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Solar-powered hot water system meets demands of family of five

Unit has qualified for Energy Star status and integrates with existing hot water heater

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SPECIAL TO THE STAR

Serena and Jose Etcheverry were already sold on alternative energy, but after observing that their solar-powered hot water heater registered 38C on the coldest day of this winter, their enthusiasm soared.

"It's an amazing technology," says Jose, a university professor who lives in an 1,800-square-foot two-storey home in Markham. "For protecting the environment, for saving energy, this should be mandatory for every new home."

"One of the reasons we installed it was that we wanted our (three) children (all under 10 years old) to grow up knowing alternative energy sources were a viable option," adds Etcheverry, who has conducted research for the manufacturer. "But also because every time you turn on the shower, you know that every drop touching your body is clean and hasn't hurt the environment through nuclear or coal or gas sources."

The unit they installed is designed and manufactured here in Ontario by EnerWorks. Also notable is that, in January, it qualified for Energy Star status in North America, the first of its kind in the country.

"This is verification of the energy efficiency and high quality of our product, as well as our commitment to programs like Energy Star," says marketing and inside sales Kathleen Barnard, of EnerWorks Inc. of Dorchester, Ont., between Woodstock and London.

EnerWorks is a leading solar thermal technology company that designs and manufactures solar energy appliances for commercial and industrial buildings and homes, and distributes their products throughout North America.

They were the providers of solar heaters for a 52-home subdivision south of Calgary.

Drake's Landing, completed in 2007, has 800 commercial solar panels mounted on the roofs and garages to produce 90 per cent of space heating and 70 per cent of domestic hot water needs.

"In spite of the economic downturn," says Barnard, "we're seeing phenomenal growth and commitment to solar technology in commercial and industrial sectors (for retrofitting existing facilities)."

"It's environmentally – and economically – driven so people see it as a way to reduce utility bills, but also as doing the right thing environmentally."

The solar hot water system employs your existing hot water heater (gas, electric, propane or oil), twinned with a solar water tank, an energy pack – about the size of a backpack, which attaches to the wall behind the solar tank – and solar panels mounted either on the roof or in the ground. Rather than heating the water, the solar panels heat propylene glycol, a freeze-protected fluid. The fluid passes through the energy pack inside the house where it heats the hot water supply before depositing it into the solar water tank. The water is then fed into the existing hot water heater to become the primary source of hot water. A full standard tank will heat up in about six hours.

Depending on the amount of hot water used, the type of fuel being offset and the homeowner's location (i.e. sunny versus cloudy), the system cuts hot water costs by 50 per cent or more annually (averaged according to the amount of summer and winter sunlight), says Barnard.

On cold, cloudy days, the system automatically defaults to a gas hot water heater.

If you're thinking about using it with the system, your current water heater should have at least five years of life left on it.

If not, you should consider replacing it as well.

Alternatively, the system can be twinned with a tankless boiler to eliminate the hot water tank.

Complete with a solar panel, the solar water storage tank and the energy pack for a two- to three-person household, the solar-powered system costs about \$3,500 installed. Installation – by trained HVAC technicians – takes a day.

A three- to five-person household would require a double system with two solar panels – the number of panels increases for five or more people – and could expect to pay about \$7,000 for it, installed

Here in Ontario, homeowners can apply for the PST, and up to \$1,350 for the home renovation tax credit.

In addition, they can qualify for up to \$1,250 through the federal ecoENERGY Retrofit program, plus up to \$1,000 from the provincial Home Energy Retrofit program.

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