



## Process Drying

# Rockland County Co-Composting



*Black SolarWall® panels installed on Wall 1 of the Rockland County Co-Composting Facility, located in the town of Ramapo, New York.*

*The County installed "SolarWall" signs on two of the walls to draw attention to their solar system, which is used for process drying.*

### Background

The Rockland County Solid Waste Management Authority administers and treats the solid waste from wastewater that is generated within the county. The co-composting facility is one of the buildings that they administer, and in 2005, Dvirka & Bartilucci (D&B) Consulting Engineers were tasked with overseeing a series of process, structural, and energy efficiency improvements.

### Solution

As part of the energy efficiency improvements, D&B Engineers investigated commercially available solar heating systems to offset the large quantities of energy required in the waste drying application. They recommended the SolarWall® technology, which is ideally suited to commercial process drying applications.

SolarWall® systems were installed on the southeast and southwest walls to provide heat to two 3-million BTU/hr oil-fired heating systems. The overall project was divided into three systems, and is summarized below.

SolarWall® System One: 1,265 ft<sup>2</sup> (118 m<sup>2</sup>) of panels were installed on the southeast wall. 11,000 cfm air is preheated and connected to the oil heater on the northeast corner of the facility;

SolarWall® System Two: The solar collector area is 3,815 ft<sup>2</sup> (355 m<sup>2</sup>) on the southeast facing wall. 17,500 cfm of air is preheated and delivered to the second oil heater on the southwest corner;

SolarWall® System Three: Covers 2,900 ft<sup>2</sup> (270 m<sup>2</sup>) on the southwest wall. Designed for preheating 17,500 cfm of air, which is also connected to the second oil heater.

### Results

Each year, Rockland County is projected to realized the following savings from the SolarWall installations:

**Energy Savings: 1,475 MMBTU / year**  
**Heating Oil Displacement: 14,100 gallons / year**  
**CO<sub>2</sub> Displacement: 165 tons / year**

At the time the project was approved in 2006, the cost of heating oil was \$1.18 a gallon and the project had a payback period of under 10 years. As of 2008, the price of heating oil in NY state had tripled and was fluctuating in the range of \$4 to \$4.70 a gallon, resulting in a 3 year payback. Given the magnitude of the energy reductions, this highlights why the SolarWall technology offers such a compelling ROI in terms of hedging against volatile energy prices.



*Second SolarWall® sign on the third wall*

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