# Eco-Solar Home Tour 2026

**14th June, Sunday Noon to 5 pm**

## Hodgson NZE Home

**Tour Day:** 14th June, Sunday
**Address:**
**Hosts:** Homeowners
**Parking:** On street
**Energuide Rating:** 5 GJ/yr

**Summary points why people need to see your home**

- 5 ton air to water heat pump with domestic water pre-heat system.
- A solar PV system, done in phased installs.
- An electric vehicle w/ load management system
- A Raspberry Pi data logger capturing all the heat pump performance. Used to optimize efficiency and longevity of the system.

**What are the main things people will see and learn about at your home?**

- A conventional built (2x6) house can be retrofit to net-zero with EV using only 100A service. No extensive changes to the envelope of the building required.
- Air to water heat pumps and load management allow this.
- The importance of good design, install and commissioning of heat pumps.
- Retrofits can be done in a phased approach, if well thought out ahead.
- Going net zero has significant financial benefits to a household

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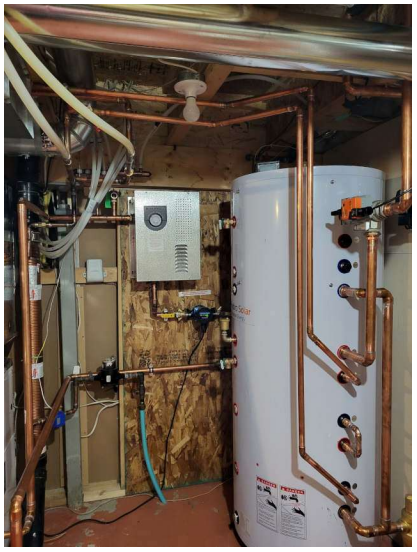
## Hodgson NZE Home

**Why is this home on the tour?**

We had always envisioned building a net-zero home, but plans changed when our current home would be right next to a new LRT station. We moved and bought this well built 2013 home. We began with the basic efficiency upgrades of LED lights, smart thermostats and eventually 3kW solar PV. I always wanted to achieve net zero though. We started down the path of having a geothermal system installed; but rig access to our walkout basement and cost became an issue. I then found air to water heat pumps and began the process of designing and installing my own. By using an oversized (5 ton) A-W unit and variable speed hydronic air handler, I was able to nearly meet my full heat load with an existing 3 ton ducting system. It also provided pre-heat hot water, prevent cold air during defrost, prevent cold utility room from a typical HP DHW tank and provide variable heat/cool output to equalize room temps. All of this was possible on the existing 100A service with some strategic design and load management.

**What features save on energy costs?**

- Air to water heat pump with domestic water pre-heat
- A variable speed hydronic air handler in place of the old furnace. Custom automations with a Raspberry Pi to provide fully variable heating/cooling to match the building loads.
- Drain water heat recovery
- Energy recovery ventilator
- Heat pump clothes dryer



**What features save on water costs?**

- 2,000 L rain collection system with pump for garden and lawn.
- Low flow taps and shower heads
- Drain water heat recovery for showers

**Other special features**

An EV car as our main driver, two electric bikes for work and school commuting and an electric long board built from scratch by the owner. A large garden area for fruits and vegetables.