

## SCPPA / Ice Energy Distributed Energy Storage Project

### Project Background

The Southern California Public Power Authority and Ice Energy are currently undertaking the nation's largest smart grid-enabled, utility-scale distributed energy storage project.

This 53 Megawatt project will help to permanently reduce California's peak energy demand by shifting as much as 64 Gigawatt hours of on-peak electrical consumption to off-peak periods every year, reducing exposure to costly peak power and improving the reliability of the electrical grid.

### Project Participants

The Southern California Public Power Authority, or SCPPA ([www.scppa.org](http://www.scppa.org)), is a joint powers authority consisting of 11 municipal utilities and one irrigation district. SCPPA members include the municipal utilities of the cities of Anaheim, Azusa, Banning, Burbank, Cerritos, Colton, Glendale, Los Angeles, Pasadena, Riverside, Vernon, and the Imperial Irrigation District.

Colorado-based Ice Energy, Inc. ([www.ice-energy.com](http://www.ice-energy.com)) is the leading provider of smart grid-enabled distributed energy storage solutions to the electric utility industry.

### By the Numbers:

- 53 Megawatt project
- Approximately 64 Gigawatt hours of on-peak consumption shifted off-peak annually
- Provides enough on-peak power to serve 10,000 average California homes
- Reduces smog-producing emissions equivalent to removing more than 3,000 cars from the road
- Ice Bear<sup>®</sup> smart-grid networked distributed energy storage systems
  - Utility-owned asset, like a transformer, meter or other piece of utility equipment
  - Maintained by Ice Energy through a long-term maintenance agreement
- 6,500 + units installed on approximately 2,000 sites throughout Southern California
  - Host sites include government, commercial and industrial buildings
- Installed over a 24-month period beginning mid-2010
- 300 new, permanent green jobs created
- 60% of the total contract value expected to be spent locally in California communities

## Project Benefits:

- Enables SCPPA utilities to deliver reliable, competitively priced electric service to their customers in a sustainable, environmentally-sensitive manner
- Protects ratepayers against rising cost of peak power
- Represents a cost-effective alternative to building and running new fossil-fuel burning power plants to meet growing peak demand
- Makes it possible for SCPPA utilities to use cleaner, more efficient and less expensive off-peak power to produce and store energy to meet peak demand
- Reduces daytime greenhouse gas emissions and shrinks the region's carbon footprint
- Gives grid operators the unprecedented ability to intelligently shape peak demand by managing the load profile of a single building, a feeder, a substation, or an entire region
- Improves the reliability and eases the integration of renewable generation like off-peak wind, solar and geothermal resources
- Easy, rapid deployment at scale

## About the Technology:

Ice Energy's distributed energy storage technology attacks the problem of peak demand by enabling a powerful change in how – and, more importantly, when – energy is consumed for air conditioning.

Storing cleaner, more efficient and more abundant energy off peak, and delivering it on peak at the point of consumption, Ice Energy's Ice Bear distributed energy storage system is the industry's first energy storage solution specifically developed for use on small to mid-sized commercial buildings.

Pairing an energy storage unit with a standard commercial air conditioning unit, the system is designed to absorb off-peak load and dispatch it on-peak, essentially decoupling daytime air conditioning use from peak energy demand while consuming an equal or lesser amount of energy on each building.

Each Ice Bear distributed energy storage unit works for approximately 6 hours a day, shifting the energy consumption to off-peak periods. AC energy demand – typically 40-50% of a building's electricity use during peak hours – is reduced by as much as 95%.

When deployed, aggregated, and intelligently managed at scale, Ice Energy's systems provide a single manageable utility-scale resource that can permanently reshape system load, feeder by feeder, at the substation level, or over an entire region.

