



# Eco-Solar Home Tour 2022

Saturday 4 June, Noon to 5 pm

## Queen Alex NZE Retrofit Home

**Tour Day:** Sat 4 June  
**Hosts:** Homeowners  
**Parking:** on street  
**Energuide Rating:** 0 GJ/yr



### Why people need to see your home

- 1949 bungalow
- updated to net-zero
- Solar garage
- How a ground source heat pump works

### What will people see and learn about at your home?

- All-electric net-zero retrofit home
- Construction of a purpose-built solar garage
- Adding ground source heat pump to a narrow 10m city lot
- Energy usage tracking since 2005

### What are the main things people will see at your home?

- 14.6 kW solar PV system
- Ground source heat pump
- Electric car and charging setup



*Butterwick*



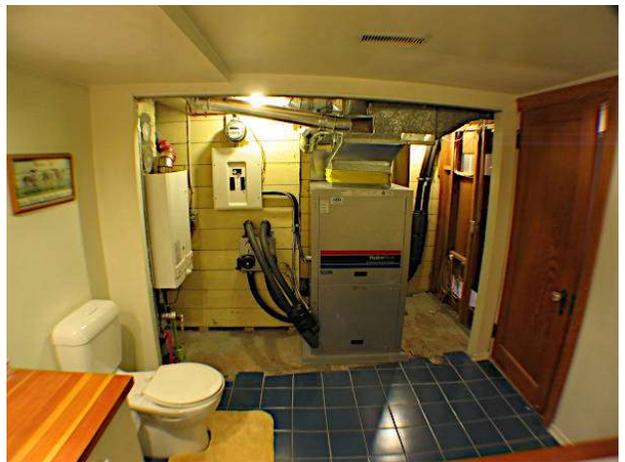


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## Queen Alex NZE Retrofit Home

### Why is this home on the tour?

Our home is a 1949 post-war bungalow that we bought in 1993. Although the interior of the home is lovely, it was drafty and inefficient. We started our energy-efficiency upgrades in 2005 with a visit to the Eco-Solar Home tour. Then we added a bit of insulation to the walls (just empty space previously), updated windows, doors, and installed a ground source heat pump. By 2008 we had converted all our appliances to electric and we were able to disconnect from gas. In 2019 we built our solar garage – a double garage with a south-facing roof for 10 kW of solar. In 2020 we completed the system with new shingles on the house and another 4.6 kW of solar. That got us to net-zero. Our home is an example of an ongoing energy-efficiency journey on an old home. It also shows that you can get to net-zero without tearing the house apart – you just need a big enough solar system!



### What features save on energy costs?

- 14.6 kW solar PV system
- R-14 cellulose fibre wall insulation (added 2005)
- Went from a drafty >16 air changes/hour to 3 ACH
  - Updated windows and doors
  - Heat recovery ventilator
- Ground source heat pump (added 2005)
- All-LED lighting
- Efficient electric appliances

### What features save on water costs?

- Water efficient toilets, fixtures, and appliances

### Other special features

- Electric car and charging station
- Xeriscaped front yard

