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Wood Innovations are Creating Important Forestry Opportunities

BY BRIAN BRASHAW

Mass timber, wood energy, torrefied fuels, cellulose nano-materials, advanced biofuels, and biochar are new product and market opportunities that augment traditional forest markets for lumber, pulp and paper, wood pellets, and structural panels.



This issue of the *Western Forester* highlights these emerging products and their markets, identifying the key investments, research, and partnerships that are working to expand and create new markets for forest products. A healthy forest products industry is one tool for supporting forest management, and healthy markets for the full range of forest products is essential for having a healthy industry. Simply, strong markets for forest products improve forest health and resilience, and support key benefits like clean water, clean air, wildlife habitat, and recreation opportunities.

Mass timber includes new innovation products like cross-laminated lumber (CLT), mass plywood, and nail and dowel-laminated lumber. When combined with traditional glue-laminated (glulam) and laminated veneer lumber, new options exist for building mid and tall timber buildings. The USDA Forest Service, in partnership with others, has supported key research, education, technical assistance, and special initiatives to support this expanding opportunity. Technical experts from Woodworks have supported over 440

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The John W. Olver Design Building at UMass Amherst is one of the most advanced mass timber buildings in the US, a four-story, 87,500-square-foot structure that exemplifies the university's commitment to sustainability.



PHOTO COURTESY OF LEVER ARCHITECTURE

Located in Portland, the four-story Albina Yard office building includes a glulam frame and CLT panels, all locally manufactured.

Wood Innovations are Creating Opportunities

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mass timber projects that are in design, or where construction has been started or completed. This cohesive work has

created opportunities for western US mass timber companies like D.R. Johnson, Freres Lumber, Smartlam, Euclid Timber, Vaagen Timber, and Kattera to build new manufacturing plants, creating expanded markets for lumber while supporting rural eco-

nommic development. Building code changes have been adopted in Oregon, and a pending vote by the International Code Committee will add three more classes of tall wood buildings from 7-18 stories, creating an exciting new demand.

Wood energy is still an important use for sawmill residues, thinning, and other harvest woody biomass that have limited or no markets. Modern, clean and efficient thermal energy and combined heat and power plants use significant volumes of wood in the Northwest, but face market challenges from low-cost fossil fuels. To create new opportunities, Oregon Torrefaction is building a plant in John Day, Oregon, to process low-grade forest materials into a coal replacement using a torrefaction roasting technology. This durable and weather-resistant briquette can be used to offset or replace coal in power plants with minimal modification since it grinds and burn like coal.

The U.S. Endowment for Forests and Communities, USDA Forest Service Forest Products Laboratory, and other public and private partners have joined to form P3Nano, a partnership focused on research and implementation of cellulosic nanomaterials, materials that have unique benefits when added at a nano scale to other products. Key research and demonstration projects are being completed to assess options for their use in concrete, plastic films, automotive panels, coatings and lubricants, and electronics.

Advanced liquid biofuels and biochar are also emerging products, with new investments driven by sustainability goals by customers. Red Rock Biofuels broke ground in July



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2018 on a renewable fuels production facility in Oregon, focused on using woody biomass waste products. Organizations like the US Biochar Initiative are providing important support to uses and product options for biochar. While the current market for biochar is small and regional, it is growing and creating new interest.

Innovations are not limited to producers. The North American Forest Partnership (NAFP) #forestproud communication platform represents a diverse partnership of over 110 members. NAFP is the most diverse forest sector coalition that has been established and is aligned to share an essential story, proactively positioning the sector as relevant, responsible, and innovative. By managing, conserving and sustainably harvesting forests, the forest sector can provide large-scale solutions to pressing societal challenges. High quality shareable content is being produced by #forestproud, allowing partners to inform and subscribe to this content to: 1) build pride in their employees, making them more

effective and vocal ambassadors; 2) attract new and diverse talent to the workforce; and 3) communicate the relevance of the sector to policymakers. For more information, search #forestproud on your favorite social platform or at www.forestproud.org.

To support new markets, the USDA Forest Service Wood Innovations Program has released their 2019 funding program. Up to \$8 million of funds are available to stimulate, expand, and support wood products markets and wood energy markets to support forest management needs on National Forest System and other forestlands. More information can be found at <https://bit.ly/2ANB48I>.

While our forests face challenges from fire, insect and disease, and overstocking, this issue provides key updates on partnership-driven efforts to support and expand wood innovations. ♦

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