



# July 2016 UPDATE: Putting Woody Biomass to Use

Dusty Moller is one of the program delivery partners engaged by the Forest Products Marketing Unit (FPMU) and Forest Service Region 6 to advance woody biomass utilization and markets throughout the West in collaboration with Forest Service Region 6. Moller works in Spokane, Washington, as a Biomass Utilization Specialist for [Washington State University's Energy Program](#), focused on wood pellet manufacturing and markets, biomass combined heat and power (CHP) systems, cross-laminated timber (CLT) and lumber production, and woody biochar and torrefied wood production and use. Read more about the use, manufacturing, and resource impacts of woody biochar on page 3.

Dusty is an integral member of Oregon and Washington's State Wood Energy Teams and engages with Northwest and Inland Empire recipients of USDA Forest Service Wood Innovation grants. In 2016, he is working with the Quinault Nation to use forest logging waste as the primary feed stock for a pellet manufacturing project. Previously, the Quinault Nation piled and burned more than 25,000 tons of logging residue every year. Now, they plan to have the ability to manufacture industrial grade pellets for use in renewable thermal energy systems.

With 40+ years of wood industry experience, Moller provides valuable insight to private industry, nonprofit organizations, entrepreneurs, and state, tribal, and local governments seeking to find economic uses for low value wood.

As a member of Oregon and Washington forest collaborative organizations, such as Sustainable Northwest, Moller supports the work of forest industry and land managers. He has recently participated with Forterra, a



*Dusty Moller,  
Biomass Utilization Specialist,  
Washington State University*

Washington state-based land conservation and community development organization, in their effort to accelerate the development of CLT markets throughout the US. Moller's background as the co-designer and construction manager of the largest laminated beam factory in the world, located in Vaughn, Oregon, and currently operated by Weyerhaeuser, will serve that group well as they tackle the developing markets for the "tall wood" building protocols.

Ron Saranich, Forest Service Region 6 Biomass Coordinator, notes that "Dusty's professional experience and judgement combined with a tireless work ethic make him integral to successes this region has achieved in increasing the use of woody biomass from hazardous fuel reduction efforts. Almost every biochar effort that's gained momentum and produced results has worked with Dusty."

The Forest Products Marketing Unit (FPMU) works collaboratively and strategically with Forest Service and external partners to advance high-value, high-volume markets for woody biomass. FPMU focuses on utilization and marketing opportunities for products and residues from forest timber harvest, land restoration activities, hazardous fuels reduction, natural disaster recovery, and urban forestry.

**For more information on FPMU, contact Ann Sarnecki, Partnership Coordinator, [asarnecki@fs.fed.us](mailto:asarnecki@fs.fed.us), or 608-231-9506  
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# FPMU

# Supporting the Forest to Market Supply Chain

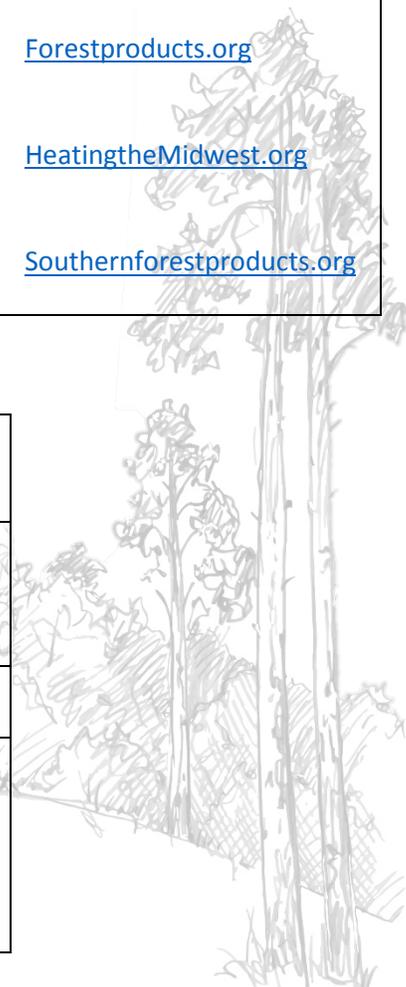


## Upcoming Classes, Events, Workshops

Dates	Name	Web Link
Various	National Hardwood Lumber Association Lumber grading and Inspection short courses	<a href="http://nhla.com">nhla.com</a>
July 28	Waste to Wisdom Biomass Conversion Technologies Demonstration Day-Arcata, CA	<a href="http://wastetowisdom.com">wastetowisdom.com</a>
August 10	Structural CLT Floor and Roof Design - Webinar	<a href="http://Woodworks.org">Woodworks.org</a>
August 22-25	Biochar Conference - US Biochar Initiative Corvallis, OR	<a href="http://USBI2016.org">USBI2016.org</a>
September 7	Solid Wood: New Trends in Mass Timber Architecture - Webinar	<a href="http://Woodworks.org">Woodworks.org</a>
September 26-28	Introduction to Wood Science and Forest Products – Starkville, MS	<a href="http://Forestproducts.org">Forestproducts.org</a>
October 11-13	Heating the Midwest, Conference and Expo Harris, MI	<a href="http://HeatingtheMidwest.org">HeatingtheMidwest.org</a>
October 17-18	Southern Forest Products Export Conference Charleston, SC	<a href="http://Southernforestproducts.org">Southernforestproducts.org</a>

## Monthly UPDATE Links

<p>Housing Stats Virginia Tech, Forest Service Housing Statistics and Commentary <a href="#">Main 2016 Main Report</a> and <a href="#">May 2016 Part B, Economic Conditions</a></p>
<p>In the NEWS <a href="#">Salt River Project to Test Burning Forest Debris at Coal Plant</a> <a href="#">Will Skyscrapers of the Future Be Built From Wood?</a> <a href="#">Looking at Timber and Seeing the Future of Home and Business</a></p>
<p>REPORTS and PUBLICATONS <a href="#">Bioenergy 2016 Billion Ton Report</a></p>
<p>Grant Opportunities – RFP's California Energy Commission (CEC), through its Electric Program Investment Charge (EPIC) Program, released solicitations for grant proposals. Of interest to readers may be <a href="#">GFO-15-325 solicitation</a>: Development, Demonstration and Deployment of Environmentally and Economically Sustainable Biomass-to-Energy Systems for the Forest and Food Waste Sectors.</p>





## Black is the New Green: Biochar's Potential Role in Forest Restoration

For the past decade, Dusty Moller has been working to establish carbon-based agriculture and aquaculture production tactics. Although renewable carbon can be manufactured from just about any carbon-based material, Moller's work focuses on converting wood waste and woody biomass into biochar.

Biochar, as defined on [US Biochar's website](#), is a fine-grained byproduct made by pyrolysis – the process of heating biomass with limited to no oxygen in a specially designed furnace, capturing emissions, gases, and oils for reuse.

Dusty Moller has been involved in ongoing efforts to find uses for the millions of tons of urban and forest wood waste that perennially is land-filled, burned, or simply left to rot. Furthermore, western states land managers are actively seeking to restore ecological value to the forest by removing pinyon-juniper. Because of the widely accepted need



for removal to support restoration, pinyon-juniper is a significant potential for source of woody biomass for use in biochar production. Biochar programs are active in Nevada and Utah, two states where the water efficiency factor of biochar greatly improves the growth of plants and trees. Utilization of wood harvested from western pinyon-juniper forests promotes both economic diversification and the environmental sustainability of agricultural production in rural areas of western United States.

Several of Moller's biomass utilization efforts will be featured at the [BIOCHAR 2016 Symposium](#): The Synergy of Science and Industry, Biochar's Connection to Ecology, Soil, Food, and Energy, August 22-25, 2016, in Corvallis OR. This event will bring together stakeholders in the applied biochar research community and the private sector to further biochar market development. Many presentations will focus on the future market growth and the strategies needed to achieve the growth.

***The following links feature biochar use in various applications and markets:***

[Mine and land reclamation](#): Biochar has been shown to be an effective soil amendment for reclamation sites for abandoned oil and gas pads and other sites with compacted and arid soils.

[Urban forest maintenance](#): Nevada Division of Forestry, Desert Research Institute and the USDA Forest Service have completed a pilot study showing the positive effects of biochar on soil moisture and phosphorus retention.

[Forest and rangeland management](#): A partnership of Nevada counties, University of Nevada, and USDA has shown potential in developing biochar for use in agricultural systems and forest and rangeland restoration.

[Crop production](#). Studies are taking place to assess biochar's impact on crop production and protection against root rot disease on tomato and melon plants and the potential to support other agricultural crops such as blueberries.