

Cool Cases: From the files of Ice Energy



Staples, the world's largest retailer of office products, is committed to making its environmental footprint as small as possible. The Framingham, MA-based company's initiatives combine environmental stewardship and operational efficiency to produce a healthier planet as well as a healthier balance sheet.



“Energy efficiency is an important area of focus for our business from both a cost and an environmental perspective.”

Bob Valair, Director, Energy and Environmental Management, Staples Stores



Customer: Staples	Utility: FirstEnergy
Location: Howell, New Jersey	Building Type/Size: Retail/20,000 sf
Average Daily Load Reduction: 25%	
Situation: <p>With locations around the globe, Staples Inc. projects a large physical footprint. But the world's largest retailer of office products also has one of the most ambitious corporate sustainability programs, to ensure that its environmental footprint remains as small as possible. The company's initiatives combine environmental stewardship with operational efficiency in order to produce a healthier planet, as well as a healthier balance sheet.</p> <p>In addition to purchasing green power generated by renewable resources, the company invests in building management systems and new energy technologies to maximize the efficiency of each property. Energy storage was a perfect addition to the portfolio.</p>	
Solution: <p>Staples first considered adding energy storage to its mix of sustainable technologies in 2008 through an innovative pilot program sponsored by First Energy. The program called for installing Ice Bear distributed energy storage units at one of its retail outlets.</p> <p>A store in Howell, New Jersey, was ultimately selected from more than 1,800 Staples locations in North America to become the first test site. It is a representative single-story Staples retail store cooled by a 60-ton array of Lennox high efficiency units.</p> <p>The Ice Bear system supplements a commercial building's AC unit by using more efficient, lower cost off-peak energy at night to make ice. The ice produced cools the building – rather than the AC unit's compressor – during the warmest daytime peak hours. Costs for acquiring, installing and maintaining the Ice Bear units were assumed by the utility and turn-key installation by Ice Energy was problem-free.</p> <p>Installing Ice Bears allowed Staples to control operating costs and maintain a low environmental impact on the communities it serves.</p>	
Results: <p>Previously, on an average summer day, the Staples store in Howell store experienced a daily load profile of approximately 150-160 kilowatts. With the Ice Bear storage units installed, the daily load profile dropped to 120-130 kilowatts, a reduction of nearly 25%.</p> <p>The company estimated that the Ice Bear system delivered 5-6% additional savings in energy costs beyond those achieved from a demand response program in which Staples was also participating.</p>	