



Better Choices
Better Homes
Better Lives

Eco-Solar Home Tour—2017

Saturday, June 3, noon to 4 pm

Westmount NZE Laneway Home

Address:
Hosts: Homeowners
Parking: available on street
Rating: EnerGuide 100



- Net-zero energy garage suite
- Create an economic revenue model in your back yard
- Both a 6 kW solar PV and a solar thermal collector
- Thermal storage tank stores heat for use after sunset
- Highly efficient building envelope

Features of this home

- ➔ Quiet and comfortable garage suite provides revenue and increases density and the efficient use of urban land
- ❖ Two-bedroom open-concept in 600 ft² of living space
- ❖ Building envelope has R45 in the floor, R38 in the walls and R105 in the ceiling
- ➔ Air-to-water heat pump with hot water storage and hydronic heating
- ➔ 6 kW of solar PV and one charging station for an electric car
- ➔ Solar thermal collector on south facing wall
- ➔ Specialized heat control system
- ➔ A research project with the University of Calgary and there will be considerable investigation of how this suite operates over the coming years.



Note: Items with a ➔ symbol will be presented on the tour.
Items with a ❖ symbol will not be presented.
Items with a • symbol are information points.

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Why this house is on the Eco-Solar Home Tour...

- This garage suite is a research project of the University of Calgary and Carbon Busters to design a highly efficient secondary suite over a garage. The suite has both photovoltaic and thermal solar collectors and has a storage system and advanced controls to store and distribute heat more efficiently.

Features that save on heating costs

- Air-to-water heat pump which provides heating and hot water
- Hydronic heating with large capacity thermal storage (2,600 litres)
- Solar thermal collector on south wall of home
- Advanced control system that maximizes heat production and storage and anticipates and adjusts for heating needs
- Air tight construction with a target of 0.6 air changes/hour
- R45 in the floor, R38 in the walls and R105 in the ceiling
- Efficient windows with high R-value and solar heat gain
- Drain water heat recovery
- CO₂ sensing Heat Recovery Ventilator that reduces ventilation heat loss when the occupants are away



Features that save on electricity costs

- 6 kW solar PV array generates more energy than is needed annually
- LED lighting and energy efficient appliances throughout
- Very interesting electrical control system which could be connected to time-of-day metering on the electrical grid, which balances the home's electrical and heating loads against electricity pricing for lowest overall costs.

Features that save on water costs

- Low flow water fixtures are used throughout

