

Vermont Senate Transportation Committee

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Testimony from: Jennifer Wallace-Brodeur, VEIC Transportation Efficiency Director

Strategies to Support Affordable Access to Cleaner Vehicles

My name is Jennifer Wallace-Brodeur. I am the transportation efficiency director at VEIC. Before starting, I'd like to clarify that I work for and am here representing VEIC, not Efficiency Vermont. Efficiency Vermont is one of several programs under the VEIC umbrella. I am part of the Consulting Division for VEIC, and our work is focused on reducing the environmental and economic impact of energy use in the transportation sector in Vermont and other states. We do this by advancing the market for electric vehicles, including personal vehicles through the Drive Electric Vermont program and providing technical assistance to transit and school bus fleets to adopt electric vehicles. As an organization, VEIC has set greenhouse gas emission reduction targets for our work including programs focused on low income populations.

I understand that Senate Transportation is exploring ways to support affordable access to cleaner vehicles for lower income Vermonters, with an eye towards the efficient use of public dollars. I appreciate the opportunity to share our experience with and knowledge of policies and programs to promote cleaner vehicles.

How can low income Vermonters benefit from cleaner vehicles?

We know that in our rural state, auto ownership is high in Vermont and it's challenging to provide options such as public transportation. The majority of Vermonters will continue to use personal vehicles to meet their mobility and access needs for the foreseeable future. According to Efficiency Vermont's Total Energy Burden Report, transportation makes up 52 percent of household energy spending. Cleaner vehicles are one way to reduce household transportation costs.

- Vermonters collectively spent over \$1 billion on transportation energy in 2015. Driving on electricity could cut this cost by 65%, to about \$350 million, with more of the electricity dollars staying local to Vermont.
- Driving in electric mode provides the equivalent of paying about \$1.50/gallon of gas. An average Vermont driver could have saved \$2,400 over the past 5 years driving an EV.
- EVs also have lower maintenance and repair costs. According to AAA, all-electric cars cost \$.065 per mile for maintenance and repairs, a 17% savings compared to the average vehicle.
- Additional research on federal fuel efficiency standards indicate they have saved money for low to middle income households since they were first introduced in 1980.¹
- For low-income American households, transportation consumes about 30 percent of total income. These households typically spend more on fuel than on vehicle purchases, so any money saved on fuel has added impact on their budgets.²

¹ According to analysis of Consumer Expenditure Surveys, improvements in fuel efficiency from federal fuel efficiency standards saved low to middle income households up to an average of 2% of their income from 1980-2014.

² <https://www.ucsusa.org/sites/default/files/images/reports/vehicles/cv-factsheet-fuel-economy-income.pdf>

Why cleaner vehicles are needed to address climate change

While we have done a good job of cleaning up electric power generation, we have not made a dent in transportation emissions and transportation sector emissions continued to increase over the past two years. Transportation is the largest contributor to Vermont's GHG emissions of all sectors (43%), with personal vehicle use making up the largest share of those emissions (65%).

- Meeting Vermont's 2016 Comprehensive Energy Plan (CEP) goal of 10% renewably powered transportation would require about 50,000 EVs in Vermont by 2025—a major increase from the current 2,800.

Strategies to Provide Access to Cleaner Vehicles

Despite the economic and climate benefits of cleaner vehicles, we are not on a trajectory to clean up the transportation sector quickly enough to meet Vermont's climate and energy targets for the transportation sector. According to analysis by the Energy Action Network, we need a combination of vastly more electric vehicles on the road as well as an increase in the fuel efficiency of our overall fleet of personal vehicles.

To make progress towards our goals in Vermont we must adopt programs and policies that address the primary barrier to adoption of cleaner vehicles, which is the upfront cost. Purchasing new, more fuel-efficient vehicles is out of reach for most Vermonters. The average price of a new vehicle in 2018 was \$35,000³. This is why there is such a focus and discussion on electric vehicle incentives, which provide support to purchase the least polluting cars available on the market.

We know that incentives work to spur electric vehicle purchases.

VEIC did a survey of Vermonters awareness and attitudes towards EVs in 2016 which included research on incentives.⁴ We tested varying incentive levels and likelihood to purchase. We found that just by educating consumers about current EV options and pricing we could increase purchase likelihood from 19% to 24%. A \$1,500 incentive boosted this to 34% and a \$2,500 incentive had 41% likelihood.

The Center for Sustainable Energy manages the CA, NY, MA and CT EV incentive programs and they have evaluated these programs. Based on their research many consumers would not have purchased EVs without access to incentives.⁵ 46% of survey respondents reported the incentive was "extremely" important to purchasing an EV and another 28% said it was "very important." Research on incentives in MA, CT and CA show that the vast majority of incentives were for replacement vehicles.

Low Income Strategies

We also know that incentives alone are not enough to address the barriers for low income consumers to purchase cleaner vehicles. Incentive program design (i.e. tax credits vs. rebates), incentive levels, limited charging infrastructure, and the cost of new vehicles continue to serve as barriers for low income consumers.

³ <https://www.nada.org/WorkArea/DownloadAsset.aspx?id=21474855962>

⁴ https://www.driveelectricvt.com/Media/Default/docs/dev_2016_consumer_survey_report.pdf

⁵ https://energycenter.org/sites/default/files/docs/nav/transportation/cvrrp/2017-04-20_Yale_CBE_webinar-CSE-handout.pdf

California has been the most active in developing programs that focus on low income adoption of cleaner vehicles. It's important to note that California is not trying to achieve all of their policy goals with one program. They have adopted programs specifically targeted at getting cleaner vehicles to low income residents as well as separate programs that provide rebates for new electric vehicles.

Clean Vehicle Assistance Program <https://cleanvehiclegrants.org/>

This is a pilot program, which provides grants and affordable financing to help low-income consumers purchase a new or used hybrid or EV. It is funded by CA Climate Investments, a statewide cap and trade initiative.

- \$2,500 grant for hybrids; \$5,000 for plug-in hybrid electric or battery electric vehicle
- Additional 8% financing available through partnership with a statewide lender (Beneficial State Bank)
- Income eligibility: up to 400% of federal poverty level (verified by tax transcript)
- New or used hybrid, plug-in hybrid, all-electric, and fuel cell vehicles and electric vehicle chargers are eligible
- Used vehicles can't be older than 8 years, less than 75K miles, meet minimum MPG ratings (weighted average of highway and city), clean title

Enhanced Fleet Modernization Program and Plus Up

<https://www.arb.ca.gov/msprog/aqip/efmp/efmp.htm>

This is another interesting program to get high polluting vehicles off the road and encourages voluntary vehicle retirement in two regions of the state with high emissions.

- \$1,500 to low income consumers to retire older, more polluting vehicle
- \$4,500 to low income consumers to retire older vehicle and replace with a clean vehicle
- Can stack this with other incentive programs

Clean Vehicle Rebate Program

<https://cleanvehiclerebate.org/eng>

<https://cleanvehiclerebate.org/sites/default/files/docs/nav/transportation/cvrp/documents/CVRP-Implementation-Manual.pdf>

California also has a rebate program for new electric vehicles. The program allows for larger rebate to low income consumers.

- Rebate of up to \$4,500 for all-battery electric vehicles (BEVs), up to \$3,500 for plug-in hybrid electric light-duty vehicles (PHEVs), and up to \$900 for zero-emission motorcycles (ZEMs) based on income and contingent upon availability of funds
- Sets a maximum income eligibility cap (above set limit the consumer cannot qualify for a rebate)
- Rebate amounts increased by \$2,000 for consumers with household incomes less than or equal to 300 percent FPL
- Participants who receive a vehicle grant buy-down through the Clean Vehicle Assistance Program (CVAP), which provides grants and financing assistance to low income Californians for the purchase of a new or used hybrid or electric vehicle, are not eligible to participate in CVRP. However, CVAP participants who only receive the low interest financing, not the vehicle grant, may participate in CVRP if they have purchased a new vehicle.

Tune In, Tune Up

<http://valleyair.org/drivecleaninthesanjoaquin/repair/>

Free emissions test events help low income drivers meet stringent vehicle emissions requirements.

EV Equity Toolkit: Greenlining Institute <http://greenlining.org/publications-resources/electric-vehicles-for-all/>

The Greenlining Institute has lead advocacy efforts to increase clean vehicle adoption in disadvantaged communities in California. They developed an EV Equity Toolkit, which provide guidance on program design that will most likely meet the needs of low income consumers.

Engaging Dealers

Auto dealers are a critical part of the supply chain for electric vehicles. VEIC has engaged auto dealers through incentive programs and we have observed some of their challenges. These include:

- High upfront cost to become a certified EV dealer: requires salesforce training and installation of equipment; there are areas of VT with no certified EV dealers
- Many dealers make more margin selling used cars and providing service; EVs require less maintenance
- The California Zero Emission Vehicle (ZEV) program obligates automakers to make EVs “available for sale” in states that have adopted these more stringent requirements but can sometimes put dealers at a disadvantage because the automakers can pressure them to stock ZEVs to meet their automaker obligations, but then don’t have as much motivation to help dealers close sales.
- Credits towards meeting and exceeding general automaker sales quotas vary seasonally – and may or may not include EV sales
- High sales staff turnover means it can be challenging to maintain a sales force that is educated to sell EVs
- Used vehicles: residual prices of off-lease EVs are often higher than dealer can get in resale so cars frequently sent to auction outside of VT

With that said, VEIC has implemented three dealer incentive programs and this has proven to be a good way to engage dealers in selling EVs. Even a modest incentive can help when margins for new vehicle sales are relatively low. In Vermont we administered two consumer and dealer incentive programs funded by VLITE.

- 2014 – Consumer incentive = \$500 and dealer incentive = \$200
- 2016 – Increased size of incentive and tiered it based on size of battery: Consumer incentives = \$750-\$1000 and dealer incentive = \$225-275
- In order to be eligible to receive incentives, dealers had to agree to participate in EV training delivered by VEIC. Dealers for the most part appreciated the training as manufacturer training was often limited.
- VEIC worked with the VT Vehicle and Automotive Distributors Association to provide information on the programs and solicit participation. Twenty dealers participated with approximately 100 salespersons receiving EV training through the program.

VEIC is also leading a pilot in New York State to test strategies to engage dealers covering dealers in Kingston and Saratoga Springs.

- \$300 per vehicle incentive; at least half has to go to sales person, remainder up to discretion of dealership

- \$600 incentive to participate in community based EV events
- The pilot is funded through the New York State Energy Research and Development Administration (NYSERDA)