

Primary Plus

A SECTION TARGETTED AT FARMER-DIRECTED PROCESSING, RETAILING AND PROMOTION

Solar energy is a natural fit for agriculture

Woodstock – “If you’re going to go to the trouble to take water out of the ground you might as well use it as many times as possible,” says dairy farmer Nico Van Den Acker standing in front of his solar thermal system.

He estimates the water in his system gets used four to five times before being flushed out into the manure tank.

It all started because he wanted to heat the pool so he installed collectors on the barn roof. John Rood of Zolarayz, who installed the system, says when Van Den Acker learned that there were government incentives available, the project, “mushroomed.”

Zolarayz mounted 12 panels on Van Den Acker’s milkhouse measuring 5x7 feet each. The collectors absorb the heat using the liquid glycol, which circulates through copper piping in the collector. The heat is then transferred to the solar storage tank.

Rood believes there is great potential for solar thermal systems in farming operations. He says the average daily use of water in a dairy barn is 870 litres at a temperature of 75 degrees.

A 180 tube solar power collector system will produce 68.4 percent of the farm’s yearly hot water. This translates to an annual electricity savings of 19,158 kWh, and at 12 cents per kWh a cost savings of \$2,298.

“Today,” he says, “we’re paying quite a bit more, around 16 cents.”

An additional side benefit is the reduction of CO2 emission of 12,759kg.



Michiel Slegh makes use of solar energy on his broiler and hog finishing operation

AT THE Van Den Acker farm the system heats the 240-gallon hot water heater in the barn and a 40-gallon tank in the house.

During the summer, excess heat is used during the summer to warm the pool temperatures. The rest of the year the excess heat is dumped into a 1500 gallon water tank in the milk house. Water from this tank is used for heating the house, is fed as warm water back to the cows and is used for washing the milking equipment.

Plate cooler water used to precool the milk before it goes into the bulk tank is also dumped

into the 1,500-gallon tank and reused.

These solar collectors are capable of heating water year round. Even if the water going into the solar tank is already 130°F or 54°C the collectors can still heat it up to 180°F or 82°C. When mounted on a white steel roof these collectors are almost 100 per cent efficient with no heat loss in units of energy.

Even on overcast days they can pick up enough dispersed radiation to heat water.

A FEW miles away, at Michiel Slegh’s broiler and hog finishing



BY JUNE FLATH

The writer lives near Woodstock
junepayneflath@hotmail.com

farm, solar energy is a theme. He admits he likes to try out new ideas.

The chicken barns have solar walls, there’s a panel out in the field collecting solar energy for the grid, and the new 160 square meter shop/feed room uses solar thermal panels for radiant floor heating to heat the room and to heat the fat tanks for the pig feed. The excess heats his pool.

Solar thermal panels work in barns, they also work in residential living. EnerWorks of Woodstock was recently selected as the first winner of the 2012 Intersolar North American Award.

Intersolar is the largest solar trade show in North America with shows also in Germany and Asia. Enerworks’ ‘Oxford Gardens Solar Project’ was selected for its innovations and excellence in solar thermal technology, system design and efficiency.

The project, located in Woodstock successfully integrates solar thermal cooling and solar thermal space, water and pool heating into one project.

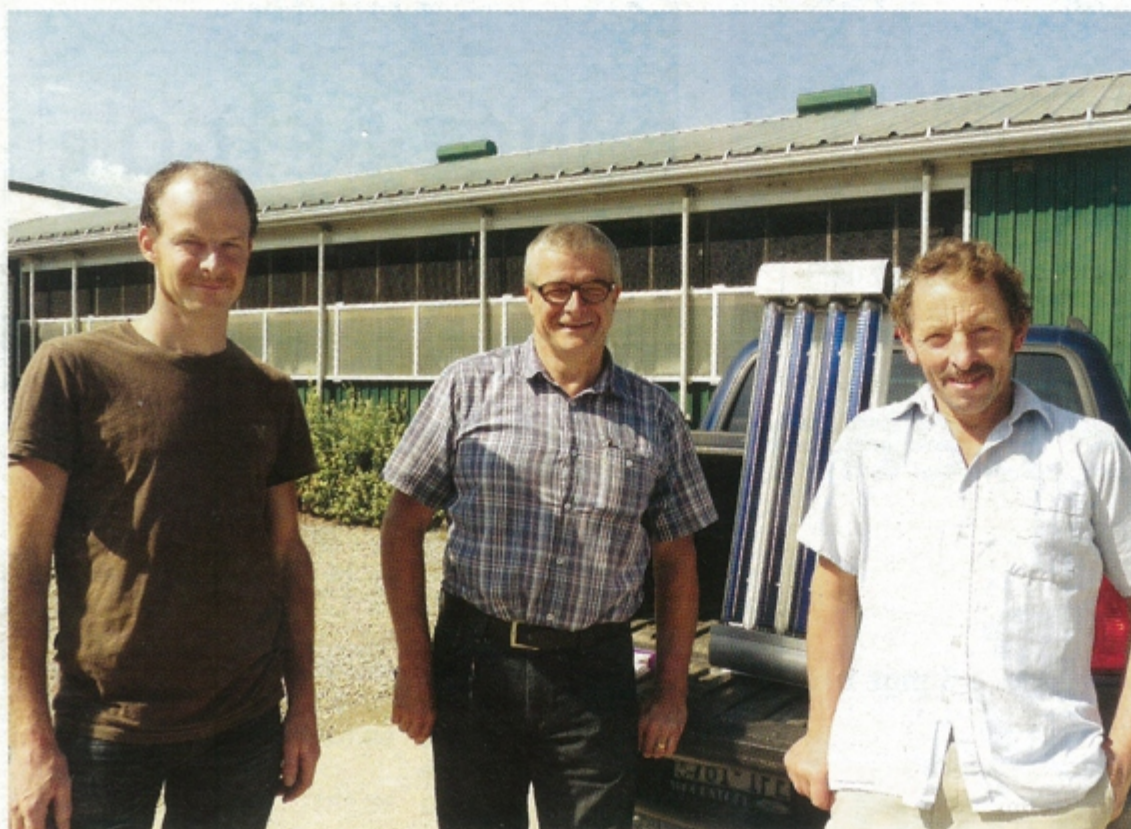
The installation is currently Canada’s largest solar thermal heating and cooling project providing the energy for the heating, cooling, domestic water and pool heating for the 5,594 sq. ft. retirement facility.

The Oxford Gardens has 162 solar collectors with a total of 3,240 evacuated tubes installed on the roof covering approximately 526.5 square meters. This will save the retirement community 40 percent of its annual cooling costs and up to 60 percent of its annual heating costs.

Cost to install all of these projects was offset with grants. Government incentives covered more than half of Michiel Slegh’s project and approximately 30 per cent of Nico Van Den Acker’s.

Grants are presently available through Ontario Power Authority, and Ontario Soils and Crops Improvement Assoc.

Incentive programs change constantly and so for more information contact the organizations directly or call John Rood at Zolarayz at 536-0259.



Gerrie and John Rood from Zolarayz and Nico Van Den Acker get ready to unload a solar thermal collector