Using the Power of the Sun for Heating Water

COLLUS Power Provides a Demonstration of Solar Water Heating System Technology

The use of solar photo voltaic (PV) technology is gaining in popularity for those consumers considering the installation of renewable energy systems however start-up installation costs remain relatively high. Another more affordable, smaller scale option is to harness the power of the sun for heating water. The payback for this type of solar system averages between five and seven years compared to a payback period of 20 years with most solar PV units.

The systems may be used to heat water for a wide variety of uses, including home, business and industrial uses. Heating swimming pools, underfloor heating or energy input for space heating are other examples of how it might be utilitized.

To showcase the technology, COLLUS Power in Collingwood has installed a solar water heating system as a demonstration unit at their utility office. The hot water produced by the system is being used to wash the utility's truck fleet.

Two solar panels or collectors have been fitted on the side wall of an outbuilding at the utility to allow people a better view of the display system (optimum installation location would be the roof of a building).

Instead of a flat plate system, which is comprised of an absorber plate with a transparent cover, the demonstration system uses an evacuated tube system. This is comprised of a row of glass tubes that each contain an absorber plate that feeds into a manifold to transport the heated fluid. The transfer system uses this collected heat to heat the water and store it for later use. An evacuated tube system was selected by COLLUS because it works well regardless of temperature, making it effective in both winter and summer.

The interior components have been mounted to supplement the existing water heating system in the building. Three components make up the solar system: a controller unit to monitor the temperature and operate the circulation pump as needed; an additional storage tank which contains a coil heat exchanger; and a tank that feeds the existing water heater with preheated water.

COLLUS Power is working to install live monitoring to place real time information on their website and on a display in the lobby to help their customers gain a better understanding of how solar water heating can work for them.

Renewable sources of energy will be a vital part of Ontario's energy future. Ontario's future also depends on the attitudes and knowledge of today's younger generation. As a result, COLLUS Power has committed to working with local schools to build a Renewable Energy demonstration trailer which will contain both Solar and Wind energy alternatives.

COLLUS Power provides electricity distribution services to approximately 15,000 customers in a territory that encompasses Collingwood, Thornbury, Stayner and Creemore. In 2008, the utility marks 100 years of service to their community.