



# Eco-Solar Home Tour 2024

Sunday 2 June, 10 AM to 5 pm

## Sturgeon County Retrofit

**Tour Day:** Sun 2 June

**Address:**

Sturgeon County

**Hosts:** Homeowners

**Parking:** In Driveway

**Energuides Rating:** N/A



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

- The house is situated with large south facing windows and glass doors for admittance of light and thermal gain in the winter.
- Large metal clad roof with a 12/10 pitch to better collect free power from solar panels.

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

- Air to Water Heat Pump - Hydronic in floor heating and cooling
- Concrete poured over the main floor for passive solar heat gain.
- ERV ventilation conserves heat and humidity

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

- Heat Pump System - Inside and outside components
- ERV Ventilation system components
- Fire resistant and maintenance free siding and metal roof

**Are there main items that they can't see?**

- Double staggered stud walls separated by 1 inch space to reduce/eliminate thermal bridging.
- In floor hydronic heating tubes to efficiently heat/cool the house



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## Sturgeon County Retrofit

### Why is this home on the tour?

The original 1978 bungalow was in need of some major repairs and replacements, so we decided to go full out and design/build our house for the future on the original foundation. Along with the goal of energy efficiency in the heating system with heat pump technology and solar panels, the house has extra insulation within the double stud walls and thick spray foam ceiling insulation, along with new sheathing with tape sealed seams to increase air tightness.

Mostly, the house is planned to be no or very low maintenance and low energy use for the long term on all the major areas. The exterior has cement board siding with a concealed fastener standing seam metal roof to increase fire resistance and reduce future maintenance.



### What features save on energy costs?

- The exterior walls are all double stud wall construction with both batt and blown-in cellulose insulation along with sheathing that has all seams taped for air tightness.
- The heating system uses newer technology cold climate air-to-water heat pump and hydronic radiant in-floor heating. The heating system is 100% electric.
- Ventilation is provided by an ERV system that balances the humidity and heat and includes a booster heater element to warm incoming air during the coldest times.
- The majority of east, north, and west windows are smaller to reduce heat loss. All windows are triple pane. Large windows on the south side to brighten up the main living spaces and contribute solar gain.
- The house design has a 12/10 pitch south facing roof for better solar panel gain in the winter.

### What features save on water costs?

- Our acreage home uses well water, but we collect rainwater in barrels for garden watering to preserve the ground water for domestic use.
- Front load washer and ventless electric dryer

### Other special features

- 200 Amp grid service for electric car charger capability
- Induction stove
- Reused kitchen cabinets from the previous kitchen reno
- Reclaimed Douglas Fir timbers for porch posts
- Reused patio pavers from previous landscaping.
- Raised bed vegetable garden and wild Saskatoon berry bushes.
- Most of the acreage is natural forest and the lawn has plenty of dandelions and clover for any nectar loving insects

