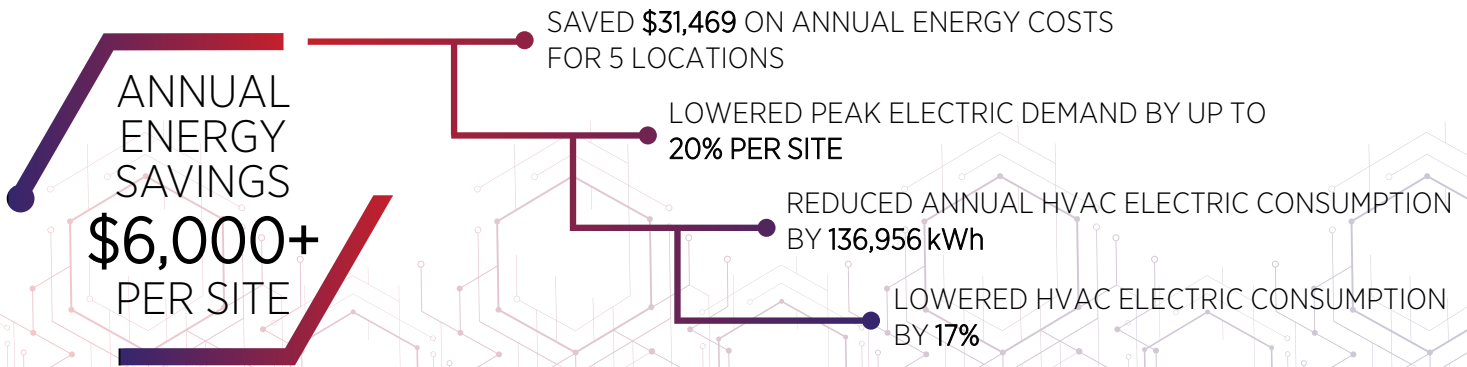




HOW ENCYCLE HELPED A NATIONAL SPECIALTY RETAIL CHAIN REDUCE THEIR HVAC ENERGY SPEND BY MORE THAN **\$31,000** AT FIVE SOUTHERN CALIFORNIA STORES.



SMALL-BOX SPECIALTY RETAIL STORE

Specialty retail stores often have a lot going on within a relatively small space. Examples include refrigeration for perishable products and zoning the HVAC for certain areas, such as pharmacies in drug stores.

For a national retail pet store chain, the unique challenge was balancing HVAC energy efficiency with proper temperature management 24/7. Pet stores have unique cooling requirements because they need to maintain several “micro-climates,” each with their own HVAC demands. The aquarium area needs to handle increased humidity while the reptile section needs to adapt to increased heat loads resulting from heat lamps. In addition, the entire store typically has higher ventilation and air flow requirements to support the health needs of the animals.

Encycle’s patented machine learning solutions addressed all these issues and helped the customer achieve the impressive energy savings results they were looking for.



CUSTOMER CHALLENGES

- Reduce sharp spikes in electrical demand occurring during store opening hours.
- Achieve reductions in energy spend and consumption.
- Maintain occupant comfort and desired temperatures for different micro-climate zones within the store.
- Develop control strategies that react to varying HVAC unit performance and efficiency.

SWARM LOGIC RESULTS

The customer had already installed an energy management system (EMS) in all their locations. Swarm Logic integrated seamlessly with the EMS to provide added savings on top of those already achieved from the EMS.

Deploying Swarm Logic helped the stores lower electric demand and associated utility demand charges. In fact, the retail pet stores achieved annual reductions of 16% in peak demand and 17% in consumption.

The customer started achieving these results almost instantaneously after deployment, all while maintaining the consistent environment needed for store shoppers and animals. Swarm Logic also enabled the customer to take advantage of demand response programs, which generate a revenue stream and help offset energy costs.

By capturing operational data from Swarm Portal, Encycle's Customer Success team found that several sites had HVAC units that were compensating for others that were unable to meet desired set-points. Encycle collaborated with the customer's facility management team to easily deploy control methods tailored to each site's requirements in order to mitigate the impact of equipment issues such as under-performing units.

ENCYCLE'S SWARM LOGIC SOLUTION

Swarm Logic technology was deployed at five Southern California store locations. The size of the customer's retail stores ranged from 15,000 – 25,000 square feet and included a typical configuration of four to six HVAC units. Swarm Logic cloud-based software added a new set of capabilities to existing building controls.

Encycle's Swarm Logic technology provided a synchronized staggered startup function that allowed cooling to occur gradually rather than forcing all HVAC units to work all at once at the start of business. During peak demand hours, Swarm Logic enabled the facilities' units to operate as a networked system, responding more efficiently to changing conditions such as outdoor temperature and building occupancy, thereby apportioning energy consumption more logically.



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