



Plug In America
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October 15, 2018

Judith Whitney, Clerk
Vermont Public Utility Commission
112 State Street
Montpelier, VT 05602

Re: Case No. 18-2660-INV Investigation into promoting the ownership and use of electric vehicles in the State of Vermont

Dear Ms. Whitney,

Plug In America appreciates the opportunity to contribute to Vermont's investigation of the issues surrounding the ownership and use of electric vehicles (EVs). The Commission has asked for comments on the following topics:

- (1) how to proceed with this investigation given what was learned at the October 1 workshop;
- (2) specific next steps for this investigation, including proposals for future workshops; and,
- (3) the appropriate scope of jurisdiction, if any, over EV charging stations and whether legislative changes are necessary to effectuate participants' recommendations.

Plug In America is the nation's leading independent consumer voice for accelerating the use of plug-in electric vehicles (PEVs) 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.¹

Background

The U.S. PEV market is growing rapidly. From December 2010 through September 2018, U.S. consumers purchased approximately 1,000,000 electric vehicles,² with sales accelerating as new vehicle makes and models become more widely available. Nearly every major auto manufacturer has announced plans for the manufacture and sales release of a PEV model by 2020.³ The

¹ More information available at: www.pluginamerica.org

² Vehicle count based on *Inside EVs Plug-In Sales Scorecard*, <https://insideevs.com/monthly-plug-in-sales-scorecard/>. Sales were 999,263 through September 2018, and by our estimates have well surpassed 1 million as of October 15.

³ <http://www.pluginincars.com/carmakers-commitment-electric-cars-brand-brand-review-130155.html>



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200,000 PEVs sold in 2017 represent just over 1% of the light-duty vehicle market;⁴ the 44,356 PEVs sold in September 2018 represent about 3% of light-duty vehicle sales in that month.

Tesla vehicles account for about half of all PEV sales to date in 2018, and 67% of September sales. Plug-in hybrid electric vehicles (PHEV) account for another 24% of September sales. What these categories of electric vehicles have in common is the reduced perception of range anxiety. Tesla has built out a nationwide charging network. PHEVs can refuel with gasoline if needed. The lack of a robust charging infrastructure for non-Tesla battery electric vehicles (BEVs) remains a limiting factor in their adoption.

Sustaining the current impressive EV market growth rates will require resolving charging-related barriers for the broad range of BEVs. If those growth rates can be sustained, Vermont and other Zero-Emission Vehicle (ZEV) states will achieve their targets and make significant strides towards reducing greenhouse gas (GHG) emissions.

Proceeding with the Investigation

We recommend that the Commission not only continue its investigation into EV issues, but also take immediate steps to sustain this growth.

One immediate step could be a request that utilities propose time-of-use EV rate pilots, incorporating a technological solution *other than* the addition of a second utility meter. For example, Con Ed is conducting a pilot in New York using FleetCarma systems, which interact with a vehicle's telematics, to issue rebates for vehicles that were charged in off-peak hours. This is a lower-cost option than adding a second meter. As well, the state of California is examining the use of submetering, using the meters embedded in EV chargers or the vehicles themselves to determine the time of electricity consumption.

Off-peak charging has the potential to allow greater utilization of utility assets, allowing reduced rates for all customers, and meeting the demands of EVs without significantly increasing peak demand. It accomplishes this through price signals tailored to improve load factor.

Vermont vehicles travel about 7.3 billion miles per year.⁵ For the U.S., about 90% of VMT are light-duty vehicles.⁶ Applying this to Vermont, roughly 6.6 billion light-duty VMT would require about 2 billion kWh of electricity annually (light-duty PEVs get around 3-4 miles per

⁴ Total light-duty vehicles sales in 2017 were approximately 17.25 million, according to Automobile Magazine, January 4, 2018. <http://www.automobilemag.com/news/u-s-auto-sales-totaled-17-25-million-calendar-2017/>.

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https://vtrans.vermont.gov/sites/aot/files/planning/documents/planning/The%20Vermont%20Transportation%20Energy%20Profile_2017.pdf

⁶ <https://www.bts.gov/content/us-vehicle-miles>



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kWh). For reference, Vermont’s electricity consumption in 2016 was about 5.5 billion kWh.⁷ This increased demand can largely be met off-peak. Green Mountain Power projected in its 2014 Integrated Resource Plan a 2018 peak demand of 772 MW.⁸ Its projected annual demand is 4,447,383 MWh, for a load factor of about 66%. There is considerable opportunity to increase off-peak consumption and thereby improve load factor.

We also recommend that the Commission develop a tariff for EV chargers, particularly DC fast chargers, that incorporates a “demand charge holiday” of five years. During this time, DCFC would be billed on a volumetric basis and not on the basis of peak demand. As utilization increases over time, these systems would become better able to pay demand charges and remain viable. Pilot programs in Hawaii and Connecticut have removed demand charges for DCFC for five years. Pacific Power in Oregon removed them and installed a ten-year ramp to phase demand charges back in. Southern California Edison and the New York Power Authority have also proposed temporary phaseouts of demand charges.

Proposals for Future Workshops

We recommend future workshops on the following topics:

- 1) Ensuring that the EVs are charged, to the extent possible, off-peak or during times of renewable energy curtailment. This may include TOU rates or TOU rebates to improve load factor and reduce electricity rates for all electricity customers. This should tie into efforts to ensure that there is no significant short-term increase in rates associated with meeting the grid needs of EVs;
- 2) Models of utility involvement in EVSE deployment and EV adoption;
- 3) Potential incentives for EVs, including rebates; and,
- 4) Consumer protections for EVSE that are publicly-funded (such as through utility funding or Appendix D funding).

Commission Jurisdiction and Legislative Changes

We recommend that the Commission allow third parties to operate EV charging systems and bill by the kilowatt-hour. This is fairer and more transparent to EV drivers, because the amount of energy received *per minute* can vary.

We concur with the recommendation from the Sierra Club, that the Commission should request the Legislature to modify the existing language of 30 V.S.A. § 302 by adding a sentence reading: “Notwithstanding any other language in this chapter, the Public Utility Commission shall not consider a provider of EV charging services to be a utility or otherwise subject to regulation by the Commission under this chapter solely as a result of providing EV charging services.”

⁷ <https://www.eia.gov/electricity/state/Vermont/>

⁸ <https://greenmountainpower.com/wp-content/uploads/2017/01/IRP-Demand-for-Electricity.pdf>.



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While it is possible for the Commission to determine that EV charging is a service not subject to Commission jurisdiction, clarification from the Legislature would alleviate concerns in this regard and avoid litigation.

Thank you for the opportunity to comment on this process. We look forward to remaining engaged as EV adoption grows in Vermont.

Best regards,

Pete O'Connor
Policy Specialist
Plug In America