Lack of Technical Standards Could Hinder Utilities' Readiness for Electric Vehicles

BOULDER, Colo. -- (BUSINESS WIRE) -- The second comeback of the electric vehicle (EV) in little more than a decade has a much greater likelihood of success, and many in the industry believe that it will have a transformative effect on driving habits as well as the automotive and electric power industries.

To prepare for the arrival of EVs in neighborhoods across the country, utilities in the United States will need to design and implement a complex network of information technology (IT) systems to support data analytics, smart charging management, and customer information management. However, according to a recent report from Pike Research, many utilities could be unprepared to deal with the impact of EVs on the electrical grid, due to a lack of standards for sharing information between utilities and external systems.

"While plug-in electric vehicles will not threaten the integrity of the power grid as a whole, they will have an immediate local impact on neighborhood distribution infrastructure," says senior analyst John Gartner. "Many utilities are reluctant to make long-term investments in IT systems that will be necessary to support EV charging, often due to state-level regulatory structures that discourage such spending, and as a result they may be playing catch-up as more and more electrified vehicles drive off dealers' lots."

Gartner adds that the automotive, home networking, smart grid, and utility industries are collaborating with organizations, such as the National Institute of Standards and Technology (NIST), to develop standards to establish first-time interoperability with grid equipment, but many of these standards will not be completed until 2012 or later. Utilities are largely taking a "wait and see" approach to EV IT investment and are assuming that the vehicles will not sell in sufficient numbers to impact grid performance for several years.

Moreover, the utilities understanding of the benefits of EV IT systems across all aspects of grid operations including load management, the use of renewable energy, and being able to avoid capital investment in generation and transmission equipment, are not well known today.

"Greater knowledge of the lifetime value of EV IT systems, including the financial benefits from reducing carbon emissions, would make it easier for utilities to justify the investment," Gartner says.

Pike Research anticipates that worldwide investment in electric vehicle IT systems will reach $1.5 billion annually by 2015, with a cumulative total of $5.1 billion in spending between 2010 and 2015. However, according to the firm's analysis, those levels of investment are far lower than other smart grid infrastructure categories,

and may be insufficient to adequately prepare for the arrival of EVs in increasingly greater numbers over the next five years.

Pike Research's report, "Electric Vehicle Information Technology Systems", analyzes the IT requirements and market opportunities associated with managing EV charging and the interaction with grid resources. The report provides a comprehensive examination of the information and communications systems for EV enablement within the utility grid infrastructure. It includes forecasts through 2015 for investment in EV information and communication technology in world regions, along with profiles of key industry players. An Executive Summary of the report is available for free download on the firm's website.

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