

Testimony of Steve Gorelick to the VT Senate Environment & Energy Committee
February 8, 2023

My name is Steven Gorelick, and I live in Walden, which is Caledonia County – Jane Kitchel's district. In the late 1970s, I worked for a solar energy cooperative in California, and later ran my own solar energy business. For the past 25 years I've lived off the grid here in Vermont, using solar for electricity and hot water, and wood for heat. Since 1991 I've worked for a small international non-profit called Local Futures that focuses on environmental and economic issues. Among other things, I co-authored a report for them following the Paris climate conference, arguing for more comprehensive action on the climate front.¹

I think it's safe to say that I'm neither a climate-change denier nor a proponent of fossil fuels. Nonetheless, I do not support S.5.

The Affordable Heat Act – and the Global Warming Solutions Act that spawned it – is meant to be part of the "solution" to climate change. Although Jared Duval's later testimony differs on this point, one of the handouts he provided on January 25 shows approximately \$7 billion in savings to Vermonters from "**Avoided social, economic and environmental damage**"² (see Appendix 1). But climate change is caused by *global* emissions, and eliminating Vermont's small contribution to the total won't alter its trajectory. Even if Vermont cut its emissions to zero tomorrow, we would still be saddled with the costs Mr. Duval's handout claims we will avoid.

Rather than pretend that cutting our emissions will have a meaningful impact on climate change, we should anticipate and address the health and environmental impacts we're likely to experience in the coming decades. I'm not saying that we shouldn't take any steps to reduce emissions – we absolutely should. But not to make ourselves feel virtuous, or to convince ourselves that we're somehow inspiring others and "leading the way" to a sustainable future.

Climate change is clearly a serious threat, but it's unfortunate that so many legislators and environmental groups have latched onto it as though it is the only important environmental problem we face, and focus on it in isolation from many other looming crises. Some of those crises have nothing at all to do with climate change: the oceans are filling up with plastics and "dead zones"; there are carcinogenic "forever" chemicals in food, water and soil; bee populations are crashing; wilderness is disappearing. The list could go on, but the point is that reducing our emissions won't solve any of these.

A single-minded focus on emissions, in fact, can lead to policies that worsen some of those other problems – and may even intensify the impacts we're likely to experience from climate change. For example, since extreme weather is likely to be the norm for the foreseeable future, does it make sense to clearcut, blast and bulldoze our ridgelines for industrial wind turbines – damaging the headwaters of streams and rivers and worsening downstream flooding? With

¹ Climate Change or System Change, Local Futures, 2015. <http://www.localfutures.org/wp-content/uploads/climate-action-paper.pdf>.

² Annual Progress Report for Vermont 2022, Energy Action Network, page 20.

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water shortages making it risky to depend on food from drought-prone states like California, does it make sense to cover useable farmland with large-scale PV projects? With extreme weather making power outages more common, does it make sense for everyone's heating system to depend entirely on electricity? If we focus *only* on emissions reduction, these projects may make sense; but if we focus on real-world costs and benefits, they don't.

I imagine that the Committee would like to know what alternatives I propose. Two answers come to mind. The first is to focus on carbon sequestration in our soils. A study by the Rodale Institute reveals that "global adoption of regenerative practices across both grasslands and arable acreage could sequester more than 100% of current anthropogenic emissions of CO₂."³ Doing so here in Vermont would have the added benefits of reducing pesticide use and strengthening our local food system. We could also encourage woodlands owners to manage their land with carbon sequestration in mind, perhaps giving them financial support for doing so through current use or other programs.

Another answer was hinted at by Senator McCormack, who asked Mr. Duval whether we are doing enough to promote conservation. I'm convinced that we aren't.

One reason is that the Climate Council used sector-based, rather than consumption-based, emissions accounting in its calculations. The implications of this choice are profound. It means that if we consume a product made here in Vermont, we account for the emissions; but if we consume a product made on the other side of the world, the emissions required to produce it and transport it here are ignored. In other words, a head of lettuce grown in Vermont adds to our emissions total, but a head of lettuce shipped here from California doesn't.

Look at the shelves of Walmart or Dollar General and all the goods delivered by Amazon, and it's easy to see that there's a *lot* of consumption happening in Vermont for which there's no emissions accounting. Because Vermont imports so much of what we consume, and because emissions from imports "belong" to the place that produced them, it appears that consumption has little impact on our emissions total. Not only does this mean there's little incentive for cutting consumption – which is the essence of conservation – it also creates a perverse incentive to replace local production with imports. To see how absurd this is from a policy perspective, consider that Vermont could appear to reduce its emissions just by importing *everything* we consume, including all our food. Let me repeat that: *Vermont could appear to reduce its emissions just by importing everything we consume.*

In the real world, does reducing consumption actually lower emissions? It's helpful to look at a graph of global emissions since 1997, the year the first international treaty to address climate change – the Kyoto protocol – was signed. Despite all the renewable energy projects that have been installed worldwide and all the hybrid and electric cars that have been put on the roads, emissions have steadily risen, year after year. In fact, emissions rose faster in the 2000s than

³ "Regenerative Agriculture and the Soil Carbon Solution", Rodale Institute 2020. https://rodaleinstitute.org/wp-content/uploads/Rodale-Soil-Carbon-White-Paper_v11-compressed.pdf

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they did in the 1990s (see Appendix 2).⁴ There are, however, two notable exceptions. The first was in 2009 following the global financial crisis, and the second was in 2020 while the Covid pandemic was raging. In both cases, a slowdown in economic activity led to a reduction in global emissions. In other words, encouraging everyone to drive a Tesla is unlikely to reduce emissions, but cutting back on consumption actually would. And unlike a buildout of large-scale renewable energy projects – which would have multiple environmental costs here and elsewhere – reducing economic activity would help to lessen almost *all* of our environmental impacts.

Perhaps you're thinking that reducing economic activity is simply not an option – that most economists say we need to encourage consumption in order to continue growing the economy. But as economist Kenneth Boulding famously said, "the only people who believe you can have infinite economic growth on a finite planet are madmen and economists".⁵ It's time for us to envision an economy that doesn't require endless growth, or we will never address the many problems we face, including climate change.

In this regard, another recommendation is to fund the annual calculation of Vermont's GPI, or Genuine Progress Indicator. GDP – the most common proxy for economic health – is a simple aggregate of all expenditures. GPI, by contrast, distinguishes between spending on "goods" and "bads". We can't actually say we're doing better as a society if we're spending more money on cancer treatments and prisons, for example – even though both add to GDP. Nor can we say that a forest has no value until it is cut down, as do GDP calculations. An annual calculation of Vermont's GPI was mandated by the legislature in 2012,⁶ but the funds to implement it have never been allocated. Doing so would give legislators a much better way to know if their policy choices are improving our quality of life, or if they merely stimulate consumption in the false belief that there's a connection between the two. In 2020, per capita personal consumption in Vermont was twice as much as it was in 2000.⁷ Is our quality of life today twice as good as it was 20 years ago? Conversely, would our lives be appreciably worse if we "only" consumed at the rate we did in 2000?

As a long-time resident of the Northeast Kingdom, I know how a lot of my friends and neighbors see the emissions-reduction work of the Legislature. Most are low-income working people who don't live extravagantly, and yet many feel that Montpelier is, in effect, blaming them – along with their fossil fuel furnaces and their 20-year old cars and pickup trucks – for climate change. I'm not saying they're right or wrong for thinking that way, I'm just telling you how they feel. But it's undeniable that the push for electrification is coming from the more urbanized parts of

⁴ IEA, Global energy-related CO2 emissions, 1900-2020. <https://www.iea.org/data-and-statistics/charts/global-energy-related-co2-emissions-1900-2020>

⁵ Kenneth Boulding, attributed by Mancur Olsen, 1973 Fall, Daedalus, Volume 102, Number 4,

⁶ ", J. Mijin Cha, "Vermont Adopts Genuine Progress Indicator, Demos, May 4, 2012.

<https://www.demos.org/blog/vermont-adopts-genuine-progress-indicator>

⁷ "Vermont per capita personal consumption expenditures 2000-2020", Statista, Sep 30, 2022.

<https://www.statista.com/statistics/1128300/vermont-per-capita-personal-consumption-expenditures/>

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Vermont, while the biggest renewable energy projects have been in the most rural parts of the state, along with the state's only landfill, where all Vermont's consumption eventually goes to die.

It's also true, as a 2021 report confirmed, that the biggest contributors to climate change worldwide are the wealthy – a class the report defines as the "polluter elite".⁸ My neighbor in a double-wide is not dumb. He knows that whatever emissions he produces are a small fraction of what a wealthy homeowner on Shelburne Bay produces, even if their mansion and swimming pool are heated with "renewable" electricity.

Instead of using market forces on a huge scale in order to impel Vermonters to electrify home heating, why not use those same forces to encourage conservation? Perhaps there's no economic incentive that will wean Vermont's wealthiest from their extravagances, but the stigma of being labelled as among the polluting elite might rein in their worst excesses.

To conclude, I agree with a sentiment expressed more than once during these hearings: taking action in response to climate change is a moral imperative. Reducing consumption may not be politically popular, but it's the only path towards really addressing the many environmental problems we face, including climate change. Aside from some efforts at weatherization, S.5 does little if anything to reduce home heat energy consumption, and nothing at all to reduce consumption more broadly.

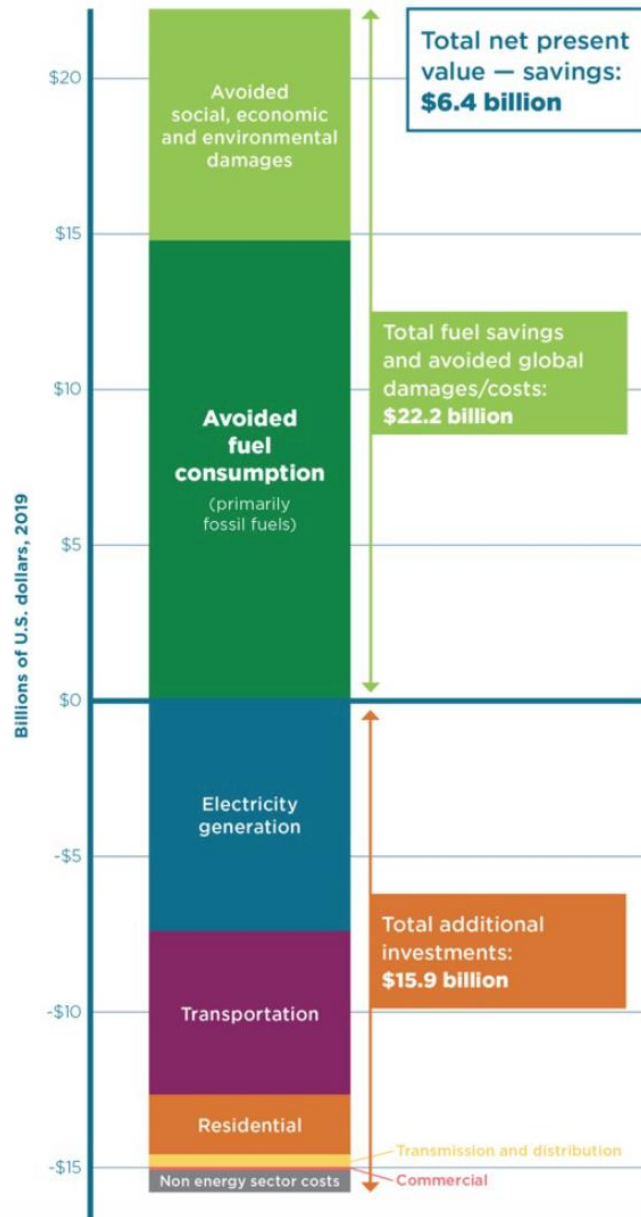
I do appreciate the hard work the committee has put into the Affordable Heat Act, but I sincerely hope that you will decide to move in a very different direction.

⁸ "World's wealthiest 'at heart of climate problem'", BBC, April 13, 2021. <https://www.bbc.com/news/science-environment-56723560>

Appendix 1

Climate Action Plan \$ savings from pathways, net present value, 2015-2050
Submitted by Jared Duval, January 25, 2023

Climate Action Plan: \$ savings from pathways, net present value, 2015-2050



Source: Cadmus/EFG, Vermont Pathways Analysis Report 2.0, 2022.

Appendix 2

Global energy-related CO2 emissions 1900-2020
IEA

