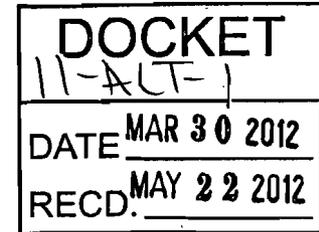




March 30, 2012

Commissioner Carla Peterman  
California Energy Commission  
Emerging Fuels & Technology Office  
1516 Ninth Street, MS-27  
Sacramento, CA 95814



Re: 2012-2013 Investment Plan for the Alternative and Renewable Fuel and Vehicle Technology Program

Dear Commissioner Peterman,

The undersigned members of the 2012-2013 Advisory Committee want to commend you and your staff's efforts to update the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP) for 2012-2013. We appreciate the hard work you and CEC staff have put into developing the plan and balancing multiple competing interests. We provide the following comments with the goal of helping to strengthen and improve what is a well thought-out plan.

**ALTERNATIVE FUEL PRODUCTION**

At a time when California is, once again, facing high gasoline prices of nearly \$4.40 per gallon gasoline, CEC's continued investment is critical to reduce our petroleum dependence and to phase in cleaner, alternative fuels. In general, we believe that \$20 million is warranted to help facilitate the continued development of clean low-carbon, advanced biofuels that will lead to long-term sustainable fuels. Our comments are as follows:

1. **Provide more specificity in biofuel funding goals and criteria.** Based on the last Advisory Committee meeting, CEC combined the three types of biofuel and fuel substitutes into a single category so that the agency could have greater flexibility to fund the best biofuel projects, not just the best ones for particular fuel types. We appreciate this rationale, however we believe more specificity is needed to clarify how biofuel projects will be evaluated and how the CEC will factor in commercial readiness, the value of near term opportunities (such as biomethane) vs. longer-term opportunities (such as 3<sup>rd</sup> generation renewable oils), and sustainability of biofuel feedstocks and the fuel cycle. CEC should include consideration of air quality issues, near-term versus longer-term GHG potential and the availability of capital to reach technology maturity in the evaluation. We believe CEC should make it clearer how potential biofuel investments will help move the technology forward, whether the technology is in early stage demonstration or pre-commercialization.

Also, we recommend that CEC provide more specific information on expected greenhouse gas reductions from this category.

2. **Focus investments in heavy transport sectors.** We support CEC's goal of focusing funding on low carbon feedstocks to produce advanced biofuels. At the same time, we also support CEC making strategic investments in the transportation categories where advanced biofuels are heavily needed and where other alternative fuel and technology options may be more limited compared to the light-duty sector. This includes the heavy-duty trucking, aviation, and shipping sectors. It may be easier to facilitate demand and develop "first markets" for advanced biofuels in these sectors since they are generally comprised of fleets and commercial fuel buyers.
3. **Promote sustainable cellulosic feedstocks.** CEC should also consider investing more on the feedstock end, identifying projects that could help reduce the barriers to development of cellulosic feedstocks for the state, consistent with ARB's developing sustainability standards. CEC should also consider incorporating a preference for proposals that adopt strong sustainability standards, such as the Roundtable on Sustainable Biofuels (RSB). Doing so will help provide greater assurances for the public, policymakers, and environmental community to support the category of projects.
4. **Aggregate market demand.** In addition, going forward, given the large amounts of capital necessary to develop new facilities, CEC should also look to leverage its resources by focusing on aggregating demand for low carbon, advanced biofuels. This could help link early-purchasers of these fuels, who will likely need to pay an initial premium, with the actual production facilities. CEC could thereby focus its resources more on facilitating demand, thereby spreading the limited funding across a number of potential facilities. In addition, project risk would be reduced since AB118 funds, if used, would be made available if facilities deliver their products to a market and meet specific criteria.

## **INFRASTRUCTURE FOR ADVANCED CLEAN CARS**

Funding targeted towards Hydrogen Fueling and PEV Charging infrastructure will help expand the market for these clean advanced technology vehicles.

### **Hydrogen Fueling Infrastructure**

We strongly support the proposed \$11 million allocation for hydrogen infrastructure, which is critical to catalyze the installation of early market hydrogen fueling stations. CEC's support of hydrogen infrastructure is fundamental to market success: this investment will help to bring the hydrogen fuel cell vehicle market to a place where the Clean Fuels Outlet regulation, or efforts resulting from the implementation of a hydrogen infrastructure memorandum of agreement, or other voluntary industry efforts can facilitate further infrastructure build out. (Projects funded under the ARFVTP should not be allowed to count towards CFO compliance.) To help increase the effectiveness of CEC's hydrogen investments, we offer the following suggestions:

1. **Increase investment flexibility.** In past solicitations, hydrogen investments have focused on capital cost buy down. However, a multi-stakeholder group has been working to develop a new approach to incentivize hydrogen investment. This

approach would shift at least some of the incentive to operations, maintenance, and loan payment support, which has the potential to decrease overall investment needs and may be appropriate for CEC investment. We recommend including a statement in the plan that opens up the potential for the Commission to consider changing the incentive model in its upcoming solicitations, as appropriate.

2. **Consider funding connector stations.** As we understand, the goal of CEC investment in hydrogen is to bring the hydrogen market to a point where business (or regulation) can step in to create a sustainable and growing market. A sustainable market depends on enabling full functionality of FCVs, with fuel available in key travel areas. For example, a limited number of stations between the targeted Los Angeles and the Bay Area markets can open up the majority of the state to FCV travel. However, in the early market, it is difficult to establish a business case for connector stations; they inherently will not sell as much hydrogen as stations in key cluster areas. As the markets in the key cluster areas approach critical-mass/early maturity we wish to highlight the potential need for the CEC to consider focusing some funding on key connector stations
3. **Biomethane to hydrogen.** We want to point to the natural synergy between biomethane and hydrogen, which offers a near zero emissions pathway to FCV travel. The investment plan should highlight the potential for such a project to be supported.

### **Charging Infrastructure**

The latest industry forecasts point to more than ten new plug-in hybrid and pure electric vehicle models hitting the streets of the U.S. in calendar years 2012 and 2013. This includes vehicles in nearly every segment including compacts, midsize sedans, minivans, light trucks, and business/delivery vans, as well as sport-cars.<sup>1</sup> Thus, this next year will be a critical time for the CEC to help reduce the critical roll-out barriers.

Recently, stakeholders at the PEV Collaborative – in which the CEC is an active participant – identified efforts to encourage multi-dwelling units (MDUs) and workplaces to adopt charging infrastructure as a priority. In light of the Governor's March 23<sup>rd</sup> announcement of the \$122.5 million settlement with NRG Energy Inc – \$102.5 million of which will fund the statewide expansion charging infrastructure – we look forward to working with the CEC to ensure the optimal funding levels for EV charging infrastructure that can maximize the benefits such funding can provide under the ARFVTP. The focus for charging infrastructure should be on activities that either: (1) help increase education and streamline the process to install MDU and workplace chargers – as identified by the PEV Collaborative – or (2) results in “high visibility” projects or installations. The latter could focus installations at highly visible sites and businesses that would serve as models for other MDUs and businesses,

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<sup>1</sup> Information from Alan Baum and Associates, March 2012.

Also see:

- USDOE/USEPA Fuel Economy Pages on EVs  
<http://www.fueleconomy.gov/feg/evnews.shtml>
- Electric Drive Transportation Association  
<http://www.electricdrive.org/index.php?ht=d/sp/i/11551/pid/11551>
- Fortune Magazine, January 4, 2012. 12 electric cars for 2012.  
<http://money.cnn.com/galleries/2012/autos/1201/gallery.electric-hybrid-cars.fortune/index.html>

coupled with CEC/State recognition awards for excellence to MDUs and businesses that are leaders in the alternative transportation space.

We further note that the deployment of today's PEV charging infrastructure has been largely conducted in either an *ad hoc* fashion or has been based on limited research – exploring how PEV owners use charging infrastructure – in order for planners to develop a better understanding from which to guide the optimal placement of new EVSEs. The development of user-friendly mobile applications that allow PEV users to navigate and/or interact with PEV charging networks is important for enabling the most efficient use of the current charging infrastructure (including sub-optimally placed EVSEs) and alleviating the range anxiety of new and prospective PEV owners who may not already be familiar with how modern PEVs can suit their daily needs. However, while there is a growing abundance of companies providing EVSE mapping services to the PEV-owner community, each of the services provides differing levels of interactivity and visibility of the installed charging infrastructure. Therefore, we recommend the following:

1. We recommend that the CEC ensure that future EVSE projects receiving ARFVTP funding allow open access and are compatible and capable of open data exchange (or that they can be easily upgraded to allow open data exchange) that will allow PEV-owners using any EVSE mapping service (whether accessed via a computer, dashboard display, or smartphone, etc.) to:
  - Receive information in real time
  - Provide feedback in real time
  - Locate and identify the type of EVSE they are seeking;
  - Determine its availability and be able to indicate when they need to reserve the station;
  - Have a simple way (eg single click) of reserving a station (respecting that subscribers to specific EVSP charging networks might be given priority when it comes to making reservations)
  - Receive detailed driving directions to the selected station (eg., including details for locating parking garage entrances and for locating specific parking stalls, etc.);
  - Predetermine the type of pricing and the pricing cost for charging at that location;
  - Select nearby alternate stations if needed or desired.
  - Monitor charging progress and receive notification of when their PEV is fully charged or if charging has been interrupted
2. Projects receiving ARFVTP funding should also be required to make their user data openly available to researchers and planners in order to provide a better understanding from which to guide the optimal placement of new EVSEs.
3. We support the requirements CEC staff outlined for PON-11-602 (and associated addenda for the "Alternative Fuel Infrastructure" solicitation), that any projects receiving funding for DC fast chargers and installed using the CHAdeMO standard also be forward compatible/upgradeable to the forthcoming revised SAE J1172 standard that includes fast charging (aka the "combo-coupler"). Many of the new PEV models soon to be launched into the market will be using the revised SAE standard and will not be compatible with CHAdeMO. It is therefore critical that any

new fast charge equipment that is installed during the interim be easily upgradable to the SAE standard.

4. We recommend that CEC , in collaboration with CARB and the PEV Collaborative, consider additional ways to use ARFVTP resources, to maximize the roll-out and consumer acceptance of battery electric and plug-in electric vehicles.

#### **LOW CARBON FUEL STANDARD CREDITS**

We understand that with the release of the BioFuels Production Facilities Grant Solicitation (PON-11-601) some confusion has resulted with regards to the dispensation of any credits generated for the purposes of the Low Carbon Fuel Standard (LCFS). We appreciate the concerns of stakeholders not subject to direct regulation that the discounting of credits generated under projects receiving AB 118 funds could work as a disincentive to parties assuming the risks involved in voluntarily seeking to develop low-carbon fuels needed to meet state policy goals. We have been in discussions with some of the industry stakeholders concerned with this issue as well as with CEC and CARB staff in order to better understand the issues involved and to support seeking a resolution. We support the CEC in its efforts to seek further clarity in resolving this issue, and are willing to continue to participate in discussions with the CEC, CARB and other stakeholders in order to seek a resolution that maximizes the benefits of the ARFVTP. In continuing these discussions we are hopeful that industry can provide us with example data that will help clarify the short-term and long-term impacts of a discounting requirement for LCFS credits.

#### **TRACKING THE SUCCESS OF THE AB 118 PROGRAM**

While the CEC has conducted an initial analysis estimating the potential benefits that program investments made during fiscal years 2008 – 2010 might yield by 2020, we believe the CEC should develop a more comprehensive set of metrics to better explain how the projects funded in each of the AB 118 categories are bringing the state closer to achieving it's 2020 and 2050 goals for greenhouse gas reduction. This kind of information is especially important as the time for re-authorization of funding draws near. The CEC's analysis would be most helpful if it includes an estimation of specific numbers and amounts of clean alternative fuels and vehicles needed to meet the state's goals and the progress achieved and expected to be achieved under the AB 118 program.



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