

MOUNTAIN VIEW LOS ALTOS HIGH SCHOOL DISTRICT GETS A+ IN ENERGY THRIFT AND \$86,000 IN ANNUAL SAVINGS

Service Area: Mountain View and Los Altos, California

Size: 4,300 students, faculty and staff

Challenge: Support environmentally sustainable commuting without impacting tight school budget

ENGIE Storage Solutions

GridSynergy® storage coupled with EV charging

Why ENGIE Storage

- No cost energy storage system and EV chargers
- Educated stakeholders on shared savings model
- Provided connection to California energy market, offering new revenue opportunity for schools

Benefits

- Projected \$86,000 in annual demand charge savings, totaling \$1 million over lifetime of project
- Access to electric vehicle charging on campus
- Additional savings and revenue streams made possible through energy arbitrage and California Independent System Operator (CAISO) market



Quest for affordable EV charging leads to revenue opportunities.

“Schools aren’t typically seen as technological innovators,” notes Mike Mathiesen, Associate Superintendent, Business Services at the Mountain View Los Altos High School District (MVLA). But MVLA is no typical school district. Located in the heart of Silicon Valley, with campuses in Mountain View and Los Altos, California, it serves families who work and live on the cutting edge of technology. They are among the earliest adopters of green technologies, such as solar energy and electric vehicles, and expect private and public sector employers to invest in such technologies in their workplaces.

But when those workplaces are schools, the harsh realities of tight educational budgets can be challenging, even for MVLA. As part of its sustainability initiatives, the district wanted to install EV charging stations to encourage electric vehicle use among its faculty and staff. But footing the bill for EV charger installation and maintenance was a big obstacle, until Sybil Cramer, community advocate and member of MVLA’s Go Green Sustainability Committee, found ENGIE Storage (formerly known as Green Charge).

TEACHERS GO HOME RECHARGED

With funding acquired by ENGIE Storage, MVLA had four Level 2 EV chargers installed, two each at its Mountain View High School and Los Altos High School campuses. Faculty and staff pay a flat annual fee to use the chargers, and can go home every evening with a fully-charged vehicle, making it practical to drive an EV to work, even for those with long commutes.

“Each year, we expect to reduce our demand charges by \$86,000, if not more. Every dollar saved is a dollar we can spend in supporting greater educational opportunities here.”

– Mike Mathiesen, Associate Superintendent, Business Services, MVLA

With a full load of responsibilities on his shoulders—everything from facilities maintenance and operations to transportation and insurance—Mathiesen has little spare time for extra reams of paperwork. “[ENGIE Storage] drafted all the documentation and took care of the approvals,” Mathiesen recalls. “All we needed to provide was 15-minute interval [power usage] data from our utility.”

But EV charging was just the beginning of MVLA’s sustainability success story. Once the EV chargers were in place, ENGIE Storage also installed a combined 1.08 MWh of lithium-ion-based energy storage capacity at the two campuses, also at no cost to the district. Remotely monitored through the GridSynergy® controller, these energy storage systems discharge when needed to minimize spikes in electricity demand from the grid, helping MVLA avoid costly demand charges. The energy storage systems then recharge during lower-cost off-peak hours. “Each year, we expect to reduce our demand charges by \$86,000, if not more,” Mathiesen says. “Every dollar saved is a dollar we can spend in supporting greater educational opportunities here.”

Trends show utility demand charges increasing, and as they do, the need to avoid demand spikes will become more acute. With the energy storage systems in place, conservative estimates put MVLA’s total savings at more than one million dollars, over the lifetime of its Power Efficiency Agreement.

“EV charging is what people see, but the real benefit is in the energy storage.”

– Mike Mathiesen, Associate Superintendent, Business Services, MVLA

DEMAND CHARGE SAVINGS AND BEYOND

Like many ENGIE Storage customers, MVLA was initially skeptical of the proposal to install all of this sophisticated equipment at no upfront cost to the district. But both the district’s project management firm and the local utility, with whom Mathiesen vetted the proposal, agreed that it would be mutually beneficial: MVLA would avoid the cost and risk of the installation, and ENGIE Storage would get a share in the district’s demand charge savings. “The EV chargers were a great idea,” Mathiesen says, “but from a financial perspective, packaging the chargers and the energy storage was even better.”



These compact battery enclosures, installed at the Mountain View High School campus, are part of the advanced GridSynergy system serving MVLA.

The algorithms in the GridSynergy software that minimize the district’s demand peaks can also be used to generate savings for the district through energy arbitrage. For example, demand for electricity is typically higher and congruently more expensive in the late afternoon and early evening, when schools are closed for the day. By storing cheap, off-peak electricity to use during expensive peak times, the district can reap additional energy savings—without any additional investment on its part.

These savings are turning into revenues. MVLA was the first ENGIE Storage customer to take part in the California Independent System Operator (CAISO) wholesale energy market. Through the program, ENGIE Storage is aggregating excess capacity at multiple sites and offering it on the CAISO market in order to help relieve stresses in the transmission network. According to Mathiesen, the CAISO program is providing the district with a new source of revenue beyond energy arbitrage and demand charge savings.

WHAT YOU SEE IS NOT ALL THAT YOU GET

Excited to be at the forefront of sustainability innovation in the education sector, Mathiesen acknowledges that energy storage isn’t top of mind for many in the education sector. Often, it takes another initiative, such as EV charging, to realize that demand charges can be a major issue. Energy storage initially offers a remedy for demand charges, but ultimately becomes a powerful benefit in its own right.

“EV charging is what people see,” Mathiesen says, “but the real benefit is in the energy storage.”

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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.