

County of Sonoma Expands Clean Fleet with ChargePoint

Industry Solution: Fleets

Organization

County of Sonoma, Fleet Operations Division

Application

Government Fleet

The Challenge

The County of Sonoma needed to implement a plug-in electric vehicle (PEV) charging infrastructure to support the growing use of PEVs as county vehicles.

The Solution

The ChargePoint® Fleet Plan makes it easy for the County of Sonoma's fleet operations division to ensure vehicle readiness, manage EV fleet charging and easily report petroleum fuel and greenhouse gas (GhG) emissions reduction to meet government regulatory requirements for AFV acquisition.

Results

- Ensure vehicle readiness by confirming that all vehicles required for use are fully charged.
- Track and report on EV charging, both in and outside the depot.
- Track and report on savings in cost, fuel and GhG emissions.
- Meet government regulatory requirements for AFV acquisition, petroleum fuel and GhG reduction.
- Provide electric fuel to all PEVs used in the County regardless of charging level.

Fleet Manager Vision

"As we add more PEVs to our fleet, we'll need to substantiate the additions with tangible cost savings. ChargePoint makes it easy to organize and report on the data that shows how we're doing our part, in a way that the County authorities can understand."

— **David Head, Fleet Manager, County of Sonoma Fleet Operations Division**

Background

The County of Sonoma has 26 departments and agencies that provide a full range of services to the community. It encompasses over 1600 square miles and is home to more than 475,000 residents. Sonoma County government has a history of providing excellent and responsive public service while operating under sound fiscal principles. This philosophy extends to the local government fleet operation, which consists of 1,355 light and heavy-duty vehicles that are used by government employees across the county.

According to David Head, Fleet Manager for the County of Sonoma Fleet Operations Division, the organization has been consistently increasing its use of hybrid and plug-in electric vehicles (PEV) for the past few years with a goal of improving fuel efficiency. "For a long time, we've been looking for the best way to reduce fuel consumption and costs, and to reduce vehicle emissions," said Head. "Sonoma County has a climate protection plan with pretty tough goals for fuel efficiency and GhG reduction. We are trying to meet those goals while continuing to provide our clients with the types of vehicles they need to get their jobs done."

The Challenge

Providing a public charging infrastructure for its growing fleet of PEV was one of the roadblocks that Head's team had to overcome.

The County recently received a grant from the Metropolitan Transportation Commission (MTC) to fund 22 additional electric vehicles to add to its fleet of 231 hybrids. "We currently have nine plug-in hybrid conversions, nine neighborhood electric vehicles and one Nissan LEAF on order," said Head. "With this grant, we'll be able to deploy 21 Nissan LEAFs and two Ford Transit Connects, for a total of 23 new electric vehicles."

Part of the problem was vehicle range. In other words, how far could an employee drive the EV before it ran out of power? Then, Nissan introduced an EV with a 100-mile range. "The Nissan LEAF can charge at our offices and still meet the distance requirements of county employees," said Head. He

added that county employees drive often, but not far, so a 100-mile range would be sufficient for many applications. As it became clear that the Nissan LEAF would be a valuable tool for employees of the County of Sonoma, Head's team recognized a need to deploy a charging infrastructure at their depot.

The Solution

In July 2009, the County began its rollout of a three-phased plan to deploy a charging infrastructure for its growing fleet of EV/PEVs. During the first phase, which was fully funded by Sonoma County, seven ChargePoint charging stations were purchased and installed by Sonoma County Facilities Operations staff at six county locations. These included the Hall of Justice, the Administrative Center, the Permit and Resource Development Department, the Department of Health Services, the Human Service Department and the Air Pollution Control District in Healdsburg.

Currently, the County has 15 active charging stations and is in the process of installing nine more. At the end of phase three of the rollout, the County plans to be using 50 EV/PEVs and 80 ChargePoint Charging Stations. This includes as many as 30 stations at County facilities and parks for primarily public charging. The charging stations for fleet vehicles are used primarily at night, with a one-to-one ratio to the County's vehicles. Many of those stations will be available for daytime public use. "The initial deployment of the charging stations represented a step toward Sonoma County's long term goal to establish a viable public infrastructure for EV charging," said Head. "With the funds received from grants, we hope to get even closer to reaching that goal."

Head said that his team evaluated several charging solutions, but chose the ChargePoint Charging Stations for three important reasons: 1) The ChargePoint stations were readily available, 2) they were affordable, and 3) they offered support for Levels 1 and 2 charging. "Support for all charging Levels 1 and 2 is important, because we have a range of PEV types in our fleet," said Head. "We needed a solution that could charge everything in our fleet with a single solution, to maximize performance and cost-efficiency."

The ChargePoint Charging Stations are in constant communication with the ChargePoint Network, using a combination of standards-based protocols and wide area communications technologies. The network provides online access to applications for access control, billing, advertising, remote diagnostics, demand side management, station map locations, station-trip-mapping and more. Additionally, the ChargePoint Fleet Plan provides fleet management staff with a centralized point of management and control when delivering electricity to their fleet using the networked charging stations. ChargePoint provides immediate insight to the charging status and location of every EV in the fleet and makes it easy to report on and analyze petroleum fuel and GhG reduction.

Head's team can customize the Fleet Manager portal to send out alerts via text message or email, and view graphical or tabular usage reports for all or individual vehicles. This data can be filtered, organized or exported to create detailed, customized reports for a variety of uses.

"We've set up our Fleet Manager portal with parameters for email notification, and it has already saved us money," said Head. "I received an email alerting me to the fact that one of our vehicles wasn't charging. We quickly determined it had lost its connection. Pinpointing the problem enabled us to fix it quickly and get the vehicle charged and ready for use." Head added that as his organization expands its PEV fleet, the ChargePoint dashboard would be a critical tool for fleet maintenance, usage tracking and fuel cost analysis.

Results

With ChargePoint, the County of Sonoma can effectively support and manage its growing fleet of EV/PEVs, which will ultimately help the County of Sonoma cut costs, reduce the use of non-renewable energy (i.e. petroleum), and eliminate GhG emissions.

“Our conventional hybrid compact sedan averages 42 miles per gallon, whereas the plug-in hybrids average about 60 miles per gallon,” said Head. “We expect long-term ROI to be considerable.” Additionally, ChargePoint will help the organization demonstrate those benefits and meet the requirements of Sonoma County’s climate protection plan.

“As we add more PEVs to our fleet, we’ll need to substantiate the additions with tangible cost savings,” said Head. “ChargePoint makes it easy to organize and report on the data that shows how we’re doing our part, in a way that the County authorities can understand.” Head added that cost savings is affected by good planning. “The cost per unit for installing the chargers drops significantly when you deploy several of them in a single location,” he said. And with EVs showing up all over town, the county will need a lot of charging stations.

“There’s a huge base of PEV drivers in the North Bay,” said Head. “As we roll out the solution into the public domain, the more chargers we have installed and active, the more the County can realize the benefits of reduced fossil fuel usage and GhG emissions.”