

STATE OF VERMONT  
PUBLIC UTILITY COMMISSION

Case No. 18-2660-INV

Investigation into promoting the ownership and use of electric vehicles in the State of Vermont	
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Order entered: 07/09/2018

**ORDER OPENING INVESTIGATION**

Scientists agree that the earth has been and continues to be experiencing a period of climate change that features an increase in average temperatures. These same scientists are also confident that the cause of this climate change is mainly due to human activities, in large part the burning of fossil fuels, which releases greenhouse gases (“GHGs”) into the atmosphere, trapping heat.<sup>1</sup>

Global climate change has already begun to have effects on the natural environment in the form of shrinking glaciers, earlier ice breakup on rivers and lakes, shifting plant and animal ranges, loss of sea ice, sea-level rise, drought, severe storms, and longer, more intense heat waves. Scientists are confident that temperatures will continue to rise for decades with associated long-term effects, including changes in precipitation patterns, a further increase in drought and heat waves, intensifying hurricanes, and accelerated sea-level rise.<sup>2</sup>

How much the world’s climate will change depends on the amount of GHG emissions and exactly how they interact with the climate. In spite of an increasing awareness regarding our GHG emissions and their impact on the climate, our emission levels continue to increase. Combatting the effects of climate change in part requires mitigation strategies. Mitigation strategies are those strategies designed to curb the level of human-induced GHG emissions into the environment.<sup>3</sup>

In recognition of this growing problem and the need to reduce GHG emissions, Vermont has established ambitious GHG emission reduction goals.

It is the goal of the State to reduce emissions of greenhouse gases from within the geographical boundaries of the State and those emissions outside the boundaries

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<sup>1</sup> *Global Climate Change, Vital Signs of the Planet*, NASA, June 2018, at <https://climate.nasa.gov/causes/>.

<sup>2</sup> *Id.* at <https://climate.nasa.gov/effects/>.

<sup>3</sup> *Id.* at <https://climate.nasa.gov/solutions/adaptation-mitigation/>.

of the State that are caused by the use of energy in Vermont in order to make an appropriate contribution to achieving the regional goals of reducing emissions of greenhouse gases from the 1990 baseline by:

- (1) 25 percent by January 1, 2012;
- (2) 50 percent by January 1, 2028;
- (3) if practicable using reasonable efforts, 75 percent by January 1, 2050.

Vermont has made significant progress in reducing GHG emissions in its production and consumption of electricity. As of the release of the Vermont Department of Public Service's ("Department") 2016 Comprehensive Energy Plan, a large portion of electricity consumed in Vermont was produced by renewable resources.<sup>4</sup>

However, transportation accounts for 47% of the state's GHG emissions and only 5% of the energy used in the transportation sector in Vermont is from renewable sources.<sup>5</sup> If the state is going to meet its ambitious GHG reduction goals, it is imperative that we develop an environment in which more Vermonters choose renewable-energy forms of transportation so that we, as a state, can reduce that 47% number to a level consistent with our GHG reduction goals.

On May 21, 2018, Act 158 (H.917) of the 2017-2018 Vermont legislative session took effect upon its signing by the Governor. Section 25 of Act 158 directed the Public Utility Commission ("Commission" or "PUC") to conduct an evaluation and submit a report by July 1, 2019, concerning issues related to the charging of electric vehicles ("EVs").

On June 12, 2018, the Department filed a letter requesting that the Commission initiate the process required by Act 158 along with its initial recommendations on how this investigation should proceed.

In today's order we initiate the investigation required by Act 158 and establish a deadline for interested persons and entities to file their recommendations on the scope and process to be used in conducting this investigation. Subsequent to our receipt and review of any such comments, we will establish the scope and schedule for our evaluation of these important issues.

Section 25 requires the Commission's report to include analysis and recommendations on the role of Vermont's electric distribution utilities with respect to the following issues:

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<sup>4</sup> See *Vermont Comprehensive Energy Plan 2016* at 189-94 for a detailed discussion of the sources of electric generation serving Vermont's electricity consumers.

<sup>5</sup> *Id.* at 5.

1. Removal or mitigation, as appropriate, of barriers to EV charging, including strategies, such as time-of-use rates, to reduce operating costs for current and future EV users without shifting costs to ratepayers who do not own or operate EVs;
2. Strategies for managing the impact of EVs on and services provided by EVs to the electric transmission and distribution system;
3. Electric system benefits and costs of EV charging, electric utility planning for EV charging, and rate design for EV charging; and
4. The appropriate role of electric distribution utilities with respect to the deployment and operation of EV charging stations.

Section 25 further requires the Commission's report to include analysis and recommendations related to EV charging stations owned or operated by persons or entities other than Vermont's electric distribution utilities with respect to the following issues:

1. How and on what terms, including quantity, pricing, and time of day, such charging stations will obtain electric energy to provide to EVs;
2. What safety standards should apply to the charging of EVs;
3. The recommended scope of the jurisdiction of the Commission, the Department of Public Service, and other State agencies over such stations;
4. Whether such stations will be free to set the rates or prices at which they provide electric energy to EVs, and any other issues relevant to the appropriate oversight of the rates and prices charged by such stations, including the transparency to the consumer of those rates and prices; and
5. The recommended billing and complaint procedures for such charging stations.

Lastly, Section 25 requires the Commission's report to include analysis and recommendations on each of the following issues:

1. Jointly with the Secretary of Transportation, recommended options to address how EV users pay toward the cost of maintaining the State's transportation infrastructure, including consideration of methods to assess the impact of EVs on that infrastructure and how to calculate a charge based on that impact, the potential assessment of a charge to EVs as a rate per kilowatt hour delivered to an EV; varying such a charge by size and type of EV; and phasing in such a charge;
2. The accuracy of electric metering and submetering technology for charging EVs;

3. Strategies to encourage EV usage at a pace necessary to achieve the goals of the State's Comprehensive Energy Plan and its greenhouse gas reduction goals, without shifting costs to electric ratepayers who do not own or operate EVs; and
4. Any other issues the Commission considers relevant to ensuring a fair, cost-effective, and accessible EV charging infrastructure that will be sufficient to meet increased deployment of EVs.

As part of its report, the Commission must identify any issues listed above that may require enabling legislation.

The most often cited barriers to widespread EV deployment are the limited range an EV can travel on a single charge, limited availability of charging opportunities, and the cost of EVs compared to internal combustion engine ("ICE") vehicles.<sup>6</sup> Though not cited as often as the above barriers, lack of choice<sup>7</sup> and misconceptions about vehicle performance<sup>8</sup> can also weigh as negative factors by some when considering the purchase of an EV. Additionally, Vermonters may face unique barriers not identified above due to the State's rural, mountainous landscape and cold winters.

If Vermont is to meet its GHG reduction goal it is critical that these barriers to entry be addressed and eliminated to the extent possible. The Commission believes that this can be accomplished through the collaboration of a wide variety of interested persons and entities engaged in creative thinking with the goal of identifying innovative solutions to these barriers. The Commission encourages those who participate in this process to think broadly as they develop recommendations related to the issues identified in Section 25 of Act 158 and to consider not only the roles that various entities might play in addressing those issues, but also the role that EVs might play in the modernization of our electric grid.

The Commission intends to conduct this investigation through a series of written filings and workshops, with each cycle of filings and workshops addressing specific pre-identified issues. To that end, the Commission seeks recommendations on the scope and structure of this proceeding. For example, should the investigation be phased, as recommended by the

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<sup>6</sup> See, e.g. *The Barriers to Acceptance of Plug-in Electric Vehicles: 2017 Update*, National Renewable Energy Laboratory, November 2017 at 18-23.

<sup>7</sup> See, e.g. *Overcoming Barriers to Electric-Vehicle Deployment: Interim Report*, National Academy of Sciences, 2013 at 3, 22.

<sup>8</sup> See, e.g. *Five Myths About Electric Cars*, Motavalli, J., March 23, 2010 at <https://phys.org/news/2010-03-myths-electric-cars.html>.




Department, so that issues that implicate the need for enabling legislation can be addressed and recommendations formulated for submission to the legislature in advance of the upcoming session? Which of the issues identified in Section 25 are appropriately addressed together and which are more complex and should be addressed individually? What issues that are not specifically identified in Section 25 are relevant to the goals of and should be part of this proceeding? Is there any information or analysis beyond what can be provided by the parties to this investigation, such as studies or surveys, that might facilitate a more thorough response to the issues identified in Section 25? In developing proposed scope and schedules, commenters should keep in mind that the Commission must file its report with the legislature no later than July 1, 2019. Accordingly, any schedule must conclude sufficiently in advance of that date to allow the Commission time to draft its report.

Interested persons and entities should file their proposed scope, structure, and schedule for this proceeding no later than July 30, 2018. Following our consideration of all recommendations filed by that date, the Commission will establish the scope and schedule for the balance of this investigation.

This proceeding will be conducted in ePUC using case number 18-2660-INV. Participants are encouraged to submit their filings using ePUC, the Commission's online document management system. Interested persons should contact the Clerk of the Commission at [puc.clerk@vermont.gov](mailto:puc.clerk@vermont.gov) to request to be added as a participant in this case. More information about ePUC is available at: <https://epuc.vermont.gov/>.

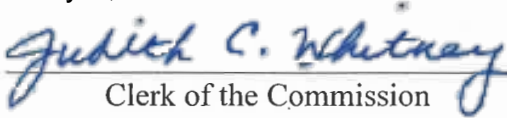
**SO ORDERED.**

Dated at Montpelier, Vermont, this 9th day of July, 2018.

 _____ Anthony Z. Roisman	)	PUBLIC UTILITY
	)	
 _____ Margaret Cheney	)	COMMISSION
	)	
 _____ Sarah Hofmann	)	OF VERMONT

OFFICE OF THE CLERK

Filed: July 9, 2018

Attest:   
Clerk of the Commission

*Notice to Readers: This decision is subject to revision of technical errors. Readers are requested to notify the Clerk of the Commission (by e-mail, telephone, or in writing) of any apparent errors, in order that any necessary corrections may be made. (E-mail address: [puc.clerk@vermont.gov](mailto:puc.clerk@vermont.gov))*

PUC Case No. 18-2660-INV - SERVICE LIST

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