



**CALIFORNIA  
ENERGY COMMISSION**



California Energy Commission  
Clean Transportation Program

## **FINAL PROJECT REPORT**

# Workplace Charging at Five Kaiser Permanente Locations

**Prepared for: California Energy Commission**

**Prepared by: Clean Fuel Connection, Inc.**



**Gavin Newsom, Governor**

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# California Energy Commission

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# PREFACE

Assembly Bill 118 (Núñez, Chapter 750, Statutes of 2007) created the Clean Transportation Program, formerly known as the Alternative and Renewable Fuel and Vehicle Technology Program. The statute authorizes the California Energy Commission (CEC) to develop and deploy alternative and renewable fuels and advanced transportation technologies to help attain the state's climate change policies. Assembly Bill 8 (Perea, Chapter 401, Statutes of 2013) reauthorizes the Clean Transportation Program through January 1, 2024, and specifies that the CEC allocate up to \$20 million per year (or up to 20 percent of each fiscal year's funds) in funding for hydrogen station development until at least 100 stations are operational.

The Clean Transportation Program has an annual budget of about \$100 million and provides financial support for projects that:

- Reduce California's use and dependence on petroleum transportation fuels and increase the use of alternative and renewable fuels and advanced vehicle technologies.
- Produce sustainable alternative and renewable low-carbon fuels in California.
- Expand alternative fueling infrastructure and fueling stations.
- Improve the efficiency, performance and market viability of alternative light-, medium-, and heavy-duty vehicle technologies.
- Retrofit medium- and heavy-duty on-road and nonroad vehicle fleets to alternative technologies or fuel use.
- Expand the alternative fueling infrastructure available to existing fleets, public transit, and transportation corridors.
- Establish workforce-training programs and conduct public outreach on the benefits of alternative transportation fuels and vehicle technologies.

To be eligible for funding under the Clean Transportation Program, a project must be consistent with the Energy Commission's Clean Transportation Program Investment Plan, updated annually. The Energy Commission issued PON-13-606 to provide funding opportunities for electric vehicle charging infrastructure. In response to PON-13-606, the recipient submitted an application which was proposed for funding in the Energy Commission's Notice of Proposed Awards dated April 4, 2014, and the agreement was executed as ARV-13-022 on June 1, 2014.

# ABSTRACT

This Final Project Report documents installation process for chargers at five Kaiser Permanente Medical Center locations in California: Anaheim, Irvine, Woodland Hills, Roseville and South Sacramento. The report also provides usage at the charging stations. The California Energy Commission awarded Clean Fuel Connection, Inc. \$200,000 to install electric vehicle charging stations for the use of employees and clients of Kaiser Permanente.

**Keywords:** California Energy Commission, Clean Transportation Program, Clean Fuel Connection, Kaiser Permanente, EVgo, Electric Vehicle Charging Station, Electric Vehicle Supply Equipment

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## **EXECUTIVE SUMMARY**

Clean Fuel Connection, Inc. installed 60 level-2 workplace-charging stations at five Kaiser Hospital locations. Design, construction and installation of the charging stations began in 2014 and they were completed in February 2017. Of the original five locations in the California Energy Commission proposal, four remained the same (Anaheim, Irvine, Woodland Hills and Roseville) and one (San Francisco) was changed due to difficulties with that location. Clean Fuel Connection, Inc. and Kaiser Permanente chose backup site South Sacramento to replace the San Francisco site. In all, Clean Fuel Connection installed 60 level-2 chargers, exceeding the committed number of chargers by 20 percent.

Since 2013, Kaiser Permanente has been contracting with electric vehicle charging equipment company EVgo to implement electric vehicle charging. EVgo has in turn contracted with Clean Fuel Connection, Inc. to perform the charging installations. Some of these installations are occurring in coordination with other Kaiser Capital projects at the Kaiser facilities.

EVgo initially utilized Lite-On level-2 chargers at the first three installations—Kaiser Permanente Medical Center Anaheim, Kaiser Permanente Medical Center Irvine, and Kaiser Permanente Medical Center Woodland Hills; unfortunately, the Lite-On chargers had reliability and data reporting issues. After two years, EVgo replaced those Lite-On chargers with Sema Connect chargers at the three locations. The last two installations – Kaiser Permanente Medical Center Roseville and Kaiser Permanente Medical Center South Sacramento – received Sema Connect units from the start. The Sema Connect units are still operating reliably.

As of December 31, 2017, the 60 charging stations have recorded around 95,830 kilowatt-hours of usage in nearly 11,000 individual charging sessions.



# **CHAPTER 1:**

## **Project Introduction and Objectives**

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### **Background**

With over 700 hospitals and medical offices, 200,000 employees and nearly 12 million members, Kaiser Permanente (Kaiser) provides a great opportunity to establish models for workplace charging that can be applied across the country at other Kaiser medical facilities. Actions to improve air quality are very much in line with Kaiser's mission to promote wellness among its members and employees.

Kaiser continues to demonstrate leadership on climate action. In 2016, it announced ambitious environmental goals for the year 2025, including becoming carbon positive, buying only sustainably produced food, and sending zero waste to landfills. In 2014, as part of their green initiatives, Kaiser began working with Electric Vehicle (EV) charging company EVgo and its subcontractor Clean Fuel Connection, Inc. (CFCI). The Energy Commission awarded \$200,000 in Energy Commission grant funds CFCI to install workplace EV charging stations at Kaiser Hospitals.

### **Objectives**

The primary objective of this project was to reduce one of the key obstacles to Kaiser employees purchasing EVs by installing and operating 50 new level-2 charging stations at five Kaiser locations. These purchases are a significant part of the more than 300 chargers already installed at Kaiser facilities in California and the 84 additional parking stalls prepared to have chargers installed.

A secondary objective was to demonstrate the economic viability of a new infrastructure model that allows host sites to pay a low fixed monthly cost for charging equipment and services and to utilize user fees to offset the monthly costs.

## CHAPTER 2:

# Project Development and Installation

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CFCI and Kaiser choose 5 sites to receive at least 10 EV charging stations each (Table 1). All of these locations were home to a Kaiser Permanente Medical Center (KPMC), plus additional medical office buildings that included outpatient clinics, and other facilities. CFCI and Kaiser chose four additional locations as backup sites (Table 2). Once site visits and initial quotes had been prepared, CFCI and Kaiser agreed that San Francisco was not a feasible location due to existing electrical loads, space constraints, and labor costs. CFCI selected South Sacramento as the alternative location. Overall, CFCI installed 60 units for this project, which exceeded the commitment of at least 50 units detailed in the agreement's scope of work, and 17 additional parking spots were prepared to accept more chargers.

**Table 1: List of Proposed Locations**

Location	Address
KPMC Irvine	6650 Alton Parkway, Irvine, CA 92604
KPMC Roseville	1600 Eureka Road, Roseville, CA 95661
KPMC Anaheim	3440 E. La Palma Avenue, Anaheim, CA 92806
KPMC Woodland Hills	5601 De Soto Avenue, Los Angeles CA 91365
KPMC San Francisco	2200 O'Farrell Street San Francisco, CA 94118

Source: Kaiser Permanente

**Table 2: List of Proposed Backup Locations**

Location	Address
KPMC South Sacramento	6600 Bruceville Road, Sacramento, CA 95823
KPMC Richmond	901 Nevin Avenue, Richmond, CA 94801
KPMC Sacramento	2016 Morse Avenue, Sacramento, CA 95825
KPMC Modesto	4601 Dale Road, Modesto, CA 95356

Source: Kaiser Permanente

## **Project Partners**

This project consisted of three partners that teamed up to implement this project: CFCI, Kaiser, and EVgo.

CFCI is the one of the oldest and most experienced providers of EV chargers with over 10,000 charging units sold and installed. CFCI was the recipient of the grant funded under Energy Commission agreement ARV-13-022 and performed all site assessments and installations.

At the time of the Energy Commission application, EVgo was a subsidiary of NRG Energy, a large national power producer with a major emphasis on renewable energy. Midway through the project, however, EVgo separated from NRG Energy and became a standalone company. EVgo is currently one of the nation's largest owner of direct current (DC) fast charging stations.

Kaiser is one of the nation's largest health care organizations with nearly 12 million members nationwide and 200,000 employees and it is becoming a leader in sustainable practices to reduce its carbon footprint. In 2016, Kaiser announced

ambitious environmental goals for the year 2025, including becoming carbon neutral, buying only sustainably-produced food and sending zero waste to landfills. In 2014, as part of their green initiatives, Kaiser began working with EVgo and its subcontractor CFCI to install workplace level-2 EV chargers at Kaiser facilities.

## **Charging Equipment**

The original equipment specified for this project was the Lite-On level-2 charger (Figure 1). Unfortunately, the Lite-On units had reliability and data collection concerns that made data reporting difficult. In January 2016, EVgo upgraded approximately 100 Lite-On units at Kaiser facilities, including the 32 units installed at the first three sites under ARV-13-022 – KPMC Anaheim, KPMC Irvine, and KPMC Woodland Hills – to chargers made by Sema Connect (Figure 2). EVgo paid for the upgrade, so it did not affect the budget for this project. The last two sites had their chargers installed after the Sema Connect upgrades to Anaheim, Irvine, and Woodland Hills. Due to the unreliability of the Lite-On chargers, all of the data reported for this project are from the Sema Connect units.

**Figure 1: Lite-On Charger**



Photo Credit: Kaiser Permanente

**Figure 2: Sema Connect Charge Pro Charger**



Photo Credit: Kaiser Permanente

## **Installation Process**

CFCI's electricians installed the chargers at KPMC Woodland Hills, KPMC Anaheim, and KPMC Irvine without any major permitting or installation complications. KPMC Roseville and KPMC South Sacramento, however, took longer to complete for a number of reasons.

Following the completion of the first three sites, Kaiser mandated that union electrical contractors must install the chargers at the remaining locations. Since CFCI is not a union firm, it was necessary to re-bid the installations to union subcontractors. CFCI hired several union subcontractors recommended by Kaiser.

The permitting process at KPMC Roseville was a very lengthy process, taking more than 6 months. The primary obstacle was the interpretation of the Americans with Disabilities Act (ADA) requirements for charging infrastructure. This project started when the ADA requirements were governed by the 1997 guidelines from the Division of State Architect, supplemented by the 2014 Guidelines from the Governor's Office of Planning and Research; however, between the project-planning phase and the construction phase, the state passed California Government Code Division 11B-812, which regulates ADA access for charging. The City of Roseville (Roseville) required a parking study to determine that the reduction of parking spaces by installation of charging

stations did not put the site below the city's minimum disabled parking requirements. Additionally, when the value for commercial renovation reaches a certain amount, ADA requires the spending of a certain amount of funds to meet new ADA requirements. Due to this, Roseville required Kaiser to demonstrate that it had met the dollar value of ADA upgrades required. CFCI and Roseville negotiated for several months over which laws were relevant, the old or the new. CFCI and Roseville eventually reached an agreement and the project proceeded.

KPMC South Sacramento was originally a backup location, but then became an actual location after plans for the original site in San Francisco fell through. This Energy Commission-funded EV charger project was part of a much larger EV charging and re-landscaping project that took many months to implement. In this case, however, the delays were due to waiting for project engineering to be completed and project implementation rather than delays caused by a governmental agency.

When construction finally started, Whittington Electric installed the EV chargers at both KPMC Roseville and KPMC South Sacramento.

### **Description of Completed Sites**

Five sites were completed under the agreement:

- 1) KPMC Woodland Hills, 5601 De Soto Avenue, Los Angeles, CA 91365
- 2) KPMC Anaheim, 3440 East La Palma Avenue, Anaheim, CA 92806
- 3) KPMC Irvine, 6650 Alton Parkway, Irvine, CA 92604
- 4) KPMC Roseville, 1600 Eureka Road, Roseville, CA 95661
- 5) KPMC South Sacramento 6600 Bruceville Road, Sacramento CA 95823

### **Site 1: Woodland Hills**

CFCI installed 12 level-2 charging stations both inside the garage and outside on the upper deck of the parking structure at KPMC Woodland Hills. Construction began on March 29, 2015 and ended on May 29, 2015. Figure 3 shows the ribbon cutting ceremony, in which representatives of the Energy Commission attended.



**Figure 3: Grand Opening at Kaiser Woodland Hills**



Photo Credit: Kaiser Permanente

**Site 2: Anaheim**

CFCI installed 10 level-2 charging stations on the first floor of the parking structure at KPMC Anaheim. Figure 4 shows a portion of the charging installation. Construction began on May 8, 2015 and ended on June 6, 2015.

**Figure 4: Kaiser Anaheim**



Photo Credit: Kaiser Permanente

**Site 3: Irvine**

CFCI installed 10 level-2 charging stations on the upper deck of the parking lot and on the level below the upper deck at KPMC Irvine. Figure 5 shows the

stations on the upper deck. Construction began on June 3, 2015 ended on August 9, 2015.

**Figure 5: Kaiser Irvine**



Photo Credit: Kaiser Permanente

**Site 4: Roseville**

Whittington Electric installed 11 level-2 charging stations instead of the planned 10 at KPMC Roseville. The negotiations with Roseville regarding ADA compliance resulted in an additional charger being installed on the first floor for disabled access. The Roseville site was the first location to have Sema Connect charging stations from the beginning. Figure 6 shows the chargers on the second floor of the parking garage. Construction began on April, 21, 2016 ended on February 15, 2017.

**Figure 6: Kaiser Roseville**



Photo Credit: Kaiser Permanente

**Site 5: South Sacramento**

Whittington Electric installed 17 level-2 charger stations and prepared 17 additional parking spots for future EV charging stations at KPMC South Sacramento. Figure 7 shows the chargers installed in Parking Lot 17 and Figure 8 shows the ADA parking stall in the parking garage. Construction began on October 28, 2016 and ended on February 28, 2017.

**Figure 7: Kaiser South Sacramento Lot 17**



Photo Credit: Kaiser Permanente

**Figure 8: Kaiser South Sacramento Disabled Access**

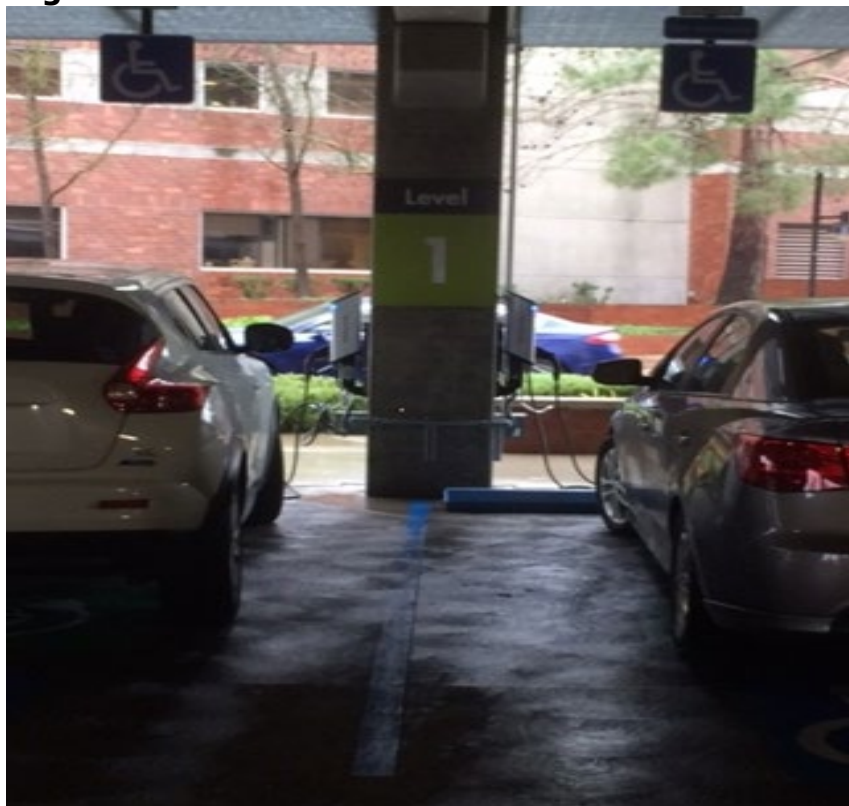


Photo Credit: Kaiser Permanente

## CHAPTER 3:

# Usage and Data Collection

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Data collection started in January 2017 at all stations, and the number of charging sessions per month for all EV chargers was collected and recorded for 12 months.

Table 3 summarizes the number of chargers installed at each of the Kaiser locations with Energy Commission funds.

**Table 3: Locations and Number of Chargers Installed**

<b>Site</b>	<b># of Chargers</b>
KPMC Woodland Hills	12
KPMC Anaheim	10
KPMC Irvine	10
KPMC Roseville	11
KPMC South Sacramento	17
<b>Total:</b>	<b>60</b>

Source: Kaiser Permanente

Table 4 provides a summary of number of sessions for each of the five locations for 2017.

**Table 4: Total Charging Sessions per Charger in 2017**

<b>Site</b>	<b>Total # of Sessions</b>	<b># of Chargers</b>	<b>Average # of Sessions per Charger in 2017</b>
KPMC Irvine	2,394	10	239
KPMC Woodland Hills	2,425	12	202
KPMC Anaheim	3,309	10	331
KPMC Roseville	938	11	85
KPMC South Sacramento	1,614	17	95
<b>Total:</b>	<b>10,680</b>	<b>60</b>	<b>952</b>

Source: Kaiser Permanente

Table 5 in Appendix A provides data on the number of charging sessions per month for each of the five sites, Table 6 shows the monthly KWh usage per site, and Table 7 shows the amount of CO<sub>2</sub> displaced by using electric vehicles instead of gasoline powered internal combustion engines.

## **CHAPTER 4:**

# **Observations, Challenges, and Recommendations**

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This chapter describes the observations and challenges faced during the installation process, along with resolutions that allowed for better deployment of such infrastructure.

A disagreement with Roseville over the application of disabled access guidelines at KPMC Roseville required lengthy negotiations and the involvement of Kaiser's engineering firm. Additionally, CFCI had to find the original design plans and calculations that documented the parking calculations that also determined the amount of money spent on accessibility improvements. The requirements set for by Roseville caused a significant delay to starting construction and charger installation.

KPMC South Sacramento was a substitute for the original location of KPMC San Francisco. It took several months for both Kaiser and CFCI to analyze the options at several KPMC San Francisco garages. They eventually determined that installation of the chargers in San Francisco was not feasible. CFCI then began the search for a replacement site and considered several of the backup locations. Based on the budget amounts and the time restraints and compatibility, CFCI and Kaiser determined that KPMC South Sacramento was the best option. A larger project was already in the design stages, so it was possible to incorporate the Energy Commission project.

Another challenge was the reliability failure of the original EV charger manufacturer, Lite-On. This led charger provider EVgo to replace all 32 Lite-On chargers installed at KPMC Irvine, KPMC Anaheim, and KPMC Woodland Hills with Sema Connect chargers during the middle of the project in 2016. EVgo replaced the chargers at no cost to Kaiser or CFCI. CFCI installed only the Sema Connect chargers at KPMC Roseville and KPMC South Sacramento and therefore did not require retrofit.

### **Challenges with the Financial Model**

One of the original objectives of this project was to demonstrate a business model that bundled the costs for equipment, electricity, operations and maintenance in one low monthly price. At the beginning, Kaiser and EVgo reached an agreement where Kaiser would pay a fee of \$45 per month per charger that would cover the lease of each charger plus the costs of operations, remote maintenance, scheduled and unscheduled on-site maintenance, repair material, networking, and all other costs associated with operating each charger.

The charger lease fee was originally \$85 per charger per month and EVgo discounted that fee to \$45. Kaiser planned to offset the \$40 per charger difference by having those who use the chargers pay for using them; however, as Kaiser is a non-profit corporation, the total monthly usage and electricity fees paid to Kaiser by the users could not exceed the total cost of the service to Kaiser.

Kaiser intended this business model to be cost and revenue neutral. If the user fees revenue exceeded the total costs to Kaiser Permanente, including electricity charges, then EVgo would reimburse Kaiser for electricity expenses at \$.15/kWh, but it would not reimburse for any other costs. If the user fees revenue did not cover the expenses, EVgo deducted the electricity expense from the monthly service fees owed and Kaiser paid the balance to EVgo.

Another innovative feature of the pricing program was the use of a billing rate for so-called "plug time" rather than "flow time." Plug time is a rate of charging based on the amount of time a vehicle spent physically plugged into the charger. Whereas flow time is the amount of time spent when the vehicle is being actively charged, regardless of the amount of time plugged in. Kaiser and EVgo chose to bill for plug time for 3 reasons: they thought the plug time rate structure would motivate drivers to move their vehicles to another parking spot once their battery had been fully recharged, they believed that it would maximize the number of Kaiser members and employees that would be able to use the chargers on a daily basis, and they wanted to evaluate whether this approach could be a model for other charging stations in California.

The original pricing model operated for about 18 months. At that point, the Sema Connect chargers replaced the Lite-On chargers. Based on an analysis of the revenue and costs over the first 18 months, Kaiser and EVgo modified the financial model. They agreed that Kaiser would purchase the Sema Connect chargers directly rather than lease them and then pay EVgo a monthly fee for operations and maintenance services that included access to a customer service call center, repairs, user payment processing, and electricity reimbursement.

The new model has proved to be more manageable and better suited to the project. Drivers using Kaiser's level-2 chargers have two primary payment options: pay-per-use or bundled payments. Pay-per-use drivers may elect to pay by credit card either via card reader, via call-in activation to EVgo's 24 hour call center, or by using a free EVgo key fob linked to their credit card. To encourage drivers to move their vehicles once charging had been completed, the fee was charged for plug time rather than flow time. A consequence of this plug time policy was that some drivers received very large bills because they were unable to move their cars. To accommodate those drivers, Kaiser modified the plug time policy to cap the fees for any one charging session.



## **Lessons Learned**

The following lessons learned are based on analysis of this project:

1. Even when proposed locations are vetted, changes can occur between the time of a grant application and implementation. As a result, it is a good practice to include backup sites. CFCI and Kaiser had four backup sites from which to choose and CFCI was fortunate that one of the backup sites was able to go forward with the charging installation.
2. Financial models are not one-size-fits-all. In this project, the initial model did not work well and had to be changed more than once.
3. Kaiser made a significant effort to promote charging and manage driver behavior, but as with any large organization, there were people who did not see the educational materials and extensive information that Kaiser provided.

## **CHAPTER 5:**

### **Conclusions**

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This project installed 60 level-2 workplace EV chargers at five Kaiser locations, prepared 17 additional parking spots for future EV charger installation, achieved the original goals of the proposal, and provided a test demonstration for several charging infrastructure business models. The chargers installed for this project had 10,680 charging sessions during the 12-month data collection period that provided about 95,830 kWh of charging and displaced nearly 52,290 lbs. of CO<sub>2</sub>.

## GLOSSARY

**AMERICANS WITH DISABILITIES ACT (ADA)**—One of the most significant federal laws governing discrimination against persons with disabilities, passed in 1990. Prohibits discrimination against individuals with disabilities in employment, housing, education, and access to public services. The ADA defines a disability as any of the following: 1. "a physical or mental impairment that substantially limits one or more of the major life activities of the individual." 2. "a record of such impairment." or 3. "being regarded as having such an impairment."

**CALIFORNIA ENERGY COMMISSION (CEC)**—The state agency established by the Warren-Alquist State Energy Resources Conservation and Development Act in 1974 (Public Resources Code, Sections 25000 et seq.) responsible for energy policy. The Energy Commission's five major areas of responsibilities are:

1. Forecasting future statewide energy needs
2. Licensing power plants sufficient to meet those needs
3. Promoting energy conservation and efficiency measures
4. Developing renewable and alternative energy resources, including providing assistance to develop clean transportation fuels
5. Planning for and directing state response to energy emergencies.

**CARBON DIOXIDE (CO<sub>2</sub>)**—A colorless, odorless, nonpoisonous gas that is a normal part of the air. Carbon dioxide is exhaled by humans and animals and is absorbed by green growing things and by the sea. CO<sub>2</sub> is the greenhouse gas whose concentration is being most affected directly by human activities. CO<sub>2</sub> also serves as the reference to compare all other greenhouse gases (see carbon dioxide equivalent).

**CLEAN FUELS CONNECTION, INC (CFCI)**—Clean Fuel Connection, Inc. distributes low-emission and renewable infrastructure products. Its products comprise solar photovoltaic systems; battery charging equipment or shore power connections for on-road and off-road electric drive vehicles.

**ELECTRIC VEHICLE (EV)**—A broad category that includes all vehicles that are fully powered by electricity or an electric motor.

**KAISER PERMANENTE MEDICAL CENTER (KPMC)**—A large health-care facility that provides medical and surgical care and is often affiliated with a medical school<sup>1</sup>, in this case operated by Kaiser Permanente.

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<sup>1</sup> [Definition of Medical Center](https://www.merriam-webster.com/dictionary/medical%20center) (https://www.merriam-webster.com/dictionary/medical%20center)

KILOWATT-HOUR (kWh)—The most commonly used unit of measure telling the amount of electricity consumed over time, means one kilowatt of electricity supplied for one hour. In 1989, a typical California household consumed 534 kWh in an average month.

## APPENDIX A: Charging Usage Data

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**Table 5: Charging Sessions per Site by Month (2017)**

	Session Count (Month)												Total Sessions
Site	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	
<b>Kaiser Irvine</b>	224	193	171	191	193	193	180	236	244	219	165	185	2,394
<b>Kaiser Woodland Hills</b>	184	204	256	214	233	197	179	201	184	239	167	167	2,425
<b>Kaiser South Sacramento</b>	97	78	110	106	151	142	127	159	150	145	148	201	1,614
<b>Kaiser Anaheim</b>	238	272	294	243	299	291	263	293	313	286	247	270	3,309
<b>Kaiser Roseville</b>	104	35	53	61	93	102	62	92	78	83	88	87	938
<b>Total</b>	<b>847</b>	<b>782</b>	<b>884</b>	<b>815</b>	<b>969</b>	<b>925</b>	<b>811</b>	<b>981</b>	<b>969</b>	<b>972</b>	<b>815</b>	<b>910</b>	<b>10,680</b>

Source: Kaiser Permanente/EVgo

**Table 6: Kilowatt Hour Usage per Site by Month (2017)**

	<b>Total kWh (Month)</b>												<b>Total kWh</b>
<b>Site</b>	<b>Jan-17</b>	<b>Feb-17</b>	<b>Mar-17</b>	<b>Apr-17</b>	<b>May-17</b>	<b>Jun-17</b>	<b>Jul-17</b>	<b>Aug-17</b>	<b>Sep-17</b>	<b>Oct-17</b>	<b>Nov-17</b>	<b>Dec-17</b>	
<b>Kaiser Irvine</b>	2,220.0	1,887.6	1,541.2	1,969.2	1,966.9	1,794.8	1,765.4	1,860.9	1,781.4	1,546.3	1,737.3	1,771.9	<b>21,842.9</b>
<b>Kaiser Woodland Hills</b>	1,476.2	1,637.1	2,189.6	1,723.9	1,986.0	1,614.8	1,461.5	1,653.6	1,305.4	1,451.4	994.1	1,337.6	<b>18,831.2</b>
<b>Kaiser South Sacramento</b>	753.3	884.7	1,072.8	971.4	1,311.3	1,300.4	1,074.0	1,349.0	1,323.4	1,319.6	1,269.0	1,544.7	<b>14,173.6</b>
<b>Kaiser Anaheim</b>	2,351.7	2,638.0	2,601.0	2,073.6	2,723.2	2,734.5	2,608.3	2,844.7	2,925.8	2,962.0	2,558.5	2,281.4	<b>31,302.7</b>
<b>Kaiser Roseville</b>	877.0	328.5	598.4	623.1	886.0	1,002.3	598.5	1,013.6	874.7	925.5	1,087.8	864.6	<b>9,680.0</b>
<b>Total</b>	<b>7,678.2</b>	<b>7,375.9</b>	<b>8,003.0</b>	<b>7,361.2</b>	<b>8,873.4</b>	<b>8,446.8</b>	<b>7,507.7</b>	<b>8,721.8</b>	<b>8,210.7</b>	<b>8,204.8</b>	<b>7,646.7</b>	<b>7,800.2</b>	<b>95,830.4</b>

Source: Kaiser Permanente

**Table 7: Pounds of CO<sub>2</sub> Displaced by Site per Month (2017)**

	<b>Total CO<sub>2</sub> Displaced (Month)</b>												
<b>Site</b>	<b>Jan-17</b>	<b>Feb-17</b>	<b>Mar-17</b>	<b>Apr-17</b>	<b>May-17</b>	<b>Jun-17</b>	<b>Jul-17</b>	<b>Aug-17</b>	<b>Sep-17</b>	<b>Oct-17</b>	<b>Nov-17</b>	<b>Dec-17</b>	<b>Total CO<sub>2</sub> Displaced (lbs.)</b>
<b>Kaiser Irvine</b>	1,214.4	1,038.4	844.8	1,073.6	1,073.6	985.6	968.0	1,020.8	968.0	844.8	950.4	968.0	<b>11,950.4</b>
<b>Kaiser Woodland Hills</b>	809.6	897.6	1,196.8	932.8	1,091.2	880.0	792.0	897.6	704.0	792.0	545.6	721.6	<b>10,260.8</b>
<b>Kaiser So. Sacramento</b>	404.8	475.2	580.8	528.0	721.6	704.0	580.8	739.2	721.6	721.6	686.4	844.8	<b>7,708.8</b>
<b>Kaiser Anaheim</b>	1,284.8	1,443.2	1,425.6	1,126.4	1,478.4	1,496.0	1,425.6	1,548.8	1,601.6	1,619.2	1,390.4	1,249.6	<b>17,089.6</b>
<b>Kaiser Roseville</b>	475.2	176.0	334.4	334.4	475.2	545.6	334.4	545.6	475.2	510.4	598.4	475.2	<b>5,280.0</b>
<b>Total</b>	<b>4,188.8</b>	<b>4,030.4</b>	<b>4,382.4</b>	<b>3,995.2</b>	<b>4,840.0</b>	<b>4,611.2</b>	<b>4,100.8</b>	<b>4,752.0</b>	<b>4,470.4</b>	<b>4,488.0</b>	<b>4,171.2</b>	<b>4,259.2</b>	<b>52,289.6</b>

Source: <https://www.eia.gov/tools/faqs/faq.php?id=307&t=11> (17.6 lbs of CO<sub>2</sub> per gallon of gasoline)