

## Agents of change drawn to green careers

*By Barry Horeczy*

For Postmedia News

Jeff Giffin didn't have to go far to begin his dream green career.

After graduating from the University of British Columbia's Masters of Clean Energy Engineering program in 2011, the 34-year-old quickly transitioned into an energy conservation manager role at the Vancouver campus.

As a member of the Utilities and Energy Services department, Giffin is happy to lead the university on a more sustainable path by reducing energy consumption and greenhouse gas emissions in its district energy system.

"I really enjoy the variety of people and projects I get to work with," says Giffin, who previously attained a Bachelor of Inventions degree from the University of Colorado and has three patents in his name, including ski and snowboard bindings and a self-powered bike light. From optimizing chillers and cleaning coils in HVAC systems to biomass gasification and replacing the campus steam system, there is literally no end to the energy-efficiency opportunities on this campus.

"My only complaint is that like all large bureaucracies, change can be slow."

Hoping to help accelerate change was what led Giffin into the green energy field in the first place.

"I feel there are tremendous opportunities and efficiency gains to be had by combining new technologies to solve old problems," he says.

"When you look at the energy landscape not a lot has changed since the Industrial Revolution... coal power plants and cars are still running at relatively low efficiencies and polluting our environment."

Eric Mazzi, a Power Smart Instructor and a research collaborator in the Sustainable Building Science Program at UBC, says the goal of the Clean Energy master's program, the first of its kind in Canada, is to help prod sustainability change.

"(The program) is designed to train engineers to be fundamentally sound in concepts and skills needed to transition to cleaner and more efficient use of commercial energy systems throughout society," Mazzi says. The main focus is technology, with some training in policy and behavior.

"I think it's important to UBC to fulfill its basic mandate, which is to train people to help solve society's most pressing problems."

Fulfilling that mandate will be greatly aided by the presence of its Centre for Interactive Research on

Sustainability (CIRS), widely considered the greenest building in North America. The \$37-million 'living laboratory' is one of several buildings worldwide that will provide 'net positive' benefits to the environment. It reduces UBC's carbon emissions, powers itself and a neighboring building with renewable and waste energy, creates drinking water from rain and treats wastewater onsite.

Built to exceed Leadership in Energy and Environmental Design (LEED) Platinum and Living Building Challenge standards, CIRS is one of the few commercial buildings constructed primarily of certified wood and beetle-killed wood - B.C.'s largest source of carbon emissions. Its wood structure locks in more than 500 tonnes of carbon, offsetting the greenhouse gas emissions from the use of building materials such as cement, steel and aluminum.

"CIRS is the first regenerative building on campus and proof that the costs are similar to other LEED buildings," says Giffin. "Our hope is that other new building projects both here at UBC and throughout the World will learn from our example.

"In particular I feel the way that CIRS harvest waste heat from the neighboring buildings exhaust system and then returns a portion of that heat back to the building was very innovative and successful."

Focusing on similar green buildings would present ample opportunity for future graduates to make an environmental difference, Mazzi says.

"Green buildings are a worthwhile and rewarding career choice. Almost any discipline or trade has something to contribute - business, engineering, science, economics, psychology, electricians, pipefitters " it's an endless list.

"It's a matter of finding a niche and opportunity, and making your best effort no matter what the circumstances are."

Alberto Cayuela, Associate Director of the UBC Sustainability Initiative and of CIRS, says opportunities are many for those seeking a green career.

"There are a variety of things," Cayuela says. "If they choose so, they can easily become certified energy managers, they can work in clean energy and renewable energy, they can work as part of (Canada Green) ESCO programs, which means making recommendations in financing to energy savings, they can work as energy advisers, they can be plotting energy demands and energy uses. There are just a host of jobs they can do after. BC Hydro, FortisBC (conservation group), even the pulp and paper industry uses co-generation and are looking for energy efficiency and cost-effective retrofitting."

**James McNeil, an Ottawa-based leading advocate of green buildings and their effects on climate change and the economy, can't imagine himself in any other career.**

**"I get to make a little bit of money," McNeil says, "I get to learn a lot along the way and I get to save the planet in my own little way so it's a pretty compelling living."**