Commercial Clean Heating & Cooling
A Program of Sustainable Westchester

ST. PATRICK'S CATHEDRAL

Funding Entity	NYSERDA
Sector	House of Worship, Retrofit
Energy Conservation Measures Implemented	Geothermal/Ground Source Heat Pump
Annual Energy Savings	Over 30% reduction in energy consumption
Owner	MBB Architects and Structure Tone
Location	5th Ave, New York, NY 10022, NY
Solution Provider	PW Grosser
Square Footage	57,104 sq ft

Project Background and Highlights

PW Grosser designed a state-of-the-art geothermal heating and cooling system for St. Patrick's Cathedral in New York City, the largest Gothic Catholic cathedral in the country. Engineered as part of the $177 mn restoration project of this 138-year-old landmark, the system replaces a more conventional HVAC system that dated to the 1980s. The geothermal plant will reduce the building's energy consumption by more than 30 percent and reduce CO2 emissions by approximately 94,000 kilograms.

Early feasibility studies that were performed as part of the renovation determined that installing a conventional system would have posed many challenges for preserving the integrity of this historic building. Plans required substantial excavation and rock removal which would have impacted the building's architecture. The geothermal system, however, is ecologically sound, takes up just 40% of the space of a conventional HVAC system, and uses the building's existing structure.

The St. Patrick's project highlights the tremendous utility of geothermal systems for restoration projects. Aside from the long-term financial and environmental gains, the systems are able to be built out of sight, without interfering with visual aesthetics that are crucial to preservation projects.