

Essential Elements for Making the Plug-In Electric Vehicle Driver Experience Consumer Friendly

The plug-in electric vehicle (PEV) market is growing. Sales of PEVs are expected to reach at least 35% of light-duty vehicles by 2030, growing to at least 60% of light-duty vehicles by 2040.¹ The American driver simply wants more of these convenient, clean vehicles that save consumers money today.



As the PEV market continues to grow and transitions from the early adopter stage to the mass market phase, it is important to ensure that the transition to an electric driving future is as seamless as possible and that best practices be followed. The essential elements outlined below give the consumer confidence that he/she will be able to purchase the right PEV through an informed buying process, that he/she will have a seamless and hassle free PEV charging experience and that he/she will have a convenient ownership experience. Plug In America encourages all states to adopt supportive policies to help PEV drivers in all income levels purchase both new and used EVs, such as these:

Essential Elements Relating to the Consumer Purchase Experience

1. An informed PEV car buying experience consists of up-to-date shopping Internet Web sites and buyer resources, including Internet Web sites with up-to-date government incentive information and PEV benefits, and dealership sales employees who can direct buyers to these resources.
2. An informed PEV car buying experience consists of the consumer knowing the expected range per full charge for a new PEV, consistent with federal fuel economy labels for PEVs, and the right to know the expected range per full charge for a used PEV compared to the new model, and applicable battery warranty information.
 - a. Furthermore, the battery pack capacity estimate in used PEVs should not be reset at the time of purchase by the seller of the vehicle. If the battery pack capacity estimate is reset, a consumer is entitled to know how long it has been since it was reset and how long before the number should be considered accurate.

Essential Elements Relating to the Consumer Charging Experience

3. Consumers need access to a robust deployment of public charging stations.
 - a. Specifically, consumers need access to public PEV charging at transportation hubs, such as bus stations, train stations, airports, and park-and-ride lots, particularly those near the edge of a metro area.
 - b. Consumers also need access to public charging at major destination centers where visitors travel long distances to reach.



¹ https://data.bloomberglp.com/bnef/sites/14/2017/07/BNEF_EVO_2017_ExecutiveSummary.pdf

- c. Finally, consumers need access to a robust deployment of public charging stations, including fast charge stations on highway corridors for long distance trips, such as at public rest stops. The number of public charging stations along highway corridors should be plentiful enough to meet the growing adoption of PEVs.
4. Consumers need to be able to charge at his or her place of dwelling, regardless if that dwelling is a multi-unit dwelling, apartment complex, or if the dwelling is part of a condo association, cooperative or mobile home park, or if that apartment or rental unit is rent-controlled.
5. Consumers need standardized means of payment at public and workplace charging stations, and stations that abide by interoperability billing standards. This can include the ability to pay at the public charging station or workplace charging station using a credit card or mobile technology, or both.
6. Consumers need to be able to charge an PEV at his or her place of dwelling and have electricity rate options that may include paying off-peak electric prices from the utility for charging. Sites that host a charging station, such as workplaces, fleets, and public locations, should have options for electricity rates that encourage adoption of PEVs and therefore more efficient utilization of the electric grid.
7. Consumers need to know the total cost to charge at different charging rates (kW) for using the public charging station or workplace charging station before initiating a charge session, including all applicable separate charges and penalties, such as any network access fee, roaming fee, potential for demand charges, hourly charges, parking fees, electricity fees, and penalties for not moving the EV after a certain time.
8. Consumers need to know the minimum and maximum charge rate (kW) at the charging station.
9. Consumers need timely maintenance of public, workplace, and multi-unit dwelling charging stations.
10. Consumers need up-to-date maps and directional signage indicating the location of public charging stations.
11. Consumers need consistent etiquette guidelines for public and workplace charging stations. It should be clearly marked at public and workplace charging stations, or within mobile or vehicle technology, how to report broken stations, how to report complaints, and how to report vehicles that are parked in a public charging spot and blocking access to the charging station.

Essential Elements Relating to the Consumer Ownership Experience

12. Consumers and site hosts need new construction homes and buildings to be “EVSE” ready by having raceways, conduits, and adequate electrical capacity installed at the time of the construction, making it easy to add a charging station.

About Plug In America

Plug In America is the nation’s leading independent consumer voice for accelerating the use of plug-in electric vehicles in the United States to consumers, policymakers, auto manufacturers and others. Formed as a non-profit in 2008, Plug In America provides practical, objective information collected from our coalition of plug-in vehicle drivers, through public outreach and education, policy work and a range of technical advisory services. Our expertise represents the world’s deepest pool of experience of driving and living with plug-in vehicles. The organization conceived National Drive Electric Week and has advanced workplace charging by pioneering ride-and-drive events at such leading corporations as Google, Mattel and Paramount Pictures. We drive electric. You can too. www.pluginamerica.org