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PG RESEARCH DOLLARS TO MAKE BIOENERGY CLEANER, GREENER

PRINCE GEORGE – The University of Northern B.C. will become an innovative leader in bioenergy with new cutting-edge equipment funded by the province to help the environment.

"This funding will help UNBC to research emissions released when wood is used to produce electricity and heat," says Prince George-Mackenzie MLA Pat Bell. "Yet again, we are discovering new, innovative uses for B.C. wood and ones that will benefit the environment."

"UNBC researchers have given B.C. a world-class reputation for advancing our knowledge of terahertz waves, and are ready to apply that research to bioenergy production," says Prince George-Valemount MLA Shirley Bond. "With this funding, these top researchers will develop tools to make these processes cleaner and more efficient, which will help expand B.C.'s green economy and reduce our greenhouse gas emissions."

Terahertz waves fall between microwaves and the infrared regions of the electromagnetic spectrum. They can be used like X-rays to see through objects – but, unlike X-rays, pose no health risks. This makes them potential tools in such things as airport security scanning, skin cancer testing and increasing forest industry efficiency.

Matt Reid, a UNBC physics professor, and his team will use \$96,600 from the B.C. Knowledge Development Fund for components to develop a terahertz spectrometer system for studying emissions from biomass combustion. The provincial funding is matched by the federal government through the Canada Foundation for Innovation, with another \$56,500 from Western Economic Diversification Canada, for a total of nearly a quarter million dollars.

"The potential applications of terahertz technology have remained untapped until quite recently," Reid said. "Rapid advances are driving the development of new applications at an astonishing rate. We are particularly excited to be developing cutting edge terahertz research to solve problems of significance to the local community."

The new system will be used initially to analyze gases and particles emitted by a small bioenergy plant that heats UNBC's I.K. Barber Enhanced Forest Laboratory. It will also study emissions from a much larger, \$14.8-million bioenergy plant funded by the provincial and federal governments, which will gasify bark, branches, sawdust and leftovers from nearby mills, creating biofuel to heat and cool the main campus buildings. Construction of that plant is underway and is scheduled for completion by 2011.

"UNBC in its short, 15-year history has established a reputation as one of Canada's leading small research universities," said Gail Fondahl, UNBC's vice-president of research. "We are gratified that the Province continues to invest in the university's research infrastructure, particularly when it involves a project of such tremendous regional significance. It's worth noting that Matt himself was raised in B.C.'s North, and was one of UNBC's first undergraduate students."

The investments support the province's clean-tech cluster, described in a PriceWaterhouseCoopers report as the world's third largest after Germany and California, providing 22,000 jobs for British Columbians.

The B.C. Knowledge Development Fund has provided almost \$357 million for research infrastructure since 2001, including support for clean energy research. Other clean-tech investments by the Province include the Innovative Clean Energy Fund (\$47 million for 34 projects to date, including \$3.5 million for UNBC's bioenergy program), \$8 million to support production of liquid biofuels, and a \$7.5-million annual venture capital budget for startup companies.

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