Are California Communities Ready to Provide Workplace and Public Charging to Help Meet California's ZEV Goals?

An Information Hearing of the Assembly Transportation Committee

Wednesday, December 4, 2013

10:30 AM – 1:30 PM

City Council Chambers

Long Beach, California

BACKGROUND PAPER

Purpose

The purpose of this hearing is to better understand the results of efforts undertaken by state and regional entities and by public utilities to install workplace and public charging infrastructure for plug-in electric vehicles (PEVs). Of specific interest is a "look back" to learn what efforts have worked and which ones have not. The hearing will also provide a "look ahead" to explore what more could and should be done to facilitate a widespread workplace and public charging infrastructure, a critical step in California's ambitious efforts to curb greenhouse gas emissions.

Background

California is leading the way for the rest of the nation and the world in reducing greenhouse gas emissions and improving the quality of the air we breathe. Landmark legislation in 2006, AB 32 (Nunez) set a near-term goal of reducing emissions to 1990 levels by the year 2020. An even more ambitious executive order signed by Governor Schwarzenegger set forth a longer-term goal of reducing these emissions to 80 percent below 1990 levels by the year 2050. While the 2020 goal appears to be within reach, experts advise that reaching the 2050 goal will require substantial additional efforts.

According to the California Air Resources Board (CARB), the state agency charged with overseeing and implementing programs to achieve these goals, California's transportation sector produces nearly 40 percent of the state's greenhouse gas emissions, due primarily to the state's 25 million passenger vehicles. California's success in meeting its 2050 goal is dependent on reducing emissions from these vehicles. In fact, CARB asserts that, to meet the 2050 greenhouse gas reduction goal, the new vehicle fleet will need to be primarily composed of advanced technology vehicles, such as electric and fuel cell vehicles, by 2035 in order to have nearly an entire advanced technology fleet by 2050.

While there are a number of vehicle types that qualify as advanced technology vehicles (such as hydrogen fuel cell vehicles), this hearing will focus specifically on infrastructure needed to support plug-in electric vehicles (PEVs), that is, battery electric vehicles such as the Nissan Leaf and plug-in hybrid electric vehicles that operate on a combination of batteries and a combustion engine such as the Chevrolet Volt.

Range anxiety. It's why we need workplace and public charging.

"Range anxiety" is the fear of consumers that they will not be able to drive as far as they need to with a PEV. Range anxiety is considered to be one of the major barriers to large scale adoption

of PEVs. One of the main strategies to fight range anxiety among PEV drivers is the deployment of an extensive charging infrastructure.

Most PEV owners rely primarily on home charging to fuel their vehicles. If this were the only charging facility available PEV owners would essentially be restricted to driving solely within a limited range of their home—not an ideal scenario. Work place charging, on the other hand, offers PEV drivers the ability to "top off" or fully replenish their charge conveniently while at work. Advocates suggest that workplace charging benefits not only the employee but, in fact, the employer, the community, and the overall PEV market. Employee benefits of workplace charging include building range confidence (reducing range anxiety), cost savings associated with extending the all-electric use of PEVs, and facilitating longer-distance commuting using their PEVs. Other incentives include the ability of employees with PEVs to utilize high occupancy vehicle lanes for their commute, decreasing employee commute times and increasing worker productivity. Additionally, as more employees use workplace charging facilities, it creates a virtual showroom for other employees who may consider purchasing a PEV in the future, further extending air quality benefits.

Studies show that employers also benefit from charging infrastructure in the workplace because it can serve as an employee benefit and improve employee recruitment and retention. Additionally, providing workplace charging can contribute to a "green" business image and enhance the company brand as socially and environmentally responsible. Further, employers who also convert their fleets to PEVs and use the charging facilities to fuel fleet vehicles often derive additional "green" business image benefits as well as substantial fleet fuel and maintenance cost savings.

The benefits of public charging are similar to those of workplace charging with the added value that PEV drivers will likely seek out public charging facilities and remain at the store or business

for a longer period of time to complete charging. These more frequent visits and longer stays typically translate into increased sales and profits.

For the most part, large metropolitan areas have made the greatest strides in providing workplace and public charging infrastructure, particularly where state, federal, and regional agencies have partnered with utilities and other organizations to facilitate, among other things, siting, installation, and operation of PEV charging systems. Despite the gains that have been made to date in increasing workplace and public charging, more work remains to be done.

In this informational hearing we will hear from state and regional agencies as well as utilities to learn more about hurdles they have had to overcome to establish workplace and public charging infrastructure in their communities. The hearing will also explore challenges that lie ahead and what more can be done to facilitate workplace and public charging installation not only in metropolitan areas but in all communities across California.