

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking on the
Commission's Own Motion to Consider
Alternative-Fueled Vehicle Tariffs, Infrastructure
and Policies To Support California's Greenhouse
Gas Emissions Reduction Goals.

Rulemaking R.13-11-007

**GREEN POWER INSTITUTE AND COMMUNITY ENVIRONMENTAL COUNCIL
OPENING COMMENTS ON ORDER INSTITUTING RULEMAKING**

Dec. 13, 2013

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GREEN POWER INSTITUTE AND COMMUNITY ENVIRONMENTAL COUNCIL OPENING COMMENTS ON ORDER INSTITUTING RULEMAKING

The Green Power Institute and the Community Environmental Council (GPI/CEC) respectfully submit these comments on the **Order Instituting Rulemaking**, mailed November 22, 2013, and the accompanying staff report on Vehicle-Grid Integration.

The Green Power Institute is the renewable energy program of the Pacific Institute, a non-profit environmental and social advocacy group. Under the direction of Dr. Gregory Morris, the Green Power Institute performs research and provides advocacy on behalf of renewable energy systems and the contribution they make to reducing the environmental impacts of today's energy systems. The Green Power Institute is located in Berkeley, California.

The Community Environmental Council (Council) is a member-supported environmental non-profit organization formed in Santa Barbara in 1970 and is the leading environmental organization in the Central Coast region of California. The Council is a member of the steering committee of the Plug in Central Coast (PCC), one of the EV Readiness regions funded by the Department of Energy and the California Energy Commission. The Council provided significant input into PCC's forthcoming EV Readiness Plan, and works frequently with local businesses, governments, and residents as they purchase EVs, build charging infrastructure, and develop EV friendly policies. The Council's state policy work is directly informed by experience with what has worked, or is likely to work, at the local level. The Council is almost unique in combining on-the-ground work on a number of energy and climate change-related issues with concurrent work on state and federal policy issues. The Council is also pioneering a number of on-the-ground activities to promote alternative transportation and EVs. In 2004, the Council shifted its primary focus to energy and transportation issues and is spearheading a regional effort to wean our communities from fossil fuels, on a net basis, during the next two decades. More information on the Council and its energy programs may be found at www.cecsb.org.

A summary of our comments follows:

- GPI/CEC are very excited about the rapid growth in EV adoption in California and the US more generally, with 2013 seeing a doubling of the previous year's sales, after tripling in 2012. That said, EV sales are still at only about 2% of all car sales, leaving EVs as a marginal source of GHG reductions and energy independence. The Commission has indicated strong interest, in the OIR and staff white paper, in doing more to accelerate EV adoption, and we applaud the Commission for its broad thinking and suggestions
- We propose a “prioritization ziggurat” to show graphically the key efforts for promoting widespread EV adoption. The ziggurat ranks various means for accelerating adoption, as follows, with the most promising described first: 1) improved education and outreach on the availability and benefits of EVs; 2) reducing upfront vehicle costs; 3) improved public charging availability; 4) reducing the cost of charging; 5) reducing time required for charging; 6) providing incentives for linking PV ownership with EV ownership
- The OIR mentions existing education and outreach efforts by the IOUs, approved by the Commission in previous decisions. The OIR doesn't, however, prioritize additional education and outreach efforts, and GPI/CEC suggest that it should. Surveys show persistent low public understanding or awareness of EVs. We feel that approving additional funds for the IOUs and third parties to focus on aggressive education and outreach efforts will go far to accelerate EV adoption. Perhaps the key focus for the Commission should be to expand education and outreach funding to eligible third parties. Because of the importance of this issue, we recommend that the Commission add a third track, in addition to the two discussed in the OIR, that focuses on education and outreach, with a focus on how third parties could leverage existing IOU efforts.
- The staff paper focuses on Vehicle-Grid Integration (VGI), which will address a number of key issue areas in the ziggurat, including improving public charging availability, and reducing the cost of charging, if the VGI efforts result in accurate

valuation of grid benefits from VxG

- We are intrigued by ChargePoint’s suggestion at the workshop that the grid services provided by EVs may be able to justify free charging of EVs at public charging stations and possibly even at home. We recognize that significant additional information and discussion will be necessary before this policy could be enacted, but we see it as a potential “game changer” if the numbers add up. We recommend that the Commission examine the numbers in detail and perhaps initiate an additional pilot program to test smart charging in the real world.
- GPI/CEC agree with staff recommendations at the workshop regarding the potential for battery lease programs to reduce the upfront cost of EVs – which is the second layer of the ziggurat. We urge the Commission to consider ways of leveraging IOU capital and low-interest loans by making this kind of financing available to third parties that offer battery leasing, recognizing that third parties are probably best for such activities. On-Bill Financing for lease programs should also be considered
- Similarly, we urge the Commission to consider requiring IOUs to offer low-interest loans, or preferably grants, to third parties wishing to install and run public charging stations. Grants may be required in this area because we are not currently seeing any public installations without grant funds being available. IOU rate-basing of such costs are easily justifiable based on the returns of the loans themselves, and/or the public benefits of accelerating EV adoption and attendant grid benefits. At the same time, third party design, installation and operation of public charging stations ensures that IOUs are not stretched too thin and are allowed to focus on items that they do best, while third parties do the same
- We also urge the Commission to consider new PV incentives for EV owners. The PV/EV combination is as good as it gets in terms of GHG reduction and energy independence and the fact that the CSI program is all but expired is a good opportunity to encourage the PV/EV solution with a new rebate system for EV owners. Such rebates should apply to Multiple Unit Dwellings as well as homeowners
- We urge the Commission to revisit demand charges for DC Fast Charging, which are

inhibiting market adoption of this critical tool for allowing BEVs to expand their range, allow “garage-less” individuals to purchase BEVs, and reduce “range anxiety” for new and existing owners. For example, PG&E has rates that eliminate demand charges while SCE and SDG&E have high charges that can comprise the majority of monthly costs. SCE and SDG&E should explore offering a rate similar to PG&E’s A-1 rate schedule. Hawaii has recently started offering EV rates without demand charges and we urge the Commission to consider Hawaii as a good model.

- We also provide some more specific comments on the OIR and white paper below

I. Discussion

First, we’d like to convey our excitement about recent developments in the EV field. We now know that US EV sales will double sales from 2012 – after tripling sales last year. This growth rate raises the possibility that not only may California reach its goal of 1.5 million zero emission vehicles on the road by 2025, but we may in fact have far more. This rate of growth will surely slow considerably in the coming years, but we feel that the Commission should and could do much to ameliorate the decline in sales growth by helping to remove various obstacles to EV adoption.

We are also very happy to see the Commission’s broad thinking and obvious interest, as evidenced by the OIR and staff white paper, in doing what it can under its available authority to further accelerate the adoption of EVs. While EV sales are growing rapidly, we are still below 1% of national sales and a bit over 2% of statewide sales from EVs. We have a long way to go before EVs will provide a significant reduction in greenhouse gas emissions and enhance our energy independence. The Commission can do much to accelerate adoption of EVs, as we describe in detail below.

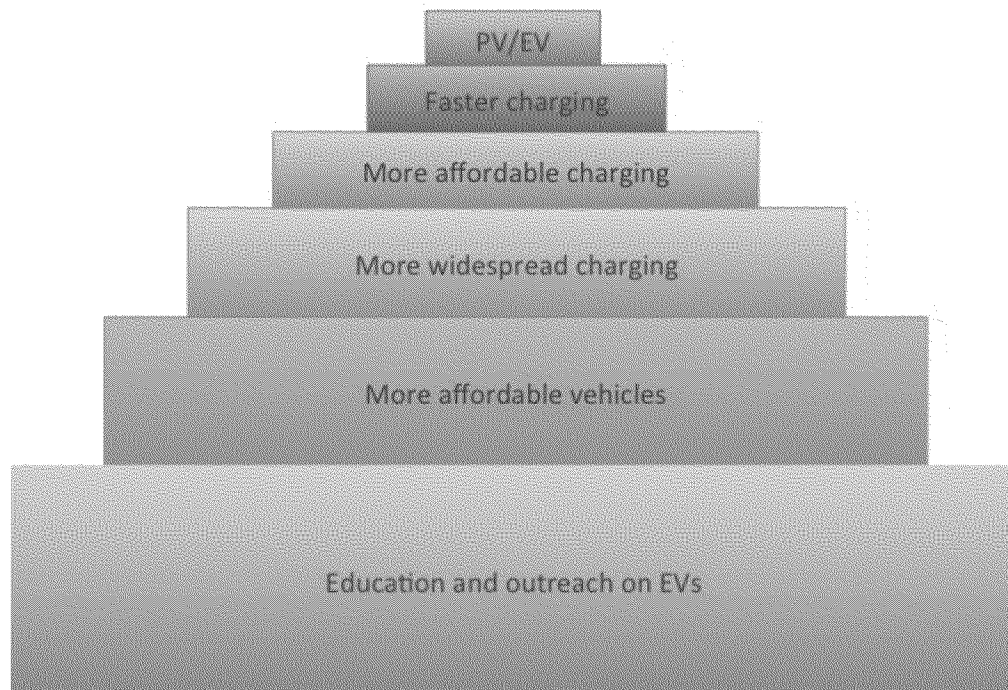
A. General comments on OIR

The OIR states (p. 12): “The scope of this proceeding broadly includes all issues related to alternative-fueled vehicles adoption.”¹ In the spirit of this broad scope, we offer in this document a number of suggestions that address various ways that the Commission could accelerate the adoption of AFVs, particularly EVs (BEVs and PHEVs). Our broadest recommendation is that the Commission should add a third track to this proceeding that focuses on education and outreach. We flesh out this recommendation below.

We appreciate the staff paper’s attempts to prioritize efforts to accelerate EV adoption and we agree that VGI issues and rate design issues should be prioritized. However, we have some additional suggestions for actions that the Commission could and should take in this proceeding in order to accelerate EV adoption. Figure 1 presents our proposed “prioritization ziggurat.” This prioritization matches in some ways the conclusions of the Governor’s ZEV Action Plan, but we believe that education and outreach is the key obstacle at this time, whereas this is not prioritized in the ZEV Action Plan in the same way.

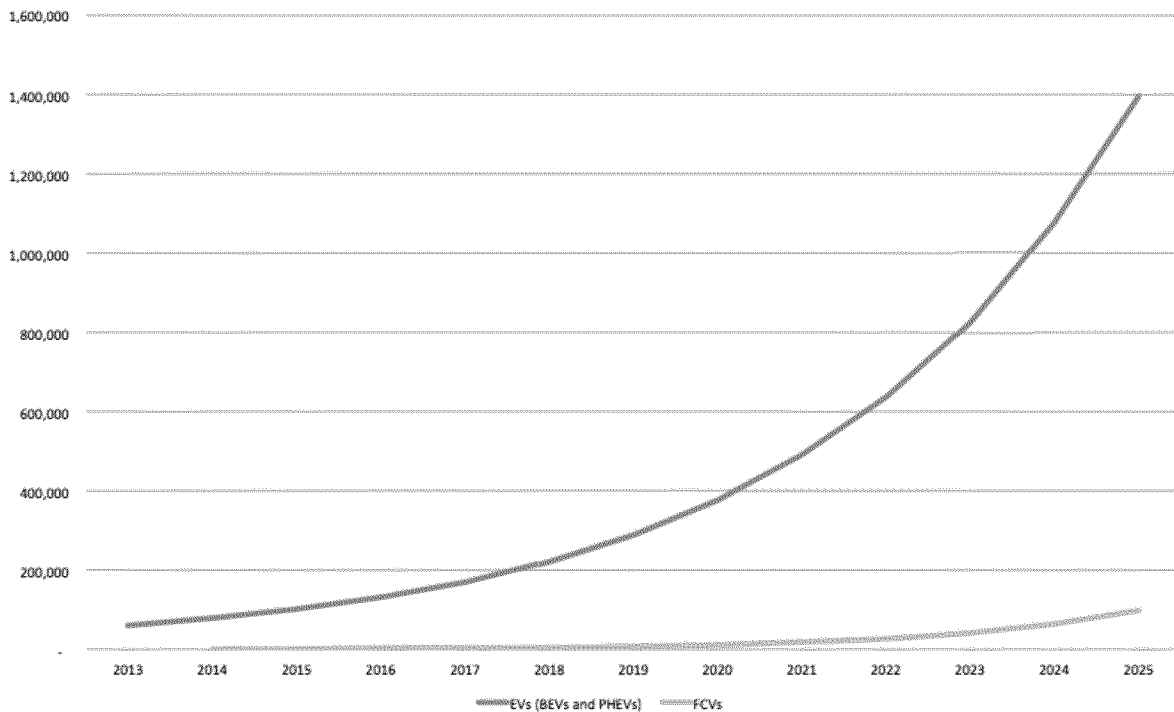
Figure 1. *GPI/CEC’s proposed “prioritization ziggurat” to spur higher adoption of EVs in California.*

¹ The OIR also states (p. 2): “Consistent with the ZEV Action Plan and California’s policies on alternative-fueled vehicles, and to support the Commission’s achievement of its action items, this proceeding may broadly consider all issues related to alternative-fueled vehicle adoption.”



The diagram is designed to show quickly and simply the largest barriers to more widespread EV adoption. While we acknowledge that EV adoption rates are growing fast at this point (more than doubling in each of the last two years), growth is occurring from a very small base. Early in the adoption curves of most technologies, rapid adoption rates are quite common. Equally commonly we see a substantial slowdown in adoption as the technology at issue becomes more widespread. The Governor's 1.5 million ZEV goal by 2025 requires a consistent exponential growth rate. We calculate that EVs (BEVs and PHEVs) need to grow at an average 30% annual rate and FCVs need to grow at an average annual rate of 52% from a base of 1,000 vehicles sold in 2014, in order to reach 1.4 million and 100,000 vehicles on the road by 2025, respectively. While we are currently on, or even above, the required growth curve to reach the 2025 goal for EVs, we need to do what we can to prevent major obstacles from slowing the growth rate.

Figure 2. Growth rate required to meet Governor’s 1.5 million ZEV goal with EVs and FCVs. (Source: GPI).



California accounts for about 33% of all US EV sales, putting us on track to have almost 60,000 EVs on our roads by the end of 2013. While 2013 sales are on track to double 2012 sales in California, sales of the major models, the Nissan Leaf and the Chevy Volt, have stagnated for the last few months. This may or may not be indicative of a slowdown in the rate of growth of sales in California. Regardless, at only about 2% of total vehicle sales in California, we clearly have a long way to go before EVs are a significant part of the market.

Fortunately, the Commission can do much to accelerate EV sales, and we are very heartened to see a renewed sense of urgency in the OIR and staff report, and indications that the Commission is ready and willing to do what it can under its mandate and inherent authority to accelerate EV adoption.

We describe our recommendations for each layer of the ziggurat in the following sections.

A. Education and outreach

There are more than a dozen EV models on the market today, from very affordable (after various tax credits and rebates), such as the Smart ForTwo EV, to very luxury, such as the Tesla Model S. Customer satisfaction for EVs is extremely high and there are many “perks” of EV ownership in California, including carpool lane access and in many cases free charging in some locations. That said, customer awareness of the EV options, and other alternative fuel vehicles, is still extremely low and the Commission has the authority to do much to mitigate this obstacle.

The EV value proposition is quite good now, particularly with leasing options and the CA \$2,500 rebate on top of the federal \$7,500 tax credit. Increasing sales is now in large measure a matter of spreading the word about the economic, environmental, and energy security benefits of EVs. For example, many long distance commuters are saving significant money with EVs, by using the California rebate to obtain an effective zero down payment, and the monthly lease payment being offset in part or whole by fuel savings.

As mentioned above, the Council is a local partner with the Energy Commission and has recently completed a draft regional EV Readiness Plan. The regional EV Readiness Teams, funded by the Energy Commission, play a critical role in education and outreach, as local cities often need a constant outside champion urging them to adopt EV-friendly policies. More generally, EV Readiness teams can serve as a clearinghouse for information, for local governments and by matching potential local charger sites with companies wanting to install charging infrastructure or learn about grant opportunities. EV Readiness teams can also act as catalysts for helping employees to persuade employers to install workplace charging, and can serve as resources to the community regarding EV incentives, local charging stations, and more. Finally, EV 101 events like Green Car Shows and National Plug-in Day are critical in helping the public to see and test drive vehicles, and meet local residents that own them. This provides locals with an experience that may persuade them to make an EV their next car purchase.

In line with these activities and concerns about education of potential AFV buyers, we recommend that the Commission add a third track to this proceeding to focus on education and outreach efforts pertaining to AFVs. This third track should review the effectiveness of IOU efforts on education and outreach and identify potential improvements. As importantly, this third track should consider ways in which third parties could leverage IOU capital to further expand education and outreach efforts on AFVs.

B. Reducing EV costs

We believe that vehicle costs still represent a major hurdle to ownership. The most popular vehicles in California are the Nissan Leaf, Chevy Volt and Tesla Model S. Fairly affordable leases are available for the Leaf and Volt but not for the Tesla, which is known to be a luxury vehicle. However, even with the lease options for the Leaf and Volt, customer perception of high costs is prevalent and the sticker price of these cars is still very high, even with available tax credits and rebates. The high sticker price, when combined with many customers' preference for vehicle ownership, along with many other uncertainties about battery life, range, etc., have in our view kept EV sales far lower than would otherwise be the case.

The Commission could do much to incentivize lower EV costs, including:

- As Commission staff suggested at the Dec. 4 workshop, the Commission could require the IOUs to invest in battery leasing efforts by third parties and/or could work with OEMs offering similar programs.² The Commission should look to the European example³ on this and hold a workshop or two to discuss in more depth.

² The Renewables 100 report on the Governor's February, 2013, workshop on financing options for EVs stated (p. 15): "Explore the possibility of a battery leasing model by the Original Equipment Manufacturers (OEMs), the utilities and/or a limited, competing group of private entities with designated authority (via licenses or concession agreements, e.g.) to lease batteries."

³ <http://cleantechnica.com/2013/06/27/smart-battery-leasing-option-is-working-well/>

Under the IOU-focused option, IOUs would manage RFOs for third-party battery leasing companies, to be financed by the IOUs with low-interest loans. This would allow ratepayer dollars to be expended in a way that provides a reasonable return to ratepayers but also does much to promote lower costs for EVs. Battery leasing companies should also be incentivized to utilize the “second life” of EV batteries for grid services, if the market opportunity by itself is insufficient incentive. The second life market may do much to mitigate environmental issues associated with battery disposal and manufacturing. Alternatively, the Commission could reach out to OEMs to assess interest in OEMs offering battery leasing programs like they do in Europe, possibly as a prelude to any IOU-financed efforts. Or there may be room for IOUs and OEMs to work together on these issues.

- Work with other state agencies to establish a low-interest loan program to purchase AFVs. The Energy Commission already runs a similar program for municipal entities to invest in renewable energy and energy efficiency projects, which could provide a model for customer AFV low-interest loans.
- On-Bill Financing for a portion of AFV costs. For example, customers with an established account and good credit could obtain a \$5-10,000 OBF loan to defray the costs of AFV purchase.

C. Increasing charger availability

Range anxiety is still a major concern for potential EV purchasers. The network has grown tremendously in California in recent years and we currently have about 1,500 charging stations. This is an impressive growth rate but there are still far too few stations, particularly fast charging stations, to adequately ameliorate range anxiety for customers who wish to own an EV as an all-purpose vehicle. The robust growth of PHEVs also ameliorates this concern but PHEVs are a partial solution to the problems of oil dependence and greenhouse gas emissions. The Commission can do much to increase charging availability, including:

- Authorize and encourage IOUs to invest in charging stations in the same manner as described above for battery leasing options. This hybrid model (IOUs financing third-party efforts) for charging station ownership combines the reliable and low-cost financing that the IOUs can bring to bear with the proven track record of various third parties in designing, building and operating successful charging stations around the state and country.
- MUD solutions like PowerTree should also be encouraged and incentivized. In many urban areas, a substantial portion or even a majority of drivers like in MUDs without ready access to charging at home. There are options, available, with third parties offering MUD charging solutions on-site for a fee or a subscription-based model. Any incentives provided for charging stations should include a portion of funding for MUD-focused efforts.

D. Decreasing charging costs and charging time

While EVs hold out the promise of dramatically reduced fuel costs for transportation, it can be a challenge to realize such promises in action. This is particularly the case when it comes to public charging stations. However, home charging costs can also be far higher than optimal in many cases, particularly if the EV customer stays on whole house rates and non-TOU rates, or has to install a separate meter to enjoy EV rates. This was the focus of the last iteration of this proceeding, with creation of a submetering option for ratepayers. Similarly, decreasing charging times will require wider availability of fast chargers and high wattage level 2 chargers. There are a number of ways that the Commission could help reduce charging costs and charging time, including:

- As the staff report suggests, the Commission should work with CAISO to realize the value to the grid of VxG, providing a new revenue stream for EV owners that wish to utilize this option. We agree that an early focus on V1G is wise because most of the benefits of V2G are realized with V1G and there are some obstacles in the way of

V2G at this time. V1G efforts will likely lead to more widespread public charging availability and decreased costs, though perhaps not reduced charging time because the incentives for V1G will encourage remaining connected to the grid.

- We are intrigued by ChargePoint’s suggestion at the workshop that the grid services provided by EVs may be able to justify free charging of EVs at public charging stations and possibly even at home. We suggest that pilot projects in fleet or workplaces may be more appropriate places to first test V1G, as they could provide more aggregated load and a longer period of time to provide these services. Public charging is typically used for topping off a battery, not providing a full charge, and most EV drivers want to obtain full power during a public charging top-off. We recognize that significant additional information and discussion will be necessary before this policy could be enacted, but we see it as a potential “game changer” if the numbers add up. We recommend that the Commission examine the numbers in detail and perhaps initiate an additional pilot program to test smart charging in the real world.
- Incentivizing battery swap programs should also be considered by the Commission. Battery swaps present an ideal solution for reducing charging times, but there are complications and far from universal vehicle eligibility due to different OEM designs. The Commission could work with OEMs and other stakeholders to examine ways in which battery swap programs could be standardized and/or incentivized with IOU financing or other means within the Commission’s authority.
- The IOU financing option described in the previous section could also help in decreasing charging costs by providing reliable and low-interest capital for third parties to invest in charging stations. Certainty in financing always reduces costs for the end product, all else being equal.
- We also recommend that the Commission focus on reducing demand charges for Fast Charging stations, in order to make this key technology more economically feasible. We address this issue in more detail below.

We urge the Commission to revisit demand charges for DC Fast Charging (DCFC), which are currently inhibiting market adoption of this critical tool for allowing BEVs to expand their range and reduce “range anxiety” for new and existing owners. For example, PG&E has rates that eliminate demand charges while SCE and SDG&E still offer high charges that can comprise the majority of monthly costs for DCFC operators. SCE and SDG&E should explore offering a rate similar to PG&E’s A-1 rate schedule. Hawaii has recently started offering EV rates without demand charges and we urge the Commission to consider Hawaii as a good model.⁴

DCFCs are not only costly to procure and install, they can be extremely costly to operate due to their impact on local utility infrastructure. While tariffs vary, many commercial site hosts find that DCFC electricity loads have dramatic impacts on their bill, reflecting utility demand charges to deliver the high power output to Fast Chargers that utilize 480 volt three-phase DC power. (Note that an emerging class of Fast Chargers can operate with 208 volt single phase power which pull less than 20 kW from the grid, which typically falls below the threshold for demand charges.)

Demand charges vary by utility and rate schedule from near zero to as much as \$26 per kW. The least-cost approach for any given installation will vary based on the site host’s base load and the intensity of utilization of the Fast Charger. Thus, the first decision facing the site host is whether to adopt a lower base tariff with a higher demand charge – or a higher tariff with no demand charge for extra peak usage. To illustrate the tradeoff, below is an example of PG&E’s A-10 commercial tariff and a calculation of the monthly bill based on a 50 kW Fast Charger with an average utilization of four charges per day. This charging scenario assumes a single charge based on a Nissan Leaf charging from a nearly empty battery to 80% of the battery’s total 24 kWh capacity. (Fast Chargers typically shut down their

⁴ <http://www.heco.com/heco/hidden/Hidden/CorpComm/Hawaiian-Electric-Companies-offer-new-rates-for-public-EV-charging?cpsextcurrchannel=1>.

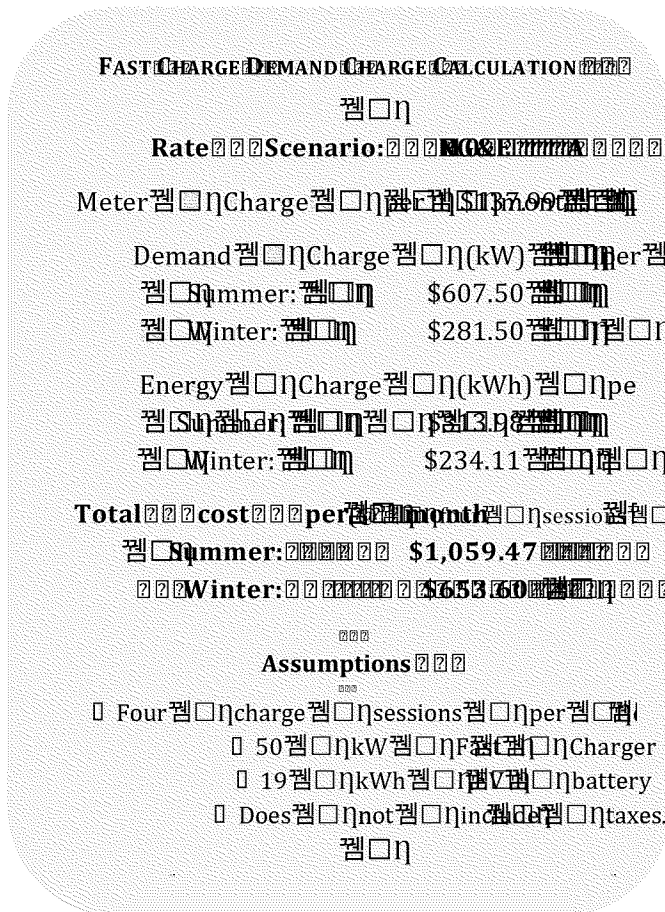
charging at the 80% level because the last 20% of energy transfer must proceed very slowly in order to limit battery degradation.)

Demand charges are identified by PG&E as the “Total Demand Rates” in the example below. Note that the summer rate is more than double the winter rate, which is typical for California utilities. This reflects the reality that summer air conditioning loads require expensive generation resources to meet demand peaks on the hottest days. The actual bill is presented in Figure 3 below, while a simplified presentation of the rate structure is shown below.

Figure 3. PG&E A-10 Rate Schedule.

ELECTRIC SCHEDULE A-10		Sheet 3		
MEDIUM GENERAL DEMAND-METERED SERVICE				
RATES: Standard Non-Time-of-Use Rate				
Table A				
	TOTAL RATES			
	Secondary Voltage	Primary Voltage	Transmission Voltage	
<u>Total Customer/Meter Charge Rates</u>				
Customer Charge (\$ per meter per day)	\$4.59959	\$4.59959	\$4.59959	
Optional Meter Data Access Charge (\$ per meter per day)	\$0.98563	\$0.98563	\$0.98563	
<u>Total Demand Rates (\$ per kW)</u>				
Summer	\$12.12 (R)	\$11.35 (R)	\$7.43 (R)	
Winter	\$5.63	\$5.84	\$4.13	
<u>Total Energy Rates (\$ per kWh)</u>				
Summer	\$0.13741 (R)	\$0.12857 (R)	\$0.10452 (R)	
Winter	\$0.10257 (R)	\$0.09635 (R)	\$0.08604 (R)	
Total bundled service charges shown on customers' bills are unbundled according to the component rates shown below.				

Figure 4. DCFC demand charge calculations. (Source: Community Environmental Council).



Given that the demand charge under the PG&E A-10 rate plan is quite high, it is likely that the station owner will opt to use a rate plan such as A-1, which includes a much more expensive energy charge (kWh), but zero demand charge (kW). In this example, the A-1 rate is approximately twenty cents per kWh (0.20495) – vs. approximately thirteen cents for the A-10 rate (based on a summertime comparison). SCE does not have an equivalent to the A-1 rate. Thus, demand charges for SCE are much higher, and may require more aggressive mitigation strategies, such as battery-backed Fast Chargers. Using the same assumption of four charges per day in the summer, below is an illustration of the monthly DCFC energy costs for both PG&E and SCE.

Figure 5. *Costs for electricity charges for DCFCs for SCE and PG&E.*

Utility	Tariff	kW charge	Monthly Cost
PG&E	A-1 ⁵	None	\$487
SCE	TOU EV-4 ⁶	\$12.18	\$1,131 ⁷

The demand charges can be prohibitively costly for site owners, particularly when DCFC utilization is relatively infrequent. For example, when a Fast Charger is utilized only once in a summer month, as in the example below (under a Southern California Edison (SCE) TOU EV-4 rate tariff), the demand charge will be a substantial portion of the overall bill – approximately \$609 (\$12.18 x 50kW). (The 50kW power draw during a charge session is an approximation and may vary somewhat depending on equipment.) If the charger is used four times per day over the course of 30 days, the cost of energy would be \$9.42 per session in the summer rate period (\$1,131 per month for a total of 120 sessions). As noted above, summer costs are significantly higher than winter, and both winter and summer seasons should be taken into account when setting rates across the whole year (there are no fall or spring rate variations). During winter, under the SCE TOU EV-4 rate, the cost per session is \$7.90. Please note that the examples above have been calculated based on the most common installation scenario, wherein the Fast Charger is established on its own utility service and meter. This configuration enables the site host and station owner to achieve full control of operating costs and to clearly delineate the contribution of the Fast Charger to the total site owner’s electricity costs.

In light of these examples, we urge the Commission and IOUs to consider in this proceeding how to modify demand charges for DCFCs in order to help the business case become more

⁵ Pacific Gas & Electric, 2012. Electric Schedules. <http://www.pge.com/tariffs/ERS.SHTML#ERS>.

⁶ Southern California Edison, 2012. Regulatory Information- SCE Tariff Books. <http://www.sce.com/AboutSCE/Regulatory/tariffbooks/ratespricing/businessrates.htm>

⁷ Based on two on-peak (12pm to 9pm) and two off-peak charges (all other times).

feasible.

E. Promoting the PV/EV solution

The “perfect” solution for reducing greenhouse gases and dependence on fossil fuels, while promoting individual autonomy and a distributed energy network, is combining solar panels at homes and businesses with EV charging. The “PV/EV solution” is feasible today for many ratepayers but is too expensive for most, or infeasible due to renting or otherwise living in a multiple unit dwelling (MUD). The Commission could promote the PV/EV solution in the following ways:

- Provide a rebate for PV for EV owners. Now that the CSI’s main program is winding down, as planned rebates are exhausted, it might be beneficial to extend an incentive for PV for EV owners as a boost for EV ownership and the PV/EV solution. This new program could utilize the existing time-tested CSI program in order to streamline implementation and administration of the new rebate program.
- Education regarding the economic case for the PV/EV solution.
- Ensure that all VGI solutions accommodate net-metering early in the process. With up to half of EV owners also PV owners on net-metering tariffs, it is highly important that NEM customers not be excluded from pilots or broader programs associated with EVs. We discuss further below.

We have for some time now highlighted the importance of ensuring NEM inclusion in EV policies. We have highlighted the fact that if NEM customers are not explicitly accommodated then they will be excluded. We have already seen this with IOU efforts to exclude NEM customers from the submetering pilots and to defer consideration of the NEM use case for many years in the submetering protocol and tariff. We applaud the Commission for requiring at least 25% of customers enrolled in the submetering pilots to be NEM customers, in the latest decision in R.09-08-009.

The staff report does not mention as a use case the combination of net-metered renewables and VGI. However, p. 36 includes a note on Zero Net Energy buildings that implicates net-metering: “Since a ZNE building may be defined as one where the societal value of the annual on-site renewable energy produced is equivalent to the value of energy consumed by the building, ZNE evaluation principles should ensure that incentives for PEV adoption are preserved.”

We agree with this statement and add that such considerations require also consideration of how VGI will interact with net-metered renewables because in order to reach ZNE all buildings will have to have some amount of net-metered renewables.

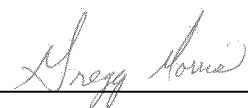
Again, we urge the Commission to ensure that NEM customers are included every step of the way in terms of VGI and other EV acceleration policies.

II. Conclusion

GPI and CEC urge the Commission to adopt a Track III to focus on education and outreach and to prioritize other measures in this proceeding as discussed above.

Dated: December 13, 2013, at Berkeley, California.

Respectfully Submitted,



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