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Project Information Form

Project Title:	Spatial Scenarios for Market Penetration of Plug-in Battery Electric Trucks in the U.S.
University:	University of California, Davis
Principal Investigator:	Marshall Miller Co-PI: Lew Fulton
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Funding Source(s) and Amounts Provided (by each agency or organization):	US Department of Transportation (US DOT) - $99,842
Total Project Cost:	$99,842
Agency ID or Contract Number:	UCD-DOT-504 DOT 69A3551747114
Start and End Dates:	October 1, 2018 – September 30, 2019
Brief Description of Research Project:	STEPS researchers have previously investigated market penetration scenarios for advanced technology trucks in California through 2050. These scenarios have included a range of truck types from heavy-duty pickups and vans up through heavy-duty trucks. This study will expand the region to the entire US and focus on plug-in battery electric trucks. Past studies have assumed that appropriate charging would be available but did not consider details of truck location and travel patterns, charger locations and resulting electricity demand. Light-duty vehicles fuel at public stations, but trucks typically refuel either at truck stops or fleet fueling stations. As market penetration of battery electric trucks increases, the number of charging stations and overall charging capacity must increase as well. Charging facilities may vary considerably depending on the type of truck (heavy-duty short haul, medium-duty delivery, vocational, etc.) and total stock of battery electric trucks. This study will use projected truck stock information throughout the US and create scenarios of electric truck uptake, vehicle electric ranges and fuel economies for plug-in battery electric trucks to understand the electricity demand in specific regions to 2050. Researchers will also consider synergies with light-duty vehicle electrification and recharging patterns.
Describe Implementation of Research Outcomes (or why not implemented): Place any photos here	

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Impacts/Benefits of Implementation (actual, not anticipated):	
Web Links • Reports • Project website	https://ncst.ucdavis.edu/project/spatial-scenarios-for-market-penetration-of-plug-in-battery-electric-trucks/