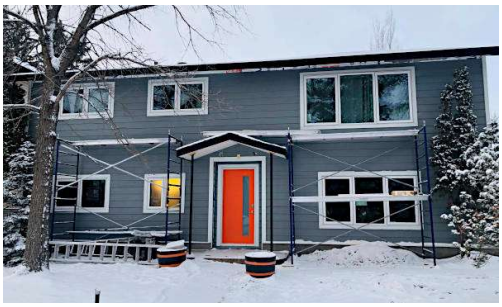
Eco-Solar Home Tour 2025

Sunday 8 June, Noon to 5 pm

Riverdale NZE Home



Tour Day: Sun 8 Jun
Address:
Hosts: Homeowners & builder
Parking: Available
Energuide Rating: 0 GJ/yr

Summary points why people need to see your home

- Discover a deep green, net-zero retrofit that eliminated all greenhouse gas emissions.
- See innovative insulation techniques like the Lance-Larssen Truss in action.
- Learn how heat pumps, solar PV, and air-tight design maximize energy savings.
- Explore cost-effective strategies for retrofitting an older home to net-zero.

What will people see and learn about at your home?

- A high-performance, least material stand-off truss for wall insulation.
- Air-source space heating and cooling and air source water heating systems.
- Efficient appliances.
- Net-zero energy performance with electric (heat pump) heating and solar PV.
- Deep green retrofit with a least-cost approach.

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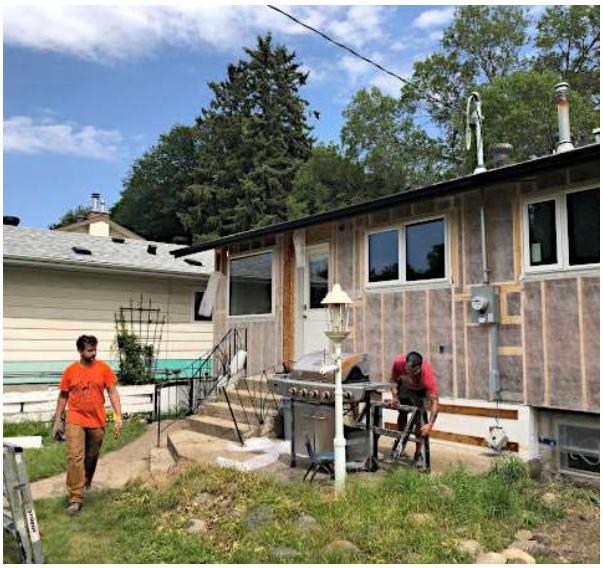
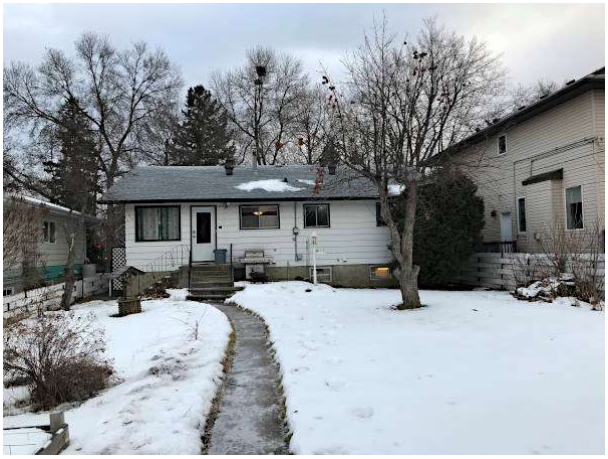
Why is this home on the tour?

The homeowners' goal was to retrofit their home to eliminate greenhouse gas emissions from the operation of the building, i.e. eliminating natural gas consumption and replacing all electricity with energy from renewable source to fight human-induced climate change. At the same time, the retrofit was designed to make the home more attractive, more durable, and more comfortable. Additionally, the project aimed to minimize life-cycle costs, energy consumption and greenhouse gas emissions, including embodied energy of building materials.

A least-cost approach emphasized a building envelope retrofit, including tripled wall insulation level using a newly designed stand-off truss ("Lance-Larssen Truss), increased air-tightness, increased attic insulation, the addition of rigid foam insulation at and near grade ("a hat, a coat and a boot"), efficient appliances, heat pump space and hot water heating, and a solar PV renewable energy system.



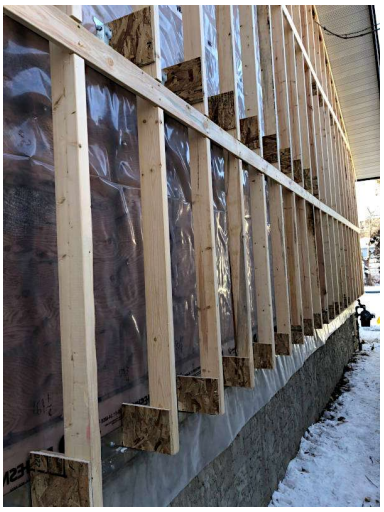


What features save on energy costs?

- Insulation, air tightness, HRV, solar, heat pump, appliances.
- Windows and doors were replaced with high performance units, which was not required for the least-cost retrofit approach, but did provide additional savings and comfort and improved appearance.

What features save on water costs?

- Water savings were not part of the retrofit.



Other special features

One of the main features was an iterative approach to determine the optimal configuration to achieve a least-cost, deep green net zero energy retrofit for an existing home.