

Subject: An Open Letter - Comments for NH PUC Regarding EV Related Policies:
[To be submitted by 20 February 2020]

From: Randolph Bryan – NH Resident, EV Enthusiast

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TO: Green Energy Times and NH PUC Members
Dianne Martin, Chairwoman
Kathryn M. Bailey, Commissioner
Michael S. Giaimo, Commissioner
Debra A. Howland, Executive Director

Introduction:

The New Hampshire Public Utilities Commission [NH PUC] is soliciting comments regarding policies to consider related to Electric Vehicle [EV] adoption in NH to fulfill requests for direction within 2 years, as specified in SB-575-FN enacted in 2018. Objectives should focus on Rate Design Standards for EV applications and Residential/Commercial Time of Use [ToU] rate offerings for EVs. I offer my comments and suggestions to the NH PUC for consideration. Subject matter references available upon request.

Background: EVs are now commonly regarded as heir apparent to become the dominant transportation drivetrain. This is predicted to happen relatively quickly [new car sales over 15-30 years] due in part to growing immediate need for clean energy solutions, improving cost - capabilities of EVs [battery technology and performance, lower manufacturing cost], and that EVs are substantially lower cost to operate [fuel and maintenance]. EV prices have reached initial price parity with internal combustion engine [ICE] vehicles for some cases, and will do so across the board by 2025, with most passenger car applications at parity by 2023. Adoption of EVs will likely continue to increase aggressively.

A critical market trend in the US and world markets are growing mandates for substantial and/or full change away from internal combustion engines [ICE] by dates ranging from 2035 to 2050 [China, UK, Europe, Cal-Zev]. The California Zero Emission Vehicle [CAL-ZEV] mandate states [including all New England except NH] have adopted ever stricter change schedules and incentivizing policies with commensurate success in change achievement. This is our immediate neighborhood and NH's policies can't afford to be left behind [attractiveness for business and tourism].

All the major car manufacturers are now committed to change most/all of their drivetrains to electric over the coming 10-20 years [note VW and GM, with Ford/Toyota/BMW/Nissan not far behind]. Chinese EV manufacturers are among the largest in the world and poised to enter the US in the coming years. Tesla has set the standard for EVs with great success, and, is gaining market share from the legacy majors.

A recent UC Berkley BEAR study also concluded that EVs are good for the host state economy due to the increased portion of operating expenditures that remain in-state and improved air quality. This would be true for NH, also.

For Utility and PUC consideration, Residential/commercial solar can impact the home/building energy use, but the addition of EV requirements will push demand higher than most on-site solar sources can supply, ensuring connection to the grid is needed.

EVs will represent considerable new load/revenue for the Utilities. Much of the added load could be handled with few upgrades to the existing infrastructure if charging occurs during off-peak hours. This could allow lower electricity rates [better utilization of infrastructure], but, won't happen without policies/rates to encourage this behavior. Also, it is reasonable to expect that not all EV charging requirements will be met by off-peak charging. So, additional power resources will be needed during peak/shoulder hours. Solar deployments [Residential, Commercial/Municipal, Utility] can provide peak time power/energy sources that can offset the added load. Large and small solar deployments should be aggressively pursued, especially utility scale deployments.

Also, the NH PUC should consider that it is difficult for EV Service Operators [EVSOs] to be profitable. Car charging locations are critical for EVs to be adopted by the public and for EV-tourists to feel comfortable about coming to NH. The nature of car charging sites is that the demand is spiky [car charging at high rate or not at all]. Under low site use scenarios, typical of initial years of a charging location, demand charges tend to dominate the cost of electricity and make it far higher than, say, residential rates or most commercial use rates.

To encourage EV adoption in NH, I offer various Objectives and Policies to consider.

Policy Objectives to consider for Rate Design:

Enable EVSOs to make money.

Spread charge infrastructure to low income and non-garage multitenant dwellings.

Prepare for faster Grid technology change

Lower the High Cost of NH Electricity

Policies to consider:

Lower/eliminate Demand Charges for EVSOs
Allow re-sale of KWH for chargers [done]

Encourage Make-Ready commitments
Include 'make-ready' in building codes

Consider faster depreciation for Utility CapEx

Encourage faster adoption of lower cost renewables
Encourage off-peak charging.
Encourage V2G use of customer EVs

Policy Objectives to consider for TOU Rate Design:

Encourage off-peak charging.

Encourage V2H/G power exchange

Policies to consider:

Adopt dedicated residential/commercial EV charge circuits
Allow ToU rates on Residential Charge Circuits

Prepare for V2H/G trials
Expand net-metering to include V2G uses