

The Solar Buildings Research Network (SBRN) awarded \$900,000 from NRCan's Technology Early Action Measures

Mr. David Anderson, Parliamentary Secretary to the Minister of Natural Resources Canada announced at the CanSIA conference in Toronto, Monday, November 19, 2007 the award of \$900,000 to demonstration projects led by the Solar Buildings Research Network and Concordia University. Related support (in-kind and cash) brings the value of the projects to over \$2,000,000.

The projects aim at demonstrating innovative façade and roof configurations that allow for the generation of both solar heat and electricity. They aim to contribute in making Canada a leader in the integration of such technologies into buildings. They have contributed to the formation of new university-industry consortia in SBRN to achieve this objective, with several new industrial partners joining SBRN.

Demonstrations of building-integrated photovoltaic-thermal systems in four buildings will be supported through this project: two residential, one institutional retrofit and a new commercial building.

The largest project is application of transpired solar collector cladding with integrated photovoltaic panels to the new Concordia University John Molson School of Business building, covering a south façade area of about 300 square metres to generate close to 30 kW of electricity and free solar heating of up to 15000 cfm of fresh air. A smaller retrofit application of transpired collector photovoltaic-thermal system is planned for the Ellesmere Community Centre of the City of Toronto.

The two houses are part of CMHC's EQUilibrium Initiative that will see in total twelve residential buildings built across Canada with energy performances that aim for the Net Zero Energy mark.

The Eco Terra house, by prefabricated home manufacturer Alouette Homes, is located in Eastman Quebec, while the Alstonvale House is located in Hudson Quebec and will be built by Sevag Pogharian Design. Both houses use innovative integrated photovoltaic/thermal roofs based on SBRN research at Concordia University. These systems are seamlessly integrated with the rest of the house mechanical and electrical systems. Dr. Andreas Athienitis and several of his students played a major role in the design of these houses and will be contributing in the development of the advanced control systems that will be controlling their electrical and mechanical systems.

The four buildings benefit from detailed monitoring which will provide a feedback loop to related SBRN research so as to further optimize the performance of the combined building solar and energy technologies through advanced predictive controls. In addition to the contribution from Natural Resources Canada, the demonstration projects receive support from CMHC who leads the Equilibrium program, the Agence de l'efficacité énergétique, Hydro Quebec, as well as in-kind contributions from Conserval Engineering, Day4Energy, Sustainable Energy Technology, Regulvar, as well as from the building owners: Alouette Homes, Sevag Pogharian Design, the City of Toronto and Concordia University. More partners may also join the projects.