Journal of Logging & Sawmills
TIMBER WEST
On the cutting edge of mechanized harvesting and wood processing technology in America's largest forestry market since 1975

Breaking the Log Jam

By Barbara Coyner

More and more loggers are talking chips instead of saw logs. In fact, most savvy contractors now consider masticating heads and chippers just part of the toolbox, relying on the equipment to chip residuals, rather than burn slash.

Chipping tools come in handy as more urbanites flee the city to claim their piece of paradise in the country. Sometimes opting to thin their forests for fire danger, the rural transplants often prefer to chip limbs and branches and disperse them to create a park-like setting. Yet for loggers, the bigger question remains: why is there still a logjam when it comes to woody biomass being a stronger player in the country's green energy portfolio?

As leaders quibble over carbon issues and what constitutes true green energy, the path seems clear. Thin overstocked forests to alleviate fire danger, use the chips for renewable energy, and in the bargain, let rural communities gain a stake in their energy and employment futures. Clearly woody biomass power already has a demonstrated track record at such facilities as the Kettle Falls Avista Power Plant and numerous sawmills with co-gen plants. The University of Idaho has heated 90 percent of its buildings and water with wood for over 20 years.

Here are a few current woody biomass trends:

Realities of Bringing Wood Energy to Town

With documented results that woody biomass energy works, why are new generating facilities slow to come online, especially in rural communities that exist near ample wood supplies.

"It's a chicken or egg thing," says Liz Johnson-Gebhardt, administrator of the Priest Community Forest Connection (PCFC) in Priest River, Idaho. "What do we do? Where do we start? It is really frustrating because we know this can be done."

If ever there was a real timber town, it is Priest River, and Johnson-Gebhardt knows the full potential for woody biomass supply in the area. Yet woody biomass energy has gained little traction. The Idaho Department of Commerce has started a feasibility study; the CROP (Coordinated Resource Offering Protocol) study was regarded skeptically due to the Forest Service's tardy reporting; and a local mill has finally quit holding out for biomass opportunities and has instead developed a new product line for export. One other idea of heating the local schools with wood fizzled as well, when the Fuels for Schools funding evaporated.

With such slowdowns and no infrastructure for steam lines and a facility, Johnson-Gebhardt says the community is stymied when it comes to talking to the bankers about woody biomass energy. Overall progress is slight, with perhaps a grant for a chipper coming up, or a few loads of chips getting hauled to the Avista power plant 90 miles away in Kettle Falls, Wash. Both scenarios seem like baby steps to Johnson-Gebhardt.

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Donor Gives to University to Investigate Pyrolysis

Randy Hill, the owner of APT Advanced Trailer and Equipment LP, announced in early 2011 that he is donating $25,000 to the University of Idaho to study converting woody biomass to energy. The Texas entrepreneur will also ante up a drying trailer and accompanying funds to the UI steam plant facilities. The gift allows the university to install a pilot-scale pyrolysis unit at its steam plant. (Pyrolysis incinerates using almost no oxygen. When applied to an organic material like wood, pyrolysis yields biofuel, plus a small amount of charcoal.)

"This involves thermally cracking the wood to break it down into smaller molecules," says Armando McDonald, professor of wood chemistry and wood composites. "The process yields about 60 percent bio-oil; 20 percent syngas, a gas mixture that is then used to fuel the operation; and about 20 percent char that can be used as a soil amendment."

McDonald explains that the value of bioenergy methods like pyrolysis resides in the usability of all products generated. Such processes have the potential to generate substantial amounts of clean energy with little or no waste.

In June 2010, the university received a proposal from Hill outlining a vision for the University of Idaho in establishing a national level bioenergy research center. In the proposal, Hill committed to the pyrolysis research and a number of other studies, with more than $700,000 in future licensing revenues benefiting the university's bioenergy research. The university signed on to the vision in August 2010.

If You Build It, Will They Come?

No one knows better than Craig Rawlings of Montana Community Development Corporation about the frustrations of moving woody biomass into the green energy portfolio. He has studied the issue intensely, participated in research and grant writing, and he has served on the leadership team for the biennial Small Log Conference at Coeur d'Alene.

Rawlings cites the rare case of the Thompson River Co-Gen Power Plant in Thompson Falls, Mont., as an example of an already existing plant searching for a buyer. The plant was permitted in 2001 as a 12.5-megawatt facility that would burn either wood waste or coal. Eventually it was determined that the facility had been burning more coal than wood, causing air pollution problems. After numerous infractions, permits were pulled, the facility was shut down, and eventually, it was taken over by a Minnesota-based hedge fund group.

The new group intends to make good on the woody biomass focus for the plant, which when reopened, would bring 63 jobs to the region and furnish renewable energy to 13,000 Montana homes. The plant is currently up for sale, advertised as carbon neutral, and ready to roll. Rawlings thinks a partnership with NorthWestern Energy might make a good marriage, but such investors are wary given the nation's fickle attitude about woody biomass.

"The plant is ready to go with permits ready," says Rawlings. "They could take wood in three months and put loggers to work. The plant is here and all the hurdles are overcome." All except the one hurdle that seems to derail many of the proposed projects: serious investors. TW