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MEDIA RELEASE

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New research on climate change impacts and solutions for BC forests

The Pacific Institute for Climate Solutions (PICS) is awarding \$450,000 to five research teams to study the impact of climate change on the province's forest ecosystems and find more sustainable forest management practices.

Forests play a critical role in the planet's carbon cycle through the uptake, storage and release of greenhouse gases such as carbon dioxide (CO₂) and methane. They are also worth billions of dollars annually to the BC economy. But forests are under threat from deforestation, global warming, increasing fire frequency, and pests.

Almost 17.5 million hectares of BC's forested areas, for example, are currently affected by the mountain pine-bark beetle outbreak. As the beetle-killed wood decomposes, it releases CO₂ into the atmosphere, thus contributing to global warming.

"Global warming hangs like a sword over BC's forests and dealing with it presents a big challenge," says PICS executive director Dr. Tom Pedersen. "PICS is very pleased to support collaborative research between and among our leading universities, industry and federal research labs that will improve long-term stewardship of our remarkable forest resource."

The funding is awarded under the institute's "carbon management in BC forests" theme, with projects ranging in duration from one to two years. Research topics include:

- Developing advanced forest growth and yield models to improve predictions of carbon storage capacity
- Assessing current forest management practices in view of adaptation to future climate change
- Using biomass as an energy source.

PICS is a collaboration of BC's four-research intensive universities—the University of Victoria (UVic), the University of British Columbia, Simon Fraser University and the University of Northern British Columbia—and is hosted and led by UVic.

Pedersen says the institute's collaborative nature sets it apart from other research bodies because it brings together top minds from different disciplines to collaborate on addressing aspects of the climate challenge.

The attached backgrounder describes the five new research projects and their institutional partners. For more information or to arrange interviews, contact the PICS communications staff.

Today's announcement follows PICS approval in May 2011 of 27 new projects under its four other research themes - the low carbon emissions economy, sustainable communities, social mobilization, and resilient ecosystems. Full details on PICS research can be found at www.pics.uvic.ca/research.php

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Backgrounder: Projects funded under PICS Carbon Management in BC Forests theme

Striking the right bioenergy balance: promoting healthier carbon stores in our forests and forest product streams

The BC government, independent power producers, and the forestry industry have increasingly advocated for the production of energy from wood, driven largely by the mountain pine-bark beetle (MPB) outbreak and the fate of an estimated 675 million cubic metres of pine in the province. However, new research indicates that attacked pine stands are far from lifeless, and in many cases are already carbon sinks, in addition to providing quality lumber as well as bioenergy fuel. Through modelling of new MBP-affected forest-carbon data, this project will compare and contrast environmental, energy generation and economic options to assist policy-makers and forest-users in achieving the best balance for this valuable forest resource. Specifically, it aims to increase the understanding of when and where it makes sense to harvest (or leave) beetle-affected forests across a range of competing end-uses.

Project team: UNBC, UBC, Canadian Centre for Policy Alternatives

Estimating carbon storage and emissions from harvested wood products from BC

Harvested wood products represent a significant carbon stock that remains stored for varying periods depending on product attributes. Lumber used in buildings, for example, has a longer life than wood fibre in paper. To date, a lack of data specific to BC has constrained quantifying the carbon stored and emitted by wood products in this province. This project seeks to remedy this shortcoming by collecting and analyzing BC-specific data. This information will be useful for a variety of applications including national and international carbon accounting schemes, carbon trading, modelling emissions from the construction sector and calculating typical lifetimes for BC wood frame houses.

Project team: UBC, BC Ministry of Forests, Lands and Natural Resource Operations

Predicting carbon storage for BC on seasonal to decadal timescales

This project uses a dynamic vegetation model to assess how BC's land-based ecosystems may be affected by climate change. The project attempts to quantify the changes in the province's natural carbon balance as a result of year-to-year climate variability and long-term climate change. This will provide a comparison of natural carbon changes with the magnitude of carbon gains made through offsetting programs. Projected changes in the distribution of primary vegetation types and how fire patterns may change in the province will also help inform forest management practices, with implications for harvesting, reforestation, fire fighting plans, and fire-related property losses.

Project team: UVic, Pacific Climate Impacts Consortium, Canadian Forest Service, Environment Canada

Developing environmental-response functions of growth and mortality to forecast forest carbon stocks in BC under environmental change scenarios

The BC forest sector anticipates changes in forest growth and carbon stocks due to environmental change, but how fast and how much will change occur? This project will address these questions by first quantifying relationships between current climate, annual volume increments, growth and mortality and second, mapping projected changes under various future scenarios. The results will yield better predictions of future forest growth, providing critical information for sound forest management.

Project team: UBC, Canadian Forest Service

Community fire-interface biomass utilization for heating fuel

This project studies the potential for domestic heat generation from tree biomass discarded when managing forests around BC's rural communities, for example, by removing trees and undergrowth to reduce wildfire risks to urban areas. Using a combination of field work and modeling, this research will provide information on the ecological, social and economic feasibility of substituting fossil fuels with forest biomass. Such substitution could reduce greenhouse gas emissions, heating costs and energy dependence while promoting job creation in the green energy sector in small communities in interior BC.

Project team: UBC, Community Energy Association, Green Heat Initiative