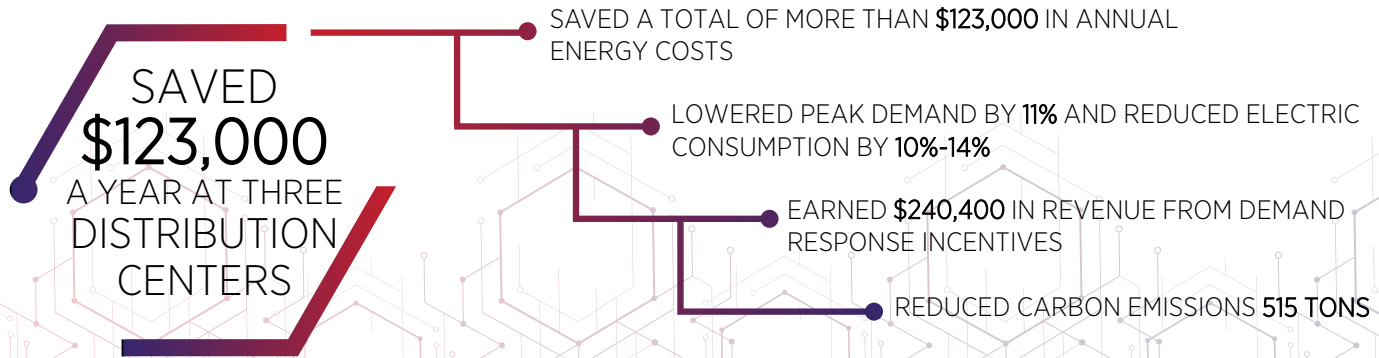




HOW ENCYCLE HELPED TWO DISTRIBUTION CENTER CUSTOMERS SAVE OVER **\$123,000** ON ANNUAL HVAC ENERGY SPEND AND UNLOCK **\$240,400** IN REVENUE FROM DEMAND RESPONSE INCENTIVES.



DISTRIBUTION CENTERS

TWO CUSTOMERS, ONE ENERGY-SAVING SOLUTION

This case study profiles the energy challenges of two different customers, demonstrating the scalability and results of Encycle's Swarm Logic® cloud-based technology across different types and sizes of distribution centers.

Customer One is a well-known, international clothing retailer with a 1.8 million square-foot distribution warehouse. The massive location features 115 HVAC units with a total of 5,235 tons of cooling capacity and 5,759 kW in HVAC electric load managed.

Customer Two is a global wholesale pharmaceutical distribution company that deployed Swarm Logic at two California distribution sites measuring 221,200 and 210,200 square feet. Together, these two sites feature 49 HVAC units with a combined 872 tons of cooling capacity and 961 kW in HVAC electric load managed.

Both customers were seeking to improve the control and efficiency of their HVAC systems while making progress toward their corporate sustainability goals. In addition, their facility operations teams wanted insight into individual unit performance to help reduce downtime and improve operating efficiency. Finally, both customers wanted to take advantage of available demand response incentives and needed access to a technology solution that would simplify participation.



CUSTOMER CHALLENGES

- Like many distribution centers, the interior environments of these sites needed to be conditioned to provide a comfortable working environment for employees who manage the day-to-day operations that include receiving, inventory replenishment, order fulfillment, and shipping.
- Conditioning large interior spaces like distribution centers is costly, especially in the climate zone of these California locations.
- Lack of insight and visibility into the performance of existing HVAC equipment was limiting facility management's ability to anticipate, prioritize, and budget for maintenance activities.
- Customer One had solar power and battery storage systems installed, so the HVAC control solution required integration that would not interfere with the operation of these systems.
- Customer Two had pharmaceutical products sensitive to changes in temperature or humidity, which placed increased demands on the HVAC systems.
- Both customers have very robust corporate sustainability programs and needed a solution that would help manage and report on the performance of their facilities from a greenhouse gas emissions perspective.

ENCYCLE'S SWARM LOGIC SOLUTION

Swarm Logic technology was deployed by both customers at three distribution centers located in California. Integration was quick, seamless, and enabled HVAC units at each facility to synchronize activity as part of a networked system, responding more efficiently to changing conditions such as outdoor temperature and building occupancy, thereby apportioning energy consumption more logically.

SWARM LOGIC RESULTS

Operating autonomously on a 24/7/365 basis, the scalable solution created a significant decrease in energy consumption and demand, maintained building comfort for employees, and helped ensure proper conditions required for products were met.

Using Encycle's Swarm Portal, both customers gained clear visibility into their HVAC energy use and savings in real time and the advanced analytics and reporting provided valuable insights into equipment performance. This enabled their facility operations teams to proactively address issues and schedule maintenance in a timely and cost effective manner.

Both customers utilized Swarm Portal's data and reporting capabilities for ready access to the information needed to report their corporate sustainability, saving their facility operations and sustainability teams hours of time in addition to helping them reach their goals.

Encycle's solution and guidance enabled both customers to enroll in California demand response (DR) programs. Swarm Logic also simplified the operational processes for participation in DR events that allowed both companies to earn significant utility incentives without additional burden on the facility staff and without sacrificing occupant comfort.



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