



February 24, 2012

**DOCKET**

**11-ALT-01**

DATE FEB 24 2012

RECD. FEB 24 2012

TO: California Energy Commission

FROM: John Boesel, President and CEO

RE: Recommendations for the 2012-2013 CEC AB 118 Investment Plan  
Docket # 11-ALT-1, 2012-13 Investment Plan

Clean Transportation  
Technologies and Solutions

[www.calstart.org](http://www.calstart.org)

Board of Directors

**Dr. Lon E. Bell**  
BSST, Inc

**Mr. John Boesel**  
CALSTART

**Mr. Jonathan Burke**  
Westport Innovations

**Mr. John Formisano**  
Azure Dynamics

**Mr. Fred Hansen**  
US Environmental Protection  
Agency (Ret.)

**Mr. Doug Kim**  
Southern California Edison

**Dr. Chung Liu**  
South Coast Air Quality  
Management District

**Mr. Alan Niedzwiecki**  
QUANTUM Technologies  
World Wide Inc.

**Mr. Puon Penn**  
Wells Fargo Bank

**Mr. Dipender Saluja**  
Capricorn, LLC

**Dr. Ravi Shanker**  
Dow Kokam

**Mr. Paul Smith**  
New Flyer Industries Limited

**Mr. Hal Snyder**  
Sempa Energy Utilities

**Mr. George Survant**  
Florida Power and Light

**Mr. Stephen Trichka**  
BAE Systems

**Ms. Jane Warner**  
American Lung Association  
In California

**Mr. William Zobel**  
Trillium USA

At the February 10, 2012 CEC AB 118 Advisory Committee, during the public testimony period, while noting that there is an over abundance of good targets for CEC AB 118 funding, I highlighted some areas that would be of particular benefit to the CEC. In general, it is our belief that with its AB 118 funds, the CEC should try and identify areas where their limited funding can have a significant impact.

As one advisory committee member noted, there may well be reasons why current gaps exist. It is not important for all gaps in the clean fuel and vehicle space to be filled. Our recommendations focus on areas where CEC funding can make a difference, and fill a key, but temporary market need. The exit strategy for CEC funding should be a viable market launch opportunity.

The recommendations identified in this letter are not meant to be comprehensive. In other words, we do not seek to prescribe or even outline an entire \$100 million investment plan for 2012-2013. We are seeking to provide some new ideas, while supporting some of the key staff recommendations.

### **Class 2 Plug-in Hybrid Electric Vehicles**

Outlined in greater length in a separate document co-signed by other parties, is a recommendation that the CEC start with the 2012-2013 investment plan, and allocate \$5 million per year in incentives for Class 2 plug-in hybrid electric vehicles. This is a large niche of vehicles for which the State of California does not currently provide incentives. Fleets in California would be willing to purchase plug-in hybrid pick-up trucks or vans, but the current purchase cost of the vehicles is too high. The ARB AQIP program does provide incentives for a similar size vehicle, the all electric Transit Connect, but not for any plug-in vehicles of that same vehicle class. It is somewhat easy to imagine a scenario where the all electric miles of a plug-in hybrid electric pick-up truck operated by a fleet could be equal to the all electric miles driven of an electric Transit Connect over the period of a year. Additional motivation for CEC investment in this space is that one of the leading manufacturers of plug-in hybrid electric pick-up trucks is a California company called Quantum Technologies.

### **State Fleet – Lead by Example**

In CALSTART's comments submitted on the earlier version of the 2012-2013 CEC AB 118 Investment plan, we talked about the importance of the State of California's fleet serving as a role model for others. We would recommend that

OFFICES IN :

48 S. Chester Ave, PASADENA, CA 91106 • 626.744.5600 • FAX: 626.744.5610 | 1536 Wynkoop, Suite 600, DENVER, CO 80202 • 303.825.7550 • FAX: 303.825.7551  
1160 Brickyard Cove, Suite 101, RICHMOND, CA 94801 • 510.307.8772 • FAX: 510.307.8706



the State be given first priority for any CEC funds allocated for clean vehicle purchases or infrastructure investments. For example, the Department of General Services could be responding to a current CEC solicitation on the street and applying for funds to purchase E85 stations that could service the very sizeable existing California Highway Patrol fleet. With widespread use of E85, the CHP could reduce its carbon footprint by 15-25%. We also recommend that representatives from at least two of the state's largest fleets, perhaps the Department of General Services and Caltrans, be added to the Advisory Committee.

### **Zero & Near Zero Emission Trucks and Bus Development and Deployment.**

As was stated in previous AB 118 Advisory Committee meetings, while CARB has identified a potential "pathway" for passenger cars to meet the 2050 GHG reduction goal, it is less clear how a similar percent of greenhouse gas emissions could be achieved from the medium- and heavy-duty sector. In addition to the climate threat, criteria emissions from trucks and buses disproportionately impact environmental justice communities. Thus, the CEC should continue to invest at least \$10 million in projects to advance cleaner and lower carbon medium- and heavy-duty trucks and buses. CEC investment in zero or near zero emission buses would have the potential to leverage and help California organizations and companies secure grants from the Federal Transit Administration. The CEC could also use its funds to support targeted corridor programs where local agencies are seeking to significantly lessen emissions from the truck sector.

### **Workplace Charging & Fueling**

Range anxiety can be a limiting factor in the expansion of the plug-in electric vehicle market. To date, most of the public investments have focused on supporting the deployment of home and public charging opportunities. More investment and attention needs to be paid to workplace charging. The CEC should provide up to \$2 million in grants for the installation of workplace EVSE. An additional \$200,000 should be set aside to help educate employers about this opportunity and to provide information about best practices to promote workplace charging in the most cost-effective manner.

In addition, the CEC should provide at least \$2 million in an experimental program to determine if there is a demand by employers for other local clean vehicle refueling systems. For example, employers could install refueling systems to support propane, natural gas, or even fuel cell vehicles. These grants could also encourage enable car sharing companies, or even the employers themselves, to offer longer range clean fuel cars to support day-time business trips made by employees who commute to work in a PEV. CALSTART is currently employing this model at one of its office. We find that having a natural gas Honda Civic for employees to use for business purposes during the day has enabled greater use of electric cars for commuting purposes.



### **Clean Distributed Generation & Plug-in Electric Vehicles**

The CEC should consider providing funds to encourage employers or fleets to purchase clean distributed sources of power to fuel their plug-in electric vehicles. A passenger car running on grid electricity in California produces 1/3 of the greenhouse gases of an equivalent gasoline fueled car. The wells-to-wheels emissions of a vehicle charged by clean distributed energy could be close to zero depending on the source of the power. Additional incentives of up to \$50,000 per facility could be provided if an employer elects to install new EVSE and renewable energy together.

### **Clean/Low Carbon Truck Buy-Down Funding**

The CEC should continue to provide funding to encourage the purchase of zero emission trucks in California. Last year the CEC's highly successful investment in this sector resulted in the purchase of 160 electric trucks, 100 of which were produced by a California manufacturer. The CEC funds were successful in leveraging additional investment from CARB. Demand for such trucks remains high. We recommend that the CEC double its investment in this area to a total of \$8 million. The CEC could consider adding an additional 20% incentive for each truck or bus produced by a California manufacturer.

The 2011 investment in natural gas truck buy-down funding should also be extended for at least one more year. Switching to natural gas is one of the fastest ways to reduce carbon and oil dependence from the heavy truck sector. Demand for the incentives last year was significant and is likely to be repeated. This incentive is particularly important given the Congress failed to act to extend the federal tax credits for the purchase of natural gas trucks.

### **Using the Market to Encourage In-State Vehicle Manufacturing**

From electric motorcycles to fuel cell buses, a number of firms in California are producing new, very clean, low carbon vehicles. CEC funds could be used to provide additional per vehicle incentives for vehicles purchased and produced in California.

### **Low Carbon & Petroleum Displacement Retrofit Certification**

The challenge of preventing harmful levels of carbon build-up in the atmosphere is a race against time. For the most part, efforts to date have focused on ensuring that new vehicles purchased have lower carbon emissions than those in the existing fleet. Over the past decade or so, a number of firms have developed impressive technologies to reduce criteria emissions from existing vehicles. CARB has certified several of those technologies and supported their deployment with the Moyer and Proposition 1B funds. Those investments have had a very positive impact in terms of reducing harmful air pollution. If a similar generation of carbon reducing technologies could be developed and added to existing



vehicles, we could add an important new tool in the battle against climate change. Various entrepreneurs are working on such efforts, but often have difficulty securing the capital to go through the relatively expensive CARB certification process. We recommend that the CEC establish a \$2 million annual program to help companies obtain CARB certification for retrofit technologies that would reduce greenhouse gas emissions, while not adding any additional criteria emissions. A joint advisory committee consisting of experts from California universities could be used to help CARB and CEC determine which technologies to select for the certification process.