



EV V2G SCHOOL BUS DEMONSTRATION

A Commitment of the Clinton Global Initiative-America

California Energy Commission

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COMMENT ON THE CALIFORNIA ENERGY COMMISSION 2014-15 INVESTMENT PLAN UPDATE, DOCKET 13-ALT-02
FROM THE EV V2G SCHOOL BUS PROJECT WORKING GROUP
NOVEMBER 1, 2013

The EV V2G School Bus Project is a joint undertaking of National Strategies LLC, NRG Energy, PJM Interconnection, Ernst & Young, and other parties. The objective of the Project is to promote the adoption of zero-emission school buses by school districts throughout California and the U.S. by demonstrating the economic viability of grid-integrated electric school buses. The Project was recently designated for an award under the Commission's PON 13-602.

The V2G School Bus Working Group endorses the \$15 million proposed for the 2014-15 investment cycle for demonstration of advanced technology medium- and heavy-duty vehicles. As the draft chapter on the ARFVT Program notes, the medium- and heavy-duty segment will require targeted, effective public-sector support if the state is to reach its long-term air-quality and greenhouse gas emission goals. The designated sum will allow industry to build on the momentum created by the Commission's past investments.

The V2G School Bus Working Group is also aware that public-sector support for advanced transportation technology must and will be finite. All stakeholders must embrace the goal of sustainable transportation solutions that, past the point of early commercialization, have full economic viability on an unsubsidized basis. In that regard, the Working Group respectfully suggests that the ARFVT portion of the 2014-15 Investment Plan place greater emphasis on vehicle-grid integration.

Seen through the lens of the grid aspect of vehicle-grid integration, electrified medium- and heavy-duty vehicles are certainly a resource that can contribute to grid stability as the proportion of renewable generation increases to 33% by 2020. No less important, however, is the contribution to vehicle economics that revenues from grid services can make. The question for battery-electric medium- and heavy-duty vehicles is not *whether* they are economically viable, but rather *how deeply* can they penetrate given their economics relative to conventional vehicles. Trends such as cost reduction for batteries and price increases for diesel fuel will certainly abet deep market penetration. But revenues from grid services are contingent neither on technology improvement nor future developments in the global petroleum industry. And, thanks to the CPUC's recently adopted electricity storage mandate, they are not contingent on regulatory action either. It is therefore reasonable to expect that grid integration could become the key driver of widespread uptake.

The Working Group is aware that these arguments are under consideration by the Commission's Vehicle-Grid Integration Roadmapping effort. Our suggestion is to make sure the Roadmapping results are fully recognized and vehicle-grid integration receives explicit priority in the 2014-15 Investment Plan.

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