

SANTA CRUZ COUNTY SUSTAINABILITY LEADER CAPS SUCCESSFUL YEAR WITH COUNTY'S FIRST ENERGY STORAGE INSTALLATION

Location: Santa Cruz, CA

Size: 2,319 employees in 20 agencies and departments; approximately 1,500 employees at the County Governmental Center

Customer Challenge

Achieve net energy cost savings, even as electricity rates rise

ENGIE Storage Solutions

90kw/180kWh battery-based energy storage; additional EV charger

Why ENGIE Storage

- Demonstrated ability to reduce cost of energy
- Zero upfront investment
- No operational or maintenance burden

Benefits

- Verifiable savings, projected to total \$190,000 over 10 years
- Reduced impact of EV charging on building's electricity demand
- Additional revenue generation through participation in PG&E's Excess Supply Program

“Even though we were saving energy, our costs were going up because of rising electricity rates.”

– Carol Johnson, Administrative Services Manager, General Services Department, Santa Cruz County



Cost-saving energy storage plus EV chargers without a dime of taxpayer money.

Where can you find more than a quarter of a million eco-conscious, easygoing people in a Mediterranean climate? Try Santa Cruz County, California, home to marine scientists, artists, scholars, and surfers—to name a few—who cherish the area's natural beauty and expect their public agencies to place sustainability at the top of their agendas.

It is in this climate that Carol Johnson has presided serenely over the administrative services of Santa Cruz County's General Services Department for the past decade. Johnson directs ten divisions within the department, on both the strategic and the day-to-day administrative levels. Her responsibilities range from facilities management and fleet services to public works projects, including those pertaining to energy efficiency and other sustainability efforts.

In that capacity, Johnson has overseen the replacement of boilers, LED lighting retrofits in several buildings and in parking lots, and is currently heading up a tri-county project for solar installations at eight sites. With aging equipment prevailing in most of the county's government buildings, there's never an end to potential energy efficiency projects.

There is an end to the county's budget, however, and Johnson, who manages that budget, knows how hard it can be to keep up with the increasing costs of powering lighting, computers, HVAC, and other systems that support agencies providing services to the public. A year ago, it seemed like a steep uphill battle. “Even though we were saving energy, our costs were going up because of rising electricity rates,” Johnson says. Demand charges further exacerbated those increases, because even if the county used fewer kilowatt-hours overall, it still paid hefty demand charges for usage peaks.

EVS CAN CHARGE WITHOUT SPIKING DEMAND

That's why Johnson perked up when ENGIE Storage (formerly known as Green Charge) offered a way to mitigate demand charges at the County Governmental Center using battery-based energy storage. The GridSynergy™ energy storage systems sense peaks in the building's energy demand and automatically discharge the batteries to prevent those bursts of power from being drawn from the grid. The storage systems are controlled by cloud-based software, which is custom-configured for the loads at each facility.

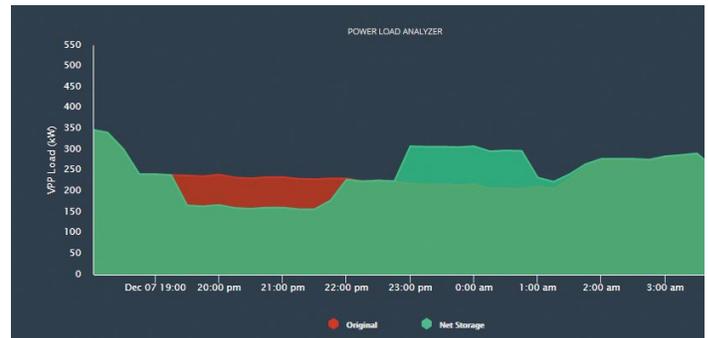
One of the loads that came under consideration for the Governmental Center was the sporadic charging of electric vehicles. The county has a dual-port (Level 2) charger and a DC fast charger. Both chargers are available to the public and to county employees who drive their own electric vehicles or one of six county-owned EVs. Growing EV use and the unpredictable nature of charging can cause demand charge-inducing spikes in the building's power demand from the grid. With the GridSynergy system in place, Johnson would not need to worry as much about the impact of public charging on the building's electricity bill. Consequently, she was delighted to receive an additional dual-port charger from ENGIE Storage as part of the energy storage project.

"After looking at our bills and talking to PG&E [Pacific Gas & Electric, the public utility], we decided it would be a good opportunity to take advantage of [ENGIE Storage's] energy storage program," Johnson says. "The fact that we were able to get a charging station made it that much more enticing."

NO-UPFRONT COST, NO MAINTENANCE BURDEN

Johnson was able to expedite the energy storage project by using California Government Code Section 4217, which allows public agencies to avoid time-consuming competitive bid processes, when energy savings are expected to exceed project costs. In this case, the county paid nothing upfront for the storage units or their installation. Through a Power Efficiency Agreement (PEA™), the county shares with ENGIE Storage a portion of its monthly savings, which are verified by both the utility statements and the GridSynergy software.

Implementing the storage solution took approximately six months. ENGIE Storage evaluated the site and its energy use profile, and then designed, configured, and installed an appropriately sized system, consisting of six GridSynergy storage towers. ENGIE Storage monitors the system around the



Santa Cruz County receives on average seven load consumption requests a month from PG&E as part of its Excess Supply Program. The event shown in this graph as "Net Storage" in dark green generated \$100 in savings for the county. Compared to other load consumption services, which wastefully consume excess power by increasing lighting or HVAC use, the battery system stores the excess energy for later use, a more economical and power-efficient solution.

clock from its network operations center, so there's no burden on the county's facilities maintenance staff. Johnson can view the savings in real time through the web-based GridSynergy portal. The building superintendent and the electrician can also access the portal to assess the load fluctuations and see how the storage is flattening peak demand.

SAVINGS ROLLING IN

Based on ENGIE Storage's calculations, the project is expected to save \$190,000 on the electricity costs for the County Governmental Center over the course of the ten-year PEA. So far, results have been encouraging. "In the storage system's first year in operation, we have already seen a 15 percent cost reduction from energy storage and other initiatives in aggregate," Johnson reports.

With the energy storage systems in place, the county is well positioned to generate additional revenue, for example, through PG&E's Excess Supply Program (XSP). In exchange for a commitment to charge the batteries during periods of excess supply on the grid (performed automatically through the GridSynergy software), Santa Cruz County receives a monetary compensation through ENGIE Storage, which acts as the storage resource aggregator. In its first few months of participation, the county has already earned a \$4,900 credit on its energy costs for the Governmental Center, as well as a leadership standing among government agencies contributing to a more sustainable grid.

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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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