

PROJECT INFORMATION FORM

Project Title	Deployment of Sustainable Fueling/Charging Systems at California Highway Safety Rest Areas
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Funding Source(s) and Amounts Provided (by each agency and organization)	CALTRANS - \$25,050.48
Total Project Cost	\$25,050.48
Agency ID or Contract Number	DTRT13-G-UTC29
Start and End Dates	10/1/2015-9/30/2016
Brief Description of Research Project	<p>The transportation and electricity sectors are facing the challenges of shifting toward a sustainable future. Building hydrogen fueling stations for fuel cell vehicles and fast charging stations for electric vehicles and installing grid-level energy storages for electric grid system to deal with the increasing renewables are extremely expensive and requires long-term and smart infrastructure investment. Present hydrogen fueling stations, fast EV charging stations, renewable power sources, and energy storages are usually located at different sites and connected to utility grids individually. This is not cost effective in terms of planning and operation. This research studies the feasibility of deployment of the renewable hydrogen fueling / fast EV charging stations at California Highway Safety Rest Areas (HSRA) and their integration with the utility grid as energy storage to lower the infrastructure construction cost and accelerate the usage of renewable energy in the California transportation sector. Hydrogen generated from electrolysis using local renewable energy sources can be employed as an energy carrier. The fueling/charging stations function as both vehicle fueling/charging stations and distributed grid energy storage to benefit both the transportation and utility sectors and make the fueling/charging stations more sustainable in terms of accessibility, efficient use of land, economic feasibility, and scaling up.</p>
Describe Implementation of Research Outcomes (or why not implemented) (Attach any photos)	
Impacts/ Benefits of Implementation (actual, not anticipated)	
Web Links	http://ncst.ucdavis.edu/?p=962
<ul style="list-style-type: none"> • Reports • Project website 	