

## One Woodchip Supplier's Story of Investment, Market Building, and Success

### Wood Fuel Supply Operation

In Topsham, Vermont, Bruce Limlaw's family history in the wood-supply business goes back to the horse-drawn days, and runs through the years when shipping pulpwood to paper mills was a major northern New England industry. About a quarter-century ago, as that industry started going away, Limlaw's focus began shifting toward woodchips.

He and others started supplying the first of three chip-fueled power plants that now serve Vermont and western New Hampshire. In about 2005, the market began changing again—and Limlaw was among the first in his business to move with it. That's why today, in a region where much of the remaining wood-products industry struggles to survive, the story of Limlaw Pulpwood and Chipping, Inc., is one of investment, market-building, and success.

Bruce Limlaw's key market is schools. He provides screened, quality-controlled hardwood chips as fuel to the growing number of schools in Vermont—along with colleges, businesses, and other institutions—that are heating with biomass. These specialty chips are produced from pulpwood.

"Well, I just started doing it," says Bruce, who runs the family business with his son, Bryce. "As the sawmills went away, I saw there was opportunity with the schools. When times change, whether you're pulling logs with a horse or a skidder, you've got to change with them."

Bruce also saw opportunity in using woodchip technology himself, and installed a mini district-energy biomass heating system at his own place, where it warms his house and two shops. "It worked out extremely well," he says. "I want to heat the sugarhouse with it, too."



### A Shifting of Supply and Demand

The recent evolution of the northeastern wood-products industry has three main strands: the decline of the papermills, the decline of the sawmills, and the rising demand for chips. In the same years that most of the area's big paper mills have been closing, the once-thriving sector of hardwood sawmills has also contracted drastically.

When the first woodchip-fueled power plants went online in the region, longtime suppliers of pulpwood to papermills found ready new customers in the power plants. With their large-capacity boilers, biomass plants can burn what are called "whole-tree chips"—which are really tops and stems from harvested logs, processed in the forest into various-sized chips that also contain bark, and sometimes forest debris.

But a second woodchip market also first appeared in the 1980s, when the first schools installed biomass heating systems. These smaller systems require woodchips of a more consistent size and quality, free of bark. Schools at first bought them from sawmills, which produced chips as a byproduct. But sawmills began disappearing just as oil prices rose and more schools, along with other facilities, were converting to woodchip heat.



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**Pictured on front: Bruce Limlaw walks toward his wood-chip screening equipment, which produces chips of a more consistent size and quality well-suited for community-scale biomass systems. Right: The chip bin storage and conveyor of Limlaw's own mini-district system that heats his business and residence.**



The rising demand needed new suppliers. Most other whole-tree chip contractors, accustomed to the flexible chip-quality standards of the power plants, shied away. In contrast, Bruce and Bryce Limlaw saw opportunity.

“Any business that you do is a gamble,” Bruce Limlaw observes. “If you see the opportunity out there, go do it.”

### **“There’s More Coming on all the Time”**

Limlaw Pulpwood and Chipping now employs 15-20 people. Along with its own cutting and processing of timber, the business buys wood from about 50 small-scale area loggers each year. The Limlaws recently invested in new screening equipment to help them produce the quality-controlled chips that community-scale biomass heating systems prefer.

“Originally, there wasn’t anybody screening chips, unless it was a sawmill,” Bruce says. Today, he adds, those sawmills still in business mostly use their own chips, to heat their own drying kilns—so sawmills rarely have clean chips they can sell to schools.

Thanks to their screening equipment, the Limlaws do.

“It’s a lot cleaner product—a good share of the bark is gone,” Bruce says. His screening system feeds chips over a wide-mesh screen that shakes, causing the smaller chips to fall through and larger pieces, including most of the bark, to stay on the screen. The filtered chips are screened a second time, this time on a vibrating fine mesh that shakes through the sawdust and leaves a product that’s well-suited to community-scale heating plants.

The Limlaws have even found markets for their screening byproducts: They sell sawdust to farmers for animal bedding, and ship the rougher chips to the power plants. They still sell a little pulpwood to paper mills—but the few mills remaining in the region are now hours away. Bruce is relieved to have moved toward supplying an array of smaller clients, almost all within a 50-mile radius.

“If you depend on selling to these large paper mills in New York or Maine, and something happens to one of them, you’re kind of left out,” he says. “I’d rather have a whole bunch of people, 50 or so entities, that I supply. The schools are going to be there.”

The chips that the Limlaws supply are “bolewood”—made from the stems of trees that once got sold for pulpwood. Screened bolewood chips are a higher-value product than whole-tree chips, and fetch a better price. The Limlaws now stockpile stems in their yard, so they can ship fuel to customers throughout the heating season.

Today in Vermont, biomass systems heat dozens of schools, along with several colleges, the state office complex, and National Life Insurance Company, one of Vermont’s largest businesses. Several communities, including the state capitol, are looking into developing biomass district heating systems that would heat their whole downtown areas.

“We don’t get them all,” Bruce Limlaw says of the woodchip customers in his state—“but we get some of them. And there’s more coming on all the time.”

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For more information on this and other biomass energy projects, contact:

Biomass Energy Resource Center  
PO Box 1611, Montpelier, VT  
ph 802-223-7770  
fax 802-223-7772  
info@biomasscenter.org  
www.biomasscenter.org