RESEARCH PAPER

Fossil Fuel Sales in Vermont: What the Latest Data Mean for the State Economy, Vermont Consumers, and GHG Emissions Reduction Commitments

April 2025

ENERGY ACTION NETWORK

Energy Action Network (EAN) is an independent non-profit organization that conducts data tracking, research, and analysis on behalf of all Vermonters. We are dedicated to providing transparent, timely, and high quality information and analysis to support fact-based energy and climate conversations in Vermont.

Acknowledgements

The authors would like to thank the Vermont Department of Taxes, the Vermont Joint Fiscal Office, and VGS for providing data utilized in this report. Additionally, we would like to thank the following individuals for their generous review and helpful comments that contributed to this paper: EAN Senior Fellows Karen Glitman, Ken Jones, Linda McGinnis, Bill Regan, and Leigh Seddon; Brian Woods and Jeff Merrell (Vermont Climate Action Office); Kelly Lucci (Efficiency Vermont); and Dylan Giambatista (VGS).

Table of Contents

Executive Summary

Monthly data available from the Vermont Department of Taxes enables near real-time tracking of statewide fossil fuel sales in Vermont. This report summarizes EAN's analysis of the latest fossil fuel sales data, from 2017 through 2024.

Affordability

- **Over $2 billion was spent on fossil fuels in Vermont in 2024** – the third year in a row that statewide fossil fuel costs exceeded $2 billion.
- **Vermont households spend an average of about $7,000 a year on energy**, the significant majority of which is for fossil fuels for transportation and heating.
- Because of Vermont's exposure to and dependence on price-volatile fossil fuels, **Vermont experienced over a $1 billion increase in annual fossil fuel costs – or nearly $1,800 per Vermonter – comparing 2022 to 2020**.
- **A key opportunity to lower energy bills and provide greater price stability for Vermonters is by increasing access to and adoption of solutions that reduce or end dependence on fossil fuels.** Efficient energy solutions that can significantly lower monthly and lifetime costs include weatherization, electric vehicles, heat pumps, heat pump water heaters, and advanced wood heating systems.

Greenhouse Gas (GHG) Emissions

- As of January 1, 2025, Vermont is estimated to have reduced statewide GHG emissions 16-21% below 2005 levels. Contributing to this progress, **as of the end of 2024, Vermonters have registered nearly 18,000 electric vehicles, comprehensively weatherized over 40,000 homes, and installed over 20,000 heat pump water heaters and over 70,000 heat pump units.**
- However, the science-based commitment made in the Global Warming Solutions Act (GWSA) is a 26% reduction below 2005 levels by 2025. **Vermont almost certainly did not meet the first emissions reduction deadline (January 1, 2025) of the GWSA.**
- Vermont's combined transportation and thermal sector GHG emissions in 2024 were likely 5.57 million metric tons. This is about 370,000 metric tons higher than emissions from those sectors would have needed to be to achieve their proportional sectoral targets in alignment with the first emissions reduction obligation of the GWSA.

- In order to make up for the excess emissions from the transportation and thermal sectors, we would need to see an approximately 29% reduction in GHG emissions across all other sectors between 2021 to 2024 – something which we lack either historical or recent data to suggest is plausible.

- Based on currently available data, we estimate that 2024 statewide GHG emissions in Vermont were likely between 7.75 - 8.29 $MMTCO_2e$ (or 8.02, ± 0.27 $MMTCO_2e$). **This translates to falling 18-39% short of Vermont's first statewide emissions reduction legal obligation under the GWSA.**

- These findings underscore that **emissions reductions do not occur absent clear market signals in the form of concerted state policy, rules, and programs designed to cost-effectively and equitably cut climate pollution and energy costs.**

- **That Vermont almost certainly did not meet the first obligation of its GWSA is not because it was not possible to do so. Rather, it comes as a predictable result of Vermont not implementing policies, regulations, and programs to cost-effectively and equitably cut climate pollution in line with commitments made in state law**.

Time is of the essence if we want to get on track – both in terms of seizing the opportunity to reduce costs to Vermonters by lessening dependence on high-cost and price-volatile fossil fuels, and in terms of meeting our responsibility to reduce climate pollution in line with science-based legal commitments.

Introduction: Transportation and Thermal Fuel Sales Data for Vermont

Monthly data on transportation fossil fuel (gasoline and diesel) sales volumes is collected by the Vermont Department of Taxes and reported by the Joint Fiscal Office (JFO).[1] Since 2017, the Vermont Department of Taxes has also collected monthly data regarding the volume of fossil heating fuels (including fuel oil, dyed diesel, kerosene, and propane) sold in Vermont.[2] Annual fossil gas (also referred to as utility or natural gas) sales data is made available by VGS.

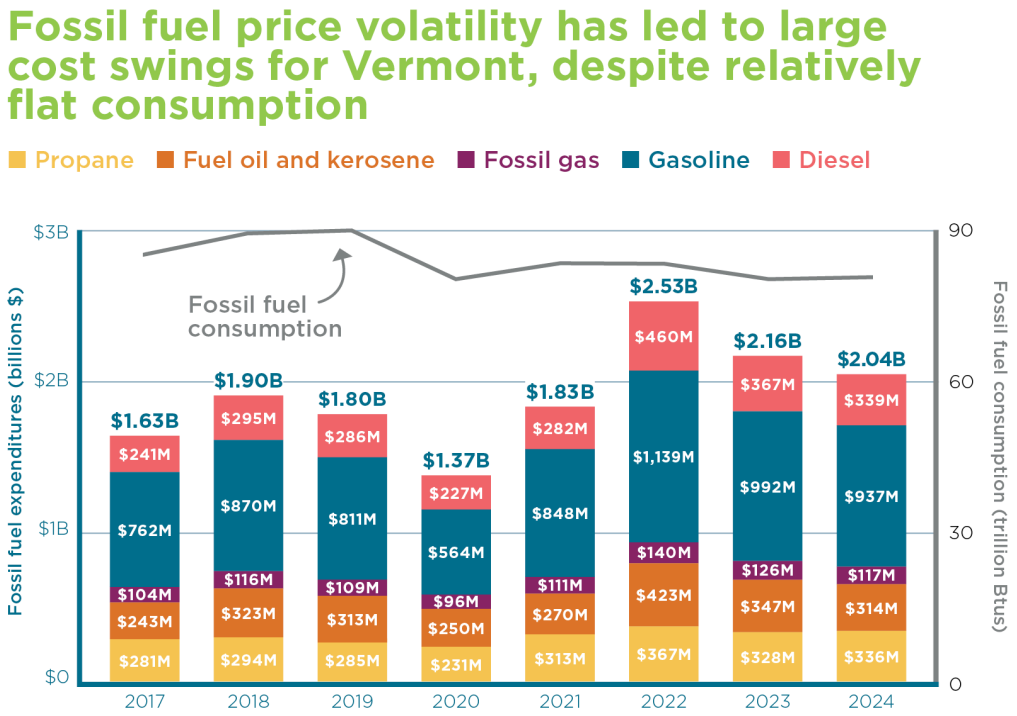
In 2024, EAN first conducted an analysis of fossil fuel sales data for Vermont's thermal sector (through 2023). With this research paper, we are updating and broadening our analysis to look at both transportation and thermal fossil fuel sales in Vermont, from 2017 through 2024. Specifically, EAN has analyzed the above referenced data sources

[1] Vermont Legislative Joint Fiscal Office
[2] Specifically, Fuel Gross Receipts (FGR) data that is collected through the "Fuel Tax and Petroleum Distributor Licensing Fee Tax Return" forms, a blank example of which is available here.

to assess statewide fossil fuel use through the lenses of what it means for the Vermont economy, Vermont consumers, and our statewide climate pollution reduction commitments.

What the Data Mean for the Vermont Economy and Vermont Consumers

Over $2 billion was spent on fossil fuels in Vermont in 2024.[3] This was the third year in a row that total statewide fossil fuel costs exceeded $2 billion. Putting this in context, fossil fuel spending in Vermont was equivalent to 4-5% of the state's gross domestic product (GDP) in 2024.[4]



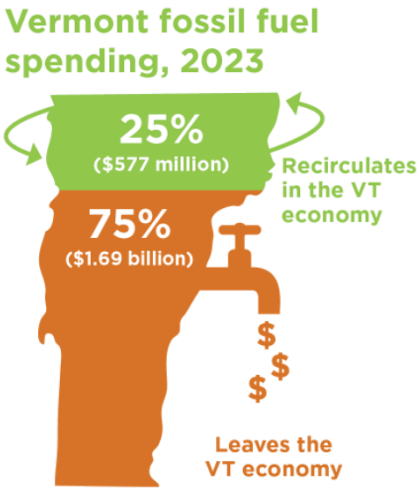
Sources: Gasoline and diesel sales volumes from Vermont Department of Taxes via the Joint Fiscal Office; fuel oil, kerosene, and propane sales volumes from Vermont Department of Taxes; fossil gas sales volumes and prices from VGS; other fuel prices from Vermont Department of Public Service and EIA. **Note:** This estimate only includes Vermont sales of gasoline, diesel, propane, fuel oil and kerosene, and fossil gas. It does not include sales of aviation gasoline or jet fuel from the transportation sector or of fossil fuel-based electricity generation (less than 10% of Vermont's electricity portfolio).

From a macroeconomic perspective, spending on fossil fuels – which are 100% imported into Vermont – represents a much greater flow of dollars out-of-state, as compared to spending for electricity. Specifically, **an average of 75 cents of every**

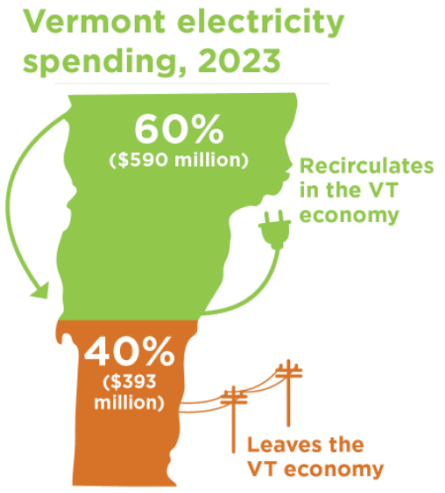
[3] This estimate only includes Vermont sales of gasoline, diesel, propane, fuel oil and kerosene, and fossil gas. It does not include sales of aviation gasoline or jet fuel from the transportation sector or of fossil fuel-based electricity generation (less than 10% of Vermont's electricity portfolio).
[4] Federal Reserve Economic Data (FRED), 2025

dollar spent on fossil fuel leaves the state economy, while only 40 cents of every dollar spent on electricity leaves the state, with the rest staying and recirculating in the Vermont economy.[5]

More than half of fossil fuel spending in Vermont in 2024 continued to be for transportation, primarily for gasoline and then for diesel. Among fossil fuels used for heating, the highest expenditures were for propane, followed by fuel oil and then fossil gas.



Sources: Fossil fuel spending: Vermont Department of Taxes, 2024; VGS, 2024. Dollar recirculation share: Ken Jones, Senior Fellow for Economic Analysis, 2024. **Note:** This graph includes spending on thermal and transportation fuels only.



Sources: Electricity spending: Vermont electric utilities. Dollar recirculation share: Ken Jones, Senior Fellow for Economic Analysis, 2024. **Note:** Dollar recirculation share was updated in January 2025 to reflect out-of-state transmission costs.

ENERGY ACTION NETWORK

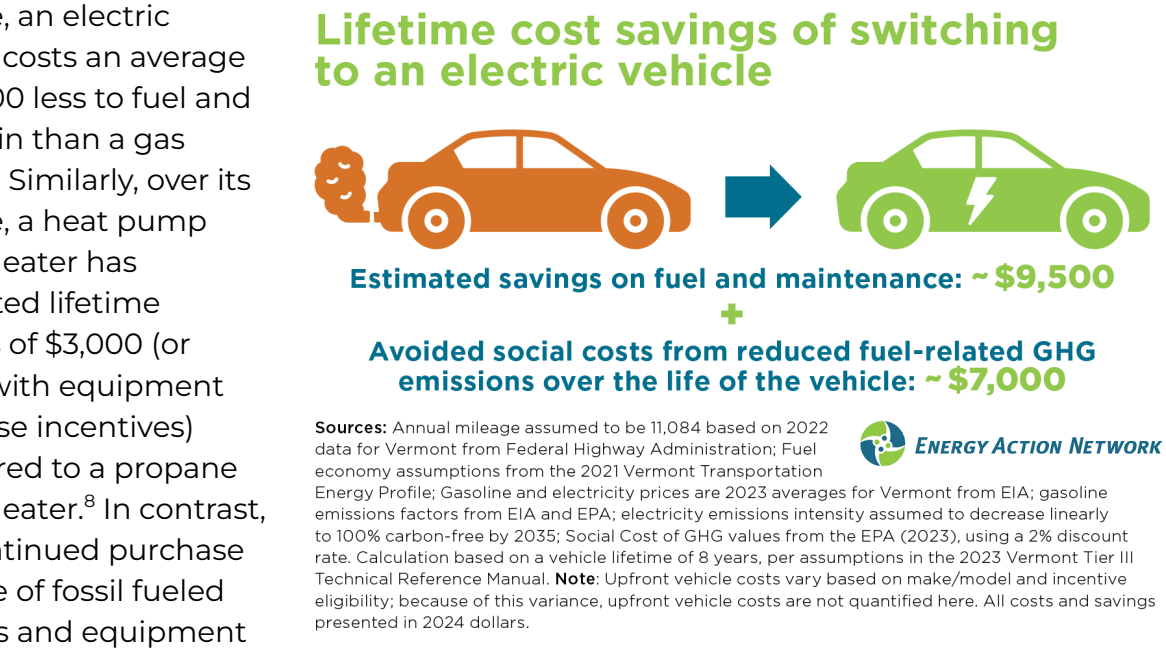
The cost of Vermont's continued exposure to and dependence on high-cost, price-volatile fossil fuels is especially apparent when comparing the years 2020 and 2022. Between those years, statewide fossil fuel consumption was essentially flat. However, because of fossil fuel price spikes, the amount of money that Vermonters spent on fossil fuel nearly doubled, from $1.37 billion in 2020 to $2.53 billion in 2022. **This was a more than $1 billion increase in fossil fuel costs to Vermont in just two years – representing an average cost increase of nearly $1,800 for each and every Vermonter.**

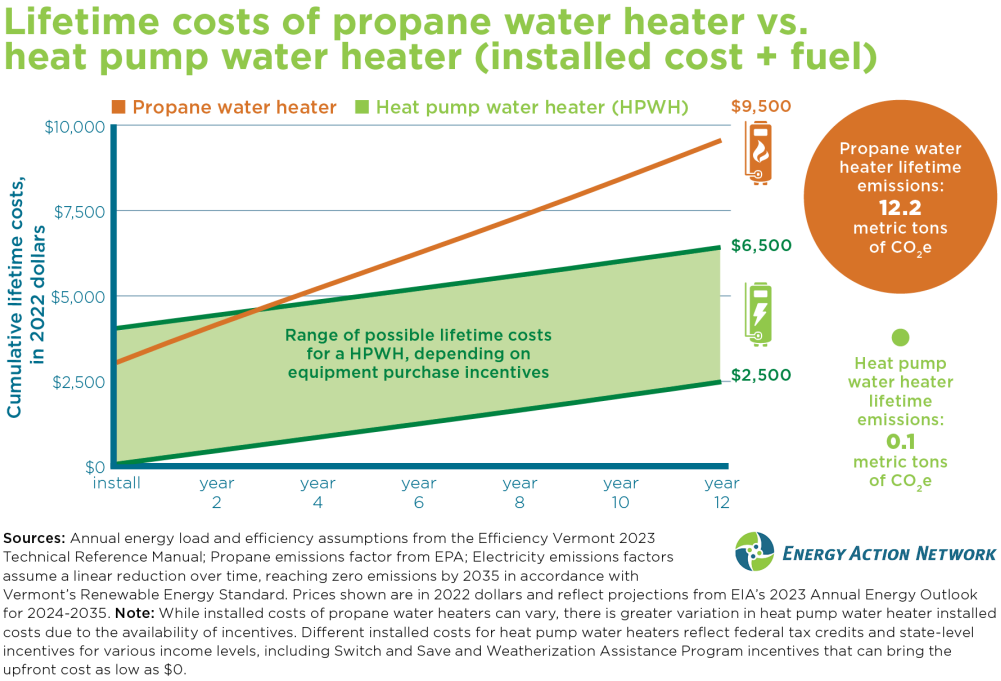
Vermont households currently spend an average of about $7,000 a year on energy, the significant majority of which is for fossil fuels for transportation and heating.[6] Total household energy costs present an especially high cost burden for Vermont households with lower and middle-incomes.

A key opportunity to lower energy bills and provide greater price stability for Vermonters is by increasing access to and adoption of solutions that reduce or end dependence on fossil fuels. Efficient energy solutions that can significantly lower monthly and lifetime costs include weatherization, electric vehicles, heat pumps, heat pump water heaters, and advanced wood heating systems.[7]

[5] 2024 EAN Annual Progress Report for Vermont
[6] 2023 Vermont Energy Burden Report, Efficiency Vermont
[7] See 2024 EAN Annual Progress Report for Vermont

For instance, over its lifetime, an electric vehicle costs an average of $9,500 less to fuel and maintain than a gas vehicle. Similarly, over its lifetime, a heat pump water heater has estimated lifetime savings of $3,000 (or more with equipment purchase incentives) compared to a propane water heater.[8] In contrast, the continued purchase and use of fossil fueled vehicles and equipment often locks in high fuel costs and price volatility, along with large amounts of pollution.

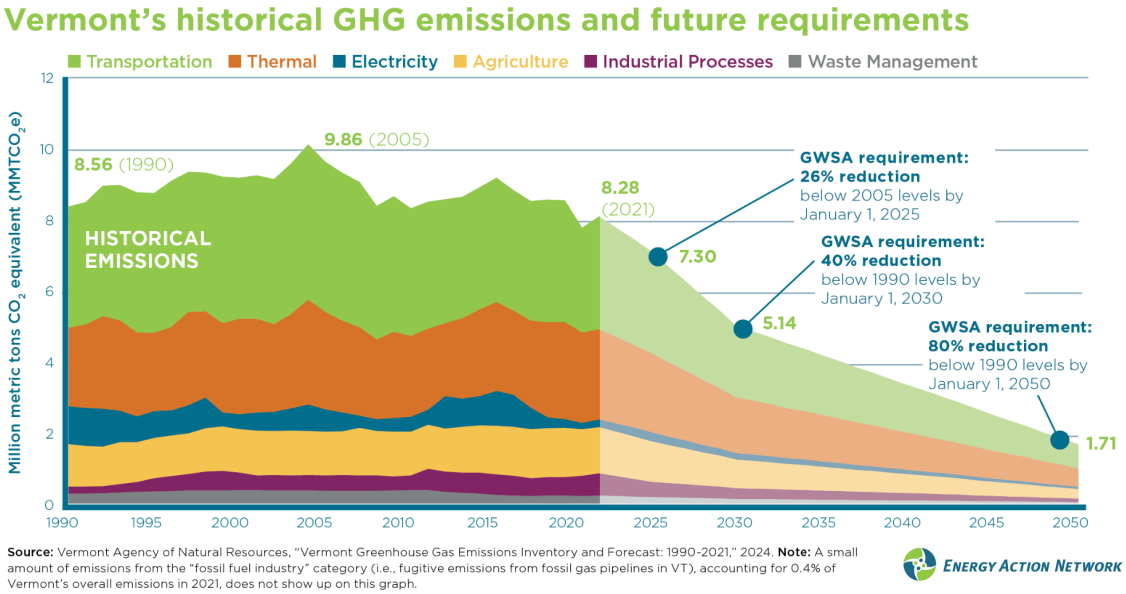




[8] EAN 2024 Annual Progress Report for Vermont

What the Data Mean for Statewide Greenhouse Gas Emissions

The first greenhouse gas (GHG) emissions reduction obligation of the Global Warming Solutions Act (GWSA) was for Vermont to have reduced emissions at least 26% below 2005 levels by January 1, 2025 (i.e., 2024 statewide annual GHG emissions). Specifically, this translates to maximum allowable statewide GHG emissions of 7.30 million metric tons of carbon dioxide equivalent (CO_2e) for 2024, or a 2.56 $MMTCO_2e$ reduction in annual GHG emissions below 2005 levels.



Source: Vermont Agency of Natural Resources, "Vermont Greenhouse Gas Emissions Inventory and Forecast: 1990-2021," 2024. **Note:** A small amount of emissions from the "fossil fuel industry" category (i.e., fugitive emissions from fossil gas pipelines in VT), accounting for 0.4% of Vermont's overall emissions in 2021, does not show up on this graph.

ENERGY ACTION NETWORK

The Vermont Greenhouse Gas Emissions Inventory is the official measure of annual statewide GHG emissions in Vermont. However, there is often a two-to-three-year time lag in access to data from the federal Environmental Protection Agency tool that is used to estimate agriculture sector emissions, which delays publication of the overall Inventory. For instance, the Vermont GHG Inventory published in 2024 covered the period 1990-2021.

Fortunately, much of the rest of the data used for Vermont's GHG Inventory are available with a much shorter time lag. Specifically, the vast majority of emissions from Vermont's two highest emitting sectors – transportation and thermal – are estimated using the fossil fuel sales data that is available from the Vermont Department of Taxes on only a one-to-two-month time lag. Using these data, we are able to estimate 2024 annual emissions from the transportation and thermal sectors, which, combined, have recently been responsible for about 70% of Vermont's climate pollution.

Key Emissions Findings

Based on Tax Department, JFO, and VGS fossil fuel sales data, **EAN estimates that Vermont's combined transportation and thermal sector GHG emissions in 2024 were likely 5.57 million metric tons.[9] This is about *370,000 metric tons higher* than emissions from those sectors would have needed to be to achieve their proportional sectoral targets in alignment with the first emissions reduction obligation of the GWSA**. For context, 370,000 metric tons is equivalent to the emissions from burning over 40 million gallons of gasoline.[10]

VT GHG emissions from the transportation and thermal sectors: Historical and projected

		Transportation emissions ($MMTCO_2e$)	Thermal (RCI) emissions ($MMTCO_2e$)	Transportation + thermal total ($MMTCO_2e$)
VT INVENTORY REPORTED EMISSIONS	2017	3.45	2.50	5.95
	2018	3.51	2.74	6.24
	2019	3.50	2.79	6.29
	2020	3.02	2.60	5.62
	2021	3.24	2.59	5.83
EAN ESTIMATED EMISSIONS	2022	3.21	2.57	5.78
	2023	3.17	2.38	5.55
	2024	**3.21**	**2.37**	**5.57**
2024 GWSA Targets		**2.92**	**2.28**	**5.20**
Gap between 2024 estimate and 2024 GWSA sectoral targets		**0.28**	**0.09**	**0.37**

Sources: 2017-2021 emissions: Vermont Agency of Natural Resources, "Vermont Greenhouse Gas Emissions Inventory and Forecast: 1990-2021," 2024. 2022-2024 emissions estimated by EAN based on data from the Vermont Department of Taxes, VGS, and EIA GHG emissions factors.

ENERGY ACTION NETWORK

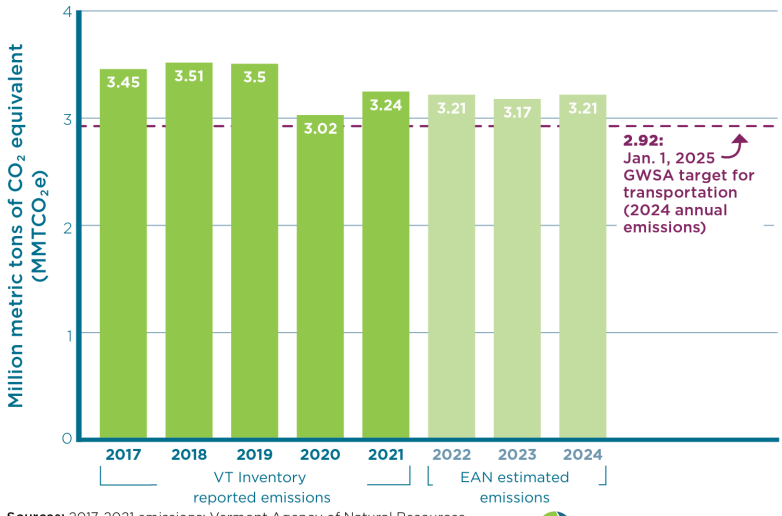
More specifically, EAN estimates that 2024 transportation emissions were likely 3.21 $MMTCO_2e$ and thermal (or residential, commercial, and industrial (RCI) fuel use)

[9] GHG emissions were estimated by applying fuel emissions factors from the EPA to the fuel consumption data from the Vermont Department of Taxes and JFO, in line with Vermont Inventory methodology. Gasoline consumption totals were adjusted to remove aviation gasoline, ethanol, and a small amount of gasoline used in the commercial and industrial sectors. Diesel consumption totals were adjusted to remove biodiesel. For both the transportation and thermal sectors, we applied a multiplier in line with historical amounts to account for the ~4% of transportation emissions that are not associated with gasoline or diesel, and the ~8% of thermal emissions that are not associated with fuel oil, kerosene, propane, or fossil gas. Consumption data for these other emissions sources come from EIA and are not yet available for 2024.

[10] Greenhouse Gas Equivalencies Calculator | US EPA

emissions were likely 2.37 $MMTCO_2e$. To have met their proportional share of emissions reduction in line with the January 1, 2025, emissions reduction obligation of the GWSA, transportation emissions should have been no greater than 2.92 $MMTCO_2e$ and thermal sector emissions no greater than 2.28 $MMTCO_2e$. This means that the **transportation sector likely missed its sectoral target by about 280,000 metric tons and the thermal sector by about 90,000 metric tons.**

Vermont GHG emissions in the transportation sector

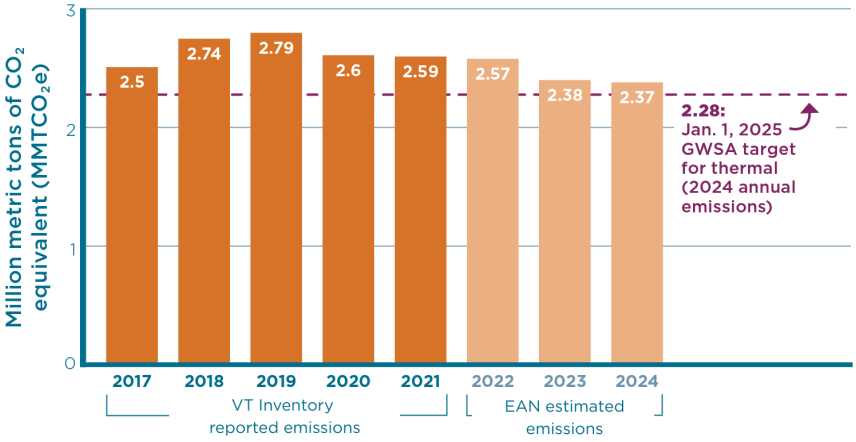


Sources: 2017-2021 emissions: Vermont Agency of Natural Resources, "Vermont Greenhouse Gas Emissions Inventory and Forecast: 1990-2021," 2024. 2022-2024 emissions estimated by EAN based on data from the Vermont Department of Taxes and EIA GHG emissions factors.

ENERGY ACTION NETWORK

Given that transportation and thermal sector emissions together are estimated to be ~370,000 metric tons higher than their targets, **we assess that Vermont almost certainly did not meet the first emissions reduction deadline of the GWSA.**

Vermont GHG emissions in the thermal (RCI) sector



Sources: 2017-2021 emissions: Vermont Agency of Natural Resources, "Vermont Greenhouse Gas Emissions Inventory and Forecast: 1990-2021," 2024. 2022-2024 emissions estimated by EAN based on data from the Vermont Department of Taxes and EIA GHG emissions factors.

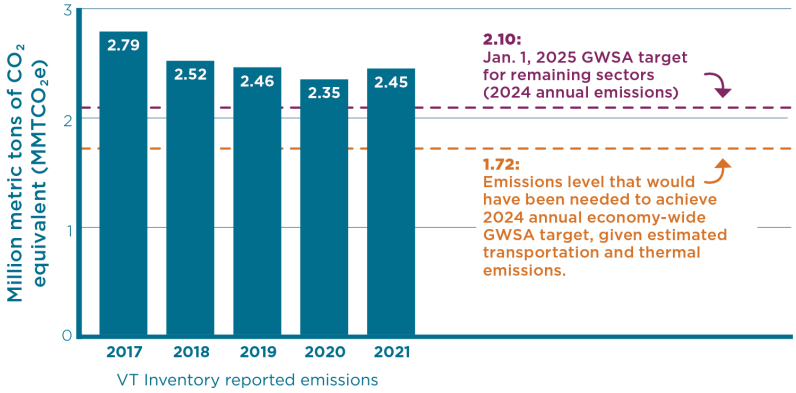
ENERGY ACTION NETWORK

Indeed, given the lack of sufficient progress in reducing transportation and thermal fossil fuel use and associated climate pollution, **we would need to see an approximately 29% reduction[11] in GHG emissions across all other sectors between 2021 to 2024 – something which we lack either historical or recent data to suggest is plausible.**

[11] Assuming combined transportation and thermal sector emissions of 5.57 $MMTCO_2e$ in 2024, to come in under the 7.3 $MMTCO_2e$ maximum level allowed by the GWSA, emissions from all other sectors would have to be no higher than 1.73 $MMTCO_2e$. Given that emissions from all other sectors were 2.45 $MMTCO_2e$ in 2021, a reduction to 1.73 $MMTCO_2e$ would be about a 29% across the board reduction in those sectors in just three years (2.45 - 1.73 = 0.72; 0.72 / 2.45 = 29%).

After transportation and thermal, the next three highest emitting sectors in Vermont are agriculture, industrial processes, and waste management. Rather than declines anywhere near the magnitude needed to make up for the excess transportation and thermal emissions, the most recent data show that emissions in these sectors have either been relatively flat (as in the case of agriculture and waste management) or increasing (as in the case of industrial processes).

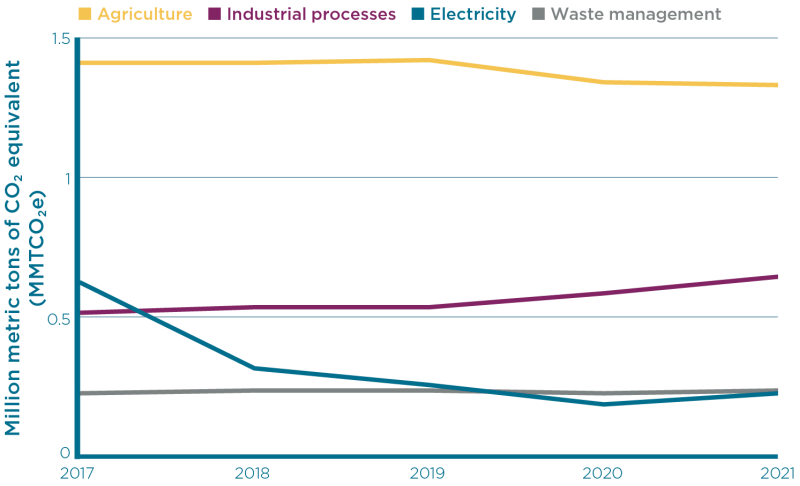
Vermont GHG emissions in remaining sectors



Sources: 2017-2021 emissions: Vermont Agency of Natural Resources, "Vermont Greenhouse Gas Emissions Inventory and Forecast: 1990-2021," 2024. 2022-2024 emissions estimated by EAN based on data from the Vermont Department of Taxes and EIA GHG emissions factors.

ENERGY ACTION NETWORK

GHG emissions from other sectors



Source: Vermont Agency of Natural Resources, "Vermont Greenhouse Gas Emissions Inventory and Forecast: 1990-2021," 2024.

ENERGY ACTION NETWORK

If we carry forward the reported 2021 Inventory values for emissions from these other sectors and then assume that they may decrease (or increase) within their observed range of movement from recent years of Inventory data, we can establish a plausible range for them for 2024. **Paired with emissions estimates from the transportation and thermal sectors, this produces an initial estimated range for statewide emissions levels for 2024 of between 7.75 - 8.29 $MMTCO_2e$ (or 8.02, ± 0.27 $MMTCO_2e$). This translates to falling between 18-39% short of our first statewide emissions reduction legal obligation under the GWSA.**[12]

Within this projected plausible range, a best-case scenario would be for Vermont to have missed the first obligation of the GWSA by 450,000 metric tons, or to have fallen 18% short of our first required annual emissions reduction below 2005 levels. However, at the other end of the range, Vermont may have missed the first target of

[12] Phrased differently, this translates to only 61-82% of the emissions reduction needed to comply with Vermont's first GWSA obligation.

the GWSA by nearly 1 million metric tons of climate pollution (39% short of the reduction needed). Most likely, emissions will have been near the middle of this range, around 8.02 $MMTCO_2e$ – which would be approximately 720,000 tons higher than our first legal commitment (28% short of our emissions reduction obligation). 720,000 tons is equivalent to the emissions from burning over 81 million gallons of gasoline.[13]

The costs of fossil fuel use don't just show up directly on energy bills: they also show up in the form of the costs to society – from health effects to infrastructure damage – with each additional ton of climate pollution further worsening global heating and the impacts of a destabilized climate. These costs can be quantified using the Social Cost of Greenhouse Gases (SC-GHG). Specifically, exceeding Vermont's 2024 obligation by between 450,000 to 1 million tons translates to an extra $109 to $239 million in social costs of greenhouse gases that Vermont imposed on society.[14]

Vermont 2024 GHG emissions estimates vs. GWSA targets by sector ($MMTCO_2e$)

	2024 estimated emissions	Jan. 1, 2025 GWSA target
Transportation	3.21	2.92
Thermal	2.37	2.28
Agriculture	1.33 (± 0.09)	1.18
Industrial processes	0.64 (± 0.10)	0.44
Waste management	0.23 (± 0.003)	0.19
Electricity	0.22 (± 0.08)	0.26
Fossil fuel industry	0.03	0.03
Total GHG emissions	**7.75–8.29**	**7.30**

Notes: Transportation and thermal GHG emissions estimated by EAN using fuel sales data from the Vermont Department of Taxes, JFO, and VGS. Emissions from other sectors were carried forward from the 2021 Vermont GHG Inventory, with possible ranges estimated based on observed year-to-year variation in each sector between 2019 and 2021.

ENERGY ACTION NETWORK

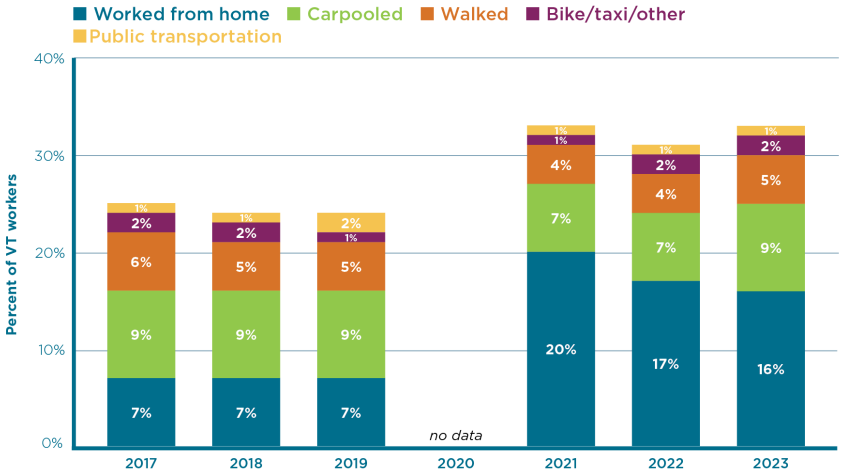
Other findings in the Transportation Sector

Transportation fuel sales (gasoline and diesel) were 8% lower in 2024 compared to 2017. EAN assesses that this was primarily due to fewer vehicle miles traveled (VMT) in Vermont, with total VMT estimated to be 7.17 billion miles in 2023, down from 7.42 billion miles in 2017.[15] The fact that many more Vermonters are reporting working from home post-pandemic (in 2023, 16% of Vermonters reported working from home, as compared to only 7% in 2019)[16] likely played a meaningful role in this overall decline.

[13] Greenhouse Gas Equivalencies Calculator | US EPA
[14] Utilizing the EPA's estimated Social Cost of Carbon, as adopted by the Vermont Climate Council, calculated in 2023 dollars with a 2% discount rate.
[15] Federal Highway Administration, Highway Statistics Series
[16] U.S. Census Bureau, American Community Survey 1-year estimates.

Other important factors contributing to the recent decline in transportation fossil fuel use include increased electric vehicle adoption (nearly 18,000 EVs were registered statewide as of January 2025),[17] along with fuel efficiency improvements, as older less efficient vehicles are replaced with newer models that are subject to higher fleetwide fuel efficiency standards. However, while EVs are making an important contribution to emissions reduction in the transportation sector, given the size of Vermont's fossil-fueled vehicle fleet (over 545,000 light duty *non*-EVs as of 2023), we find that EVs are not yet being adopted at the scale and pace necessary to drive statewide emissions reduction that would align with GWSA commitments.

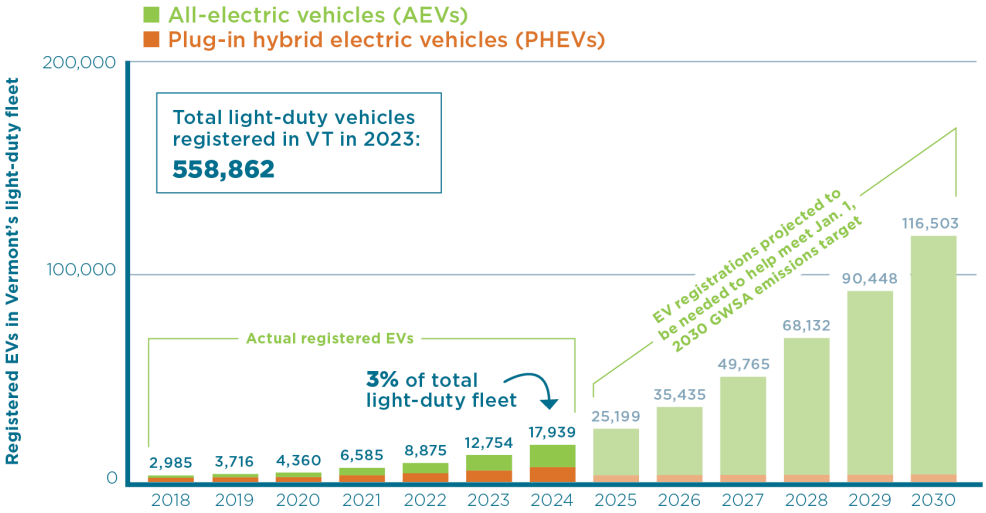
Usual commute mode in VT other than by single-occupancy vehicle, pre- and post-pandemic



Source: U.S. Census Bureau, American Community Survey 1-year estimates, 2017-2023.
Note: 2020 data not available due to the pandemic.

ENERGY ACTION NETWORK

Vermont EV registrations and future Pathways targets



Sources: Drive Electric Vermont, 2025; Energy Futures Group/Cadmus for VT Agency of Natural Resources, "Vermont Pathways Report 2.0," 2022; VT Agency of Natural Resources, 2025.

[17] Drive Electric Vermont

Additionally, the approximately 16,000 Vermonters who have registered electric vehicles since 2017 is lower than the estimated state population increase of 24,000 people between 2017 and 2023.[18] So, while EVs are certainly reducing transportation fuel use and emissions levels below what they would otherwise be, those reductions are likely being offset to some degree by increases in gasoline use driven by recent population growth in Vermont.

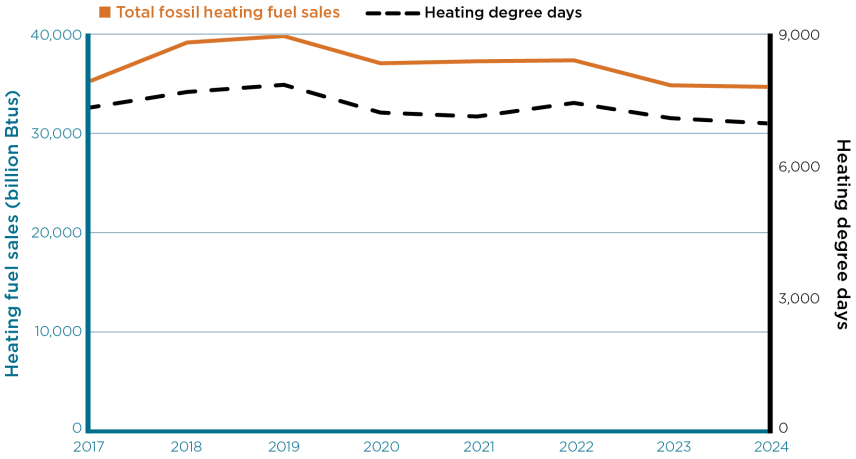
Other findings in the Thermal Sector

While Vermont saw a modest reduction in fossil heating fuel use in 2024, this was primarily attributable to the fact that *2024 was the warmest year ever recorded in Vermont*,[19] which lowered heating demand below historic levels.[20]

Compared to 2017 (the first year of available statewide heating fuel sales data from the Tax Department), heating degree days declined by 5% in 2024. However, comparing those same years, fossil heating fuel sales only declined by about 1.5%. In fact, normalizing for weather, fossil heating fuel sales were actually about 3.6% *higher* in 2024 compared to the 2017 baseline Tax Department data.

The trend in fossil heating fuel sales isn't what we would hope to see given the significant number of heat pump units (over 70,000 as of 2024)[21] and heat pump water heaters (nearly 20,000 as of 2023) that have been installed in Vermont, along with weatherization (nearly 40,000 housing units comprehensively

Vermont fossil heating fuel sales vs. heating degree days, 2017–2024



Sources: Fuel sales: Vermont Department of Taxes; Vermont Joint Fiscal Office; VGS. Heating degree days: NOAA Climate Prediction Center, Vermont population-weighted heating degree days.

ENERGY ACTION NETWORK

[18] U.S. Census Bureau, American Community Survey 1-year estimates.
[19] VTDigger, 2025
[20] It is important to note that not all residential, commercial, and industrial (RCI) fuel use is related to space heating – and therefore, not all RCI fuel use is affected by outdoor temperatures. However, EAN estimates that the large majority (75-80%) of RCI fuel use is related to space heating and, therefore, is affected by changes in heating degree days.
[21] Vermont Heat Pump Market Assessment, Efficiency Vermont, 2024

weatherized as of 2023).[22] That these measures are not leading to greater emissions reduction is likely largely explained by multiple factors, including:

- Over this period (2017-2023), Vermont's population is estimated to have grown by as many as 24,000 people, and our housing stock is estimated to have increased by at least 6,195 units.[23] While cleaner and more efficient heating solutions that reduce emissions are seeing increasing adoption, these population and housing trends are likely putting counterbalancing upward pressure on fossil heating fuel use.

- There are key differences between heat pump unit counts vs. the number of homes or buildings using heat pump systems. Specifically, the more than 70,000 heat pump units that have received rebates in Vermont to date represent the number of outdoor *units* installed, not the number of homes or buildings that have installed heat pumps. Given that many Vermont homes install multiple heat pump units, the number of heat pump units installed to date translates to just 34,000 homes, or about 10% of all Vermont homes with heat pumps.[24]

- It is important to distinguish between the installation vs. *utilization* of heat pumps. Operation patterns matter greatly and having an air source heat pump installed does not guarantee a reduction in fossil fuel use. Anecdotal evidence suggests that many homes are using heat pumps solely for their cooling capability. And even when heat pumps are operated for heating, if they are not operated properly or fully they displace far less fossil heating fuel than they are capable of. **This presents a major opportunity going forward: these systems are already installed and changes in operation have the potential to reduce far more fossil fuel use and heating expenses than at present.** As noted in Efficiency Vermont's Vermont Heat Pump Market Assessment, in addition to the installation of heat pumps, an increased focus on education and training is important to ensure that customers maximize the fuel use reduction and cost saving opportunities of their systems.[25]

- Industrial and commercial sectors – which, combined, have historically made up nearly half of thermal fuel use – do not yet have the same set of emissions reduction options available to them as the residential sector. For this and other reasons, commercial and industrial fuel use may be moving somewhat independently from residential fuel use trends.

[22] Vermont Energy Dashboard, EAN 2025
[23] U.S. Census Bureau, American Community Survey 1-year estimates.
[24] See page 5, Vermont Heat Pump Market Assessment, Efficiency Vermont, 2024
[25] Vermont Heat Pump Market Assessment, Efficiency Vermont, 2024

Conclusion

As Vermont focuses on energy affordability and looks ahead to the next GWSA compliance date of Jan. 1, 2030, this data and analysis reminds us that declines in fossil fuel use do not occur absent clear market signals in the form of concerted state policy, rules, and programs designed to cost-effectively and equitably reduce energy costs and cut climate pollution. Time is of the essence if we want to get on track – both in terms of seizing the opportunity to reduce dependence on high-cost and price-volatile fossil fuels, and in terms of meeting our responsibility to reduce climate pollution in line with science-based legal commitments.

Appendix: Fuel Sales Tables

Vermont annual fossil heating fuel sales, 2017–2024

	Propane sales (gallons)	Fuel oil and kerosene sales (gallons)	Fossil gas sales (MMcf)	Total heating fuel sales (MMBtu)
2017	101,115,761	99,362,266	11,917	35,341,722
2018	105,436,808	110,998,437	13,750	39,245,846
2019	111,456,386	110,734,494	13,882	39,896,753
2020	96,921,572	106,671,034	13,043	37,135,946
2021	110,749,640	97,417,453	13,255	37,339,928
2022	114,011,323	94,404,752	13,463	37,436,851
2023	110,861,003	85,250,902	12,519	34,905,058
2024	112,281,270	83,959,361	12,465	34,799,365
% change (2017–2024)	**+11%**	**-15.5%**	**+4.6%**	**-1.5%**

Sources: Propane, fuel oil, and kerosene sales: Vermont Department of Taxes; Fossil gas sales: VGS; Conversion factors for energy content: EIA

Vermont annual transportation fuel sales, 2017–2024

	Gasoline (gallons)	Diesel (gallons)	Total transportation fuel sales (gallons)
2017	314,008,812	92,567,655	406,576,467
2018	316,293,411	93,619,893	409,913,304
2019	314,728,037	94,451,800	409,179,837
2020	262,417,698	89,223,250	351,640,948
2021	285,699,809	90,634,829	376,334,638
2022	285,555,157	88,728,013	374,283,170
2023	286,129,171	84,595,962	370,725,133
2024	288,854,333	85,822,235	374,676,568
% change (2017–2024)	**-8.0%**	**-7.3%**	**-7.8%**

Source: Gasoline and diesel sales volumes from the Vermont Department of Taxes via the Joint Fiscal Office. Diesel volumes include on-road diesel and non-road (dyed) diesel.