

Canada's Greenest University

The University of Northern British Columbia is fired up for bioenergy.

Using a torch, University of Northern British Columbia President George Iwama fired up the school's combined-heat-and-power (CHP) biomass gasification system in November. Supplied by Nexterra Inc., the system will heat all of UNBC's core buildings, replace its fossil fuel usage by 85 percent—an energy savings of \$800 per year—and reduce its greenhouse gas emissions by 3,500 metric tons per year.

Fuel for the gasifier is woody biomass provided by a local family-owned sawmill, Lakeland Mills, according to Robert van Adrichem, UNBC's vice president of external relations.

The gasifier is currently running intermittently for testing, and a grand opening will be held in mid-March.



The CHP system and a small pellet plant on campus are part of UNBC's Bioenergy Center for Innovation. "It's an idea to connect the university, students and researchers to the bioenergy industry, economic development organizations and the government to determine what the ingredients are to make this viable, economic and sustainable industry of value to this community, region, province and country," van Adrichem says.

The pellets produced in the facility are used to heat the campus's forestry lab. "We use them to heat a building that's growing trees and doing forest research, and then using that product to heat the building," van Adrichem says. "Initial work was on analyzing the difference between using wood pellets versus natural gas, which is what we've used for fuel to date on campus, and some other research projects there now are related to emissions and the use of ash as a soil additive."

These projects are being done primarily because bioenergy is emerging as a significant industry in the region, according to van Adrichem. "Because bioenergy has never been a big part of the forest industry here—we're a world leader in lumber production—it's a whole new thing," he says. "This program provides a new opportunity for the university to work with the community, region and forest industry on fundamental questions surrounding bioenergy—not just 'who is going to buy my pellets when I make them,' but a look at more foundational questions around forest land base sustainability, emissions, moisture content and energy performance."

UNBC hopes to use the biomass gasifier and the pellet plant as showcases for the local industry, as well as platforms for applied research and education.

By Anna Austin | January 05, 2011

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