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Nexterra, UNBC, and Growth in B.C. Biofuel

The emerging role of biofuel in the reinvention of B.C.'s northern forestry industry.

Peter Severinson | Published: March 07, 2011

Fired up: UNBC's new plant converts wood to a clean-burning gas.

After the crippling hits it suffered in recent years, the forestry sector of northern B.C. is hoping that its growing biofuel businesses will open up new markets. Realistically, there's no chance biofuel can fully offset the damage done to the industry by pine beetles and the collapse of the U.S. housing market, but a series of recent wins is making it clear that whatever the regional industry transforms itself into, biofuel will have a role to play. In fact, industry leaders are getting organized to make sure of it.

There are clear signs the sector is growing. A new wood-pellet plant is scheduled to begin production this year in Burns Lake, which will make the owner, Pinnacle Renewable Energy Group, the continent's biggest manufacturer of wood pellets, which are burned along with coal in conventional heat and power plants. Another B.C.-based pellet producer, Pacific BioEnergy Corp. is also expanding its operations, and on Nov. 25, a cutting-edge piece of bioenergy equipment was fired up for the first time at Prince George's University of Northern B.C. (UNBC).

UNBC's biofuel plant is pushing new boundaries in bioenergy. It's a heating system built by Vancouver's Nexterra Systems Corp. that extracts a clean-burning gas from wood waste through a sophisticated heating process. The gas is then used to heat the campus. This project, which took three years to complete, will replace 85 per cent of the university's fossil-fuel use, according to Rob van Adrichem, UNBC's vice-president of external relations. Switching from natural gas to wood waste is expected to save the school more than $500,000 a year in fuel costs.

But saving money isn't the point, van Adrichem insists. "If it were just the heating project, we wouldn't be doing it," he says. "The whole bioenergy program started as a response to the pine beetle as a way of

assisting the local industry in diversification. So we're really looking to be a platform for research and education."

UNBC is part of an effort to make Prince George a world-leading centre in biofuel technology and management, as well as supply. Building, testing and studying new technology is a logical part of that work, especially if it helps prove the viability of next-generation technology that affects forestry. "Most people think the forest industry's on its last legs," van Adrichem says. "It's just constantly evolving."

Leading the push to establish a biofuel presence is Elissa Meiklem, the inaugural executive director and first full-time staff member of the Northern Bioenergy Partnership in Prince George, who was hired in January. She candidly points out that there's nothing new about biofuel per se; mills in the region have been burning their own waste for heat for 50 years. But now a global market is developing for clean energy sources such as plant matter, which is considered carbon neutral because it only releases as much carbon when burned as was absorbed when the plant grew. B.C. mills took their first steps into that market in the '90s when mill owners were looking for alternative uses for sawdust and started selling it, in pellet form, mostly to European heat and power companies.

Companies such as Nexterra represent a third phase in biofuel, Meiklem says: brand-new clean-energy sources based on wood waste. What motivates the Bioenergy Partnership is the idea that it's much better for the region to be at the forefront of developing these future industries rather than serving as a woodpile waiting to be exploited by outside thinkers. In other words, the goal is to develop a knowledge resource in addition to the natural resource.

It's a positive story for the forestry industry, which is certainly welcome after so many negative ones, but industry veterans are cautious. Greg Stewart is the president of the Prince George-based Sinclar Group Forest Products Ltd., which employs about 500 people at eight operations in the region, mainly focused on lumber production, and has been in the pellet business for about 10 years. While he agrees it's exciting to see new technologies developing, he insists that the biofuel business is driven by a few economic fundamentals: the supply of wood waste from conventional forestry operations and the market for biofuel, which today is largely supported by state subsidies. Whether new technologies such as Nexterra's will radically change the math is still uncertain.

But while he's pragmatic, Stewart is also hopeful. "The economics are going to drive us on this," he says. "But I think the industry is well- positioned to take advantage."

There will always be a forestry industry in B.C.'s north, Meiklem says, but after so much hardship it will be different than what it was. "It's a rare thing to have moments in history that are transformative," she says. "And I think people are seeing this as an opportunity to have a really transformative change in their communities."

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