



June 30, 2017

VIA ELECTRONIC MAIL

Rhode Island Public Utilities Commission, Division of Public Utilities and Carriers, and Office of Energy Resources

Email: DPUC.powertransformation@dpuc.ri.gov

RE: Notice of Inquiry and Request for Stakeholder Comment Regarding a Utility's Role in Deploying Beneficial Electrification with Focus on Plug-in Electric Vehicles

The Sierra Club appreciates the opportunity to provide these comments on the beneficial electrification of Rhode Island's transportation and heating sectors. Utility involvement is critical in order to reduce costs to ratepayers, incentivize clean alternatives and educate consumers. Greater electric vehicle (EV) and high efficiency heat pumps usage are essential to meet the state's climate protection goals while improving air quality and growing the economy through job creation and decreased imports of fossil fuels.

The Sierra Club supports utility involvement in facilitating Rhode Island's goal of increasing EV usage by taking steps to address key barriers to EV ownership and manage new EV load. Transportation accounts for nearly 40 percent of Rhode Island's carbon emissions, contributing approximately twice as much carbon as the next largest sector: electric power.¹ Traditional vehicles are also significant contributors of nitrogen oxides and volatile organic compounds (VOC), which adversely impact public health and contribute to ground-level ozone (smog). Reducing barriers to EV adoption and increasing the share of EVs in Rhode Island's vehicle fleet is essential to achieve the standards laid out in the Resilient Rhode Island Act and improve air quality and public health.

There are several roles for utilities in accelerating EV deployment and managing EV load. First, utilities can help Rhode Island rapidly increase deployment of EVs through direct investments in EV charging infrastructure using either a make-ready model, direct utility ownership, or some combination of the two. The Sierra Club recommends that the PUC order utilities to propose EV infrastructure plans comparable to those recently submitted by National Grid and Eversource in Massachusetts in order to increase EV charging infrastructure in their service territories. Key features necessary for reaching optimal EV market penetration are a focus on charging sites--including multi-site dwellings--with long dwell times for Level 2 chargers and on installation of direct current (DC) fast chargers both along major transit corridors to facilitate long-distance travel and also in urban areas to enable EV adoption by drivers that lack access to home or workplace charging options.

¹ U.S. Energy Information Administration, State Carbon Dioxide Emissions By Energy Sector (Nov. 3 2016).

Utility investments should focus on sites that enable EV ownership and that are presently underserved by private sector investment. Optimal locations are those that can be consistently accessed by an individual driver and where the vehicle will be parked for long enough to gain usable range. Identification of market gaps to increase EV range (ex. along highway routes) should be done along with identification of possible long dwell multi-unit dwellings to allow for greater EV usage ease, greater program success, and meet policy goals. In particular, appropriate locations for utility investment are workplaces and multi-unit dwellings for Level 2 chargers and convenient, publicly accessible sites in densely populated areas for intra-urban DC fast chargers.

At this early stage of charging infrastructure deployment, the Sierra Club urges the PUC to avoid encouraging substantial utility investment in sites that are not routinely visited by individual drivers such as shopping malls or restaurants. The private sector remains free to make these investments, but ratepayer funds are more appropriately targeted to sites that will better enable EV ownership. Further, as part of these utility EV infrastructure programs, the PUC should require that a significant percentage of the utility investment be directed to promoting electrification and access to electric vehicles in low-income and disadvantaged communities.

Utility investments should be paired with economic incentives for EV purchases through funds from the VW settlement and through limiting, pricing, and reducing carbon pollution from transportation sector, as considered by House Bill 5369 and the state's participation in the Transportation and Climate Initiative.

Second, the PUC should ensure that utility proposals incorporate features to effectively manage the new EV load either through price signals to drivers or through programs that enable direct load management by the utility with a goal of reducing stress on the electrical grid and facilitating the integration of variable renewable resources. Utilities can help shape EV load indirectly through EV-specific or whole house rate structures. Requiring utilities to offer rate structures with extended off-peak periods and significant on-peak/off-peak pricing differentials can encourage vehicle charging at optimal hours and avoid the need for expansions of transmission and distribution systems. We recognize that some charging locations may be exempt from the varying rates if along transportation routes with dwell times minimally sufficient to gain usable range. Smart grid updates and metering investments to better monitor and provide for metering of power usage should be included. The utilities should manage implementation of metering and TOD rates, determining and testing optimal rates and technology, allowing other stakeholders an opportunity to have input.

Third, utilities can help accelerate EV adoption through education and outreach to customers. Given their regular communications with their customers, utilities are well positioned to disseminate information about charging infrastructure programs, electric vehicle and EV charging infrastructure rebates and tax incentives, and EV-specific and whole house rate structures that can benefit EV owners.

Additionally, the Sierra Club supports utility involvement to stimulate the replacement of inefficient electric or oil heating systems with high efficiency heat pumps. Modern heat pumps use approximately 50 percent less electricity for heating than electric resistance heating methods

such as furnaces and baseboard heaters.² Transitioning to heat pumps powered by clean energy will reduce reliance on fuel burning heating methods and increase aggregate efficiency of the heating sector. Barriers to heat pump installations should be removed, along with the adoption of a program to incentivize customers to install new systems.

The Yale Center for Business and the Environment along with Connecticut Green Bank, Eversource, United Illuminating and the Department of Energy and Environmental Protection recently released reports on thermal technologies market potential, barriers and incentives within Connecticut that are applicable for Rhode Island. The reports identified that existing inefficient electric and fuel oil systems were the least economical and most polluting heating options, and that additional incentives would be needed to achieve substantial heat pump conversions. Incorporation of rebates for heat pumps and pricing carbon pollution from traditional heating fuels into the proposal will allow for the more significant emission declines needed to achieve Rhode Island's climate goals.

We hope the electric system stakeholders will support, and the PUC will require, proposals from utilities to invest in beneficial electrification of transportation and heating through deploying and managing EV infrastructure and heat pumps.

Respectfully submitted,



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² U.S. Dept. of Energy, Office of Energy Efficiency and Renewable Energy, Heat Pump Systems.