in our forests, caused by years of successful fire suppression and growth exceeding harvest. Currently millions of acres are littered with an unnatural accumulation of stunted trees and woody debris. Fires in these overstocked forests are more intense, harder to control, and often result in catastrophic crown fires that kill older trees and sterilize the soil. An estimated 8.4 billion dry tons of material needs to be removed from just our National Forests, and as Teddy Roosevelt imagined when he established the United States Forest Service, this material is available for production of wood products, chemicals, and energy. Profitable uses such as these are needed for the removed material to reduce the costs of forest management, and to keep our forestland from being sold and converted to other uses. This is the goal of the USDA Forest Service: To help rural economies flourish and improve the health of our nation's forest, while at the same time improving the safety and security of our country as we help it achieve energy independence.

The USDA Forest Service Forest Products Laboratory was established in 1910 in Madison, Wis., with the mission to conserve and extend the country's wood resources. Today, FPL's research scientists work with academic and industrial researchers and other government agencies in exploring ways to promote healthy forests and clean water, and improve papermaking and recycling processes. Information is available at FPL's Web site: [www.fpl.fs.fed.us](http://www.fpl.fs.fed.us). Through FPL's Advanced Housing Research Center, ([www.fpl.fs.fed.us/ahrc/](http://www.fpl.fs.fed.us/ahrc/)), researchers also work to improve homebuilding technologies and materials.

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