Office of the Vermont State Treasurer

Report Pursuant to Act 148 of 2024

Recommendations to the General Assembly Regarding Viable Approaches to a Cap-and-Invest Program

Mike Pieciak, Treasurer

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Introduction

Act 148 of 2024 required an analysis and report on sustainability options and transportation emissions reductions in Vermont. It specifically charged the Treasurer to "review cost and revenue projections for each scenario" identified by the Agency of Natural Resources (ANR) Technical Analysis (TA), and to "make a written recommendation to the General Assembly regarding any viable approaches." *See* Act 148, section 33(e).

In a November 2024 update to the Legislature, the Agency of Natural Resources stated that by the end of 2024 it would provide the TA to the Treasurer's Office. The Agency of Natural Resources provided our Office a near-final draft on January 22, and the final draft was provided on January 31. It is submitted alongside this report.

The Treasurer's Office was engaged in the development of the TA. We have reviewed the final report, have consulted with the Agency of Natural Resources and other stakeholders, and reviewed the cost and revenue projections for all TA scenarios.

Executive Summary

The changing climate, powered by the burning of fossil fuels, is leading to larger and more frequent natural disasters across the world and here at home in Vermont. The desire to help transition away from fossil fuels toward more sustainable energy sources to slow climate change is the rationale behind the cap-and-invest program.

In Vermont, there are also economic reasons to consider increasing electrification and sustainable energy production within the state. It is estimated that Vermonters spend over $2 billion annually on fossil fuels with 76% of that spending leaving the Vermont economy. In contrast, most electricity spending stays in Vermont, recirculating and benefiting the Vermont economy. Finding ways to keep more energy spending within Vermont would lead to broad economic benefits.

The TA also highlights the direct job benefits – totaling between 80 and 810 depending on the approach taken – and there are also real health benefits to be anticipated from a cap-and-invest program.

Additionally, electricity generated from renewable sources can be less expensive and less price-volatile compared to fossil fuels; however, such benefits require upfront transition costs for households and governments to ensure they are widely felt. A cap-and-invest program provides an option to help fund these energy transition costs.

In analyzing the cap-and-invest options available to Vermont, the TA determined the following facts pertinent to my analysis:

1. Vermont should not independently establish a cap-and-invest program due to its small size;

2. The Western Climate Initiative (WCI) is a possible partner program. However, since it was established in 2011 with annual cost increases blended in over time, Vermont would join midstream and experience a sudden price increase of ***at least*** $0.26 per gallon on gasoline and $0.31 per gallon on diesel fuel and home heating oil. Based on the WCI projected annual increase of 5% plus inflation per year, the per-gallon price by the time Vermont could actually join WCI would likely be well over $0.30/gallon for gasoline, possibly approaching $0.40/gallon; and

3. The New York Climate Initiative (NYCI) is being actively considered but has not been implemented and does not appear likely to be implemented until 2027 at the earliest.

4. No other state, as far as we are aware, plans to implement a program in the near term;

Accordingly, if Vermont is interested in establishing a cap-and-invest program, it would either need to join the WCI or wait for the establishment of the NYCI.

I recommend Vermont not consider joining the WCI at this time, but rather wait for and analyze the details of the NYCI when they become available for the following reasons:

1. If Vermont were to join the NYCI – it would do so from the outset of the program rather than midstream – this would have a much smaller and more gradual impact on gasoline, diesel fuel, and home heating oil prices;

2. "Leakage" is a concern if Vermont joined the WCI – especially for gasoline, which would suddenly increase by ***at least*** $.26 per gallon. Such an increase would incentivize residents of Vermont border towns to purchase gasoline in New York, New Hampshire, or Massachusetts, which could have a broader economic impact on Vermont. However, if Vermont were to join the NYCI, then at least one major state border would have the same program and would reduce the impact of leakage; and

3. Although it is possible to insulate low- and moderate-income Vermonters from the resulting increased fuel costs, the TA does not describe any feasible methodology for doing so at this time. Due to rising healthcare and housing costs, increased property taxes, and higher prices generally due to inflation (and the uncertainty about the current direction of inflation) it is a very difficult time to impose the costs on Vermonters that would result from joining the WCI.

Although I conclude there is currently no viable cap-and-invest program available to Vermont, it appears in the coming years the viability of such a program could be greater. Accordingly, I recommend the Climate Action Office work with other relevant state agencies in the following ways in the interim:

1. Continue to monitor the development and/or rollout of cap-and-invest programs (e.g. NYCI) and any state-level or multistate low-carbon fuel initiatives;

2. Study how to insulate low-income Vermonters *in real time* (or in advance) from fuel-cost increases, and how to maximize their ability to perform low- or no-cost efficiency upgrades;

3. Study the economic and revenue impact of leakage for residents living near the New York, New Hampshire, and Massachusetts borders if a cap-and-invest program were adopted, and engage with New Hampshire and Massachusetts about their likelihood of joining the NYCI or another cap-and-invest program;

4. Determine how revenues collected under a cap-and-invest program would be invested, whether Vermont's current workforce is sufficient to meet the increased workload, and whether additional workforce development initiatives should also be considered; and

5. Study the following aspects of a cap-and-invest program:
    a. The types of GHG emissions sources that would need to report their GHG emissions;
    b. The emissions or activity threshold a source would be required to report;
    c. How the source would be required to report its emissions.

6. Make a recommendation about whether and when to establish a reporting-only program.

The Technical Analysis: Summary of Key Findings

The TA included the following top-line findings pertinent to our analysis:

1) The State of Vermont should not implement a cap-and-invest program on its own;

2) The NYCI has not been implemented and does not appear likely to be implemented until 2027 at the earliest;

3) The WCI is the only operating cap-and-invest program, and it appears that it will remain the only one until at least 2027;

4) If Vermont joined the WCI, it would take a few years to implement in Vermont, and at the time of joining Vermonters would be bound by the prevailing price;

5) The current WCI price for credits amounts to an increase of about $0.26 per gallon on gasoline, and about $0.31 per gallon on diesel and home heating fuel for Vermont consumers; those prices would likely be higher at the time of a prospective joining of the WCI;

6) None of the modeled scenarios in the TA result in meeting the State's 2030 emissions-reduction goals; and

7) There is only one modeled scenario in the report that achieves the State's 2050 emissions-reduction goals (full sectoral coverage, full reinvestment, high price).

Today, there is only one program that Vermont can join: the WCI. The WCI currently includes Quebec and California; if Vermont joined it would represent a tiny minority of the covered population (about 1-2%). It appears likely that there will be additional options, or at least NYCI, within the next five years.

If Vermont were to join WCI or any other multi-jurisdiction program it would do so as a "price-taker." That is, Vermonters would be bound to pay prices for fossil fuels that are, as of this writing, increased by about $0.26-0.31 per gallon. And those prices would rise over time. WCI has set a price cap of $88/ton for emissions credits, roughly equivalent to $0.69/gallon for gasoline. WCI projects that prices will increase by 5% plus inflation each year until reaching the cap, which would likely happen around 2038. See Figure 1. WCI has worked up to its current price over more than a decade, but Vermonters would pay the full WCI price immediately if Vermont joined WCI.

WCI's price structure corresponds most closely to the "medium" price scenario in the TA. *See* TA at 3-4, § 5. Therefore, my analysis, like the economic projections in the TA itself, focuses on prices closest to the medium scenario. This review uses the $0.26/gallon figure and all other dollar amounts (wages, etc.) are in current dollars, for ease of comparison. This understates the economic impacts at the time Vermont could actually join.

Feasibility: Impacts on Vermonters

As noted above, the WCI price is currently $0.26 per gallon for gasoline and $0.31 per gallon for diesel and home heating oil. Vermont would likely not be able to implement the program for several years, with the price rising in the meantime. Based on the WCI projected annual increase of 5% plus inflation per year, the per-gallon price by the time Vermont could actually join WCI would likely be well over $0.30/gallon for gasoline. Fig. 1.

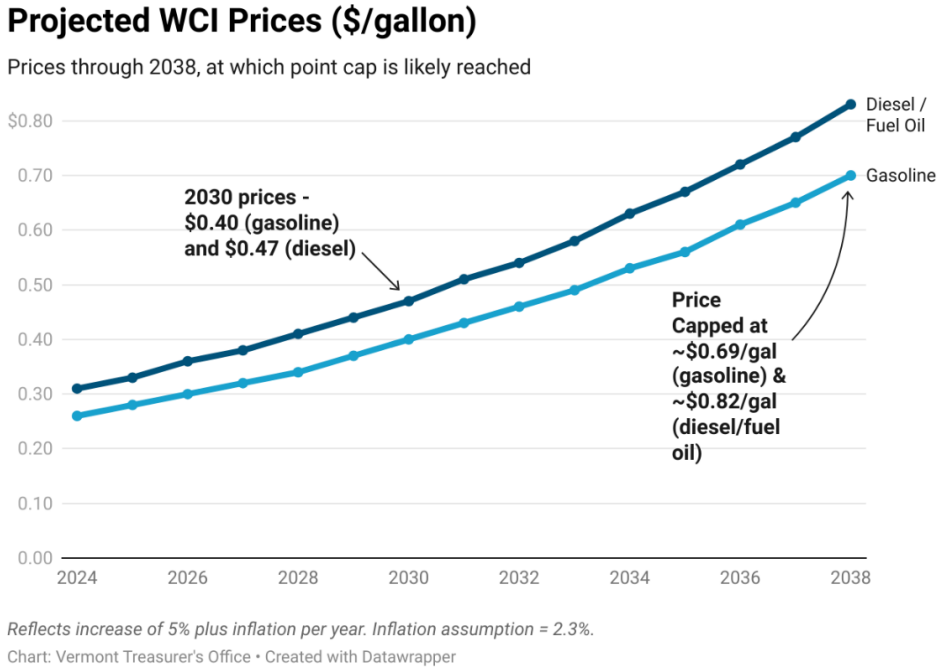

Figure 1

Thus, it appears that the "medium price" scenario in the TA is close to, but perhaps slightly lower, than the prevailing WCI price would be at the time Vermont could join. See TA Table 4-5 (reproduced below).

Table 4-5 Estimated Fossil Fuel Price Effects in 2030

Scenario	Motor Gasoline	Motor Diesel & Home Heating Oil[a]
Low Price	$0.11	$0.13
Medium Price	$0.34	$0.41
High Price	$0.69	$0.83

[a] Price effects for home heating oil are only for the scenarios including residential and commercial sector coverage.

Figure 2

The TA contains several pertinent findings about Vermonters' fossil fuel use patterns. Transportation costs are the largest component of Vermonters' spending on fossil fuels, accounting for 45% of the total. The transportation-fuel burden falls especially heavily on lower-income Vermonters and those in rural areas, particularly the northeastern and southern parts of the state. TA p. 7. Likewise, the other major area of household fossil-fuel spending (home heating) tends to disproportionally burden those in rural areas and with lower incomes, who are less able to pay for home efficiency upgrades or switch to clean-energy appliances.

Transportation & Heating Costs

The TA models several scenarios' effects on Vermont households. See generally TA § 4.

The TA's key conclusions about the economic effects of increased fuel costs on Vermont households are as follows:

- "Not every household will be able to adjust their fuel expenditures or will receive subsidies, especially in the early years of the program."
- "Such households will see their energy expenditures rise as a result of a policy."
- "An income targeted subsidy (such as a tax refund or utility bill rebate) can *partially* insulate households like these from financial costs." (TA 34; emphasis added).
- "[Vermont's lowest] three [income] quintiles would experience a nearly neutral effect for the lowest two income quintiles, and less than $200 per year net cost for the middle-income quintile." *Id.*

In summary, the TA concludes that the medium price scenario, with 50% reinvestment[1] will result in *increased* net energy costs for most Vermonters on an annual basis, including all of the top three income quintiles (i.e. Vermonters earning above roughly $50,000/year). As described in more detail below, Vermonters in the middle-income quintile are in many cases truly struggling to make ends meet.

The TA also includes two illustrations reflecting household cashflows for families that replace oil furnaces with more efficient boilers. Both scenarios include the household being substantially out-of-pocket for at least several years, depending on the age of the furnace being replaced. The TA does not evaluate the availability of credit or low-interest credit facilities with favorable terms, or the economic viability of borrowing, for LMI Vermonters for these purposes.

"Leakage" and Border Effects

The TA's analysis of border effects is quite brief and seems to me to overemphasize the importance of the New York border as compared to the New Hampshire border. *See* TA at 42 ("In the transportation sector, there may be cross-border effects if vehicle drivers (residents and visitors) choose to buy gas in neighboring states rather than Vermont. However, we anticipate that these effects would be incremental and further mitigated if New York is also in a cap-and-invest program.").

There is every reason to believe that Vermonters facing gasoline price increases of $0.25/gallon or more will cross the Connecticut River or the Massachusetts or New York border to fill their tanks. This may be less true of New York if it adopts a program, but even in that scenario the NYCI price will likely be substantially lower than Vermont's if Vermont were in WCI. It appears likely that fuel price differences at the borders in either scenario would be enough to influence fuel-buying behavior at the borders.

For example, it has been credibly shown that Vermont's gradual increase from 3% to 6% retail sales tax rate caused border counties on the eastern (New Hampshire) side of the state to lose about 50% of their retail sales to their NH counterparts in 40 years.[2] See Figure 3. Moreover, consumer willingness to drive for a cheaper fill-up is more pronounced when the consumer is already traveling to make other purchases.[3]

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[1] The TA estimates that 5-10% of program revenue will be spent on administration. Therefore, my understanding is that a "50% reinvestment" scenario implies that 40-45% of program revenue is available for refunds to insulate Vermonters from the program cost.

[2] Doug Rosien: What's Vermont's retail leakage to New Hampshire? - VTDigger, November 16, 2022 (https://vtdigger.org/2022/11/16/doug-rosien-whats-vermonts-retail-leakage-to-new-hampshire/).

[3] *The Effects of Gasoline Taxes*, UVM Legislative Research Service, April 2013 (available at https://www.uvm.edu/d10-files/documents/2024-06/Gas_Tax.pdf).

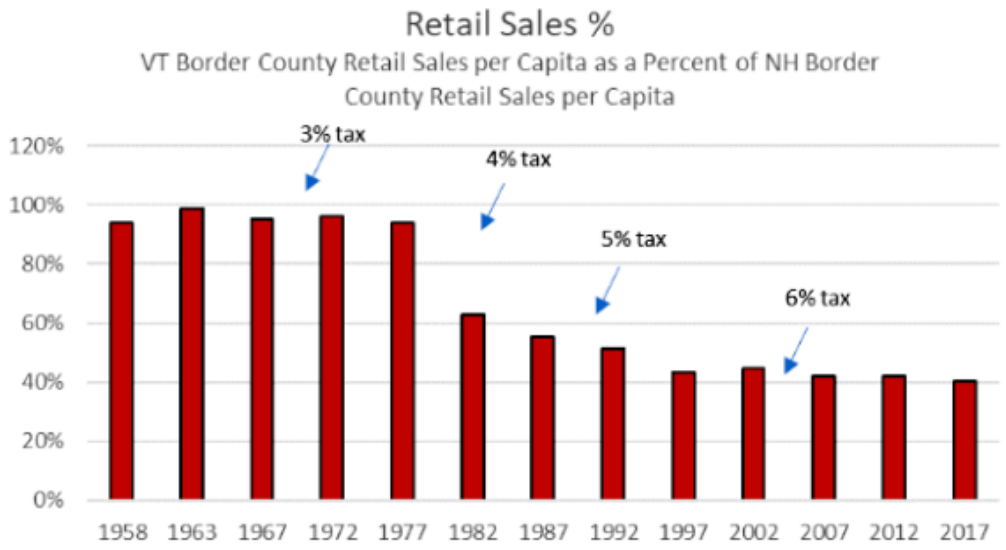

Figure 3

The medium/moderate scenario in the TA would, even assuming a $0.26/gallon initial impact, amount to an increase of almost 8% at the pump for most Vermonters who buy regular gas.[4] Thus, in addition to its direct effects on those with no choice but to pay increased prices, it would very likely have dramatic negative economic effects in Vermont's many border communities, as people already fairly likely to cross the border for other shopping would be more and more prone to gas up in New Hampshire, New York, or Massachusetts.

Financial Impacts on Three Hypothetical Vermont Families

The following hypotheticals are designed to bring to life the different ways a cap-and-invest program would be felt across Vermont. They also underscore the critical need to develop an efficient and effective mechanism to hold moderate- and low-income Vermonters harmless if such a program were to be implemented.

The Bell Family

The Bells are – in every way – the median Vermont household. They even (hypothetically, of course) live at the geographic center of the state, near Roxbury.

Household Income: $ 78,000 (Vermont household median). Their take-home income is $4,900 per month.

Vehicles and Driving: The Bells have two vehicles, a 2013 Toyota Corolla (25 mpg) and a 2015 Ford Ranger (18 mpg). They drive a combined 26,000 miles per year, consuming a

[4] As of February 17, 2025, according to AAA, the average gas price (regular) in Vermont was $3.15 per gallon, with prices generally lowest in the southern part of the state and highest in the northwest and north-central counties (see https://gasprices.aaa.com/?state=VT).

total of 1,209 gallons of gas, at a cost of $3,882 per year. The Corolla is paid off, but the Ranger loan is $500/month.

Home Heating: Like about 40% of Vermont households, the Bells heat with fuel oil. They are about average here, too, paying $3.99/gallon for fuel oil and using 90MMBtu/year, at a total annual cost of $3,200.[5]

Effects of Joining WCI: The Bells' annual gasoline costs would increase by about $314 and their fuel-oil costs by about $328. The Bells might consider investing in efficiency measures if fuel prices increased substantially. They have a small buffer in their month-to-month budget.

The Sparks Family

The Sparks family lives in downtown Montpelier; one adult works for a national non-profit, the other works from home.

Household Income: $200,000 / year (10.5% of households in Vermont earned $200,000 or more in 2023). Their take-home pay is $11,300 per month.

Vehicles and Driving: 2 electric vehicles, both 2023 models, home charger they received free from GMP and paid $1,000 out of pocket to install.

The Sparks have no commutes, and all necessary shopping is within 1 mile. There is almost no mandatory driving for work for either adult. They put about 7,000 miles/year on each vehicle. The Sparks charge the vehicles at GMP's Residential Off-Peak Electric Vehicle Rate of $0.158 per kWh. Home charging costs per year for the family are $632, and they occasionally pay for fast charging on road trips. Their total cost is roughly $1,000/year.

Home Heating: The family lives in a home originally built in 1900. They heat with three cold-climate heat pumps, and a pellet furnace.

They have done substantial energy-efficiency renovations to the home, including hiring a contractor to blow insulation into the attic and insulate the foundation/basement, replacing all the windows and doors, and installing the heat pumps and the pellet furnace. They paid for the weatherization projects in cash.

Annual heating costs for the Sparks are roughly $2,500 per year at current prices for bulk wood pellets and electricity.

Capital Costs: The total costs for the two electric vehicles, the heat pumps, and the pellet furnace were $120,000, which the family financed. They received a $6,000 rebate via Efficiency Vermont for the furnace. They pay $700/month for each vehicle, and $750/month for the home equity loan that paid for the heat pumps and furnace. In total, their energy-efficiency investments cost them $25,800 per year. If needed, they could live with one vehicle. Both cars will be paid off in 2030 and the furnace in 2034. The weatherization projects cost $12,000 and were paid for in cash.

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[5] Analyzing changes in fossil heating fuel use in Vermont, 2018-2023 (2024) | Energy Action Network (https://eanvt.org/project/fossil-heating-fuel-changes/).

Effects of joining WCI: The Sparks purchase no fossil fuels and would not be directly affected by an increase in fossil fuel prices. The only increased costs they would experience would be incidental increases in other consumer products caused by gasoline prices. They are closely following available rebates and incentives and would likely take advantage of any they qualify for.

The Sawyer Family

The Sawyer family lives in Island Pond (Essex County), one works in forestry and construction, the other as a home health aide. Both must drive substantial distances to work sites, often in poor weather conditions and on primarily dirt roads. They need vehicles with good clearance and 4WD or AWD.

Family Income: $58,985 (Essex County median household income). Their monthly take-home pay is $4,000.

Driving Costs: The Sawyers, like many others in rural parts of Vermont, must drive a long way to do their jobs, to see friends and family, and to run errands. They average 91.5 miles per day each (Essex County average).

The Sawyers drive a 2015 Ford F-250 (13 mpg) and a 2013 Chevy Equinox (24 mpg). Both vehicles are financed via used-car loans at high interest rates, with total loan payments of $900/month.

The Sawyer family buys 3,960 gallons of fuel per year to run the two vehicles. At the current average price per gallon of $3.386 in Essex County, the family spends $13,408 per year on fuel for their vehicles.

Home Heating: The Sawyer family lives in a home originally built in 1850. They heat with oil, a woodstove, and sometimes kerosene. Their home has not had an energy audit or any systematic efficiency work because the Sawyers cannot miss work to be home for the audit. The Sawyers do what they can to button things up for winter.

The family buys log-length firewood from a friend and processes it themselves. The cost of this averages out to $500/year for the roughly 5 cord they burn each winter. This is their cheapest form of heat, and they rely on the woodstove as much as they can.

The family's oil furnace is older and runs at 80% efficiency. Heating oil retail prices in Island Pond are high: as of Jan. 27, 2025, quoted prices are at least $4.20 per gallon. In a typical year the Sawyers buy about 600 gallons of oil costing a total of $2,520 per year. They occasionally buy kerosene or propane when they don't have the money for a fuel oil delivery, spending about $500/year on those.

Effects of Joining WCI: The added fuel cost at the initial, lowest WCI price ($0.26/gallon) for the Sawyer family would be about $1,000 – their spending to fuel their vehicles would increase to $14,399 per year, almost a third of their take-home income. The State joining WCI would raise the Sawyers' gas spending by more per year than the Sparks' entire vehicle charging bill, which WCI would not affect at all.

The Sawyers' home heating costs would go up by about 10% under WCI – about $300 per year. They have no room in their budget to absorb any increased costs month-to-month.

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I describe these families to ground my own thinking about a very consequential policy. Most of all, I wonder how the policy would affect those households we often don't hear from in Montpelier. I am mindful, too, that despite best intentions, the only existing cap-and-invest program in Vermont (the Regional Greenhouse Gas Initiative – RGGI) has seen only a small portion – just 11% according to one 2019 report – of its benefits flow to LMI Vermonters.[6]

A family like the Sawyers has two adults working hard, with a take-home pay of $4,000 per month. Because of where they live, they spend hours per day driving; this time is unpaid and also not available to do things like research and apply for energy-efficiency rebates. They cannot reduce their consumption in any meaningful way in either the transportation or thermal sector. Most likely, a cap-and-invest program enacted today would result in increased costs for their family that they are unable to afford and do not have any real ability to avoid.

And a family like the Bells, squarely at the Vermont median in every way, also has very little money to spare for efficiency work, new vehicles, or furnace upgrades, even if subsidized.

Meanwhile, the Sparks would be impacted positively. They are very likely to take full advantage of any subsidies or rebates available. They have already done this with their efficiency work, vehicle charger, and pellet furnace.

Feasibility Analysis and Considerations

Put simply, while it is administratively feasible to join WCI, I recommend Vermont wait until the details of the NYCI are available to analyze the viability of joining that program. As set forth below, there are a number of reasons for this.

As discussed above, "leakage" is a concern if Vermont joined the WCI - especially for gasoline, which would suddenly increase by ***at least*** $.26 per gallon. Such an increase would incentivize residents of Vermont border towns to purchase gasoline in New York, New Hampshire, or Massachusetts, which could have a broader economic impact on Vermont. However, if Vermont were to join the NYCI, then at least one major state border would have the same program, and initial prices would be lower, reducing the impact of leakage.

[6] Cap-and-Invest: A Review of Policy, Design, and Models and Their Applicability in Vermont, Center for Sustainable Energy for Vermont Energy Action Network, April 2019, p. 34 (available at https://legislature.vermont.gov/Documents/2020/WorkGroups/House%20Transportation/TCI/W~Karen%20Glitman~Cap%20and%20Invest%20Report~2-13-2020.pdf)

If Vermont were to join the NYCI it would do so from the outset of the program rather than midstream – this would have a much lower and more gradual impact on gasoline, diesel fuel, and home heating oil prices.

Due to rising healthcare and housing costs, increased property taxes, and higher prices generally due to inflation (and uncertainty about the current direction of inflation) it is a very difficult time to impose the costs on Vermonters that entering into the WCI would cause.

Although it is possible to insulate low- and moderate-income Vermonters from the resulting increased fuel costs on a net annual basis, the TA does not describe any feasible methodology for doing so in a manner timely enough to truly hold them harmless. This is a particularly critical consideration given Vermont's geography and climate.

Vermont is a rural, cold climate state with some of the oldest housing stock in the country, leading to above-average per-capita energy costs.

Many Vermonters, particularly in rural counties, cannot choose to drive the most fuel-efficient cars available given the seasonal conditions of their roads. And whatever vehicle a Vermonter drives, whether diesel, gas, hybrid, or electric, it is substantially less efficient due to the cold, snow, and other conditions.[7]

Likewise, Vermont's housing stock is old. Its most efficient houses are, by and large, its newer and more expensive ones. Low- and middle-income Vermonters occupying old housing stock already spend disproportionately on home heating, whether with wood, oil, natural gas, propane, or some combination.

The core challenge, therefore, to implementing a cap-and-invest program is to do so in a way that does not put undue burdens on low-income Vermonters, incentivizes clean-energy development, and also provides enough of a price signal to discourage fossil fuel use. More investigation and consideration are required; however, it is clear NYCI would be an easier program to account for these unique Vermont conditions.

There are several other considerations informing my thinking on this topic.

1) **It appears that the economic impact modeling in the TA does not account for the cost of energy upgrades and, even without those costs, would raise overall costs for most.**

   The TA includes several charts meant to depict the net economic impact on Vermont families under various price scenarios and different sectoral coverages. See TAC § 4.2.6 and Figures 4-11 through 4-15.

[7] Fuel Economy in Cold Weather | Department of Energy (https://www.energy.gov/energysaver/fuel-economy-cold-weather). The analysis herein does not fully account for this inefficiency, but it bears mentioning.

It does not seem, however, that these charts account for the costs of the very same efficiency upgrades that they presuppose in modeling reduced fuel consumption. And when the TA authors were asked about this during a Climate Council meeting on February 10, they were unable to say whether those upgrade costs were included.[8]

As seen in the "Sparks family" scenario above, many upgrade costs are very substantial, and will often take many years to pay off. An economic analysis that does not account for this is fundamentally incomplete.

This is a topic that I believe must be studied *much* more closely before a cap-and-invest program is feasible. As the TA notes, Vermonters in the "middle" quintile of income (between the 40th and 60th percentiles) would be modestly worse off in the medium-price scenario. These are Vermonters with AGIs between $41,776 and $66,799 per year, a level that barely meets the Legislature's basic needs budget and is unlikely to finance, for example, a pellet furnace costing $50,000.

AGI Percentile	AGI Start for Percentile
Bottom 10%	NA
10% - 20%	8,031
20% - 30%	18,287
30% - 40%	30,758
40% - 50%	41,776
50% - 60%	52,868
60% - 70%	66,799
70% - 80%	86,734
80% - 90%	115,713
90% - 95%	166,653
95% - 99%	232,425
Top 1%	527,595

Figure 4

Vermont Department of Taxes, 2023 dataset (latest available)

2) Low- and middle-income Vermonters cannot, in real time, absorb increased prices at the pump, even if they will be held harmless later.

Simply put, the majority of Vermonters – including at least the lowest three income quintiles – are struggling to make ends meet from month to month. They are operating in an economy where their wages have not kept pace with the cost of living for quite some time. As Figure 5 below illustrates, a majority of Vermont households do not make enough to meet their basic needs as defined by the legislature.

[8] Vermont Climate Council Meeting on February 10, 2025 at 90 – 93 minutes (available at https://www.youtube.com/watch?v=lt4MRFDNzYU).

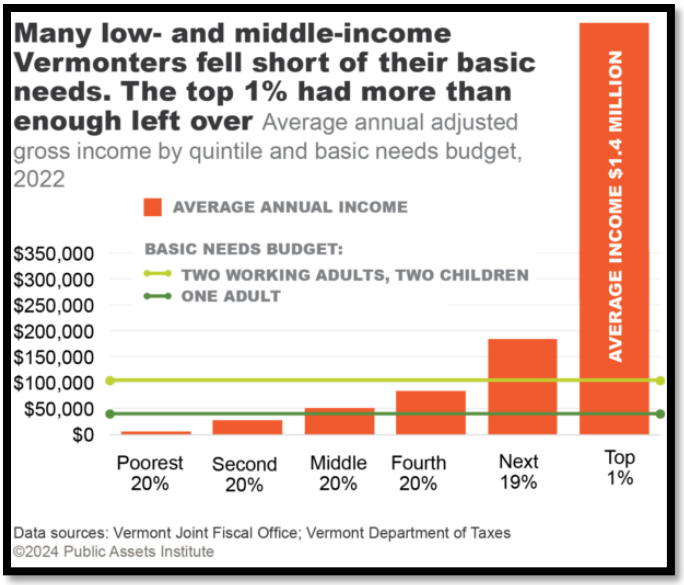

Figure 5

There is currently no feasible way to hold these families harmless in real time, or in advance, from increased fuel prices. Such a solution must be thoughtfully considered and very carefully designed to impose as close to zero administrative burden as possible on the households themselves.[9]

3) **The economic impact of raising fuel prices is broadly negative, and that effect is unpredictable.**

Raising fuel prices – which WCI would do – inexorably causes other costs to rise, as it costs more to transport goods, to heat commercial and industrial spaces, to manufacture goods, and the list could go on. This is true whether or not the fuel cost differences are recovered later via rebate. While the scope and timing of those economy-wide impacts is not 100% predictable, particularly in light of an increasingly fluid macroeconomic landscape (see below), the precise details are simply not important. *Some* additional inflationary effects are inevitable and should be considered alongside Vermont's current economic conditions.

4) **Federal energy and environmental policies are uncertain, and other ill-considered federal policies (e.g. tariffs, immigration crackdowns, monetary policy, education funding) are likely to make life more expensive, not less.**

Vermonters live in a beautiful but expensive place, with relatively high expenses and, for many, wages that have not kept pace. Too many Vermonters are acutely vulnerable to even temporary increases in prices, whether from a cap-and-invest program or from federal policy.

[9] See, e.g., The Cognitive Burden of Poverty - Behavioral Scientist (noting research findings that economic hardship itself imposes huge cognitive burdens; therefore "[p]olicymakers should beware of imposing cognitive taxes on the poor just as they avoid monetary taxes on the poor.").

And it is likely that upcoming federal changes will be inflationary: "[A]lmost everything Trump is doing or threatening to do to the economy will cause higher, not lower inflation." Paul Krugman, Feb. 14, 2025.[10] President Trump's flurry of executive actions and the purported federal funding freeze in late January are an early indication of just how damaging this administration may be to Vermont's fiscal health, and to vulnerable Vermonters in particular.

Just days after the President took office, at midday on January 28, social services organizations statewide were reporting to my office that their access to necessary federal funds had been cut off. The Vermonters who depend on these organizations are our most vulnerable neighbors, family members, and friends. Whatever the outcome of the Trump Administration's initial attempts to cut funding for social services, it is clear to me that the Administration will keep trying and has the power to succeed at least to some degree.

In short, the most vulnerable Vermonters will likely soon have less access to aid for health care, food, heat, clothing, and all the other services provided by federally supported entities.

A few days after the funding freeze, again via executive order, Mr. Trump purported to impose 25% tariffs on imports from Canada and Mexico, and a 10% tariff on Chinese imports. Although these tariffs are now on hold, and may be vulnerable to legal attack if resurrected, they are projected to increase costs for the average American by $830.[11] The President then imposed worldwide tariffs on certain metals, which will drive up costs.

Similarly, on February 6, the Federal Highway Administration rescinded approval for funding that Vermont's Agency of Transportation had been counting on to build out the electric-vehicle charging network.[12] As a result of this and policies like it, it becomes more difficult for Vermonters across the state to drive electric vehicles, which directly impacts the feasibility of a cap-and-invest program.

More recently, on February 14, the Acting Assistant Secretary for Civil Rights at the US Department of Education issued a memorandum purporting to interpret "existing civil rights law" to allow withholding of funds from educational institutions that implement "DEI programs" or in any way treat students differently on the basis of race, even in the pursuit of social justice or equity goals.[13]

These appear to be just the beginning of this administration's assault on settled norms, many of which may have significant fiscal impacts in Vermont. In short, this is a time when

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[10] Paul Krugman, February 10, 2025 (available at https://tinyurl.com/2p86bsp9)

[11] Trump Tariffs: The Economic Impact of the Trump Trade War, Tax Foundation (projecting that Trump's tariffs will shrink the US economy by 0.4% and cost Americans about $830 per household).

[12] Suspending Approval of State Electric Vehicle Infrastructure Deployment Plans, Federal Highway Administration, Feb. 6, 2025 (https://www.fhwa.dot.gov/environment/nevi/resources/state-plan-approval-suspension.pdf).

[13] Craig Trainor "Dear Colleague" Letter, Acting Assistant Secretary for Civil Rights, February 14, 2025 (https://www.ed.gov/media/document/dear-colleague-letter-sffa-v-harvard-109506.pdf).

state officials must, in my view, be particularly careful when making commitments such as entering new programs like cap-and-invest.

5) **It is not clear that the Vermont labor force exists to perform the scale of work that might be funded by cap-and-invest with reinvestment.**

The TA includes job-creation estimates based on a 2020 Cambridge Systematics study undertaken in relation to the Transportation and Climate Initiative ("TCI Analysis"). TA § 4.2.5. The TCI Analysis concluded that between 2.8 and 6.9 net new jobs would be created in Vermont for every million dollars in TCI revenue. The TA took the midpoint of that range – 4.9 – as a reasonable estimate for job creation per million dollars of cap-and-invest revenue. Thus, the TA concludes that a medium price cap-and-invest regime with 50% reinvestment would create about 380 net new jobs in 2030. TA table 4-4 ($157 million in 2030 revenue for mid-price transportation and thermal program); table 4-6 (job creation).

First, it is likely worthwhile to update the job-creation work last performed in 2020 in the TCI Analysis due to the passage of time. Second, the TA does not include detailed analysis of the types of jobs created (or lost) although it does note in passing that "gas stations and auto repair facilities" are examples of sectors that could experience job losses. I believe a closer analysis of the types of jobs created and lost, and the availability of Vermont workforce to fill them, should precede any decision to join a cap-and-invest program.

6) **Vermont's housing crisis, coupled with high borrowing costs and broader inflation, is already imposing tremendous burdens on working Vermonters.**

Vermonters are already facing a very difficult economic situation. Countless analysts and experts have opined that Vermont's housing market has been building too slowly by many thousands of units per year, for some time. As a result, prices are high. And, unhelpfully, so are interest rates. On a median home in Vermont, mortgage costs increased by almost $1,000 per month between 2021 and 2023, due primarily to those two factors. See Figure 6.

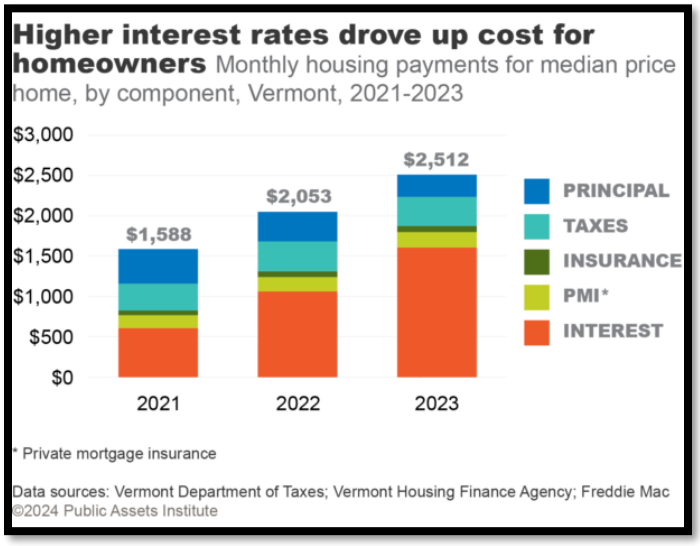

Figure 6

Other core components of Vermonters' household budgets have similarly increased in recent years, putting tremendous pressure on our state's LMI residents in particular. Among other things, food prices have increased by over 28 percent in the five-year period ending January 1, 2025. See Figure 7 below.

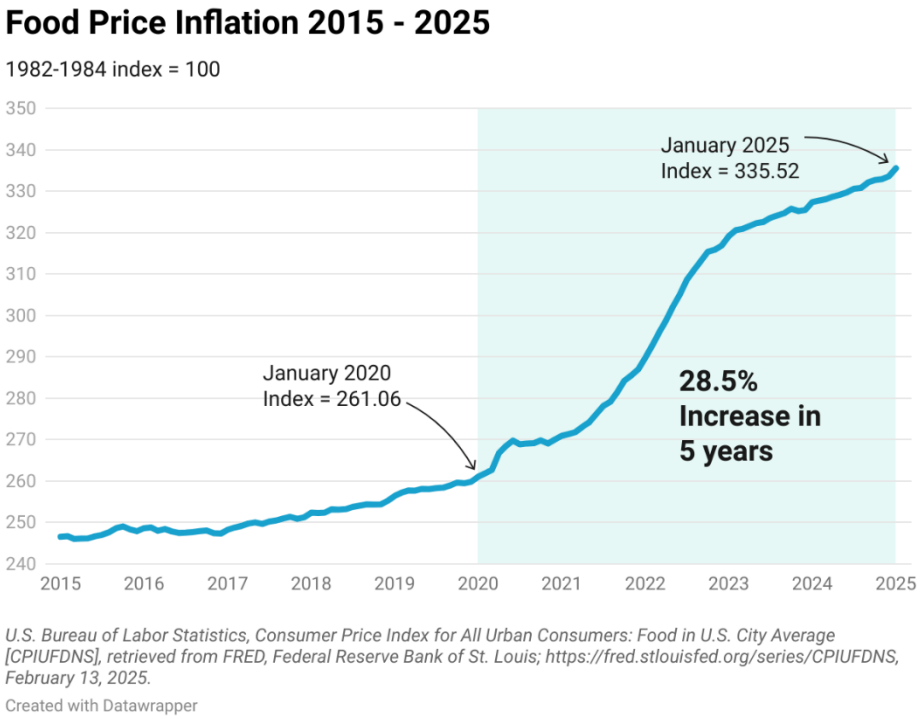

Figure 7

Total salaries and wages have also increased (see Figures 8 & 9) but wage gains have been very uneven, with most gains going to "white-collar" workers (IT, professional and technical services, etc.). For example, while total wages rose 29.5% and median household income rose 21.5%, professional and technical services wages increased 70.2% over roughly the same time frame.[14] Wages in lower-wage sectors (farming, forestry, retail, education, etc.) have not kept pace.

[14] U.S. Bureau of Economic Analysis and Federal Reserve Bank of St. Louis, Professional and Technical Services Wages and Salaries in Vermont [VTWPRO], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/VTWPRO, February 13, 2025.

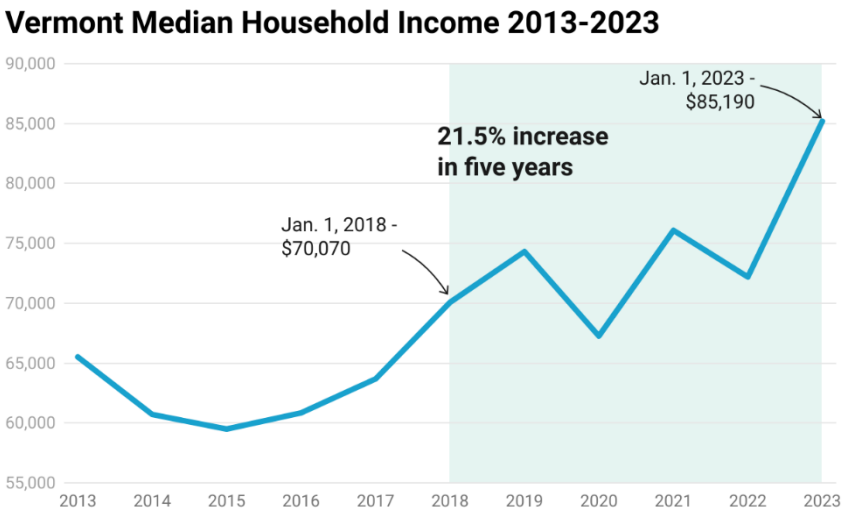

Figure 8

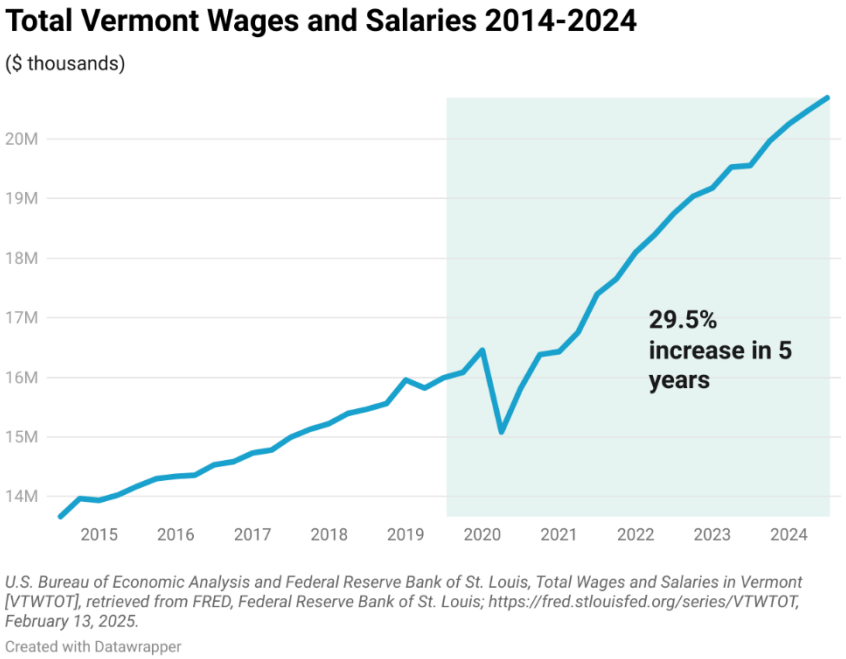

Figure 9

Given these economic conditions – combined with rising healthcare costs and increased property taxes – it is a very difficult time to impose the sudden costs on Vermonters that would result from joining the WCI.

Recommendations

"The State Treasurer shall make a written recommendation to the General Assembly regarding any viable approaches." Act 148, Section 33.

I conclude there are no viable cap-and-invest programs available to Vermont at this time, although it must also be acknowledged that there are tangible long-term benefits of such a program, if certain financial hurdles described above are overcome.

Further, there is likely a path to a viable approach in the near future. The time between now and then can be well spent ensuring that Vermont's eventual cap-and-invest program is carefully designed.

Accordingly, I recommend the Climate Action Office be charged with the following:

1. Continue to monitor the development and/or rollout of cap-and-invest programs (e.g. NYCI) and any state-level or multistate low-carbon fuel initiatives;

2. Study how to insulate low-income Vermonters in real time (or in advance) from cost increases, and how to maximize their ability to perform low- or no-cost efficiency upgrades;

3. Study the economic and revenue impact of leakage for residents living near the New York, New Hampshire, and Massachusetts borders if a cap-and-invest program were adopted without New York, and engage with New Hampshire and Massachusetts about their likelihood of joining the NYCI, another cap-and-invest program or a multistate low-carbon fuel initiative;

4. Determine how revenues collected under a possible cap-and-invest program would be invested, whether Vermont's current workforce is sufficient to meet the increased workload, and whether additional workforce development initiatives should also be considered; and

5. Study the following aspects of a cap-and-invest program:
    a. The types of GHG sources that would need to report their GHG emissions;
    b. The emissions or activity threshold at which a source would be required to report;
    c. How the source would be required to report its emissions; and
    d. Whether and when to establish a reporting-only program.

I stand ready to work with all Vermonters and am happy to discuss these matters at any time.

Mike Pieciak, Vermont State Treasurer