

EV Charging Pilot Minimizes Calif. County's Energy Use Spikes

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Alameda County, Calif., is working on an electric vehicle (EV) charging pilot that allows it to charge its many EVs while controlling energy use and reducing expensive spikes. Conducted in partnership with Lawrence Berkeley National Laboratory (Berkeley Lab) and Chargepoint, the Smart Charging Pilot Program allows the building's chargers to communicate, and the DC fast charger to override other chargers when it's in use.

The county's fleet facilities were not designed for electric vehicles and as the fleet has added more, the facility has maxed out on energy use, said Phillip Kobernick, interim logistics services manager. Solar panels aren't an option for all facilities, and in addition to upgrading the main electric panels, the fleet had to find a way to reduce expensive energy use spikes.

The main fleet shop has 36 Level 2 chargers and one DC fast charger. In order to minimize expensive spikes in energy use, the DC fast charger communicates with the Level 2 chargers to tell it to reduce charging to almost zero while the fast charger is on.

"A DC fast charger is a really short charge, and if cars are plugged in for a couple of hours [on a Level 2], having it be paused for 12 minutes doesn't do anything," Kobernick explained. "But for us, each one that pauses is saving us 7kW, so that's 80 or 90 kW of savings there."

Fleet staff use the DC fast charger when it needs to get an EV back in use quickly, such as when an employee returns the vehicle early enough in the day that it can be reassigned.

Additionally, 14 of the main facility's 20 fleet-specific charging stations are "cold stations." When a vehicle is plugged in, it doesn't start charging right away, but rather waits until off-peak hours to begin charging. This is used for vehicles that don't need immediate charging and reduces energy use during peak times. The program is also done with Berkeley Lab, a national lab supported by the Department of Energy and managed by the University of California.

"These types of projects are an example of how fleet managers will need to start thinking of electricity as a fuel," Kobernick said. "Fleet managers are probably pretty used to managing gaseous fuels, and electricity is a whole new field altogether. New tools are being developed to better help [with management]."

The county's electric vehicle fleet includes about 70 vehicles, and about 30 more are expected for delivery within a few months.

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