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TO: California Energy Commission Dockets Office
RE: Docket Number 10-ALT-1; 2011-2012 Investment Plan for the Alternative and Renewable Fuel and Vehicle Technology Program: **Designing public policies to increase PEV adoption**

DATE: August 18, 2011

At the federal, state, and local levels policymakers seek to craft policy incentives that increase the likelihood of households and businesses purchasing and driving electric vehicles. Examples of these policies include tax rebates, subsidies for PEV charging equipment, access to HOV lanes, special electricity rates for charging PEVs, and access to public charging stations, among many others.

However, surprisingly little is known about how different types of policies, and the magnitudes of incentives they offer, actually affect consumers' purchase and driving decisions. The *Investment Plan* calls attention to this gap as highlighting the importance of understanding the effects of gas prices on consumer savings. The UC Davis PH&EV study also frames the importance of better understanding how consumers make vehicle purchase decisions.[1] Finally, the recently released UCLA Luskin Center PEV market study for Los Angeles shows that some policy incentives matter more than others, but stops short of describing consumer responsiveness.[2] We propose a comprehensive state-wide, state-of-the-art market study to understand how these policies, individually and in aggregate, influence the decisions of individuals and firms to purchase PEVs.

The research would answer the following questions:

1. Which of the existing and proposed policies and incentives are most effective? Which incentives are more influential in the purchase decision, and which affect the decision to drive (VMT)?

2. How responsive are consumers to the levels of the incentives offered? (i.e., how would consumers respond to changes in the level of rebates, the level of charging station subsidies, and monthly fuel cost savings associated with special of time-of-use electricity rates?)

[1] Smith, Charles, Miles Roberts, Jim McKinney. 2011. ***2011-2012 Investment Plan for the Alternative and Renewable Fuel and Vehicle Technology Program*** Committee Draft Report. California Energy Commission, Fuels and Transportation Division. Publication Number: CEC-600-2011-006-CTD. Pages 45-47.
[2] http://luskin.ucla.edu/content/realizing-potential-los-angeles-electric-vehicle-market

3. Will different types of consumers respond differently to the various types and ranges of incentives? (i.e., What are the sensitivity differences for incentives between early and late adopters? How does responsiveness vary with socio-economic status? How does responsiveness vary with owner characteristics such as their charging options and commuting distances?)

4. How aware are consumers of policy incentives? What are consumer utilization rates of policy incentives? What are consumer attitudes towards these policies?

5. What will be the effect of the scheduled phase out of state rebates and subsidies for charging stations? If, because of scarce public resources, there will be fewer incentives and a greater need to target specific types of consumers, which consumers are likely to be most responsive?

6. What are the salient differences across regional markets in California? How different are their types of consumers, built-environments (residential charging installation costs), gas prices, and commuting distances?

7. Will existing policy incentives have differential effects on the growth and composition of different regional markets? How will the phase-out of incentives influence regional markets differently?

The scope of work for this state-wide study is currently being developed with UC Davis' Tom Turrentine who leads the California Plug-in Vehicle (PEV) Collaborative Working Group 5, which focuses on PEV research. The study will be developed by the Luskin Center with input from Tom Turrentine and the PEV Collaborative to ensure its relevancy to stakeholders. The study's objectives will be to determine the effectiveness of different public incentives for the purchase of PEVs using a conjoint market analysis, and identify which public policies and incentives have the largest effect on purchase decisions, and what the effect of changes in these policies would be (i.e., determining the sensitivity, or elasticity, of purchases to incentives and public policies). A study of this magnitude will be carried out with faculty and doctoral students, and may require inter-UC collaboration.

The Luskin Center thanks the CEC for consideration of this docket submission and hopes these comments are helpful to the development of an effective research and policy agenda. For further information please contact the following persons:

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