

Education Facility

Private Multi-Building High School

Originally founded in 2000, a California college preparatory school situated on a 30-acre campus features multiple academic buildings, a library, a gymnasium, a 30,000-square-foot arts facility, a new state-of-the-art science center, and various outdoor athletic fields. Students at the school engage in community service and environmental stewardship programs. With sustainability being a key tenet of the school, Encycle's Swarm Technology™ was a natural fit. The Swarm install increased the energy efficiency of the school's HVAC operations and resulted in utility bill savings that could go back to the students through increased program budgets.

How Encycle increased energy efficiency at a large, multi-facility school resulting in a monthly energy consumption reduction of 28% and significant savings the school was able to reinvest in its students.

Client Challenge

- Automate and simplify demand response participation to unlock new revenue streams
- Enable remote, decentralized load management for scheduling and consumption reduction
- Provide a remote monitoring platform to track electricity usage and demand response performance

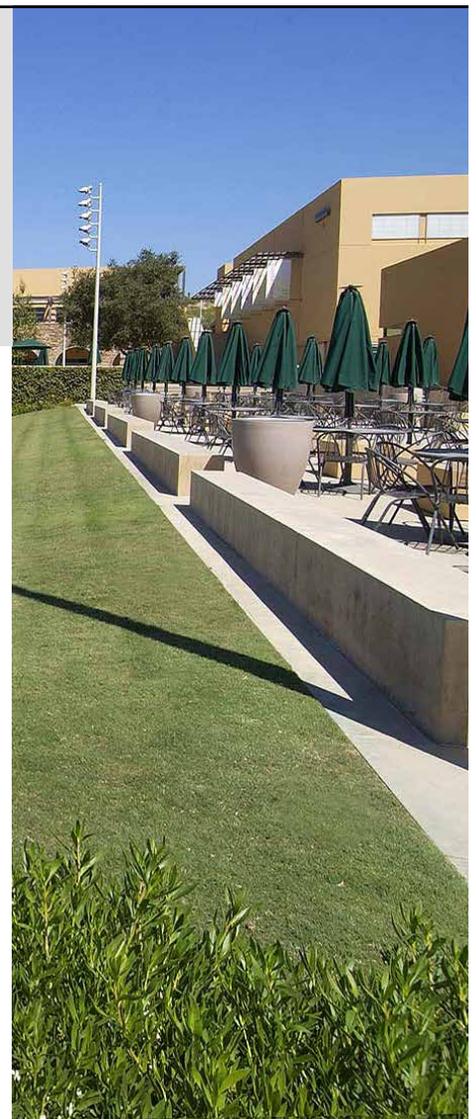
Swarm Logic® Solution

Enrolled in automated demand response

Being a private school system that relies primarily on tuition fees to operate, this customer sought ways to reduce their energy costs without making a large initial investment or placing a significant new burden on their facility staff.

In early conversations with Encycle, the school learned about utility demand response (DR) programs and the revenue they could generate by enrolling. The combination of reducing their electric spend and the ability to add a new source of revenue proved to be a compelling option to consider.

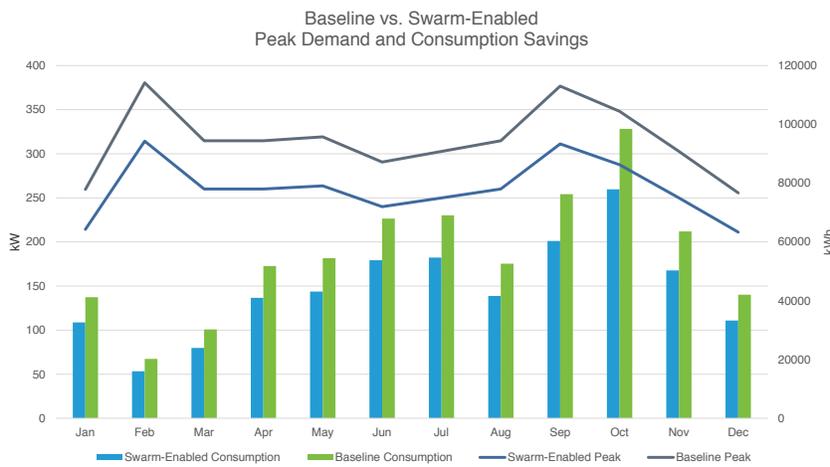
With Encycle's help, the school enrolled in an automated demand response (AutoDR) program. Encycle installed Swarm Logic® technology to control 26 rooftop HVAC units, enabling demand response participation that would be completely automated while also capturing energy savings 24/7/365.



Swarm Logic Results

With Encycle’s Swarm Logic technology, the school could earn revenue by participating in DR events – without manually changing settings within their existing energy management system. Now, when the school receives an AutoDR dispatch notification from the utility, the Encycle server triggers the Swarm Logic system to execute a pre-programmed, fine-grained load shed. The HVAC system continues to provide some cooling, so that a reasonably comfortable environment is maintained. DR performance can easily be monitored via the Swarm Portal, which also provides the school with real-time and historical load data. This data can help to identify malfunctioning equipment and optimize HVAC load schedules, ultimately allowing facility managers to make informed decisions and implement cost-savings strategies.

In addition to the DR revenue, the school realized over \$24,000 in annual energy savings resulting from reductions in electric consumption and demand through the use of Swarm Logic technology. Through the use of the Swarm Portal, Encycle was able to find and correct several HVAC operational efficiencies in partnership with the facility staff. What is more impressive, these results were on top of the significant savings that the school had already achieved with its comprehensive energy management system.



The Numbers

- 55 kW average monthly peak demand reduction
- 139,434 kWh total annual consumption reduction
- 28% average monthly consumption reduction
- \$24,451 total annual savings for one year

“Encycle’s Swarm Energy Management system provided an efficient way to monitor and control peak energy consumption and effectively clip the high demand charges, especially during the summer rate months of TOU.”

John B.
Facilities Director



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