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To: [Carolyn Branagan](#); [Senator Christopher A Bray](#); [Mark MacDonald](#); [Mary Sullivan](#); [Paul Lefebvre](#); [Richard McCormack](#); [Virginia Lyons](#); [Corey Parent](#); [Curt McCormack](#); [Sibilia, L](#); [Michael Yantachka](#); [Robert Forquites](#); [Robin Chesnut-Tangerman](#); [Stephen Carr](#); [Brian Campion](#); [John Rodgers](#); [Christopher Pearson](#); [Tierney, June](#); [Allen, Riley](#); [Fargo, Audrey](#); [McNamara, Ed](#); [Cotterill, Brian](#); [Delhagen, Ed](#); [Levenson, Keith](#); [Margolis, Anne](#); [Murphy, Barry](#); [Perchlik, Andrew](#); [Potter, Dan](#); [Burke, Dan](#); [Hoffman, Steph](#); [Ludwig, Megan](#); [Jordan, Bill](#); [Leshinskie, Anthony](#); [Laperle, Michelle](#); [Purvis, Clay](#); [McHugh, Gina](#); [Flint, Carol](#); [Metivier, Melissa](#); [Paruch, Susan](#); [Peterson, Christine](#); [cgoldthwaite@neep.org](#); [Roisman, Anthony](#); [Cheney, Margaret](#); [Hofmann, Sarah](#); [Whitney, Judith](#); [Morley, Dorothy](#); [Shontelle-Smith, Susan](#); [Cotter, John](#); [Bang-Jensen, Lars](#); [Howe, Micah](#); [Marren, Jake](#); [Faber, Gregg](#); [Gerhard, John](#); [Bishop, Ann](#); [Monica.Stillman@vermont.gov](#); [Chamberlin, Brenda](#)
Subject: Electric Vehicles and Heat Pumps
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All,

Roisman is either incompetent, or willfully disregarding facts. How in hades did he get that job?

He is claiming Vermonters, ready or not, have to use EVs, as otherwise the Comprehensive Energy Plan goal will not be met, and the world will come an unfortunate end in just 12 years!!! What has he been smoking?

A Tesla Model 3, with four-wheel-drive and longer range, which is HIGHLY ESSENTIAL in Vermont, with low temperatures, hills and snow-covered roads (CAUSING LOSS OF RANGE. See below URLs.), costs about \$50,000 (per Tesla quote, which includes minimal extras, and federal tax credit), plus sales tax, etc., about TWO TIMES the price of a Subaru Outback with four-wheel drive. Mine gets about 29.5 mpg.

The Subaru is FAR MORE USEFUL for Vermonters (high road clearance), the reason so many of them are sold in Vermont and all of New England. If rental fleets calculated EVs had a lower owning and operating cost versus gasoline vehicles, they would buy them by the tens of thousands.

It turns out, according to numerous studies, ON A LIFETIME BASIS, the CO2 reduction versus efficient gasoline vehicles is minimal, if upstream CO2 and downstream CO2 are included, even with the NE grid slowly getting cleaner, less CO2MWh, due to increased wind and solar. See URLs.

Subsidizing EVs would be at a VERY HIGH cost per metric ton of CO2 reduced, especially for an asset with such a short useful life.

Increased energy efficiency of buildings would be far less costly per metric ton of CO2 reduced, because they are assets with a long useful life.

In Vermont 95% of buildings are energy hogs, thus highly UNSUITABLE FOR HEAT PUMPS, according to the VT-DPS heat pump field survey report, which found:

- 1) Average savings were just \$200/heat pump/year, when such a unit is installed in an average Vermont house.
- 2) Only 32 to 34 percent of the fuel oil was displaced; fuel oil still had to be used for the other 64 to 68 percent.

The report should have added:

- 3) A house would have to be highly sealed and highly insulated to be able to use heat pumps for 100% of its heating.
- 4) In Vermont, only about 1% of all housing and other buildings are highly sealed and highly insulated.

GMP, VPIRG and Efficiency Vermont, VT-DPS had been telling gullible people there would be huge annual savings. See URLs
Roisman, etc., are still doing it.
EV and VPRIG deleted, or muted the exaggerations from their websites
Burlington Electric Department, BED, thinks heat pumps are money losers in most cases, which agrees with the VT-DPS report.
BED is no longer subsidizing heat pumps, except in very special cases, i.e., highly sealed and highly insulated houses.

Please read the URLs and you will be so much better informed.

<http://www.windtaskforce.org/profiles/blogs/electric-cars-lose-range-during-hot-and-cold-weather>

<http://www.windtaskforce.org/profiles/blogs/fact-checking-regarding-heat-pumps-in-vermont-and-maine>

<http://www.windtaskforce.org/profiles/blogs/electric-vehicles-and-mass-transit-subsidized-by-carbon-taxes>

<http://www.windtaskforce.org/profiles/blogs/vermont-baseless-claims-about-cold-climate-heat-pumps-for>

<http://www.windtaskforce.org/profiles/blogs/replacing-gasoline-and-diesel-fuel-with-biofuels>

<http://www.windtaskforce.org/profiles/blogs/tesla-model-3-long-term-road-test-by-edmunds>

<http://www.windtaskforce.org/profiles/blogs/flawed-epa-method-of-calculating-mpg-for-e10-vehicles-and-mpgeq>

<http://www.windtaskforce.org/profiles/blogs/lifecycle-co2eq-of-internal-combustion-versus-electric-vehicles>

<http://www.windtaskforce.org/profiles/blogs/reducing-the-energy-use-of-houses>

<http://www.windtaskforce.org/profiles/blogs/comparison-of-grid-connected-and-off-the-grid-houses>