



CASE STUDY: Stratus Wines

Niagara-on-the-Lake, Ontario

Situation

Stratus Wines is located on a 53 acre estate near Niagara-on-the-Lake, Ontario. It produces wines for a worldwide market. It is one of the newest wineries in Ontario and has already made a name for itself on the global stage. J.L. Proulx, the winemaker, is internationally renowned for his first-class wines.

Challenge

Environmental responsibility is a core value of all involved in the design and operation of Stratus Wines. Its people were determined to build a winery that would achieve "responsible stewardship of the land" while also satisfying the bottom line. Other energy-efficiency steps were taken, yet a space conditioning system was needed to fulfill the requirements. The situation was ideal for a NextEnergy geothermal solution.

Action

A NextEnergy Geothermal Specialist with extensive experience in commercial applications was contracted to install the geothermal system. After a careful study of the vineyard's characteristics and needs, the installation began. Twenty-four boreholes were drilled in a grid pattern to a depth of 80 metres into the ground. An ethanol mixture was pumped through tubing fed into the pipes to transfer heat to and from the ground, and therefore provide heating and cooling for separate processes in the winery.

The Stratus system is designed to allow for different temperature settings in separate rooms in the winery. Dimpled steel 'jackets' are wrapped around some of the wine tanks and the ethanol mixture is circulated through them, allowing individual tanks to be heated and cooled for the fermentation process.

Results

With the combination of the geothermal system and other energy-saving measures, annual energy consumption at Stratus Wines has been reduced by an estimated 42 percent. Meanwhile, the winery maintains the capacity to produce 60,000 bottles of wine a year.

Stratus Wines is the first building in Canada to receive federal certification for leadership in energy and environmental design (LEED), an award handed out by the Canada Green Building Council. The return on investment for a LEED-certified building is generally three to five years.

The geothermal solution has thrilled the people of Stratus Wines. As Charles Baker, director of marketing at Stratus, says about the geothermal system, "It's all pretty amazing technology."