



# Eco-Solar Home Tour 2024

Saturday 1 June, Noon to 5 pm

## Strathcona Geothermal Bldg

**Tour Day:** Sat 1 June

**Address:**

**Hosts:** Hi-Tech Seals Inc

**Parking:** Parking lot

**Energuide Rating:** n/a

### Summary points why people need to see your business

- All buildings need to be carbon neutral by 2050
- The process to be carbon neutral took 17 years

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

- The design process to size the ground source heat pump system
- The design process to size the solar PV system
- How we got to ZERO carbon
- How we are getting to NETZERO energy

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

- Water-to-Air heat pumps of various sizes
- Exposed ductwork design for the forced air portion of the system
- Water-to-Water heat pumps (for heating/cooling warehouse)
- 4 zone in floor heating system
- Mechanical room where all the manifolds collect the water flow from the ground
- Buffer tanks for the in-floor hydronic heating
- Building plans that show the layout for the boreholes
- Above ground borehole markers on a few of the boreholes
- Reflective roofing that increases solar output by at least 15%
- Insulation samples for under slab and roofing.
- Solar PV system

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

- R40 Insulation in walls and ceilings
- 14,400 feet of borehole under the parking lot
- 48 holes at 300 feet/each
- In-floor piping for the hydronic heating/cooling system





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### Why is this business on the tour?

This is a carbon neutral building and eventually will be NETZERO energy as well. It illustrates whether you have a big or small building, a home or business, they can all be made carbon neutral to meet our Canadian climate change goals. This is a fully electrified building. There is no gas line, so that means the building doesn't produce any green house gases on site.



### What features save on energy costs?

- 32,000 sq ft Carbon Neutral Building
- 15 Ground Source Heat Pumps
- 248 kW Solar System (avg Alberta house needs 6 kW)
- Fully electrified – no gas line
- No gas line means no gas bill
- No gas bill – no fees for admin. and distribution for gas
- Ground source heat pumps are electric devices that are twice the efficiency of others on the market (COP of 4)
- Twice the efficiency allows the solar to be half the size
- Half sized solar system means less infrastructure
- Less infrastructure leads to less costs on the electrical bill
- Solar system covers all the annual electricity kilowatt hours

