Climate Action Commission | (EVs, Electric Buses, & EVSE)

Basic overview (including current status)

- PEV registrations on the rise in VT, currently around 2,100 registered, but need exponential growth to come remotely close to CEP goal of 45,000 vehicles by 2025.
- Currently no state incentives for EV purchases in VT, some incentive programs from utilities.
- BED: $600 - $1,200 rebate, GMP: $600 for low/moderate income, VEC: $250-$500 bill credit, VPPSA: $400-$800 rebate (several others/details – 2nd link on next page – purchase incentives).
- Available PEV models increasing, with greater range, as many manufacturers focusing on EVs.
- Limited public awareness of EV technologies and capabilities, current work at the state/local (Drive Electric Vermont - DEV) and regional (NESCAUM) levels to increase public awareness and interest.
- VT signed an MOU in 2013 with 7 other states and came up with a regional multi-state ZEV Action Plan (also a VT ZEV Action Plan – specific to VT), to provide a pathway to spur the growth of the EV market in the state/region.
- Electric school bus technology improving quickly, with more manufacturers entering the market; however buses are still considerably more expensive up-front, with other issues (like heating, managed charging, familiarity with new technology) currently being worked out.
- Electric transit buses are a more established technology, several pilot projects completed in VT with promising results, but technology currently still comparatively expensive up-front.
- Much public interest in electric school and transit buses; a need for pilot projects (especially school buses) to demonstrate the viability of the technology in VT and to be models for future projects and/or interested parties (learn from each other).
- There are currently approximately 160 charging stations in VT, and only 23 DCFC stations (believed to be at least a partial barrier to EV adoption in the state).
- Utilities beginning to become engaged/interested in EVs, electric buses, and EVSE, and the potential benefits and challenges of transitioning these markets from a utility perspective.
- Uncertainty and lack of coordination of the roles of industry, utilities, and state and national government policy in advancing EVs and EVSE.
- Vermont has adopted CA's ZEV rules. Amendments to rules that take effect in 2019 require manufacturers to make/deliver for sale more ZEVs, but rule implementation challenges remain. Some changes may impact dealers.

Future trends (without additional action):

- Potential for federal regulations/emissions standards to become weaker; how changes will affect the decisions made by auto manufacturers to produce EVs is unclear.
- EV market will likely continue to strengthen and registrations continue to rise; however, without additional incentives, the market will almost certainly not be enough to meet CEP or GHG targets.
- Electric school and transit bus technology will likely continue to improve (range and cost) as more manufacturers produce the vehicles; however, still concerns about the adoption of the technology, especially by small schools and school districts (progress slow without workable financing and mechanical support).
- EVSE installations will likely continue to increase as the EV market becomes more robust, and transitions from early adopters to more mainstream consumers; however, the pace of this will likely depend greatly on utility rates/policies and funding.

Potential opportunities & challenges:

Opportunities

- Representative to CARB meetings to strengthen New England and VT advocacy for EVs in the Northeast/VT (influence what auto manufacturers send where – model availability).
- VW money for EVSE installations and electric bus pilot programs (transit and school).
- Fund/implement EV incentive programs to help increase the rate of EV adoption and shift the market.
- Utility engagement and support (potential Tier III funding, beneficial rate design).
- Build awareness (public/policymaker) of electric transportation technologies and opportunities by supporting DEV and NESCAUM EV educational initiatives and ride-and-drive event efforts.
- Lead by example and increase visibility – increase percent of EVs in state/municipal/business fleets and promote workplace charging in these venues.
- Integration of EV technology with shared and autonomous transportation options.

Challenges

- Structuring and funding incentive programs.
- Funding transportation infrastructure without gasoline/diesel tax
- Potential rollback of federal emissions regulations and manufacturer response.
- Regulatory: Pooling provision in ZEV regulations; changes in ZEV credit system may negatively impact dealers in VT.
- Currently high costs of electric vehicle technologies.
- Federal EV tax credit caps incentives at 200,000 per automaker, a handful of companies expected to reach this in next 2 years.
- Building public awareness and interest (demonstrating viability of technologies in VT).
- Currently limited charging station network (as barrier to EV adoption).

Technical potential

- Electric vehicle/transportation technologies increasing and improving rapidly in many sectors.
- Range and charging speed are starting to increase dramatically.
- Challenge to bridge differences in technology/capabilities between models and manufacturers.
- Potential for grid benefits of electric vehicles from managed charging and peak shaving.

Links for more information

https://www.driveelectricvt.com/

https://www.driveelectricvt.com/buying-guide/purchase-incentives

http://dec.vermont.gov/air-quality/mobile-sources/lev/zev

http://dec.vermont.gov/sites/dec/files/aqc/mobile-sources/documents/Final%20VT%20ZEV%20Action%20Plan_080114.pdf

http://dec.vermont.gov/air-quality/mobile-sources/lev/zev/zev-credits

https://www.zevstates.us/

https://www.afdc.energy.gov/fuels/electricity.html

https://www.veic.org/electric-school-buses