UCDAVIS
PLUG-IN HYBRID & ELECTRIC VEHICLE RESEARCH CENTER
of the Institute of Transportation Studies

March 4, 2015

Mr. Eli Harland
California Energy Commission
1516 Ninth St
Sacramento, CA 95814
Eli.Harland@energy.ca.gov]

Subject: Support for EPIC Funding for Multi-Year Research Centers

Dear Mr. Harland,

We are writing to encourage the Energy Commission to fund multi-year research centers with EPIC funds. In particular, we encourage the support of one or more centers focused on the electrification of transportation. We believe that such centers are capable of research activities essential to California's transition to electric fueled vehicles during the next decade that are not addressed by project-based research. Our success and experience as a center supports this idea. These capabilities include:

- Continuity of focus and holistic in approach
- Timely response to stakeholder needs
- Ability to gather and curate longitudinal data about California market and use patterns
- Leverage research efforts as well as funds
- Centers can link California to stakeholders and research organizations around the world
- Development of expertise (in particular training of students)

Continuity of focus and holistic in approach

The Plug-In Hybrid & Electric Vehicle (PH&EV) Research Center (originally just PHEV Research Center) was established in 2007 with PIER funding from the Energy Commission. The Center has developed international status as a research leader, and is a resource to California, the United States and international partners of California. As a Center we were able to integrate consumer studies, policy analysis, technology reviews and infrastructure planning. University based centers can provide a neutral, research-based resource to the State without a commercial stake in a particular outcome.

Timely response to stakeholder needs

One of the key advantages of research centers is their ability to quickly adapt to technology and market changes and stakeholder needs. We worked closely with the Energy Commission until the end of 2013 to conduct specific research and address questions as they arose, and provide an on-going advice regarding the state of the technology and market in California, as well as develop research as statewide collaborations on topics of interest to CEC. This also includes the ability to respond to rapidly to questions from legislature, agencies, and other stakeholders given changing markets and technologies

Examples of big wins in this area are the researching, writing and distribution of "Taking Charge: Establishing California Leadership in the Plug-In Electric Vehicle Marketplace". This was requested by stakeholders to CEC and the final document completed in five months. Similarly, a request was made to study potential barriers to PEV sales in California dealerships which the center; the center was able to respond in a timely manner, and organized a workshop for dealers and automakers in the first few months of research.

Ability to gather and curate longitudinal data about California market and use patterns

We are just at the beginning of electrification of California's fleet, and there is increasing need to gather periodic data about the market and use patterns of PEVs in a systematic way over longer periods of time (as CalTrans does on road travel). Project based funding does not provide for periodic data collection, curation and analysis to guide policy and investments by state agencies and utilities. The PH&EV Center has tried to link cross-sectional project based data, providing continuity of questions and data collection over time but this is a stopgap approach.

Leverage research efforts as well as funds

When the Center was launched in 2007, it included two staff members, three projects, and funding for high-priority research contracts. Over the last eight years, it has grown to include 11 staff/researchers, 9 graduate students, and 11 undergraduate research assistants currently involved in our projects. In the same time period, we have leveraged energy commission funds with more than $7M in additional research contracts. The additional funds allowed us to expand on research projects that were funded by the Energy Commission as well as add much-needed new projects.

Centers can link California to stakeholders and research organizations around the world

California is a leader in electrification; the PH&EV Center has helped link California to research organizations around the world. Through Taking Charge, the PH&EV Center organized the California PEV Collaborative, a Collaborative chaired by Commissioner Janea Scott. The PEV Collaborative grew from the initial group of PHEV Center Board of Advisors and now includes over 40 government, industry, and NGO members. The PH&EV Center remains as a member, and leads research initiatives. Additionally, a center (in contrast to projects) builds rapport and respect of others in the field, in particular industry partners.

Through their long-term interactions with stakeholders and regulatory groups, Centers can provide on-going policy evaluation and implementation involvement, including involvement with development of codes and standards, investment plans, or criteria for policymakers to use when evaluating projects or proposals.

Development of expertise (in particular training of students)

University centers in particular develop the human resources California requires for long-term development of utility policies, infrastructure and PEVs. The PH&EV Center trains students from a multi-disciplinary viewpoint, in the most recent analysis tools, and developments in technologies, for example batteries or chargers, as well as the human dimensions of technology use, and policy implications.

Competitively solicited applications for Centers should be evaluated on their ability to produce statewide impacts, their history of research, interaction and collaboration with industry, and ability to leverage state funding with other funding sources.

Electrification of transportation is a long-term project that requires an on-going commitment over time in order to ensure the success of this new technology in an entrenched automotive market. Thank you very much for considering these comments in support of research center funding in general, and the area of electric-drive transportation in particular.

Sincerely,

Dr. Tom Turrentine

Director, PH&EV Research Center, UC Davis

Cc: Commissioner Janea Scott
Laurie ten Hope