

POWAY UNIFIED SCHOOL DISTRICT \$1.4 MILLION IN ENERGY SAVINGS CREATES LEVERAGE FOR EDUCATIONAL EXCELLENCE

Location: San Diego and Poway, California

Size of Project:

Nearly 36,000 students; 4,500 employees; 41 campuses

Customer Challenge

Curb steeply rising demand charges

ENGIE Storage Solutions

6 MWh of energy storage, distributed over 12 campuses

Why ENGIE Storage

- Energy cost savings with no upfront investment for storage implementation
- Flexibility to install indoors or outdoors
- 3rd-party vetted, field-proven solution

Benefits

- Projected \$1.4 million in demand charge-related savings over 10 years
- Expected additional revenue from utility incentives and demand response programs



Exploring every option to maximize resources for students

Putting 36,000 kids first is a bold mission. But Poway Unified School District in San Diego County, California, is fully committed, employing 4,500 faculty and staff members to help students pursue their academic, athletic, artistic, and leadership goals.

One of those staff members is Director of Facilities, Maintenance and Operations Chad Koster. Embodying the district’s core value of effective resources management, Chad keeps a tight rein on the costs of powering 39 school and 2 administrative campuses in San Diego and in Poway. “We are aggressive in pursuing every opportunity for energy savings and conservation, as well as managing the utility bill cycle,” he says.

FROM ENERGY EFFICIENCY TO POWER EFFICIENCY

The district has already implemented various energy efficiency measures—such as installing new HVAC controls and LED lighting in classrooms and parking lots—which have resulted in annual energy savings of more than \$250,000. At several of the campuses, Poway Unified is also working to boost its solar power generation to cover at least 10 percent of its peak annual load, in order to qualify for a Distributed Generation Renewable (DG-R) tariff, which incurs a lower level of demand charges.

“The [ENGIE Storage] solution was a low risk proposition for us, and with capital investment funding so hard to come by in education, it’s a great idea.”

– Chad Koster, Director of Facilities, Maintenance and Operations, Poway Unified School District

But while energy efficiency can lower a facility's overall energy use profile, it cannot prevent the spikes in power demand that occur at specific times of the day and especially during the hot southern California summers, when air conditioning is used heavily. "Unfortunately, the times we need the HVAC correspond with our utility's peak demand charge periods," Chad says. "And our demand charges were rising too steeply to be sustainable."

GETTING TO "YES" WAS A NO-BRAINER

That's why Poway Unified was eager to deploy more than 6 MWh of GridSynergy® energy storage at 11 of its school campuses and one of its administrative sites. By automatically charging during off-peak hours and discharging when usage spikes, the energy storage system minimizes the peaks that trigger demand charges. This "peak shaving" is expected to save the district more than \$1.4 million over the next ten years, a reduction Chad anticipates enthusiastically. "Any time we can find a way to reduce our operating costs without impacting our students is extraordinary," Chad says.

The battery and inverter hardware are installed either indoors or out, depending on the available space on each campus. "Indoor space is always at a premium," Chad notes. "It was more practical to make use of corners of parking lots and other out-of-the-way places." The district also vetted the solution with an independent engineering consultant, and looked at similar ENGIE Storage systems that have been operating successfully at customer sites for several years.

But what really eased the project through approval was the fact that the system design, installation and operation came at no cost to the district, through a 10-year Power Efficiency Agreement™ (PEA). Backed by ENGIE Storage's parent company, ENGIE, the world's largest independent power producer and energy services provider, the PEA tasks ENGIE Storage with the ownership, installation, and maintenance of the energy storage system, minimizing risk for Poway Unified. The district shares its monthly energy cost savings with ENGIE Storage, only after these savings have been verified by the meter reading and ENGIE Storage's cloud-based GridSynergy software. Chad can log into the GridSynergy web portal to monitor savings in real time, both at individual campuses and in aggregate.



Monitored around the clock from ENGIE Storage's network operations center, Poway's GridSynergy storage systems automatically discharge power to prevent demand spikes at the meter.

SEE POWAY SAVE

Soon, everyone will know how much Poway Unified is saving. The district is designing an energy dashboard that will be installed at all 39 school campuses. Integrating feeds from solar PV arrays and energy storage systems, the dashboard will display real-time energy use data on interactive displays at the school, as well as on a website that will enable the district and schools to compare and track their energy and cost reduction achievements.

San Diego Gas and Electric (SDG&E), already knows about Poway Unified's storage system. The local energy provider is interested to see how the distributed behind-the-meter storage can help balance grid requirements using demand response (DR) programs. Participation in such programs could yield an additional revenue stream for Poway Unified, bolstering the funds available for educational programs. Furthermore, because power adjustments for DR are made automatically through GridSynergy software, participation wouldn't impact Chad's workload. "We're excited to see how it will all work out," he says. "The [ENGIE Storage] solution was a low risk proposition for us, and with capital investment funding so hard to come by in education, it's a great idea."

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About ENGIE Storage

ENGIE Storage (formerly Green Charge) helps power the world more efficiently and sustainably. As the nation's number one distributed energy storage company, we serve energy producers, distributors, and consumers, including utilities, network operators, and energy consumers in business and government.

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