Industrial

Ford Motor Company

Celebrating 20 Years of Solar Heating at 7 North American Plants and over $10 Million in Energy Savings

SolarWall® technology at Ford Walton Hills Stamping Plant near Cleveland, Ohio. This was one of seven North American stamping and assembling plants that installed SolarWall systems.

The Pioneers of Renewable Energy

Between 1986 and 1990, at a time when climate change had not even been identified, and few companies had renewable energy policies, Ford Motor Company recognized the potential to save significant amounts of money by permanently lowering the energy component of their operating costs. Ford had a corporate mandate to improve the energy efficiency of their buildings, and SolarWall not only met their financial objectives, but has also allowed them to reap tremendous cost savings over the past 20 years.

The solar installations also provided several additional benefits beyond financial savings, including improved indoor air quality and evenness of temperature, and the opportunity to use renewable energy to accomplish these goals.

After the success of the first SolarWall project at the Oakville Assembly Plant, other systems were subsequently installed at Ford assembly and stamping plants in Chicago, Buffalo, St. Thomas, Cleveland, and Windsor.

An analysis of the projects tell an impressive story of a company pioneering the use of renewable energy, and the sizable energy and cost savings that accompanied their projects. Collectively, the seven plants lowered their energy consumption by 385,000 MMBTU, each year. This has allowed the company to realize energy savings of well over $10 million dollars!

Ford St. Thomas Assembly Plant in Ontario, Canada, home of the Grand Marquis.

Case History: Ford Oakville

SolarWall® panels provide free heat to Ford's Oakville Assembly Plant, near Toronto, Canada. This installation was the first SolarWall system for Ford Motor Company.

Background

In 1986 Ford installed a 20,000 ft^2 (1,858 m^2) glazed SolarWall® system on the south wall of the Oakville Assembly Plant, where the Ford Tempo was assembled. As is common with older plants, the building was exhausting over 300,000 cfm more air than it was bringing in. Also, the building was plagued by drafts and cold indoor air temperatures.

In 1990 the glazed system was converted over to a higher performance, perforated, un-glazed, all-metal SolarWall system at the time production was switched to the popular Ford Windstar van. The 20,000 ft^2 of new metal panels were linked via 2,300 ft (700 m) of flexible ducting to 16 fans. The fans and ducting distribute the solar heated air throughout the south end of the building, while also destratifying the heat trapped at the ceiling and lowering the ceiling temperature from 30ºC to 22ºC.

Results

The system has functioned extremely well; Ford employees reported both improved indoor comfort and energy savings. Most impressively, in *1991,* the solar heating and ventilation system was reducing fuel costs by $100,000 a year. These savings have continued to rise with the increasing price of natural gas, providing Ford with an automatic hedge against volatile energy prices.

What the wall does is provide you with a tremendous amount of heated air for free."
- Ken Rossi, Manager of Energy Engineering at Ford

Ford's innovative approach to energy conservation earned them the prestigious status of becoming the first Canadian automotive plant to achieve the international standard ISO 14001. It is a designation that required the highest energy and environmental standards.

"The drafts are gone, the temperatures are better and the workers are pleased".
- Ford assembly line worker referring to the SolarWall installation

Solar heated air provides a blanket of fresh air at the south end of the Oakville plant, improving the indoor work environment.

U.S.A.
Conserval Systems Inc.
4242 Ridge Lea Road, Suite 28, Buffalo, NY 14226
P: 716-835-4903 F: 716-835-4904
E: info@solarwall.com
www.solarwall.com

Canada
Conserval Engineering Inc.
200 Wildcat Road, Toronto, ON M3J 2N5
P: 416-661-7057 F: 416-661-7146
E: info@solarwall.com
www.solarwall.com