



Testimony on S.5

Myers Mermel, President

April 4, 2023

Vermont House Committee on
Environment and Energy



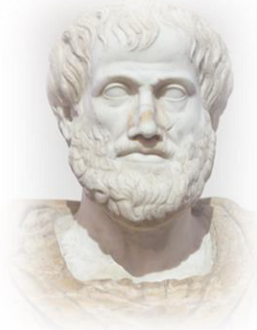
*'Is there no way,' said I, 'of escaping Charybdis,
and at the same time keeping Scylla off when she is trying to harm my men?'*

– Ulysses in Homer's The Odyssey, Book XII

The Ethan Allen Institute (“EAI”) is a public policy research and education organization founded in 1993. Our mission is to cultivate peace and prosperity by promoting policies based on principles of free enterprise, constitutional government, and individual liberty. We have had thousands of supporters over the years, and we attempt to give voice to Vermont’s voiceless, numbering in the hundreds of thousands.

This presentation will examine the premises used by Mr. Richard Cowart in his affirmative argument for the Clean Heat Standard in his testimony of March 22, 2023, to this committee. Mr. Cowart is a Vermont Climate Council member, former Chair of the Board of Directors for the Vermont Energy Investment Corporation (VEIC), and current Principal of the Regulatory Assistance Project (RAP). Mr. Cowart has been called “the architect” of the Affordable Heat Act so understanding his argument is vital to understanding the utility of S.5 as a policy.





At the risk of oversimplification, using Aristotelean logic, a valid deductive argument is one where all premises are true, and the conclusion follows. An invalid argument is one where even if the premises are true, the conclusion does not follow. A sound argument is a valid one with true premises, whereas an unsound argument has at least one false premise. It is not possible to have a sound argument with one or more false premises.

Some famous unsound policy arguments based on false premises include:

Invasion of Iraq, 2000s

Utilized false premise that Iraqi leadership had control and use of Weapons of Mass Destruction.

Eugenics Sterilizations Authorized by Vermont Legislature, 1930s (after failed attempts in 1913 and 1927) Utilized false premise that Vermont's indigenous, disabled, French-Canadian, and poor were only capable of birthing "idiotic, imbecilic, or feeble-minded" children.

Richard Cowart: Vermont's Thermal Future: Affordable & Clean, S.5 – The Affordable Heat Act, House Committee on Environment & Energy, March 22, 2023.

Conclusion: Why we need a Clean Heat Standard

- **We need a policy driver to get off the fossil roller-coaster and save \$Billions in heat bills**
- **We need a policy driver to deliver large GHG savings**
 - Incentives alone - are not enough
 - Public funds and taxes – not reliable enough
 - Businesses need a predictable path
- **Equity built in from the outset**
- **CHS supports diverse heating solutions, gives Vermonters choices**
- **Performance standards work**

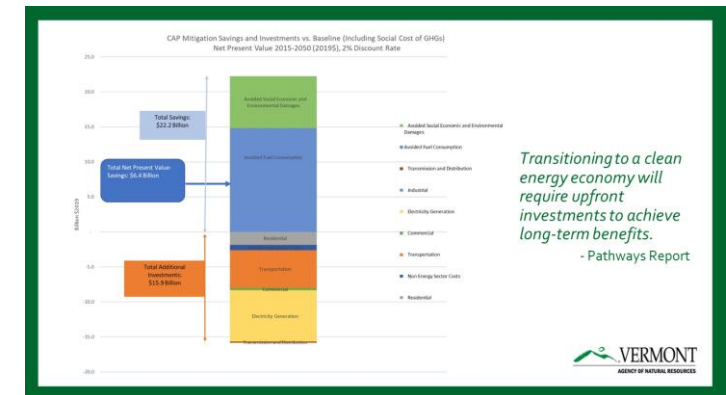
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- **We need a policy driver to get off the fossil roller-coaster and save \$Billions in heat bills**

Test: *Fossil Rollercoaster*. Fuel Prices have fluctuated which is **TRUE**. However, electric prices have only risen and will increase with demand from this new program. Furthermore, if the fuel surcharge (discussed later) is amortized and combined with electric costs, the resultant all-in number for electric will exceed fossil fuel projections.

Test: *Save \$Billions in heat bills*. The cost of conversion is the combination of upfront costs and ongoing costs. Savings are not year-to-year costs alone, one must factor in upfront costs as these are consumer costs. The Vermont Climate Council has claimed \$6.4 billion of savings from the electric transition.

The VCC refuses to release this financial model from the Pathways report. However, announced assumptions indicate disturbing errors. In the social cost of carbon section alone, an incorrect discount rate adds over \$5 billion in non-existent savings, the 35-year forecast model does not show replacement of heats pumps in years 15 and 30 which would triple heat pump costs, and added upfront costs are calculated at \$2 billion when they are really \$5 billion (See Appendix to this report). Consequently, the program does not save \$6.4 billion: it costs at least \$800 million. There are no savings ever. The claim of any savings is **FALSE**.



- **We need a policy driver to deliver large GHG savings**

- Incentives alone — are not enough
- Public funds and taxes — not reliable enough
- Businesses need a predictable path

Test: ***Policy driver to deliver large GHG savings***. Vermont and Massachusetts are the only states considering a CHS policy driver and Vermont is only state likely to pass it. Exorbitant unfunded costs are why 49 other states said no. But CHS is an unprecedented policy driver, so claim is **TRUE**. ***Incentives alone not enough***, 2022 state legislation provided only \$80 million of state subsidies to cover a \$5 billion program so incentives not enough, **TRUE**. ***Public funds and taxes not reliable enough***. Our estimates indicate only federal and state subsidies only account for 6% of upfront costs (\$300m/\$5.432b), so this claim is **TRUE**. ***Businesses need a predictable path***. The money will not come from the state or federal government. It will come from heating oil consumers. Our estimates indicate this program will result in predictable \$5 billion dollars of fresh money raised from people using home heating oil for the Vermont energy industrial complex and its employees and the predictable dismantling of the \$25 million annual revenue Vermont fuel dealer businesses and its employees, so the claim is **TRUE**.

- **Equity built in from the outset**

Test: *Equity built in from the outset*. Rep. Logan cut to the quick of ANR Sec. Moore's testimony on March 22nd. A full 63% of VT tax filers earn below \$68,000 per year or are low income. How will these low income people be affected?

The program directs only 16% of the initial conversions go to low income, leaving 47% (63%-16%) of the state, basically half the entire state, and its poorest, suffering under new fuel surcharges due to the fact there won't be immediate money to fund their conversions. Rep. Smith asked repeatedly what a credit costs. Mr. Cowart replied that the free market will decide, and the cost of a credit is unknown. The cost of credits is not unknown; there is enough information to calculate the consumer cost of credits today.

- **Equity built in from the outset (cont.)**

Our calculations (in appendix) indicate the CHS creates an upfront cost of \$5 billion not \$2 billion. If the credits are dollar-for-dollar money spent on improvements, that means the program needs \$5 billion of credits to fund a \$5 billion upfront conversion program. For the obligated parties to recoup the cost of credits, that translates to a \$ 4 .04 per gallon fuel surcharge for the consumer. An average house is said to use 700 per gallons of fuel oil p.a., that means the surcharge will equal \$2,800 per household per year. This will generate \$2,800 worth of credits p.a. for the obligated parties on average.

But half of the state, the low income population, will be required to pay the regressive surcharge of \$2,800 until such time sufficient credits accumulate and are available to pay their conversions. The payment of this fuel surcharge is not voluntary. Conversions are “not mandated,” but the fuel surcharge is absolutely mandated by the legislation. S.5 is basically a circular system which forces low income Vermonters to pay for their improvements over time. Half of the \$5 billion will come from the low income. In essence, this program extracts \$2.5 billion from Vermont’s poorest who don’t have the money in the first place. It will create further income inequality and uphold white supremacy per the Vermont Renews BIPOC council. So, the claim that equity is built in is **FALSE**.

- **CHS supports diverse heating solutions, gives Vermonters choices**

Test: *CHS gives choices*. Yes, consumers can choose among a limited number of measures including weatherization, heat pumps, water heaters, advanced wood heat, and biofuels. If you use fuel oil, however, there is no choice regarding the fuel surcharge. You must pay it until the DDA has the credit dollars fronted by obligated parties to fund your conversion. In a similar vein, as Henry Ford said regarding choices on the Model T, you can have any color as long as it's black.

Our calculations indicate that a \$4.04 per gallon surcharge will accomplish all home conversions in the required five years. However, if the increase is capped at 70 cents per gallon, the surcharge and conversion program will lengthen to 28 years duration (See Appendix). We think that is why Mr. Cowart doesn't define the credit. In order to meet climate goals, the mandatory surcharge paid by families on a yearly basis must be above \$2,800 on average. Nonetheless, the claim of choices, while limited and punitive, under the CHS is **TRUE**.

- **Performance standards work**

Test: *Performance standards work*. Yes, in regulated industries performance standards work. This is not a regulated industry, although it will be closer to one once the legislation passes.

The performance standard will provide 90% of the cost of conversion. To the wealthy upper 20% of Vermonters these benefits will be gravy, for lack of a better term. But to the low income half of the population, they will not be able to access credits fast enough, because the DDA (i) can't fund them first as wealthy generate first credits (ii) there are few people to actually perform the skilled labor, and (iii) the low income can't afford to pay their 10% share of improvements.

But the low income will continue year-to-year paying the mandatory fuel surcharge. And income inequality will increase as a two-tiered system of climate justice is enforced. As soon as the bill is enacted, all oil heat households will lose \$35,000 of their home's equity in our estimate, matching the cost of unfunded conversion (See Appendix). Unintended consequences will be the migration of low income people out of Vermont and the demolition of historic homes which can't justify the costs of conversion.

In the 1930s forced sterilization marginalized only 300 people, yet this performance standard will marginalize the 47% of our population, all low income, numbering over 300,000 people. S.5 creates a climate payment system whereby poor polluters subsidize the rich. Yes, this performance standard will produce consequences and will work, so the claim is **TRUE**.

Summarizing the Cowart Claims

We need a policy driver to get off the fossil rollercoaster and save \$Billions in heat bills. **FALSE**

We need a policy driver to deliver large GHG savings • Incentives alone - are not enough • Public funds and taxes – not reliable enough • Businesses need a predictable path. **TRUE**

Equity built in from the outset. **FALSE**

CHS supports diverse heating solutions, gives Vermonters choices. **TRUE**

Performance standards work. **TRUE**

To summarize, the CHS has three claims which are true: it is a policy driver, it gives limited choices, and it works. The CHS makes two claims which are false: that it saves money and has equity. The true claims are that it both mandates an expensive fuel surcharge and marginalizes the poorest half of our population which includes low income white and BIPOC individuals.

Mr. Cowart's argument supporting implementation of S.5 relies on two false claims. It is unsound.

Appendix

I. A review of sources for estimating upfront costs for household climate measures (cont.)

Diversified Energy Specialists – examined 622 conversions in Massachusetts from 2014 to 2019. Conversion of an existing home with median size of 1,912 sq. ft. resulted in a median conversion cost of **\$21,572** (\$23,572 in 2022). Of these conversions, 92.8% retained an additional heat source. And 81% of those with two heating sources used heat pumps as the backup heat source.⁵ [This suggests changeover renovations do not offer price protection].

Efficiency Vermont – Colin Santee, Program Manager, testified last week before a Vermont House Committee that for a “three-bedroom residential... **\$18,000 to... \$40,000** for heat pumps depending...”⁶

Ethan Allen Institute – 145,000 homes per Julie Moore; **\$23,572** per Diversified/Massachusetts.

Heat Pump Water Heaters:

ANR Secretary Julie Moore – 125,000 hot water heat pumps @ **\$3,000** each.⁷

Ethan Allen Institute – 125,000 homes per Julie Moore; \$3000 per Julie Moore + electrification upgrade \$1,000 for a total of **\$4,000**.

⁵ <https://www.senatenj.com/uploads/DES-Heat-Pump-Study-NORA.pdf>

⁶ Testimony of Colin Santee, Efficiency Vermont, House Corrections & Institutions, February 8, 2023, accessed on February 12, 2023, at timestamp 1:35:44 <https://www.youtube.com/watch?v=lfsfddswB-k>

⁷ ANR, Julie Moore, Secretary, Testimony on S.5, January 26, 2023, p. 9

Appendix

II. A comparison of ANR Secretary Julie Moore's upfront costs to those of EAI

<i>Actions</i>	<i>Sec. Julie Moore (millions)</i>	<i>Per unit</i>	<i>EAI Base (millions)</i>	<i>Per Unit @ 2022 Zero inflation</i>	<i>EAI w/Inflation (millions)</i>	<i>Per Unit 5 yr avg @3% window</i>	<i>Comments</i>
Weatherization 85,000 homes	\$890	\$10,500	\$1,514	\$17,815	\$1,810	\$21,290	
Heat Pumps 145,000 homes	\$725	\$5,000	\$3,418	\$23,572	\$4,085	\$28,170	
Heat Pump Water Heaters 125,000 homes	\$375	\$3,000	\$500	\$4,000	\$597	\$4,779	
Subtotal before Adjustments	\$2,000		\$5,432		\$6,492		
Wt. Avg 145,000 homes		\$13,793		\$37,462		\$44,772	
State Gov costs admin	0		\$326 or 6%		\$400 or 6%		New industry to regulate
Default Delivery Agent	0		\$180 or 3%		\$200 or 3%		Same as credit card processing fee
Homeowner 90% cost share	(\$200) or 10%		(\$594) or 10%		(\$709) or 10%		
Unmet	\$1,800		\$5,344		\$6,383		



Appendix

II. A comparison of ANR Secretary Julie Moore's upfront costs to those of EAI (cont.)

<i>Actions</i>	<i>Sec. Julie Moore (millions)</i>	<i>Per unit</i>	<i>EAI Base (millions)</i>	<i>Per Unit @ 2022 Zero inflation</i>	<i>EAI w/Inflation (millions)</i>	<i>Per Unit 5 yr avg @3% window</i>	<i>Comments</i>
Federal Subsidies \$75MM p.a. for 8 years via ARPA, IIJA, IRA, CDS	(\$600)		(\$300)		(\$300)		Divided Congress curtails spending after 4 years-Moore admits funds are "not hardwired"
Subtotal	\$1,200		\$5,044		\$6,083		
Fuel Dealers 25% contribute or "absorb"	(\$300)		\$0		\$0		Not likely or possible given margins, total FD yearly net profit=\$25mm
Subtotal	\$900		\$5,044		\$6,083		
Total Net Wt. Avg 145,000 homes		\$6,207		\$34,786		\$41,951	
Over 5 years PA	\$180		\$1,009		\$1,216		
Cost/250MM gallons	\$0.70		\$4.04		\$4.86		Per MCota, if surcharge is only on 100 million gallons of thermal fuel alone the numbers are 2.5X higher

Appendix

III. A sensitivity of resultant enactment time windows

The Clean Heat Standard at § 8124 mandates a yet-to-be determined number of credits to be purchased by obligated parties (fuel dealers):

Number of Credits Mandated Sold [§ 8124 (a)(1)]	Homes @WtAvg	Surcharge per gallon	Years To Complete	Meets GWSA 10 V.S.A. § 578(a)(2) and (3)
\$90 million p.a.	2,587	\$0.35 per gallon	56 years	No
Moore: \$180 million p.a.	5,174	\$0.70 per gallon	28 years	No
\$250 million p.a.	7,187	\$1.00 per gallon	20 years	No – TIPPING POINT
EAI: \$1,009 million p.a.	29,005	\$4.04 gallon	5 years	Yes

Through future legislative refinements, the actual amount of money raised through credit purchases under S.5 will be determined. This amount will indirectly fund improvements. It will also be passed back to the consumer of heating fuel through a surcharge.

From our calculations of actual upfront costs, it will take 28 years to enact climate measures if only \$0.70 is passed through as a fuel surcharge. This will only improve 5,174 homes per year when GWSA is understood to require 29,005 per year. Recently it seems in the press that some have objected to \$0.70 and said it was too heavy a surcharge to pass through.

However, actual upfront costs will require the pass through of a surcharge of \$4.04 per gallon to achieve compliance in only five years.

Legislators appear to have decided to feather in credit purchase levels, see how the structure works, and try to pass through only moderate amounts in surcharges.

Appendix

III. A sensitivity of resultant enactment time windows (cont.)

The breakdown in the structure occurs when changeover renovations fail to occur as needed under GWSA because of unsubsidized upfront costs. The lack of changeovers will force the raising of the surcharge beyond moderate levels.

Remember the pool of subsidies provided by legislation in 2022 was only \$80 million. There currently is no state financing or revenue to subsidize changeovers beyond the implicit financing which the fuel dealers will provide.

As others have testified, the low- and moderate- income households will not be among the first to renovate their homes. They simply don't have the money and they may not be able to borrow the nominal \$45,387 to complete the job and enjoy lower heating costs. For 60% of Vermonters, changeover renovations will equal or exceed their total annual income. See Vermont income quartiles below:

INCOME GROUP	Top 20%						
	Lowest 20%	Second 20%	Middle 20%	Fourth 20%	Next 15%	Next 4%	Top 1%
INCOME RANGE	Less than \$21,200	\$21,200 - 39,100	\$39,100- 59,500	\$59,500- 94,000	\$94,000- 196,000	\$196,000- 460,000	Over \$460,100
AVG. INCOME IN GROUP	\$11,500	\$29,200	\$49,200	\$74,800	\$131,100	\$279,700	\$993,600

Source: "Who Pays?," *Institute on Taxation and Economic Policy*, October 2018

Despite legislative intentions for low- and moderate- income to renovate first under 16% + 16%, there simply isn't enough money within the low- and moderate-income households and within a moderate surcharge to prime the pump of the credit structure. The program may start with the wealthy, but a majority of Vermonters will never be in a position to participate.



Appendix

III. A sensitivity of resultant enactment time windows (cont.)

In an effort to provide capital for the homes of low- and moderate-income to changeover first, the \$1.00 surcharge level will have to be exceeded. Once exceeded, we predict (based on discussions with out-of-state fuel dealers) that there will be an increase in non-compliant fuel purchases, thereby exacerbating the cost being spread over fewer regulated gallons sold. This is what we call the Carbon Doom Spiral. It is the unanticipated future of the massive \$5 billion off-balance sheet financing known as the Affordable Heat Act.

In the Cadmus Pathways report the savings of the Climate Action Plan (“CAP”) was reported as \$6.4 billion NPV.⁸ The savings attributed to social carbon alone is \$7.4 billion, so all of the savings are found in social carbon.⁹ The social carbon model was presented in Energy Futures Group report of August 2021.¹⁰ However, the model used to calculate social carbon used 2.0% as a discount rate. The discount rate reflects the cost of capital or the cost of borrowing. Since that time borrowing rates have risen.

⁸ Cadmus Group and Energy Futures Group, “Vermont Pathways Analysis Report 2.0” February 11, 2022, 5 and 72

⁹ Ibid., 73

¹⁰ David Hill, Elizabeth Bourguet, Chris Neme, Gabrielle Stebbins, “Social Cost of Carbon Model Review,” Energy Futures Group, Inc., August 18, 2021

Appendix

III. A sensitivity of resultant enactment time windows (cont.)

In August 2021, the effective fed funds rate (“EFFR”) was 10 bps. This implies a premium used of 190 bps above the risk free EFFR for a total of 2.0% used in the discount rate. Today the EFFR today is 4.58%, an increase of 45 times from 10 bps.¹¹ At the other end of the yield curve, the 30 Year Treasury has gone from 1.8% to 3.8%.¹² Without seeing the actual model, which is not public, it is clear the increase in EFFR, if used, should mean the appropriate discount rate today is 4.58% plus the premium of 190 bps or 6.48%. Using the long bond, the rate would be 4%. Therefore, the appropriate discount rate using the methodology in the report is not 2%; it is somewhere between 4.0% to 6.8%, with 6.0% being appropriate for underlying structural rates.

This increase in borrowing costs, leading to an increase in discount rate combined with our findings on increased upfront costs, flips the results of the CAP model. All savings disappear. Assuming out-year flows in the social cost of carbon model are even flows, not chunky flows, the \$7.4 social cost savings will likely decline to \$2.2 to \$3.7 billion in social cost savings. Given the additional \$3 billion in time-zero cost identified with upfront improvements, this means the model is now likely \$800 million of economic cost, not benefit, to Vermonters under the Affordable Heat Act. We would need to see the non-public model but from the information presented, there are no economic savings under the Affordable Heat Act. There may be progress towards climate goals, but the program will not produce *any* economic savings for Vermonters.

¹¹ See Federal Reserve Bank of New York, accessed on February 14, 2023, <https://www.newyorkfed.org/markets/reference-rates/effr>

¹² See Yahoo Finance, accessed February 14, 2023, at <https://finance.yahoo.com/quote/%5ETYSX/history?period1=1627689600&period2=1676332800&interval=1d&filter=history&frequency=1d&includeAdjustedClose=true>



Thank You

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