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OSTI.GOV / Journal Article: *Potential Benefits of Vehicle-to-Grid Technology in Cal...*

Potential Benefits of Vehicle-to-Grid Technology in California: High Value for Capabilities Beyond One-Way Managed Charging

Abstract

With Electric Vehicles (EVs) Rapidly becoming more popular, combined with a need for flexible energy storage resources in the electric grid, the development of vehiclegrid integration (VGI) technology has taken on a new urgency. VGI encompasses any technology that helps EVs better integrate with the grid, including management of charging and control of bidirectional charging and discharging. The habit of managing the one-directional flow of power from the grid to vehicles (V1G) is currently being rolled out across California and in many places where EVs have become popular. V1G programs in California include San Diego Gas and Electric's Power Your Drive, EV-specific retail tariffs from Southern California Edison, and the Charge Forward smart charging pilot program from Pacific Gas and Electric in collaboration with automaker BMW.

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