

Solar house party planned at Cambridge architecture school



This is the North House that will be entered in the 2009 Solar Decathlon in Washington, D.C.

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CAMBRIDGE -- A fundraising event is planned Feb 12 to help a University of Waterloo team design and build a solar house to enter in an international competition later this year.

[North House is being developed by Team North](#) which involves students and faculty at the University of Waterloo, Ryerson University and Simon Fraser University, along with industry partners.

It's one of two Canadian entries selected to participate in the prestigious 2009 [Solar Decathlon](#) competition, sponsored by the U.S. Department of Energy and the National Renewable Energy Laboratory.

The decathlon will be held Oct. 9 to Oct. 18 on the National Mall in Washington, D.C., drawing 20 university teams with prototype solar homes from around the world.

The teams will each build a full-scale house to compete in 10 categories measuring quality and performance.

Tonight, Feb. 12, organizers and donors will gather at the University of Waterloo school of architecture on Melville Street in Cambridge to talk about the next phase of the project.

Richard King, director of the Solar Decathlon in Washington is expected to attend.

Construction of the actual house that goes to Washington is set to start in March, in Cambridge.

The house is intended to be something that can be sold to people with active lifestyles who want to reduce their energy consumption.

"North House will offer powerful solutions by using energy more efficiently and using energy from renewable sources," said Maun Demchenko, Team North's director of public relations.

"North House will serve as a vehicle for teaching the public about solar technologies and how they can be used in new and existing housing. It will showcase new sustainable green construction building practices in Canada on a world stage.

Here's some background information about the North House, provided by project organizers:

Solar House to Demonstrate Canadian Innovation on World Stage

A state of the art adaptable solar house is being developed to compete in this year's Solar Decathlon, an extremely high profile event to be held on the National Mall in Washington in October of this year, on the site of the recent Presidential inauguration. The entry represents one of only two Canadian university teams in the competition. Team North - a partnership of the University of Waterloo, Ryerson University and Simon Fraser University aim to deliver the winning design.

Their mission is to develop North House – a compelling, marketable solar powered home for people with active lifestyles – while growing Canada's next generation of engineering and design leaders. They envision the combination of green building, solar and interactive technologies as a powerful vehicle for reducing energy demand, building a conservation ethic and increasing the quality of life for all Canadians.

To showcase this project and Canadian innovation, North House aims to bring their design to the Vancouver 2010 Winter Olympics following the Solar Decathlon Competition in Washington D.C. This will provide a key opportunity to demonstrate Canada's commitment to sustainability and the advancement of alternative energy sources.

The Solar Decathlon brings attention to one of the biggest challenges we face—an ever-increasing need for energy. As an internationally recognized event, it offers powerful solutions—using energy more efficiently and using energy from renewable sources.

The Solar Decathlon has several goals:

- To foster development and facilitate widespread adoption of solar-powered homes that demonstrate solar technologies in marketable applications.
- To educate the student participants—the "Decathletes"—about the benefits of energy efficiency, renewable energy and green building technologies. As the next generation of engineers, builders, and communicators, the Decathletes will be able to use this knowledge in their studies and their future careers.
- To foster collaboration among students from different academic disciplines—including engineering and architecture students, who rarely work together until

they enter the workplace.

- To promote an integrated or "whole building design" approach to new construction. This approach differs from the traditional design/build process because the design team considers the interactions of all building components and systems to create a more comfortable building, save energy, and reduce environmental impact.
- To demonstrate to the public the potential of [Zero Energy Homes](#), which produce at least as much energy from renewable sources, such as the sun and wind, as they consume. Even though the home might be connected to a utility grid, it has net zero energy consumption from the utility provider.

The Solar Decathlon competition is very prestigious - 20 Universities have been selected from around the world out of well over 80 applicants. Being in the competition involves building a full scale house (max. 800 sq. ft.) on the Mall in Washington and having the house compete in ten 'events' that measure the quality and performance of a solar powered home.

In 2007 there were over 200,000 visitors to the event. This year the numbers will be even higher, expectations of up to 10,000 people per day will see the house and 647 million media hits are projected. In light of the new Obama administration and its emphasis on alternate energy, the event is expected have an even higher profile.

Financing this project in the current economic climate has been a definite challenge. The DOE only provides each team with \$100,000 US seed money.

The budget to build the house and transport it to Washington and back will be well over a million. While the North House team has obtained grants from several government sources that have kept us going through the design and development phase, there is a great need for financial and in-kind support to actually construct and transport the building to Washington.

The significance of this project for recognition of new sustainable building practices in Canada on a world stage is tremendous. Not only will the house be on the National Mall in Washington, but we are also working on displaying it at the 2010 Olympics in Vancouver.

Finally, we are planning to have the prototype be on permanent display for future research opportunities, changing pieces of the house as new innovative technologies become available.

The Objectives of North House

- Showcasing North House as an exemplar of green construction and solar powered living
- North House stands out from other Solar Decathlon entries by addressing both energy efficiency and occupant behaviour in the home. We seek to make the benefits of this approach apparent for visitors, and to distinguish it from other Solar Decathlon entries for competition judges and professionals.
- Increasing public awareness of the benefits of solar technologies
- Solar technologies are relatively new and unfamiliar to most people. We will use North House as an environment for teaching the public about solar technologies, how they can be used in new and existing housing, and their benefits for different audiences and applications. In doing so, we aim to transform negative perceptions of solar technologies vis-à-vis personal comfort and social acceptability.
- Increasing public awareness of energy independent living
- North House will showcase the latest in energy efficient technologies, materials and will demonstrate how design can promote low energy use lifestyles.

- Building partnerships that support North House and lead to longer term research initiatives
- Effective research necessitates the involvement of key stakeholders and access to resources that allow for the exploration necessary for innovation work. We will build a network of partnerships that increase the impact of our work, facilitate knowledge transfer, and provide training and support for North House's realization. In doing so, we will highlight the role of the Solar Decathlon as a catalyst for university-industry partnerships, and work to grow those relationships into longer term research initiatives.
- Promoting the talents of Waterloo, Ryerson and Simon Fraser University students and faculty
- The University of Waterloo, Ryerson University and Simon Fraser University are leading the charge to develop Canada's next generation of leaders in sustainable engineering and design. We will showcase the unique abilities of our team to define critical research objectives and deliver results.
- Encouraging market development and research by exposing new business opportunities
- North House's unique fusion of green building, solar and interactive technologies points the way to a range of new business opportunities. We seek to encourage market development and create demand for further research by exposing opportunities to our partners, and by bringing those parties into dialogue.
- Building an internal culture of collaboration that supports cross-team research objectives
- Team North brings experts from a variety of organizations, research and professional disciplines
- together. We seek to build a culture of collaboration that creates new knowledge and yields benefits that can't be realized through individual action alone.
- Winning at the Solar Decathlon
- Last, but not least, we want to have the best house on the Mall on October of 2009.

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