

Utility Initiatives Aim to Accelerate Electric Vehicle Adoption and Use



Linda K. Breggin is director of ELI's Center for State, Tribal, and Local Environmental Programs. She can be reached at breggin@eli.org.

UTILITIES around the country are fostering adoption of electric vehicles, including investments in charging infrastructure, incentives and rebates, and customer education. These moves complement federal, state, and local plans and programs aimed at realizing an epic transition to electrification of the transportation sector, which accounts for over a quarter of U.S. carbon emissions.

Front and center are utility investments in much-needed EV charging infrastructure. McKinsey & Company projects that to achieve the federal sales target for zero-emission vehicles—50 percent by 2030—about 30 million new chargers will be needed to provide the requisite electricity. The estimated cost is a staggering \$35 billion for hardware, planning, and installation for the public charging infrastructure alone, which is essential to alleviate consumer “range anxiety” and for EV owners without home charging options.

PWC's Hugh Le opines that “utility players are in a unique position to fill the gap between the deployment of EV charging stations and mass EV adoption.” Environmental groups also welcome utility infrastructure investments, particularly in low-income communities and communities of color that may not realize the full benefits of transportation electrification due to inadequate charging infrastructure. Furthermore, as the Natural Resources Defense Council observes, utility investments in charging infrastructure can provide “a broader, more diverse, mass EV market” and displace diesel pollution from trucks and buses that disproportionately impacts low-income communities.

Utility investments are not without critics, however, including those

concerned about the competitive impacts vis-a-vis private companies—particularly if utilities are allowed to recover their investments from rate-payers. Others worry about burdening electricity consumers; as a study by M.J. Bradley & Associates and Georgetown Climate Center notes: “The potential [exists] for stranded assets, given the early stage of the market and the fast-paced evolution of charging technology.”

The result is a still-evolving regulatory tableau. Investor-owned utilities, which serve 75 percent of customers nationwide, require regulatory approval for their initiatives—and rulings have been mixed on the permissibility of rate-basing infrastructure investments. Some states, such as Washington, have enacted laws that remove barriers and specifically sanction cost recovery by utilities.

In addition to infrastructure investments, research conducted by the National Council of State Legislators identifies a multitude of customer incentives and rebates provided by investor-owned utilities, rural electric cooperatives, and municipal generators. These include, for example, providing free chargers, financing charging installation, offering cash incentives for electric equipment, providing rebates on EV purchases, and time-of-use rate reductions or billing credits for residential, commercial, and multi-unit customers.

To accelerate the uptake of EVs, many utilities are providing information to customers about the benefits of EVs and the availability of charging stations. Complementary efforts focus on educating customers about the most economical EV charging times, which has the attendant benefit of helping utilities

manage their load by deterring EV charging at peak periods of electricity demand.

In addition to these direct interventions, utilities are supporting transportation electrification through system upgrades, such as grid infrastructure improvements that will address the increased EV charging load.

The enthusiasm among utilities for EV-fostering initiatives is explained in part by what ICF's Stacy Noblet calls a “golden opportunity” to boost revenue growth. To emphasize the point, she notes that a Chevy Bolt uses about 3,500 kilowatt-hours of energy per year, as compared to an entire household of three that uses only about 6,000 kilowatt hours annually.

Other benefits may not be as immediately tangible but include, according to Noblet, favorable public relations opportunities, early compliance with potential climate mandates, and serving as “a valuable partner to local governments that need to hit decarbonization goals.”

Fortunately, benefits also can inure to customers who reap the health and environmental improvements of climate change mitigation and improved air quality. But, as the Bradley/Georgetown study points out, there are more immediate pecuniary benefits: “Higher utility revenues due to increased electricity sales and improved overall system utilization . . . puts downward pressure on electricity rates for all utility customers.”

An estimated 30 million EV charging stations will be needed by 2030