

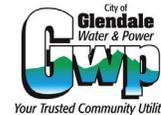
# Cool Cases

The City of Glendale is recognized throughout Southern California for taking aggressive strides toward the Smart Grid, principally by capitalizing on renewable sources of energy, water management and, most recently, Ice Bears.



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

*Glenn Steiger, General Manager,  
Glendale Water & Power*



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**Customer:** City of Glendale, CA    **Utility:** Glendale Water & Power    **Energy Shifted (kWh):** 221

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**Location:** Glendale, CA    **Building Type/Size:** Various

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**Situation:** In late September 2010, as Southern California broiled under triple-digit temperatures hitting a record high of 113 degrees in downtown Los Angeles, air conditioners across the Southland worked overtime, straining the grid to peak demand levels and making everyone a lot less comfortable. Except, that is, in certain precincts of Glendale.

None of the hundreds of employees in the City’s Public Works, Engineering & Building Permits, Traffic, Planning, and Industrial Safety departments, or the citizens who visited the Glendale Municipal Services Building or nearby City Hall, could feel any diminution in comfort that day. In fact, air conditioners on a handful of city buildings in Glendale – part of a unique energy storage project between the Southern California Public Power Authority (SCPPA), municipal utility Glendale Water & Power (GWP) and Ice Energy – actually used 95% less energy during the peak of the day.

**Solution:** Aging, inefficient air conditioning units on 28 Glendale city facilities were replaced with new, higher-efficiency units. These new units were paired with Ice Bear energy storage systems to create a cooling and storage solution like those operating today on the Municipal Services Building and City Hall.

Unlike load management cycling or other demand curtailment programs that raise the thermostat and turn down the air conditioning to reduce electricity demand – making things hotter for customers and employees – GWP’s Ice Bear project enables commercial buildings to reduce peak electricity demand without any noticeable change, even on the hottest days.

**Results:** Despite the extreme late summer heat, which drove recorded roof-top temperatures on City buildings above 115 degrees, installed Ice Bear units worked flawlessly, delivering uninterrupted cooling comfort on-peak while displacing 43 kW of demand, and shifting 221 kWh of on-peak energy to off-peak hours.

Ice Bears work by storing energy directly on individual buildings, and delivering that energy the following day to provide cooling directly to the building’s air conditioning system. Essentially, they use off-peak energy to meet daytime air-conditioning demand, the single largest contributor to peak summer loads.

**Rebates / Incentives:** The majority of the program in Glendale is being underwritten through \$20 million in federal stimulus funding from the U.S. Department of Energy for GWP’s Smart Grid project, which includes an advanced metering program for electricity, in addition to energy storage, to help increase efficiency and reduce energy consumption.