



Advancing Renewable Energy: An American Rural Renaissance Conference

The Advancing Renewable Energy conference was held in St. Louis, October 10–12, 2006, to accelerate development and rapid commercialization of renewable energy technologies. The conference was hosted by the U.S. Departments of Agriculture and Energy, and it brought together key stake-holders in wood, biofuels, wind, and solar energy.

The Forest Service had several exhibits displayed at this conference. We demonstrated a small-scale distributed energy system, called the BioMax, which offers an option for using a variety of woody residues to provide power and heat for farms, ranches, rural businesses, homes, schools, and small communities. The BioMax unit is modular, skid-mounted, and fully automated. It has an advanced and controllable down-draft gasifier integrated with an engine that produces 5 to 100 kW of electricity. For example, the BioMax 5 runs only 3 to 5 hours/day and uses 10 to 15 lb of wood pellets per hour to generate 5 kW of power—enough for a typical American home. The BioMax 5 contains a bank of batteries that delivers utility-grade power 24/7, and the industrial-grade control system provides automatic operation.

At the Renewable Energy conference, our BioMax 5 provided electricity for a mock living room (top right), which included a large TV that ran an informational video describing the BioMax system, how it operates and the benefits and applications of this technology to forested rural communities. The U.S. Secretaries of Agriculture and Energy held a media event at our exhibit where they flipped a big red switch to show how the energy generated from the BioMax powered the lamps, computer, and TV.

In his presentation, USDA Secretary Johanns highlighted that “there's a machine in the exhibit area of this conference that converts woody biomass into energy. It's called the BioMax, and it holds enormous potential.”



Providing Technical Assistance

Nearly \$4.2 Million Woody Biomass Grants Awarded

For the second consecutive year, we lead a Forest Service team who evaluated 87 proposals for a nearly \$4.2 million National Woody Biomass Grant Program. The President’s Healthy Forests Restoration Act calls for a grant program to help communities, entrepreneurs, businesses, local governments, and others to take residues from hazardous forest fuel reduction projects and turn them into marketable wood products, including liquid, gaseous, and solid fuels for energy.

Selections were based on several criteria, including those that remove and use woody biomass while helping to reduce the cost per acre for treatments on national forest lands.



12. MCDC—Woody Biomass Collection System, Missoula, MT

Woody biomass includes tree parts and woody plants—limbs, tops, needles—that are byproducts of ecological restoration and hazardous fuel reduction treatments. These byproducts can be used to generate energy and a variety of other uses.

Grants were awarded for projects that will help remove economic and market barriers in using small-diameter trees and woody biomass. Consideration was also given to projects that will help revitalize rural communities whose forest-based economies have suffered in recent years. All recipients must match the federal portion by at least 20%. Together with the nonfederal matches, more than \$13 million was spent on this effort. The following are grant recipients for fiscal year 2006:

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| <ol style="list-style-type: none"> 1. Mt. Taylor Machine, LLC, Milan, MT \$243,500 2. Olguin’s Saw mill, El Prado, NM \$243,500 3. Sherry Barrow Strategies, Ruidoso, NM \$243,500 4. Town of Red River, Red River, MN \$69,700 5. Warm Springs GeoVision, Warm Springs, OR \$240,800 6. CAWACO RC&D Council, Springville, AL \$243,500 7. Western Moulding Co Inc., Snowflake, AZ \$243,500 8. Greenleaf Forestry and Wood Products, Inc., Westcliffe, CO \$243,500 9. Lake Tahoe Unified School District, South Lake, Tahoe, CA \$243,500 | <ol style="list-style-type: none"> 10. Morgan Timber Products, Bellvue, CO \$221,500 11. Rough & Ready Lumber, Cave Junction, OR \$243,500 12. Montana Community Development Corp. (MCDC) Missoula, MT \$228,000 13. Round Valley Wholesale Lumber., Eagar, AZ \$243,500 14. Roseberry Timber Inc., Crescent, OR \$243,500 15. Big Valley Power , Redding, CA \$241,500 16. Skyline Forest Resources, Inc., Escalante, UT \$235,800 17. Vaagen Bros Lumber Inc., Colville, WA \$243,500 18. Southwest Forest Products Inc., Phoenix, AZ. \$243,500 |
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Northern New Mexico Technical Assistance Visits

From October 3 to 7, 2006, Rusty Dramm, of our team, and Kim Kostelnik and Mark Engle, Southwest Sustainable Forest Partnership (SWSFP), conducted technical assistance visits with small- to medium-sized wood-using businesses in northern New Mexico. They discussed wood products issues and ideas with the following businesses:

- Las Vegas Wood Cluster, Las Vegas
- Zuni Sawmill Enterprise, Zuni
- Las Comunidades–Vallecitos Sawmill, El Rito
- New Mexico Log Homes, Regina

Nationwide, we provided assistance through a variety of ways this past year:

Site visits, technical assistance	62
Workshops, conferences, seminars, presentations	60
Phone inquiries, letters, visitors	2,310
Publications distributed	24,417

Investing in Our Forests and Our Communities

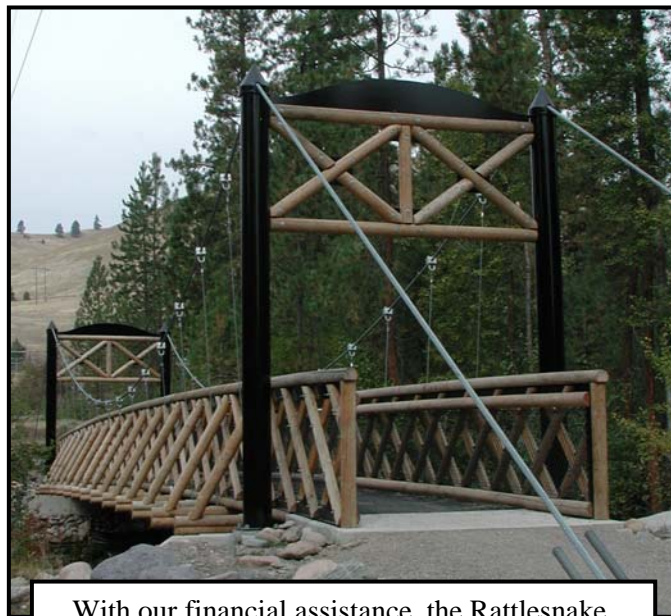
Making a Difference

Governor Appoints LeVan to Consortium on Biobased Industries

Wisconsin Governor Jim Doyle recognized Susan LeVan, TMU Program Manager, this past fiscal year for her service to the state of Wisconsin as a member of the Governor's Consortium on Biobased Industries.

Governor Doyle appointed this Consortium to make suggestions on how best to support the development of renewable fuels and energy and biobased products in Wisconsin. The Consortium was to recommend strategies that would create sustained competitive advantages for Wisconsin businesses. Based on their experience and knowledge in this rapidly developing field, the Consortium brought together farmers, foresters, ethanol manufacturers, energy experts, researchers, and entrepreneurs to help position Wisconsin to be a leader in this emerging bio-economy.

Governor Doyle wants Wisconsin to be the first state in the Nation to produce ethanol from woody biomass. Of particular importance is the Governor's goal of having three of the state's University campuses off-grid by 2010, which means they will be producing enough energy on their own to be completely energy independent, with a strong focus on renewable fuels. For more information, go to <http://www.bioeconomy.wi.gov>.



With our financial assistance, the Rattlesnake Pedestrian Bridge (near Missoula, MT), designed by Beaudette Consulting Engineers, was completed in the spring of 2006.

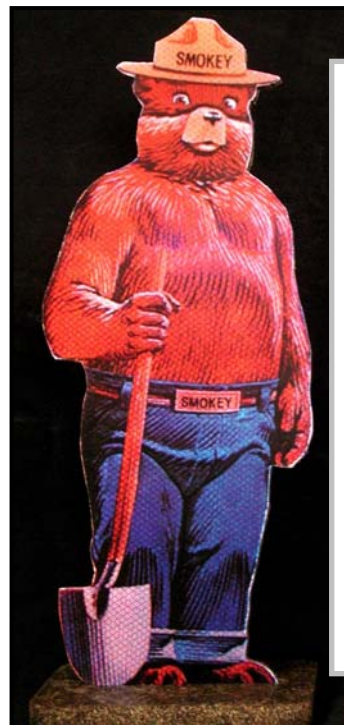
Travels to South America

Sometimes our technical assistance takes us outside the United States. Between April 23 and June 29, Mark Knaebe, our roundwood and energy specialist, went on two separate trips to first Ecuador and then Bolivia.

Mark spent about 2 weeks in Ecuador helping to strengthen USAID-supported community forest products marketing and commercialization activities of EcoMadera and other community forestry groups. In June, he spent 2 weeks in Bolivia to determine if rapid processing of ochoo wood is sufficient to eliminate oxidative stain from the sapwood, and, in the event that rapid processing is not feasible, if treatment prior to drying can affect occurrence and severity of the stain.



On his first day of travel in the Bolivian jungle, Mark saw an animal that he initially thought was a dog. He quickly grabbed his camera and proceeded to follow it. To his surprise, it was a jaguar! Note how close he came to be able to take this picture!



Congrats!

Our partner Phil Archuletta of P&M Signs, Mountainair, New Mexico, was awarded a 5-year, exclusive licensing agreement contract to print the official Smokey Bear signs on his wood-plastic products.

Technology Transfer

SmallWood 2006 was held May 16-18, 2006, in Richmond, VA. We were a major sponsor of this national conference, which provided state-of-the-art information on small-tree and woody biomass utilization and fostered peer-to-peer learning. Keynote speakers included Undersecretary for Natural Resources & Environment Mark Rey, Virginia Secretary of Agriculture & Forestry Robert Bloxom, and U.S. House of Representative Bob Goodlatte, also Chairman of the Agriculture Committee. SmallWood 2006 also included presentations by several wood researchers, material and equipment suppliers, manufacturers, and end-users. The conference featured technical and poster presentations, discussions, tabletop exhibits, and field trips. Smallwood 2006 was held in conjunction with Expo Richmond 2006, May 19–20, which featured the year's largest collection of sawmill, logging, pallet, biomass, and related manufacturing equipment and supplies and services in the eastern United States.



Techlines—New Releases!

- What's in that Pressure-Treated Wood?
- Detecting and Identifying Termites in a Structure
- Learn More About New Wood Protection Treatments
- Potential Growth of Wood Products Use in Low-Rise Nonresidential Buildings
- Fuel Treatment Evaluator 3.0
- Paying for Hazardous Fuel Treatments with Revenue from Removed Biomass

New Publications

- Zerbe, John I. 2006. **Thermal Energy, Electricity, and Transportation Fuels from Wood.** Forest Products J. 56(1). p. 6-14.
- Zerbe, John I. 2005. **Basic Properties of Undervalued Hardwoods.** In: Ross, Robert J. and Erickson, John R., Compilers. Undervalued Hardwoods for Engineered Materials and Components. Madison WI: For. Prod. Soc.
- Zerbe, John I. 2006. **Alcohol Production From Wood.** In: McGraw-Hill Yearbook of Science & Technology. New York. 4-7.
- Livingston, Jean. 2006. **Small Diameter Success Stories II.** FPL-GTR-168. Madison, WI: USDA, Forest Service, Forest Products Laboratory. 31 p.

National Forest Products Utilization and Marketing Personnel Directory

(state-by-state contact information for State Foresters and Federal, State, and Extension Utilization and Marketing Specialists)

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Spreadsheet Tools and User Manuals (<http://www.forest.wisc.edu/extension/index.html>)

- ✓ Planned Programming Approach and Preliminary Feasibility for Developing a Sawmill Business.
- ✓ GRADEYIELD—Preliminary Sawmill Financial Feasibility Spreadsheet & Program User's Manual.
- ✓ PROYIELD—Sawmill Yield Analysis Spreadsheet & Program User's Manual.
- ✓ SAWFEAS—Sawmill Financial Feasibility Spreadsheet & Program User's Manual.
- ✓ Wood Fueled Boiler Financial Feasibility Spreadsheet & User's Manual.

All documents are free and available from our website, e-mail request, or just give us a call.

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