Comments on Issues Raised in Electric Vehicle Technical Conference

Case 18-E-0138

September 20, 2018

Acadia Center appreciates this opportunity to submit written comments regarding issues discussed at a technical conference held by the Department of Public Service (DPS) and the New York State Energy Research and Development Authority (NYSERDA) on Wednesday July 18, 2018 and Thursday July 19, 2018, as well as questions posed in a request for post-conference comments issued by DPS on August 16, 2018 in Case 18-E-0138. Acadia Center is a nonprofit, research and advocacy organization committed to advancing the clean energy future. Acadia Center is at the forefront of efforts to build clean, low carbon and consumer friendly economies. Acadia Center’s approach is characterized by reliable information, comprehensive advocacy and problem solving through innovation and collaboration.

Introduction

Acadia Center’s responses flow from our recent reports on electric vehicles and the energy system. Our report EnergyVision sets forth an ambitious pathway for states to pursue in order to achieve an economically productive, consumer-oriented, and low carbon energy future. EnergyVision integrates four key strategies: (1) utilize market-ready technologies to electrify building heating and transportation; (2) modernize the way we plan, manage, and invest in the electric power grid so that it facilitates new technologies, decentralized energy systems, and consumer control; (3) make continued progress toward a clean electric supply through increased investments in local renewable power; and (4) maximize investments in energy efficiency so that energy consumption is as efficient as possible.

Building on this report, Acadia Center recently released EnergyVision 2030, showing how states can meet emissions reductions requirements for 2030 with the above four strategies. EnergyVision 2030 demonstrates that electric vehicles (EVs) play a key role in the transformation, with 20% of cars and light-trucks in New York needing to be electrified in 2030 to reach greenhouse gas (GHG) emissions reduction goals. To reach these needed levels, Acadia Center recommends a suite of policies: (1) make EVs more affordable, (2) increase the availability of consumer-friendly charging infrastructure, and (3) ensure that consumers are aware of EVs and their benefits. Acadia Center has also issued Charging Up, a joint report with Conservation Law Foundation and Sierra Club, with a comprehensive agenda to increase EV adoption. Acadia Center has also released UtilityVision, a framework for reforms to utility regulation to move towards a fully integrated, flexible, and low carbon electric grid that empowers and protects consumers. The three categories of reforms are: (1)

4 See acadiacenter.org/document/charging-up.
comprehensive, proactive, and coordinated planning for the electric grid; (2) updated roles for regulators, utilities, and stakeholders; and (3) fair pricing and consumer protection for all. Acadia Center’s responses below implicate our EnergyVision, EnergyVision 2030, Charging Up and UtilityVision reports.

Responses to Specific Questions Raised by DPS

Role of Electric Utilities: Questions 1, 2, 3, 4, and 11

Electric utilities have a narrow but important role to play in advancing a future of electric transportation. In any role the utility might play, the right policy approach is subject to a number of constraints, beyond just the advancement of electric vehicles, that must be carefully considered. Electric utilities are not the answer for every public policy issue, and the State of New York needs a modern utility regulatory system that works for consumer-friendly clean energy across the board, including energy efficiency, distributed generation, electric vehicles, and other storage.

In general, the roles that electric utilities can play to support EV adoption and electric vehicle supply equipment (EVSE) buildouts include (1) smart rate structures and demand management programs that provide opportunities for lower fueling costs, (2) targeted investments to address coordination problems and other market failures for EVSE installations, and (3) more general investments for a smarter, more efficient electric system that enables a future that includes widespread distributed clean energy resources, including electric vehicles. Conversely, the role of the utility should not take away from the responsibilities and opportunities of other major actors in this area, including vehicle manufacturers and dealers, state and local governments, major employers, charging station manufacturers and operators, and parking lot owner and operators. Even within state government, a wide variety of agencies have significant responsibilities, including DPS, NYSERDA, the New York State Department of Transportation, the New York State Department of Environmental Conservation, and even the Bureau of Weights and Measures.

In designing and funding programs to support EV adoption and EVSE buildouts, New York should explore a variety of revenue sources. One revenue source that is gaining momentum through the Transportation Climate Initiative and other forums is market-based transportation climate policy, such as a cap-and-invest program. This type of revenue-raising mechanism could be modeled after the Regional Greenhouse Gas Initiative (RGGI), where proceeds are returned to the participating states. A cap-and-invest program applied to transportation emissions could be used to raise funds for a variety of transportation investments, including transit, active mobility infrastructure, transit, and EV programs, while helping the state meet its overall GHG emissions reduction goals. One additional short-term source of funding is the Volkswagen Settlement funds, of which $19.2 million can be used for EVSE investments throughout the state. The need for ratepayer funding should be carefully considered, and the design of any ratepayer-funded programs should be appropriately limited and defined by benefit-cost principles, as discussed further below.

Based on these principles, Acadia Center believes that there should be a general presumption against direct utility ownership and operation of EVSE, with the consideration of limited exceptions. Direct utility ownership and operation of charging stations would limit the development of a private charging market due to the cost advantage of ratepayer-backed capital, and it would risk stranded assets if technology significantly changes in the next five to ten years. Certain utility ownership models would also unnecessarily expose ratepayers to higher costs than models where site hosts and customers contribute private capital.
Instead, utilities can and should propose “make ready” infrastructure investments, which support but do not include the electric vehicle charging station itself. The “make ready” model also falls within the utilities’ role to own and make investments in wires and infrastructure upgrades. A “make ready” program is better suited to the role of overcoming market barriers, as it would remove the prohibitive cost of electric upgrades and address coordination problems in certain market segments such as multi-family dwellings. By addressing these barriers, a utility would help incentivize EVSE purchases and installation, while maintaining customer choice and growing private investment. Under the “make ready” model, the utility can either own or pay for certain upgrades that are behind the meter, so the Commission could productively make clear that this is permissible.

Similarly, public education and outreach is an important part of increasing EV adoption because many car buyers are still lacking the basic knowledge they need to consider purchasing an EV. However, Acadia Center does not believe that general outreach and education for electric vehicles should be the responsibility of electric utilities or funded by ratepayers. Utility education and outreach should be more narrowly tailored to well-designed utility programs, including “make ready” programs and rate options. Instead, automakers bear a large responsibility for advertising the benefits of their vehicles to consumers, but government agencies, nongovernmental organizations, and others can play an important role as well. For example, state governments should provide a centralized easily accessible website that includes all available programs for EV adoption and EVSE buildouts.

**Utility Investments and Cost Recovery: Questions 1, 3, and 10**

Utilities’ EVSE investments should be treated in the same manner as other grid modernization investments and be subject to the same regulatory requirements. The PSC has issued several orders on these topics since the beginning of the Reforming the Energy Vision process in 2014, including the Track 1 Order in Case 14-M-0101 on February 26, 2015, the Benefit Cost Analysis Framework Order in Case 14-M-0101 on January 21, 2016, and the Order on Distribution System Implementation Plan Filings in Case 16-M-0411 on March 9, 2017.

These orders do not dictate every detail of this docket but provide a generally applicable framework. For example, the parameters of a “make ready” infrastructure program should be analyzed under the relevant benefit-cost analysis procedures for each utility to ensure that the costs of the program are reasonably matched to the societal benefits provided. Details of the program can be tweaked to ensure that this criterion is met, such as a limit on the cost per installation or per installed charging station. The Benefit Cost Analysis Framework Order appropriately adopted the societal cost test but omitted significant discussion of oil fuel savings. Since oil fuel savings are one of the major benefits of programs to increase EV adoption, this may be worth reconsidering at this time.

In general, costs for distribution network upgrades for EVSE should be should be treated like other network upgrade costs or grid modernization costs. If there are special categories of costs to recover, they could be charged pursuant to a rider for accounts that have benefitted from the “make ready” program. There is no particular reason for any of these costs to specifically be recovered through demand charges.

**Rate Design, Demand Management, and EVs as Distributed Energy Resources: Questions 1 and 6-9**

Rate design and principles for compensation of distributed energy resources are also topics that have been extensively discussed throughout the REV proceeding, including in the Track 2 Order in Case 14-M-0101 on May 16, 2016 and in the Phase One VDER Order on March 9, 2017. Acadia Center supports the key principles contained in these orders, including the principle of technology neutrality and the importance of efficiency and cost causation. As a result, Acadia Center believes that, for most purposes, electric vehicles do not necessarily warrant...
special consideration with respect to rate design. Instead, EVs represent a specific example of readily manageable load that can benefit from time-varying rate designs. As with other types of manageable loads, EVs are suitable targets for demand management programs. At the present time, it is not clear whether there would be any benefits from treating EVs formally as a “distributed energy resource”, in part because of prohibitions on exporting energy from EV batteries. In the future, EVs could be treated similarly to other energy storage options in VDER export tariffs.

With respect to rate design, customers can manage EV charging to take advantage of the reforms that are being discussed elsewhere in REV to improve the cost causation basis of rates. For residential and small commercial and industrial (C&I) customers, this means that EV charging should take advantage of low-cost off-peak periods in time-of-use rates. For larger C&I customers, EV charging should be managed to take advantage of low-cost periods and integrated with demand charge management. If and when demand charges become better aligned with cost causation as envisioned by the Track 2 Order, the incentives for large C&I customers should be improved for the timing of EV charging and a wide variety of other types of usage.

The purpose of any special EV rates should not be to provide arbitrarily large bill discounts to incentivize EV charging. Among other reasons, the efficiency of EV charging and operation will be important to the electric system once EV adoption has increased, and the fueling cost of EVs is not only competing with traditional gasoline vehicles, but also walking, biking, and public transit. It is important to remember that there are several other policy drivers for increased EV adoption, and utility policy does not need to drive adoption by itself.

It is appropriate to consider whether EV charging customers are important target segments as a part of a broader transition to improved rate structures. Stand-alone EV charging accounts, including moderately sized DC fast charging installations, could be defaulted to volumetric time-of-use rate structures that do not contain demand charges, with the ability to opt into more complex structures but not traditional flat per-kWh rates. Residential customers who drive EVs are also good targets for opt-in whole-house time-of-use rates, and special marketing to those customers may be appropriate. Residential, small C&I, and moderately sized stand-alone EV charging accounts should not be in rate classes with three-part tariffs that include demand charges, because demand charges are not reasonably understandable or manageable for the vast majority of customers with current meters and technology. The largest DC fast charging accounts may be appropriately treated as a larger C&I customers with more complex default rates.

In addition, stand-alone accounts for publicly-available direct current fast charging (DCFC) stations that are currently placed into rate classes with significant demand charges appear to be a special case. Acadia Center supports the petition from New York Power Authority and others for rate relief with respect to demand charges. As discussed above, it would be appropriate to treat these accounts as small commercial customers with little or no demand charges in the short term. DCFC stations are especially useful for serving EV refueling needs along major driving routes in New York, as well as serving residential customers without any dedicated home charging in urban areas. However, there are currently very few publicly available DCFC stations in the state,\(^6\) in part because of high demand charges. When utilization rates are very low, demand charges can account for between 80-90 percent of a stand-alone DC fast charging station’s monthly electric bill.\(^7\) If conventional demand charge

---


\(^7\) Joint Petition for Immediate and Long-Term Rate Relief to Encourage Statewide Deployment of Direct Current Fast Charging Facilities for Electric Vehicles (April 13, 2018) at 10.
pricing is applied to DCFC stations, a high ratio of kW demand charges to kWh of energy used results in an extremely high effective per-kWh rate to provide charging to EV drivers. This poses a substantial problem for any reasonable business model for DC fast chargers and has potentially discouraged many providers from installing and offering DCFC services. Given their relatively low usage, these stations’ load profile is intermittent and not necessarily aligned with system peak.

**Charging Station Siting and System Planning: Questions 1, 4, and 5**

Prioritization of charging station needs is an important policy question. Long-distance transportation corridors, multi-family dwellings, urban areas without access to dedicated residential charging, commuter and public transit parking facilities, retail and grocery store parking lots, city and town centers, major tourist attractions, and workplaces are all potential areas worth considering for charging station builds. However, the relevant expertise in this area is not necessarily housed within electric utilities, because it is more closely linked to transportation patterns.

Once a general category of charging station needs is identified, it will often be appropriate to consult with utilities on the best locations to add additional load to the grid. For example, the utility may know the best area to place a bank of DCFC stations in a neighborhood. This type of information could potentially be mapped systematically and provided to charging station providers and state agencies running EVSE programs.

Reasonable projections of EV adoption should be incorporated into all load forecasts using for system planning purposes. This is relevant both for large-scale capacity and transmission purposes but could also be particularly relevant to distribution planning in areas with relatively high EV adoption.

**Equity: Questions 1, 4, 5, and 10**

Low and moderate-income (LMI) households should have access to and the opportunity to benefit from electrification technologies like EVs, and utilities can prioritize electrification efforts in environmental justice areas. However, it is important to caution that these steps must be paired with efforts to make EVs affordable and accessible for residents, such as through a low-income EV rebate program. Otherwise, EV charging stations located in these areas may be seriously underutilized and not viewed as an asset to the community. In addition, “make ready” programs can focus on particular geographic areas and provide more favorable terms to LMI households. State and local policymakers can also consider measures to encourage electrification of medium- and heavy-duty vehicles, such as transit buses, to improve air quality in these neighborhoods. Transit buses typically service urban areas with already high concentrations of air pollution, and these diesel-powered vehicles add to the poor air quality that impacts public health. Replacing these buses with electric versions that have no tailpipe emissions will have positive impacts regionally and in communities they serve.

In addition, EV deployment in LMI neighborhoods should not be limited to individual vehicle ownership, which can be cost prohibitive for many residents in these communities. These communities can benefit from “shared mobility” programs, which can include car share, ride share, and micro-transit programs. Given the difference between dense urban environments downstate versus more suburban and rural environments upstate, these shared mobility programs can and should take different forms depending on their location. Programs that are designed to serve LMI communities typically offer some form of subscription and/or discount for income-qualifying customers and may be worthy of public policy support.
Medium- and Heavy-Duty Vehicles: Question 12

Electrification of medium- and heavy-duty vehicles is an important public policy priority. Acadia Center was pleased to see that New York recently announced that it plans to focus on electrifying medium- and heavy-duty vehicles when deciding how to spend its $127 million as part of the Environmental Mitigation Trust funds under Appendix D of the First Partial Consent Decree of the Volkswagen Clean Air Act Settlement. The utility regulatory issues for these vehicles largely follow the same principles as EV charging for light duty vehicles. However, specific application of these principles may be different for charging applications with extremely high power draw. More complex rate structures may be appropriate for a subset of these customers, and additional attention to demand management may be helpful. These vehicles may also be able to participate more generally as DERs in the short term, and could be made eligible under VDER export tariffs as a storage resource.

Respectfully submitted,

Cullen Howe
New York Director
chowe@acadiacenter.org

Mark LeBel
Staff Attorney
mlebel@acadiacenter.org

Emily Lewis
Senior Policy Analyst
elewis@acadiacenter.org

Acadia Center
349 Fifth Avenue
New York, New York 10016
Phone: (212) 256-1535 x501
www.acadiacenter.org