



Eco-Solar Home Tour 2021

Sunday 13 June, 3:00 to 3:40 pm

Southland Solar and EV Home

4 Elements

www.4Elements.eco



innotech
windows + doors



SkyFireEnergy
Solar Energy Systems

Calgary



SOLAR
CLUB

Tour Day: Sunday 13 June
Time: 3:00 to 3:40 pm
Hosts: Homeowners
Energuide Rating: n/a

Summary points why people need to see your home

- Practical design combining solar PV and EVs
- For people interested in the combination of Electric car and Solar



What will people see and learn about at your home?

- Considerations when designing Solar PV
- How to best fit an Electric car into your home setup
- Economics behind Solar + EV





Eco-Solar Home Tour 2021

Southland Solar Home

Why is this home on the tour?

Location showcases the synergy between a PV system and Electric vehicles. Solar energy offsetting grid power is great for reducing GHG emissions and \$\$\$ spent, but in both respects its effect is a lot more pronounced when replacing gasoline for transportation. System was placed on top of the garage because that location does not have any shading (house has two big trees from both South-West and South-East), and as a cover for the deck (still to be constructed) below. The PV system on top of the garage not only powers the cars and home, exports to the grid, but also serves as a cover for the deck below. The bi-facial panels are chosen for the deck to still have a bit of sun exposure while maximizing the production of panels.



Pergola was built using 8x8 posts and 2x12x20ft, with an angle that was a compromise between usability for the PV system and the cover for the deck. Front posts are 8ft, mid is 10ft and the back of pergola is 12ft. Charger used maxes out at 6.6KW, which is the same as the rating of the PV system above, making it a great fit. It is also connected, so we can maximize usage when we are getting the best production of the PV system. PV system itself is connected via modules consisting of 4 micro-inverters and is scalable. I ended up adding another two panels, and all we had to do was add another micro-inverter. We would like to expand the system at a later date, and with the setup as is it will be an easy upgrade.



What features save on energy costs?

- High Efficiency appliances, furnace, water heater
- LED lights
- Smart Electric Vehicle charger

Other special features

- Electric car and charging

