

REDWOOD CITY, CA BAY AREA CITY ELECTRIFIES ROADS WHILE CUTTING POWER COSTS WITH ENERGY STORAGE

Location: Redwood City, CA

Size: 84,000 residents

Customer Challenges

Meet sustainability goals with limited budget

Green Charge Solutions

Energy storage coupled with EV charging

Why Green Charge

- No up-front costs or maintenance charges
- Clear demonstration of energy storage system impact with projected savings
- Relevant industry partners with experience and expertise

Benefits

- Greater access to EV charging in the community
- Further environmental goals without dipping into city budget
- Improved fiscal stability with reduced energy costs

“Green Charge offered our City a unique solution that was both environmentally and fiscally sustainable.”

– Vicki Sherman,
Environmental Initiatives Coordinator,
Redwood City, CA



Municipality selects Green Charge to meet sustainability objectives.

Owing its name to a historic past as a major lumber port, the 84,000 citizens that make up Redwood City, California have turned the town into a pleasant and tech-centric place to live, work and play. Featuring a revitalized urban center with bustling retail space, family-friendly neighborhoods, and a robust technology economy—with innovative start-ups and established companies the likes of Oracle and Electronic Arts—Redwood City holds a little bit of everything the greater Bay Area and Silicon Valley has to offer.

Pedestrians need not walk far to notice municipal signage stating the City's official motto “Climate Best by Government Test.” In hopes of maintaining this motto, local government leaders have shaped city operations to provide cost effective, high quality services in an environmentally responsible manner. Leadership in implementation and support of environmentally sustainable programs along with long-term fiscal health represent major priorities in the City's strategic plan.

“We are not unlike most cities in the State of California. We have limited resources and funding but ambitious environmental goals,” says Vicki Sherman, Redwood City's Environmental Initiatives Coordinator. The City has worked with Silicon Valley thought leaders on solar initiatives, the Federal Government to streamline environmental permitting, and various incentives and resources provided by the state of California. “Green Charge offered our City a unique solution that was both environmentally and fiscally sustainable.”

AN ELECTRIC INTRODUCTION TO STORAGE

Redwood City was introduced to Green Charge by way of electric vehicle (EV) charging. Officials wanted to find a cost effective way to provide EV charging at city facilities. Supporting electric vehicles would help the City meet long-term clean air standards. However, charging equipment installation and operational costs represented significant barriers.

EV charging can be an irregular, power intensive activity, creating a spike in demand on the grid. Utilities charge extra to cope with these conditions by way of demand charges. EV charging spikes, in addition to other facility power demands such as heating and cooling, can result in surprisingly high energy costs. In some cases, these charges represent upwards of 50 percent of an electric bill. Energy storage mitigates these costs by storing electricity during periods of low use and cost to discharge during periods of peak use and cost.

Together with ChargePoint, a networked EV charging station provider and Green Charge Networks partner, the most appropriate EV charging equipment was selected. Energy analysts from Green Charge walked the City through various energy cost scenarios with data from past utility bills and expected EV charging usage rates. Taking advantage of government incentives and a shared savings financing model, Redwood City received a no cost proposal to install energy storage coupled with EV chargers.

PLAN ENSURES VALUE

Two locations were chosen to deliver the most value to the City, residents and visitors. The first site selected was a high traffic, downtown municipal parking garage in proximity to retail shops, museums, theaters, restaurants, and CalTrain. The Redwood City Library in Redwood Shores was chosen as a second location surrounded by residential neighborhoods and commercial office space.

Two high-powered DC fast chargers, capable of charging electric vehicles in a matter of minutes as opposed to hours, were among the EV chargers installed. Paired with energy storage systems, the City could provide a premium service without taking on higher energy costs. Sensing spikes in demand created by extra powerful chargers, the energy storage systems discharge to offset rising demand at the facility.



Image depicts Green Charge energy storage system located at the Marshall Street parking garage in downtown Redwood City. The storage system mitigates spikes in power demand due to heavy use of EV chargers and other electrical equipment.

EV charging stations at both locations are heavily used with an average of 8-10 sessions per day. Green Charge's energy storage systems are shaving multiple peaks per day (80 in May, 2015) caused by EV charging equipment and other power demands at the garage and library. The energy storage systems are expected to save nearly \$7,000 in annual demand charges at each location.

AMBITIONS REALIZED

"Our goal was simple. Meet our ambitious environmental goals while being fiscally conscious," said Sherman. "At first we did not think this was an efficiency tool we could afford but after Green Charge walked us through their process, including a unique shared savings model, the benefits were clear." With the paired installation of energy storage and EV charging, Redwood City is a little closer to meeting their aggressive sustainability goals while operating in a fiscally responsible manner.

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About Green Charge

Green Charge has been designing and deploying commercial energy storage since 2009, with systems installed throughout the United States. Backed by ENGIE, the largest independent power producer in the world, Green Charge's mission is to use energy storage to power the world efficiently and sustainably. Our team is comprised of top energy storage industry experts, who provide performance-based solutions to optimize the value of energy for our customers. Our ecosystem of solar, EV charging, and energy efficiency partners allows our customers to combine energy storage and renewables easily and economically. Delivering all these capabilities with the least possible risk is the Green Charge Power Efficiency Agreement—a shared-savings model that puts the power of energy storage in customers' hands with no capital outlay.

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