

# College of New Caledonia



## NEWS RELEASE

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### **CNC's student residence outfitted with solar hot water system**

Forty-four rooms at CNC's student residence now have much of their hot water supplied by a unique solar system as part of the college's strategy to become more energy efficient and to reduce greenhouse gas emissions.

"The system is expected to provide more than 60 per cent of the energy required to heat the residence's hot water," said George Friedrich, CNC's energy manager. "This will save approximately 197 gigajoules of natural gas (\$2,600-worth) and avoid emitting 10 tonnes of CO<sub>2</sub> each year. That's the same annual emissions savings as taking about two cars off the road."

The solar hot water system will use heat from the sun to pre-heat the city water before it is further heated to 54 Celsius by the Residence's existing natural gas hot water heaters. "Twenty flat-plate glazed solar collectors, 1.2m by 2.4m in size, were installed on the residence's roof this past summer. A propylene glycol/water solution is circulated in a closed loop from the residence's mechanical room through the collectors during daylight hours," Friedrich explained. "Propylene glycol must be used to prevent the system from freezing in the winter."

A heat exchanger transfers the solar energy picked up by the fluid to city water in insulated water storage tanks. As students in residence demand hot water, the solar pre-heated water is drawn from the insulated storage tanks into the existing natural gas-fired water heaters. Because the water has been pre-heated by the solar system, the hot water heaters require less natural gas to heat the water to the required temperature.

The solar hot water system is a partnership between the Public Sector Energy Conservation Agreement (PSECA), Solar BC, Swiss Solar Tech, and CNC. The project was made possible through CNC's Energy Management Program that receives annual funding from BC Hydro.

In June 2010, the provincial government began taking applications for its third and final round of the (PSECA funding), providing \$25 million for public sector organizations to improve building energy efficiency and lower greenhouse gas emissions.

In partnership with Solar BC, \$2 million of this funding was allocated for solar hot water and solar air projects. CNC submitted an application for a solar hot water system for its student residence and received \$136,400, which is 100 per cent of the project funding in January, 2011.

Through a Request for Proposals process, Swiss Solar Tech of Summerland, B.C. was awarded the design/build contract for the system in May and construction began in July.

The solar hot water system wasn't the only change that happened at Student Residence last summer.

Low-flow shower heads and tap aerators were installed in all of the showers and bathroom sinks to reduce hot and cold water consumption. The washing machines were switched to cold water only. A new electricity meter was installed right at the Residence to more accurately track electricity usage. New furniture was also installed in the rooms.

“We’re trying to stay on top of savings and become more energy efficient,” said Nancie Krushelnicki, CNC’s Student Residence manager. “Everything is far more energy efficient.”

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**For more information:**

Andrea Johnson  
Writer/Editor CNC  
Communication Services  
250-561-5889  
250-961-0067 (cel)

George Friedrich  
CNC Energy Manager  
604-349-0613

Nancie Krushelnicki  
CNC Residence Manager  
250-562-2131 ext. 5849