

DOCKETED

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Comments of the Center for Sustainable Energy Regarding the Alternative and Renewable Fuel and Vehicle Technology Program 2016-2017 Investment Plan Update

Please find the attached comments in PDF form

Additional submitted attachment is included below.



426 17th Street
Suite 700
Oakland, CA 94612

main 858.244.1177
fax 858.244.1178
www.energycenter.org

November 16, 2015

In the Matter of:
2016-2017 Investment Plan Update

Docket No. 15-ALT-01
Meeting and Public Workshop

RE: Alternative and Renewable Fuel and
Vehicle Technology Program

Commissioner Janea A. Scott
California Energy Commission
1516 Ninth Street
Sacramento CA 95814

Dear Commissioner Scott and California Energy Commission Staff,

The Center for Sustainable Energy® (CSE; www.energycenter.org) is pleased to provide these comments to the California Energy Commission (Energy Commission) in response to the November 6, 2015 Meeting and Public Workshop discussing the 2016-2017 Investment Plan Update for the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP).

CSE has received ARFVTP funds for the Clean Vehicle Rebate Project (CVRP), as well as funding for zero-emission vehicle (ZEV) readiness best practice implementation projects in the San Diego and San Joaquin Valley regions (PON-14-603). Most recently, CSE was awarded Energy Commission funding to conduct research on driving the integration of plug-in electric vehicles (PEVs) to maximize benefits to the grid (PON-14-310). CSE therefore provides these comments based on its experience managing both ARFVTP and EPIC funding. Furthermore, CSE brings in-depth knowledge of the alternative fuel vehicle (AFV) landscape from related activities to inform this discussion.

The ARFVTP has been an important element of the State's commitment to power our future transportation systems with clean and sustainable energy. The ARFVTP continues to show leadership by funding progressive and innovative AFVs and AFV infrastructure projects. As with all programs acting in evolving landscapes, there are opportunities to strengthen and improve existing activities, as well as to fund new programs that contribute to ARFVTP goals.

In response to the November 6, 2015 workshop, CSE reiterates some of the comments that it provided in May 2015¹ and recommends that the Commission consider funding three critical project categories that do not readily fit into the current investment plan structure and generally have not been anticipated during the development of the ARFVTP investment plan (i.e., per legislative action or other initiatives). CSE specifically recommends that the Energy Commission leverage Emerging Opportunities funding for these essential activities to accelerate ZEV adoption in alignment with State policy:

- I) A Statewide Ride-and-Drive Campaign for ZEVs
- II) A Vehicle-Grid Integration Technical Standards Working Group
- III) A Standardized and Streamlined Electric Vehicle Supply Equipment (EVSE) Permitting Task Force

I) Statewide Ride-and-Drive Campaign for ZEVs

There is high-level decision-maker agreement that campaigns to increase consumer awareness about ZEVs, including experiential campaigns such as ride-and-drives, are needed and will only increase in importance as the State strives to meet aggressive statewide ZEV targets. In the ZEV Action Plan 2013, the Governor's Office and California Air Resources Board (ARB) established a policy goal supporting consumer outreach campaigns that raise awareness about the availability and benefits of ZEVs and offer driving opportunities.² Furthermore, the draft 2015 ZEV Action Plan supports a statewide public campaign that enables 20 million test drives of ZEVs by Californians

¹ In May 2015, energy Commission staff released a Request for Information for the Emerging Opportunities solicitation to determine if there are any areas in need of funding that are not addressed by existing ARFVTP allocations. As indicated in the 2016/17 ARFVTP draft: "[T]he responses received, along with other public comments, will guide the development of the next Emerging Opportunities solicitation."

² 2013 ZEV Action Plan: A roadmap toward 1.5 million zero-emission vehicles on California roadways by 2025. Website Access: [http://opr.ca.gov/docs/Governor's_Office_ZEV_Action_Plan_\(02-13\).pdf](http://opr.ca.gov/docs/Governor's_Office_ZEV_Action_Plan_(02-13).pdf)

over the next eleven years (2015-2025),³ an average of 1.8 million per year. Allocating funding to a statewide ride-and-drive campaign could jumpstart this activity and would be consistent with these statewide objectives and of high value for these limited funds.

CSE's experience implementing statewide education and outreach activities to inform consumers about the CVRP rebate has proven that there are potential benefits to implementing a ride-and-drive campaign on a statewide level. These include, but are not limited to: consistent messaging; streamlining of event processes and practices; economies of scale / reduction of redundancies; uniform data gathering; and uniformity in evaluating project success and opportunities for improvement.

Similar, but more limited, efforts demonstrate the importance and potential benefits of a major, statewide program. The Experience Electric campaign (managed by CSE for the Metropolitan Transportation Commission and other stakeholders⁶) was a \$1 million campaign that provided more than 6,500 people experience with PEVs during ride-and-drive events across various San Francisco Bay Area locations. The campaign provided program administrators and dealers direct interaction with the customer base and opportunities to target education and messaging, which in turn promote greater ZEV adoption. As an indication of this linkage, of the respondents to the CVRP's EV Consumer Survey, not all of whom were exposed to ride-and-drives, approximately 28% state that ride-and-drive events were a "very" or "extremely" important information source influencing their decision to purchase/lease their vehicle.⁷ Moreover, the ride-and-drive campaign gathered key survey data from participants that will inform key stakeholders and future program design.⁸

³ 2015 ZEV Action Plan: An updated Roadmap toward 1.5 Million Zero-Emission Vehicles on California Roadways by 2025 Governor's Interagency Working Group on Zero-Emission Vehicles, April 2015, page 10. Website Access: http://gov.ca.gov/docs/DRAFT_2015_ZEV_Action_Plan_042415.pdf

⁶ "Experience Electric" Campaign Aims to Spark Electric Vehicle Adoption: New Initiative Puts Bay Area Residents in Electric Vehicle Driver Seat. Website Access: http://www.mtc.ca.gov/news/press_releases/rel643.htm

⁷ Center for Sustainable Energy (2015). California Air Resources Board Clean Vehicle Rebate Project, EV Consumer Survey Dashboard. Retrieved [June 8,2015] from <http://energycenter.org/clean-vehicle-rebate-project/survey-dashboard>.

⁸ Experience Electric – The Better Ride Campaign; Website Access: <https://energycenter.org/programs/experience-electric>

CSE recommends that the Energy Commission consider funding a coordinator to lead statewide ZEV education and outreach efforts through a coordinated ride-and-drive campaign. If resources are limited (i.e., limited to \$150,000, as indicated in the prior May 15, 2015 RFI), CSE recommends the Energy Commission support this effort by funding a coordinator to align numerous regional efforts, their data collection and evaluation, and the establishment of best practices and lessons learned. The coordinator could also direct future funding (from the Energy Commission, other State agency, federal, etc.) for a statewide ride-and-drive campaign and/or act as a resource for other regional efforts currently underway or planned for the future.

Fundamentally, the current climate of hands-on ZEV education and outreach is fragmented and inefficient. Multiple ride-and-drive campaigns are currently underway in the State, funded through various sources and administered by various organizations. This duplication of administration typically results in an inefficient use of public funds. The investment in a ZEV education and outreach coordinator would minimize these inefficiencies and ultimately result in more, higher quality events for the public to experience ZEVs.

II) Vehicle-Grid Integration (VGI) Technical Standards Working Group

As the Energy Commission is aware, the Investor Owned Utilities (IOUs) have proposed three different applications before the California Public Utilities Commission (CPUC), requesting permission to rate base and construct electric vehicle charging infrastructure within their respective territories. Notably, however, each IOU has proposed distinct charging infrastructure concepts with varying levels of Electric Vehicle Supply Equipment (EVSE). As result, various challenges pertaining to VGI Technical Standardization will likely remain.

To address issues pertaining to standardization, CSE recommends that the Energy Commission consider funding a PEV VGI Technical Standards Working Group to address cross-cutting VGI issues and develop VGI standards. Such a working group would expand upon existing policy efforts as outlined in the California Vehicle-Grid Integration (VGI) Roadmap⁹ by addressing specific, technical matters inhibiting VGI

⁹ California Vehicle-Grid Integration (VGI) Roadmap: Enabling vehicle-based Grid Services; Website Access: <http://www.caiso.com/documents/vehicle-gridintegrationroadmap.pdf>

standardization. Although the draft 2015 ZEV Action Plan establishes a task force to ensure agencies coordinate VGI research activities and policy framework development,¹⁰ a VGI Technical Standards Working Group to address specific matters is not currently funded.

Addressing cross-cutting VGI issues and streamlining VGI standardization now may prevent significant issues from developing later on during deployment of EV charging infrastructure. As highlighted by Southern California Edison (SCE) and noted in the 2014 California Energy Commission Integrated Energy Policy Report (IEPR) Update, the absence of VGI standards could be costly for the State and ratepayers as “we will be stranding a lot of investments if we do not come up with standards that will inform the technology that we deploy.”¹¹ Furthermore, stakeholders in the VGI Roadmap indicate, “[v]arying design standards for EVSE could lead to limited access for VGI services.”¹²

Accordingly, we recommend that the Energy Commission consider funding a VGI Technical Standards Working Group, comprised of VGI subject matter experts and key stakeholders, similar to the smart inverter working group (SIWG). This technical working group has been successful and expedient in streamlining equipment communications for smart inverter technology and defining the technical steps needed to integrate inverter-based distributed energy resource functionalities, while maintaining standards of reliable and safe service.¹³ Similar practices could be replicated for VGI-specific technical matters.

Given the pressing need for VGI standardization, the VGI Technical Standards Working Group should set a 9-month target period to accomplish consensus on key technical matters to accelerate VGI standardization across the State.

¹⁰ DRAFT 2015 ZEV Action Plan [Current as of 4/24/15], Page 15; Website Access: http://gov.ca.gov/docs/DRAFT_2015_ZEV_Action_Plan_042415.pdf

¹¹ Comments of Felix Oduyemi of Southern California Edison before the California Energy Commission; 2014 Integrated Energy Policy Report Update; Adopted February 25, 2015. Website Access: <http://www.energy.ca.gov/2014publications/CEC-100-2014-001/CEC-100-2014-001-CMF.pdf>; page 130.

¹² California Vehicle-Grid Integration (VGI) Roadmap: Enabling vehicle-based grid services, February 2014

¹³ Recommendations for Updating the Technical Requirements for Inverters in Distributed Energy Resources Smart Inverter Working Group Recommendations, January 2014. Website Access: http://www.energy.ca.gov/electricity_analysis/rule21/documents/recommendations_and_test_plan_documents/Recommendations_for_updating_Technical_Requirements_for_Inverters_in_DER_2014-02-07-CPUC.pdf

In the first three months, CSE recommends that the VGI Technical Standards Working Group focus on establishing a single interoperability standard for VGI communications. It should be the goal of the group to solve this specific issue quickly, under the expectation that consensus on this matter will most likely expedite the development of VGI standardization across platforms. The group's efforts could then turn to other areas of the VGI standards discussion to complement CPUC's Alternative Fuel Vehicle Rulemaking VGI efforts¹⁴ and the California Vehicle-Grid Integration (VGI) Roadmap.¹⁵ Above all, it will be critical to identify VGI standard specifications prior to any large-scale deployment of statewide PEV charging infrastructure, and much can be accomplished through a VGI Technical Standards Working Group with a specific focus on ironing out these technical issues. The Energy Commission should therefore consider funding such a group. If funding is limited, we recommend that a coordinator be funded with the explicit task to assemble and organize the working group.

III) A Standardized and Streamlined EVSE Permitting Task Force

California Assembly Bill (AB) 1236 was approved by the Governor on October 8, 2015, and will be effective January 1, 2016. AB 1236 requires city and county adoption of a streamlined EVSE permitting process by 2016 for cities with a population larger than 200,000 and 2017 for cities smaller than 200,000.²³ A similar legislative approach was taken to expedite rooftop solar permitting and reduce the soft costs of rooftop solar installations with AB 2188 in 2014 and the subsequent establishment of the Governor's Solar Permitting Task Force and updated Solar Permitting Guidebook.²⁴

As with rooftop solar installations at the time AB 2188 was signed by the Governor, today most cities and counties in California are not familiar with EVSE installations and permitting. And as with AB 2188, support for local governments will be needed to meet the mandates in AB 1236. Therefore, recognizing the success of the implementation of

¹⁴ California Public Utilities Commission Rulemaking R.13-11-007: Alternative Fueled Vehicles Public Workshop on Vehicle-Grid Integration and PEV/EVSE Financing. Website Access: <http://www.cpuc.ca.gov/PUC/energy/altvehicles/>

¹⁵ California Vehicle-Grid Integration (VGI) Roadmap: Enabling vehicle-based grid services, Website Access: <http://www.caiso.com/Documents/Vehicle-GridIntegrationRoadmap.pdf>

²³ Official California Legislative Information, Assembly Bill 1236 (2015), As of July 9, 2015; Website Access: http://www.leginfo.ca.gov/pub/15-16/bill/asm/ab_1201-1250/ab_1236_bill_20150709_amended_sen_v97.pdf

²⁴ California Solar Permitting Guidebook; Improving Permit Review and Approval for Small Solar Systems; Developed by: Solar Permitting Task Force Governor's Office of Planning and Research Office of Governor Edmund G. Brown Jr. Website Access: https://energycenter.org/sites/default/files/docs/nav/policy/research-and-reports/California_Solar_Permitting_Guidebook_2015.pdf

AB 2188, CSE recommends creating a similar initiative for AB 1236 modeled after AB 2188 implementation. This would consist broadly of: 1) convening a Task Force comprised of a wide range of stakeholders to discuss standardization and streamlining tactics to address common challenges among local governments with the EVSE permitting process; and 2) developing a resource for local governments and permitting agencies to facilitate EVSE installation. The initiative would receive strong support from the newly formed Electric Vehicle Charging Association, playing a similar role in this process as the California Solar Energy Industries Association (CALSEIA) in the Governor's Solar Permitting Task Force and updated Solar Permitting Guidebook.

CSE recognizes that the 2013 ZEV Readiness Plan contains very useful information and clear recommendations to encourage cities and counties to adopt EV infrastructure ordinances.²⁵ In addition, there are extensive documents developed by a wide range of stakeholders, including the PEV Collaborative, that provide a fairly substantial EVSE permitting framework.²⁶ Therefore, we recommend that the Task Force consider development of an abridged EVSE permitting "toolkit" version of the aforementioned documents to focus specifically on expeditiously supporting statewide standardized and streamlined EVSE permitting initiatives. This approach mirrors the Governor's Solar Permitting Task Force and creation of the California Solar Permitting Guidebook.

In order to facilitate this initiative, CSE recommends that the Energy Commission first consider appointing a coordinator for the Task Force to manage the activities needed to accomplish its complex objectives/goals. This appointment would then ideally be followed by a facilitated stakeholder process to provide guidelines, code interpretations, standardization of permitting processes and forms, etc.²⁷ Lastly, the Energy Commission should ensure that technical assistance and training is available to local jurisdictions and contractors to assist in adopting standardized and streamlined EVSE permitting processes. The established PEV Coordinating Councils, established in

²⁵ OPR's 2013 ZEV Community Readiness Guidebook, offers templates for permitting and recommends other key steps that communities can take to become ZEV ready and incorporates best practices from regional readiness plans, and the exist guide and plans are successfully providing regional-level PEV permitting guidance, but further development of the guide could offer increased uniformity in statewide permitting.

²⁶ PEV Collaborative; Streamlining the Permitting and Inspection Process for Plug-In Electric Vehicle Home Charger Installations; Website Access: http://www.evcollaborative.org/sites/all/themes/pev/files/PEV_Permitting_120827.pdf

²⁷ Note: This workgroup should not discuss permit and ordinance *modification*, which CSE perceives as a different discussion from EVSE streamlined permitting.

previous PEV Readiness planning efforts (as well as other stakeholders) should be leveraged to provide the needed education and outreach on the streamlined processes.

Accordingly, CSE recommends that ARFVTP funds be allocated to convene a standardized and streamlined EVSE permitting Task Force. Based on CSE's experience as the facilitator of the Governor's Solar Permitting Task Force and updated Solar Permitting Guidebook, \$150,000 is not sufficient to successfully complete this initiative. The convening of a Task Force and production of an abridged EVSE permitting "toolkit" to focus specifically on statewide standardized and streamlined EVSE permitting could potentially be covered within the \$150,000; however, these efforts alone are not effective without follow-up training, education and other implementation activities. These activities will integrate processes, minimize resource demand overlap, promote intergovernmental resource sharing, and ultimately support local government efforts to meet the permitting directive of AB 1236. Such an effort would cost in the range of \$575,000 to \$825,000 depending on the level of outreach and support provided to local governments and permitting agencies and the level of engagement provided by the existing PEV Coordinating Councils in this effort.

Conclusion

CSE appreciates the opportunity to provide these comments. CSE remains confident that the ARFVTP can and will continue to achieve its core objectives to develop and deploy fuels and technologies that will help the State attain its climate change and other goals. In addition, from CSE's perspective, there are major opportunities to expeditiously support key activities already set in motion through legislation and other initiatives. The Energy Commission can act decisively to meet these needs, leverage the Emerging Opportunities funding to set in motion critical activity in the following areas:

- A Statewide Ride-and-Drive Campaign for ZEVs
- A VGI Technical Standards Working Group
- A Standardized and Streamlined EVSE Permitting Task Force.

Please continue to consider CSE a resource on these and related topics. CSE would be happy to speak with the Energy Commission regarding any comments/questions that might arise.

Respectfully Submitted,



Sachu Constantine
Director of Policy
Center for Sustainable Energy®
426 17th Street, Suite 700
Oakland, CA 94612
Tel: (510) 725-4768
sachu.constantine@energycenter.org



Paul D. Hernandez
Energy & Transportation Policy Manager
Center for Sustainable Energy®
426 17th Street, Suite 700
Oakland, CA 94612
Tel: (510) 725-4768
paul.hernandez@energycenter.org