

Theresa Utton

From: William Calfee <william.calfee@vermont.gov>
Sent: Saturday, March 02, 2019 5:35 PM
To: Theresa Utton
Subject: 2020 Budget comments

Hello,

I attended your comment meeting in Winooski and I appreciate the efforts that you are taking to make sure you have input on the proposed budget.

My name is William Calfee and I live in Burlington. I am educated as a Biologist. I have studied Building Science since the early 2000s. I was an independent energy auditor and consulted on various and numerous weatherization projects including 2 documented retrofits that resulted in a net zero energy home and a net zero energy home, including transportation. All of my projects were focused on providing a return on investment. A side benefit was a reduction in CO2 emissions. In most cases we also fixed carbon (created carbon sinks) in the weatherization process by using Cellulose insulation and wood.

As you know well, Housing and Transportation account for a substantial part of Vermont's CO2 emissions. The proposed budget as it relates to Weatherization and Electric Vehicles is good. I think you could go even further and I understand there has to be a line drawn. Perhaps further funds could be found in the health insurance industry (see below.)

From my perspective, the proposal to double the budget for weatherization is a win-win for everyone:

- If homes are weatherized with cellulose there will be a huge CO2 emission reduction and you will fix Carbon in the process.
- Homeowners will see a substantial reduction in heating costs.
- Homes will be more comfortable which reduces stress and increases longevity.
- Weatherization professionals (such as BPI Certified) also focus on indoor air quality (IAQ). There is lots of data that now shows there are huge benefits to weatherization that go beyond those mentioned above:
 - A properly weatherized home will have relative humidity closer to ideal (40%-50%) This will eliminate health issues related to mold and dry air.
 - A properly weatherized home will be assured of Zero Carbon Monoxide (CO). Low level CO poisoning is often never detected and leads to frequent colds, flu and decreased cognitive function.
 - A properly weatherized home will have better Oxygen levels and lower CO2 levels. This will provide for better sleep and better cognitive function.
 - A properly weatherized home will have lower VOCs. The EPA web site lists many serious health issues related to VOCs.

So, aside from the obvious benefits of saving money and reducing CO2 emissions, there will be a substantial health benefit to the occupants of the home. A reduction in Asthma in children has been the most studied benefit.

Healthier kids (and parents):

- Reduce healthcare costs,
- Reduce stress,
- Improve school attendance
- Reduce lost work days due to sick kids
- Improve work productivity
- Brings joy into homes.

As to the incentives for Electric Vehicles (EVs).

My family has had an electric car as our only vehicle since 2015. We have put about 25,000 miles on the car per year, around town and on road trips.

Low or moderate income families will benefit from EVs because:

- There is very little maintenance required. Tires, wiper blades and windshield wiper fluid.
- The fuel cost is lower. With Burlington Electric and soon with GMP, using their off peak charging rate is like paying 60 cents a gallon!!!
- With an EV, they perform well for a much longer time than a gas powered car because the mechanism is much simpler.
- With a range of around 200 miles or more, EVs are now perfect for people who have long commutes.
- Because they are charged at home, at night, they would rarely need to stop for fuel.

I think it is totally appropriate to use the VW money to expand the EV charging network. Currently there are mostly L2 chargers in the state. These chargers take 4-5 hours to charge a car. L3 chargers will charge an EV in 1/2 hour. It is especially important if there are L3 chargers installed around the state. Tesla has demonstrated that L3 charging allows people to use EVs for vacation and long distance business travel. Having L3 chargers in the state will encourage tourist to visit Vermont with EVs.

Locating EV charging in rural villages will draw people to those areas to shop while the car is charging. Again, Tesla has demonstrated that locating charging near shopping or food is important. (I think it is a waste to locate charging at Park and Ride lots, unless they are L3. Who wants to sit in a parking lot for hours to charge!)

Thank you for the opportunity to comment. Let me know if I can answer any further questions.

Cheers,

William Calfee

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