

Visit the 'green home' of the future

Heathwood's innovative green home in Richmond Hill will measure sustainability and cost-savings

With the future in mind, Heathwood Homes has built the "Green Home" in Richmond Hill. Situated in one of Heathwood's newest communities, The Reserve, this very luxurious home has been constructed with green elements that go far beyond the Energy Star standard that all of Heathwood's homes in Richmond Hill are built to.

This "Green Home" will open to the public as a demonstration home — with a twist. Heathwood worked with the Department of Mechanical and Industrial Engineering at Ryerson University and Agilewaves to develop a sophisticated monitoring and control system that will collect real-time data on electricity, water and gas usage.

After being used as a demonstration home, it will be sold and monitored for at least a full year after occupancy. This summer, a family will move into an identical home at Heathwood's nearby Forestbrook community, built to Energy Star only, and it will be monitored during the same period of time as the Green Home.

The results will be compared between the two homes, and the results will be a true indication of the benefits, both in terms of cost and CO₂ and water use reductions, that are created by the addi-

tional Green Home features.

"We already know that EnergyStar works and saves owners approximately 30% over homes built to Ontario Building Code," says Bob Finnigan, COO, Housing for the Heron Group of Companies, for which Heathwood is a builder. "The Green Home's added features will showcase the latest and greatest in readily available technology. As these things become more widely accepted, their prices will come down, and we will know which of them is most cost effective for families."

Metres in the Green Home measure how much electricity, gas and water comes into the house. Electronic signals from the monitors are then sent to the system, and in the house there are large flat-screen displays showing how much energy and water is being used. Within the home, about 16 designated plugs and appliance switches will be monitored, and these too can be displayed on the flat panels. In addition, there will be approximately 60 solar panels on the roof that will actually feed electricity back into the grid — further reducing the carbon footprint of the Green Home.

Among the items and systems being monitored in the Green Home is the tankless water heater,



which heats only the water being used at any given time, saving up to 40% over tank-style heaters.

Roof-mounted solar panels use the energy from the sun to help pre-heat the hot water and store it in a holding tank, again reducing energy consumption. Another re-

markable feature is the Grey Water system, which filters and cleans all the drain water from the showers and baths and reuses it for the toilets. That means less water used in the home, and also less water that ends up at the municipal treatment plant.

Energy savings are also achieved by the Green Home's lighting. Every light in the house is LED or CFL, which operate on only 20 per cent of the energy of a standard light bulb. There are about 150 lights in total, yet the entire home is lit with the energy that would be used by just 20, 100-watt incandescent bulbs — a huge savings.

Heathwood commissioned Ryerson graduate students to oversee the Green Home monitoring program. The Ryerson team will be able to retrieve the data remotely.

"What we're really showing is that families can live in beautiful, warm surroundings that are also extremely energy efficient," Finnigan says. "Unlike some of the austere demonstration homes out there, our Green Home is a house people will really want to live in."

For more information on Heathwood Homes, visit www.heathwood.com.

— Courtesy of Heathwood Homes

