

Cool Cases: From the files of Ice Energy

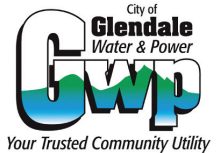


Glendale Water & Power's Smart Grid and Energy Storage initiatives position the utility at the forefront of clean energy and environmental sustainability, while ensuring the reliable delivery of affordable electric service to their customers.



“Ice Energy’s solution is a simple, cost-effective solution for managing peak demand, and aligns perfectly with our Smart Grid initiatives.”

Glenn Steiger, GM
Glendale Water & Power



Customer: City of Glendale	Utility: Glendale Water & Power
Location: Glendale, California	Building Type/Size: Municipal/Commercial
Project Benefits: Energy Efficiency & Load Management	
Situation: <p>The first electric utility in the country to receive a Smart Grid Investment Grant from the U.S. Department of Energy under the American Recovery and Reinvestment Act, Glendale Water & Power (GWP) has undertaken an ambitious demonstration project it hopes will lay the groundwork for a city run entirely on smart, sustainable energy.</p> <p>It is a multi-year strategic effort by one of California’s leading municipal utilities, aimed at modernizing its technology and systems infrastructure to enhance reliability and manage costs while providing a foundation to support future growth.</p> <p>Central to this effort is the integration of energy storage to enable the use of cleaner, more efficient and more affordable off-peak power, improve the reliable integration of renewables like wind and solar power, and increase system efficiency from generation through delivery.</p>	
Solution: <p>GWP chartered a integrated, two-phase energy storage and HVAC replacement program to support its energy efficiency and peak demand management goals.</p> <p>Phase one of the project involved the replacement of more than 80 aging, inefficient HVAC units on 25-plus Glendale city buildings and municipal facilities with new, higher-efficiency units, and the simultaneous incorporation and installation of Ice Bear thermal energy storage systems from Ice Energy.</p> <p>The Ice Bear system is an intelligent distributed energy storage solution that works in conjunction with commercial 4 to 20-ton packaged rooftop air conditioners common to most city buildings. The system stores energy at night, when electricity generation is cleaner, more efficient and less expensive, and delivers that energy during the peak of the day to provide cooling to the building.</p> <p>Phase two of the project, scheduled for completion in 2011, involves the deployment of an additional 2 Megawatts of Ice Energy distributed energy storage units on commercial and industrial customer sites throughout GWP’s service territory.</p>	
Results: <p>Average annual energy consumption decreased by more than per 386,000 kWh per site under the initial phase of the project, resulting in lower energy usage and increased savings for the City and the utility.</p> <p>Unlike load management cycling or other demand management programs that can negatively impact customer and employee comfort and productivity by curtailing air conditioning use to reduce electricity demand, GWP’s Ice Bear project is completely transparent to building occupants. By shifting energy consumption from high-impact daytime hours to low-impact nighttime hours, buildings with Ice Bear energy storage systems installed were able to slash peak electricity demand, manage energy costs, and reduce their environmental footprint without any operational or behavioral change.</p>	