



Eco-Solar Home Tour 2018

Sunday 3 June 2018 Noon to 4:30 pm

Windermere mCHP Home

Tour Day: Sunday

Address:

Hosts: Owners and ATCO

Parking: On Street

Energide Rating:

Energide does not have a model for a CHP home.



Summary points why people need to see your home:

- To view a residential micro combined heat and power (mCHP) unit that uses natural gas to generate both heat and electricity for the home, and in the process lowers utility costs and reduces greenhouse gas emissions.

What will people see and learn about at your home?

- A residential mCHP unit that uses natural gas to produce up to 1.5kW of electricity and 12,600 BTU/hour of heat, which can be used for force air heating systems, hot water and hydronic systems (i.e. in-floor heating).
- The noise level of the unit is low – approximately 45dB quieter than a typical home refrigerator.
- The unit potentially reduces CO₂ emissions by 31% (3.5 tonnes each year).

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

- 2.75kW solar PV array
- 1.5kW residential natural gas mCHP unit



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HOME BUILDERS





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Windermere CHP Home

Why is this home on the tour?

To build a stronger understanding of a building's emissions, the examination should be calculated beyond its four walls and incorporate upstream sources and any associated energy losses. Combined with conventional renewable technologies such as solar PV, mCHP reduces the dependence on the electric grid that currently is primarily supplied by carbon-intense fuels such as coal. Since an mCHP unit produces electricity through the efficient combustion of natural gas, emissions are reduced by up to 50% at source as compared to a conventional household. The distributed generation of electricity from the mCHP unit and solar PV array also reduces the emissions associated with overproducing electricity to offset distribution/transmission losses. Ultimately, mCHP technology has a place on the pathway to a carbon-free society.



What features save on energy costs?

- Electricity generated by the solar PV array offsets energy that would be purchased from the electric grid.
- The electricity generated by the mCHP unit is cheaper per kWh compared to the cost of grid-connected electricity.
- Heat from the mCHP unit is transferred to a holding water tank that preheats the residence's conventional hot water tank. This reduces the amount of natural gas required to operate the conventional hot water tank.

