What the latest fossil fuel sales data tell us about Vermont's economy and emissions

EAN Webinar

May 8, 2025

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

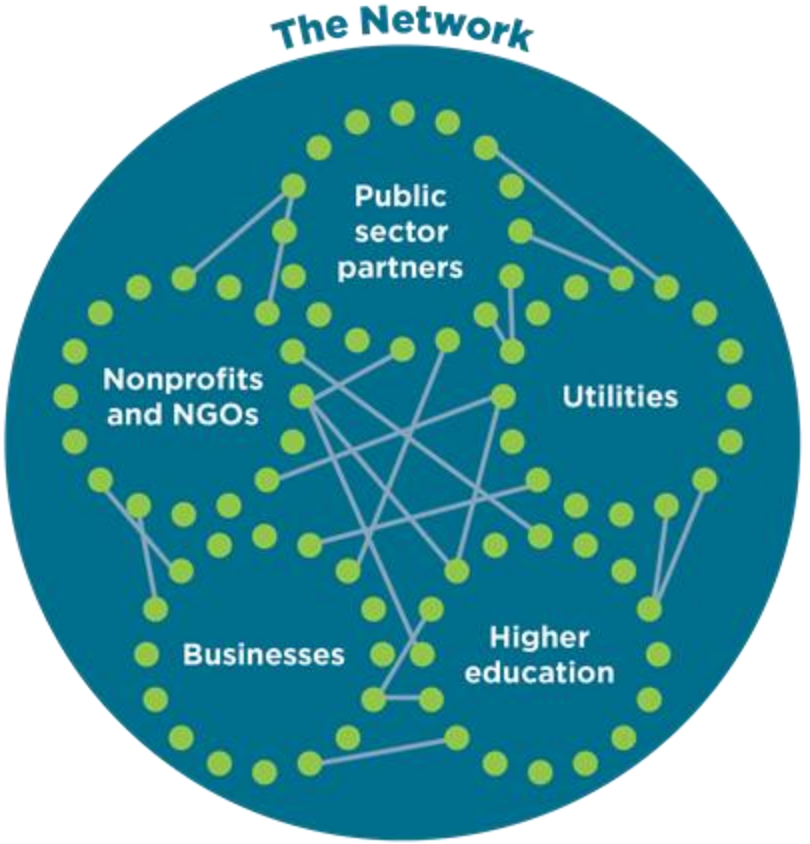
ENERGY ACTION NETWORK

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.

Energy Action Network

EAN Network

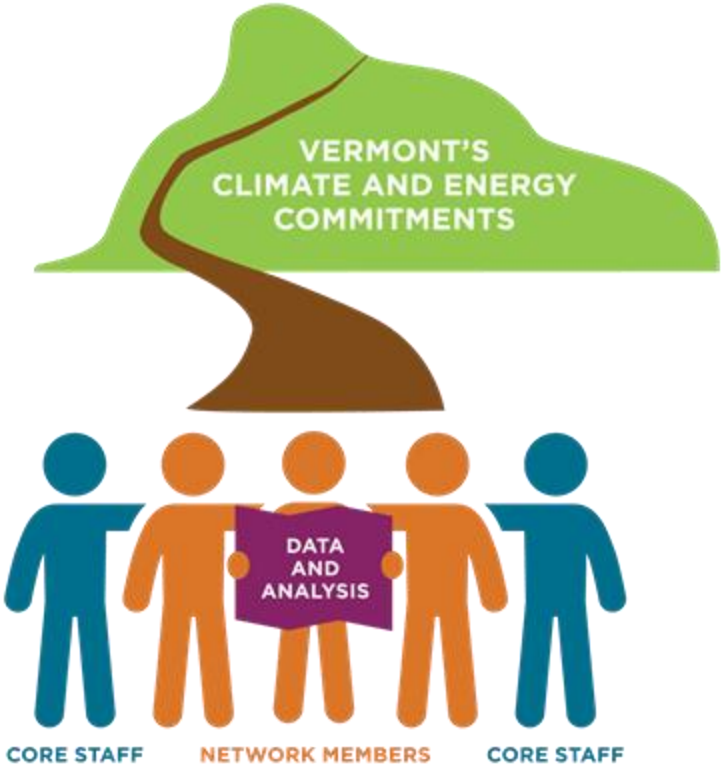
The Network's mission is to achieve Vermont's climate and energy commitments in ways that create a more just, thriving, and sustainable future.



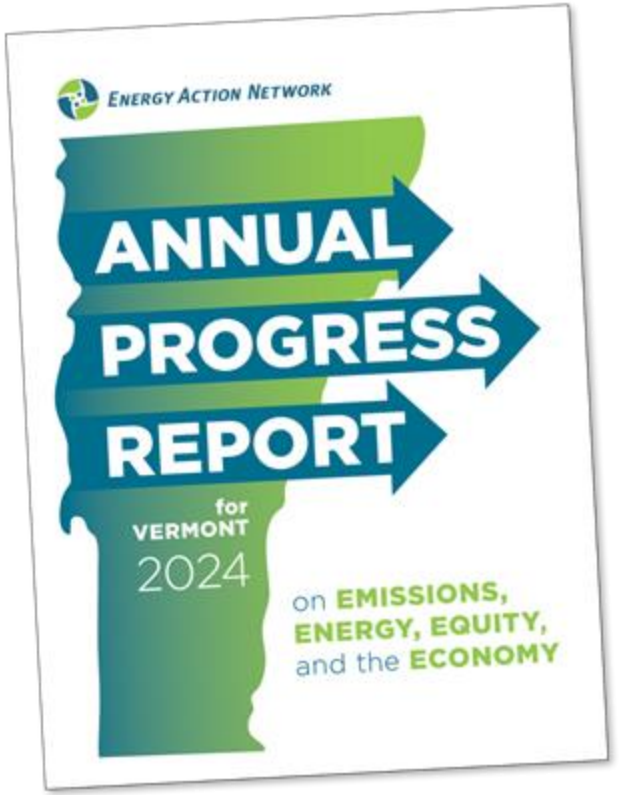
EAN is two things

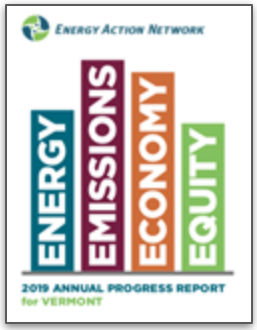
EAN Organization

The organization's mission is to ensure that Vermont's energy and climate decisions are evidence-based, grounded in high-quality data and analysis, and collaboratively developed for effective and durable progress.



EAN Research and Analysis





The Good News

- Overall, statewide fossil fuel consumption has been trending downward (albeit slowly… and largely supported by federal funding that is going away or facing uncertainty).

- Vermont's Greenhouse Gas (GHG) pollution has been trending downward -- an estimated 16-21% reduction below 2005 levels as of 2024.

- As of the end of 2024. Vermonters have helped cut pollution and, often, to reduce energy costs by:
  - **Registering nearly 18,000 electric vehicles (EVs)**
  - **Comprehensively weatherizing over 40,000 homes**
  - **Installing over 20,000 heat pump water heaters**
  - **Installing over 70,000 cold climate heat pump units**

The Good News

- **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 high-cost and price-volatile fossil fuels.**
- Efficient energy solutions that can significantly lower monthly and lifetime costs include **electric vehicles, weatherization, heat pump water heaters, heat pump systems, and advanced wood heating systems.**

The Bad News

- **2024 was the 3rd year in a row that statewide fossil fuel costs exceeded $2 billion.**
- Vermonters' exposure to and dependence on price-volatile fossil fuels has led to large cost increases in recent years.
  - **VT faced over $1 billion more in annual fossil fuel costs comparing 2022 to 2020 – a cost increase of nearly $1,800 per Vermonter.**
  - VT faced a 38% cost increase in fossil fuels comparing 2022 to 2021.

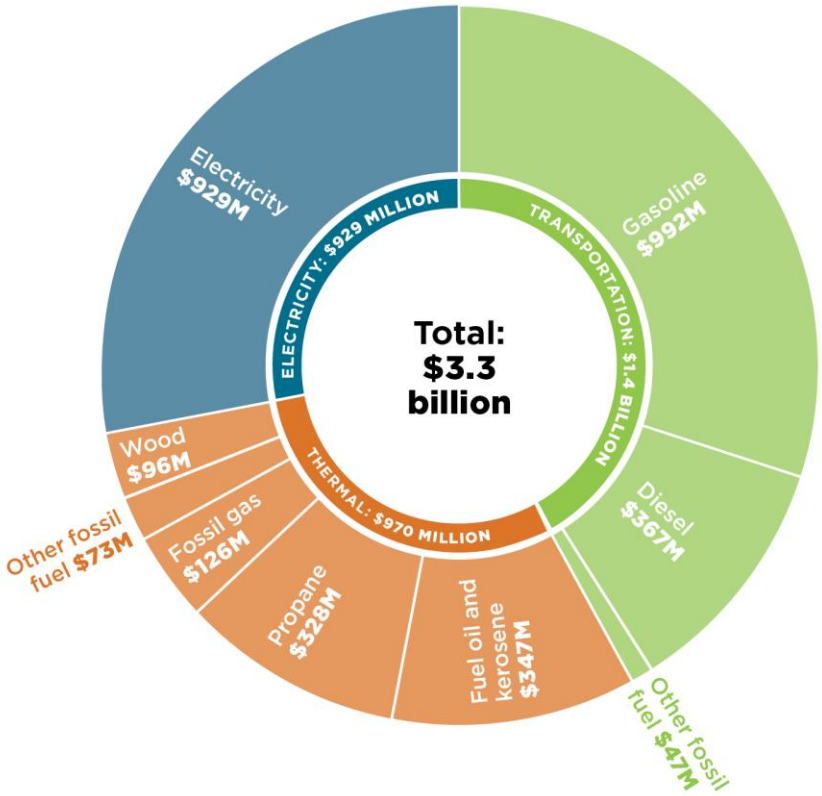
The Bad News

- **Vermont almost certainly did not meet the first emissions reduction deadline (January 1, 2025) of the Global Warming Solutions Act (GWSA)**.

- Based on currently available data, EAN estimates that 2024 statewide GHG emissions in Vermont were likely between 7.75 – 8.29 MMTCO2e (or 8.02, ± 0.27 MMTCO2e). **This translates to falling 18-39% short of Vermont's first statewide emissions reduction obligation under the GWSA.**

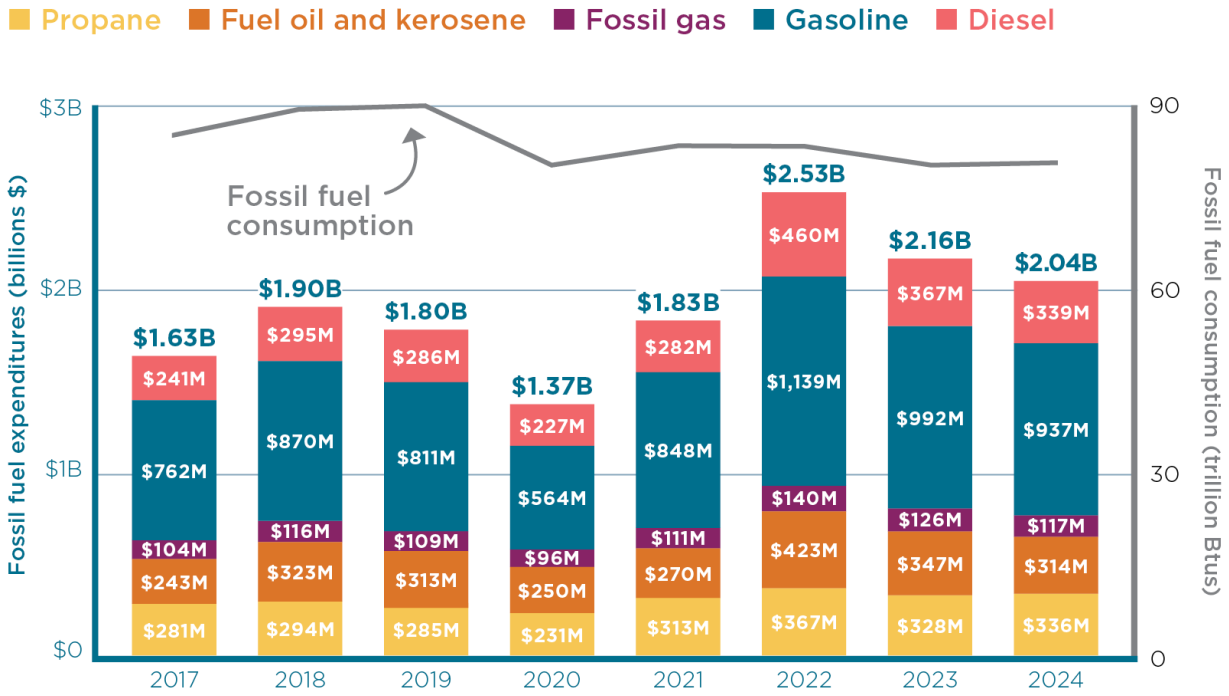
Economic Analysis

Total Vermont energy expenditures by sector and fuel, 2023



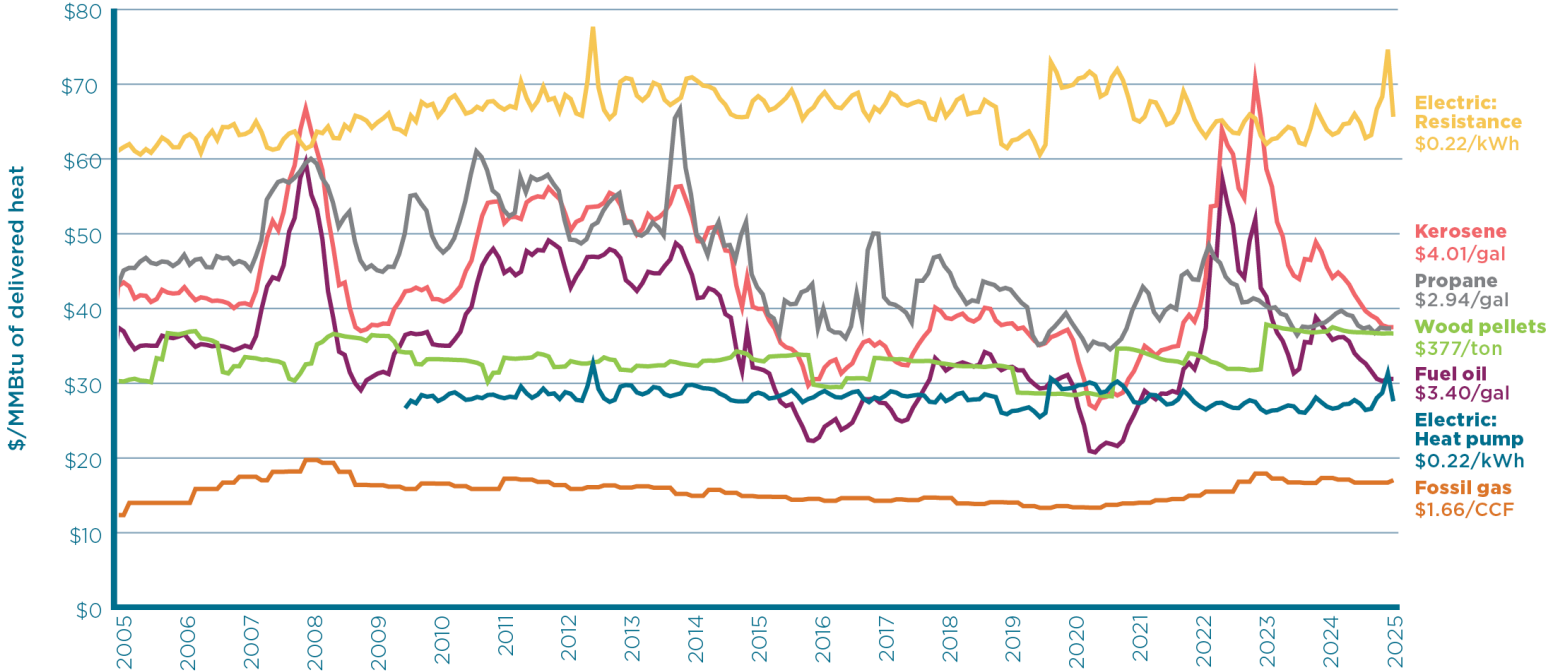
Sources: Gasoline and diesel sales volumes from Vermont Joint Fiscal Office, 2025; fuel oil, kerosene, and propane sales volumes from Vermont Department of Taxes, 2025; fossil gas sales volumes and prices from VGS, 2025; fuel prices from Vermont Department of Public Service and EIA; electricity expenditures from Vermont Department of Public Service; wood and other fossil fuel expenditures from EIA.

Fossil fuel price volatility has led to large cost swings for Vermont, despite relatively flat consumption



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).

Cost comparison of different heating fuel options over time (adjusted for inflation, December 2024 dollars)

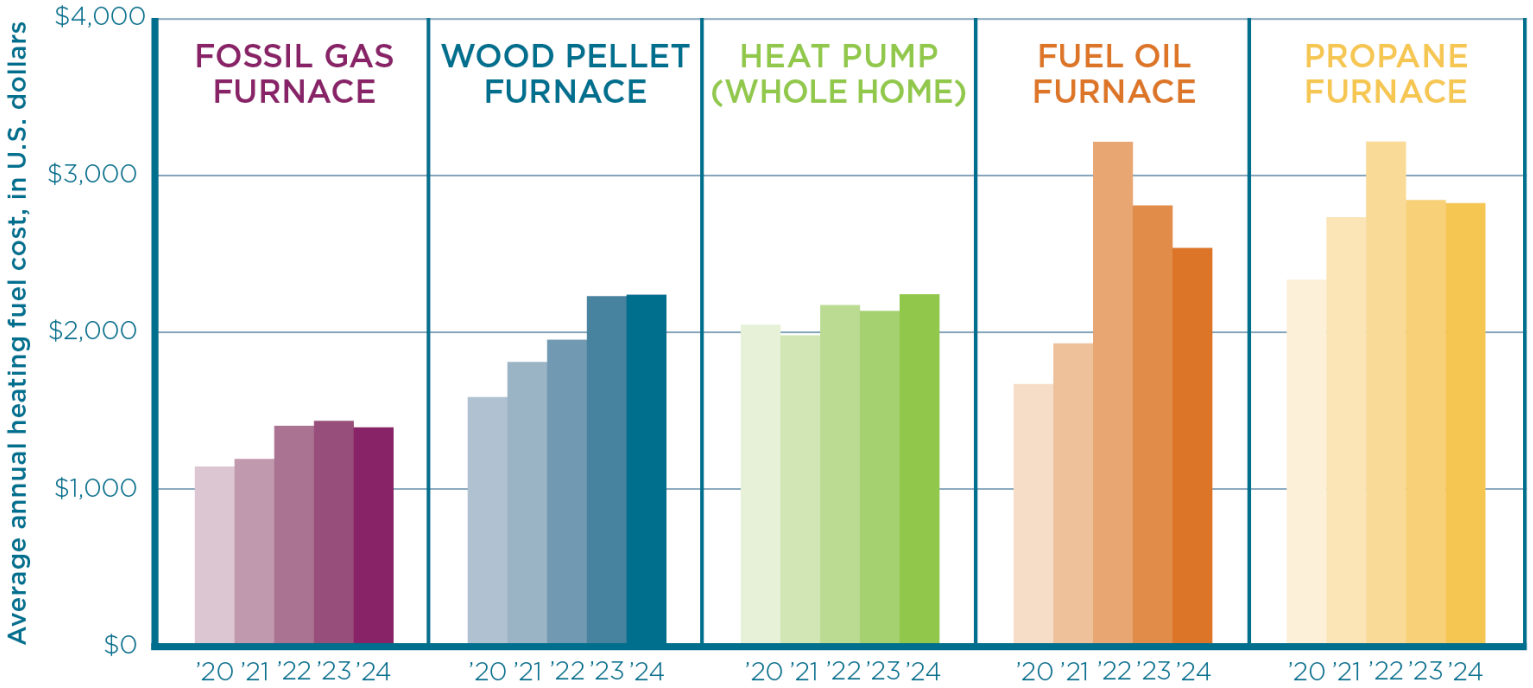


Sources: Fuel oil, propane, and kerosene prices: VT Department of Public Service, Retail Prices of Heating Fuels. Fossil gas: VGS. Electricity: EIA. Wood pellets: Biomass Energy Research Center; 2024 prices estimated based on a small sample of VT suppliers and average prices collected by Maine and New Hampshire. **Notes:** Electricity prices presented here are a statewide average but vary by utility territory. The reason propane is usually more expensive per MMBtu than fuel oil but less expensive on a per gallon basis is because propane has a lower energy content per gallon (66% of the energy of fuel oil per gallon). Prices reflect data through December 2024. Prices shown are in December 2024 dollars, using the U.S. BLS Consumer Price Index.

Cost comparison of different transportation fuels over time in VT (adjusted for inflation, June 2024 dollars)

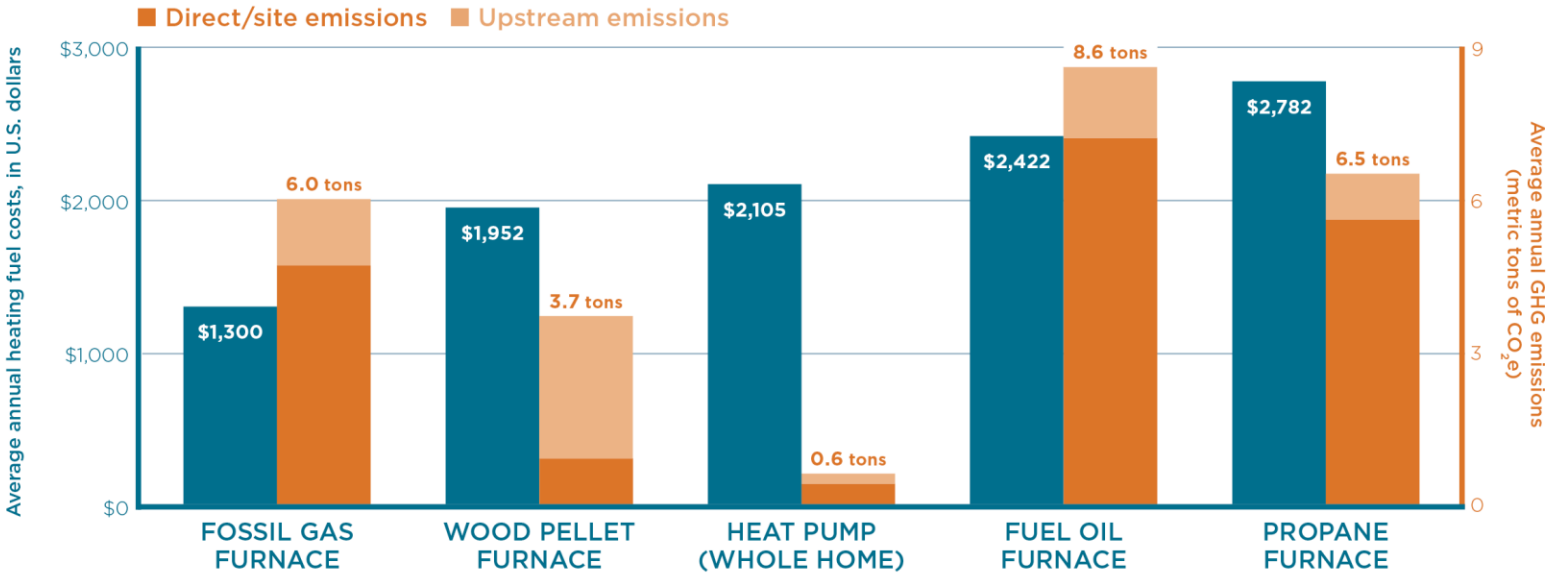
Fuel oil and propane are more expensive and price-volatile than other heating fuels

Average VT household heating fuel costs, 2020-2024



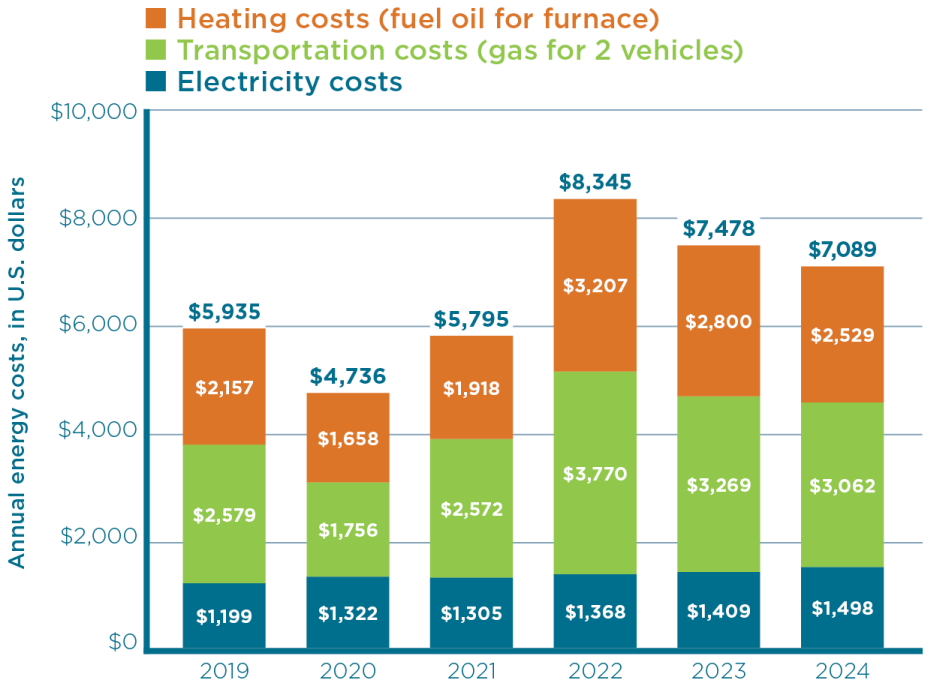
Sources: Average monthly fuel prices: EIA; Vermont Department of Public Service, Retail Prices of Heating Fuels; VGS. Average efficiency rates of heating equipment: Efficiency Vermont Technical Reference Manual (TRM), 2024. Annual fuel costs assume average household heating load of 83 MMBtu, adjusted to account for annual population-weighted heating degree days from NOAA Climate Prediction Center.

Average annual VT household heating fuel costs and GHG emissions, 2020–2024



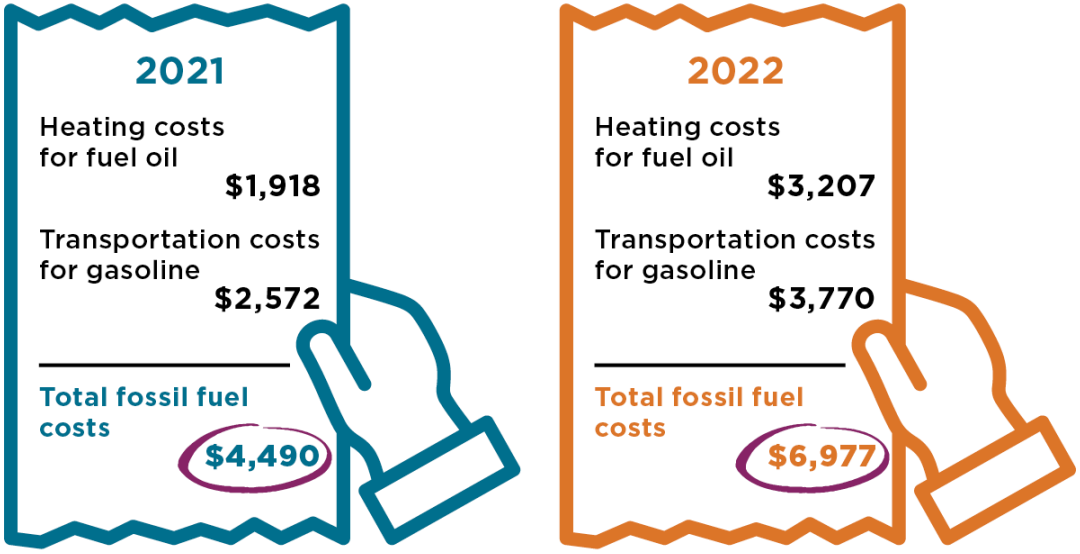
Sources: Average monthly fuel prices: EIA; Vermont Department of Public Service, Retail Prices of Heating Fuels; VGS. Average efficiency rates of heating equipment: Efficiency Vermont Technical Reference Manual (TRM), 2024. Direct/site emissions factors: VT Agency of Natural Resources, "Vermont Greenhouse Gas Emissions Inventory and Forecast, 1990-2021," 2024. Upstream emissions factors: ERG, prepared for VT ANR, "Vermont Energy Sector Life Cycle Assessment," 2024. Annual fuel costs assume average household heating load of 83 MMBtu, adjusted to account for annual population-weighted heating degree days from NOAA Climate Prediction Center.

Annual energy costs for an example VT household, 2019–2024



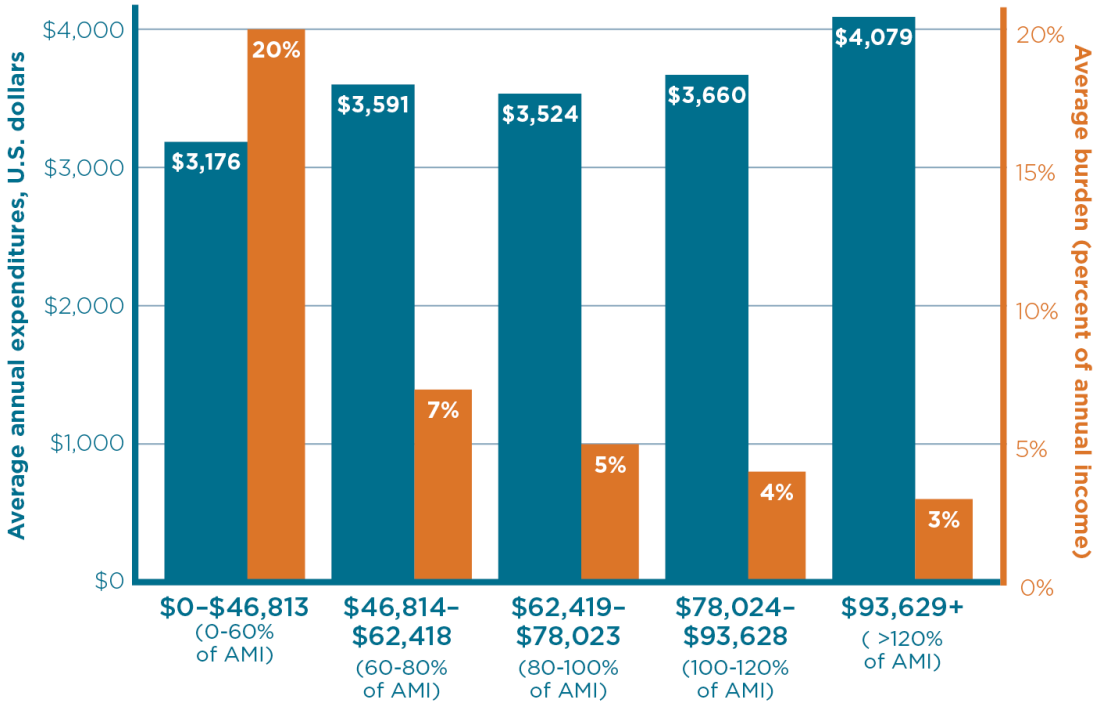
Sources: Transportation costs estimated for a household with 2 gasoline vehicles based on VT average annual VMT from the Federal Highway Administration, average MPG assumption from the 2021 Vermont Transportation Energy Profile, and average annual gasoline prices for New England from EIA. Heating costs for a fuel oil furnace estimated based on average Vermont heating load of 83 MMBtu (adjusted based on annual heating degree days), average fuel oil furnace efficiency from the Efficiency Vermont Technical Reference Manual (TRM), 2024, and average VT fuel oil prices from the Department of Public Service. Electricity costs estimated based on average monthly electricity consumption and average annual electricity prices from EIA.

Fossil fuel costs spiked in 2022: Example cost impacts for a Vermont household



Sources: Transportation costs estimated for a household with 2 gasoline vehicles based on VT average annual VMT from the Federal Highway Administration, average MPG assumption from the 2021 Vermont Transportation Energy Profile, and average annual gasoline prices for New England from EIA. Heating costs for a fuel oil furnace estimated based on average Vermont heating load of 83 MMBtu (adjusted based on annual heating degree days), average fuel oil furnace efficiency from the Efficiency Vermont Technical Reference Manual (TRM), 2024, and average VT fuel oil prices from the Department of Public Service.

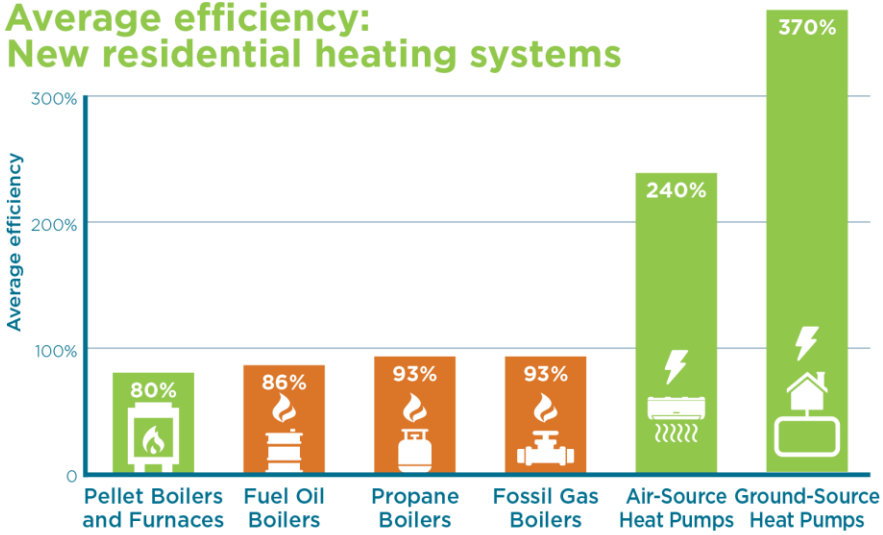
Vermont combined average household heating and electricity fuel costs and burden by income level, 2019–2023



Source: U.S. Census Bureau, 2019-2023 American Community Survey 5-year Public Use Microdata Samples.
Notes: Income categories are based on 2019-2023 median household income in Vermont of $78,024. Energy burden refers to the share of annual household income spent on energy. Costs include fuel only and are not inclusive of equipment and maintenance costs.

Modern electric equipment is more energy efficient

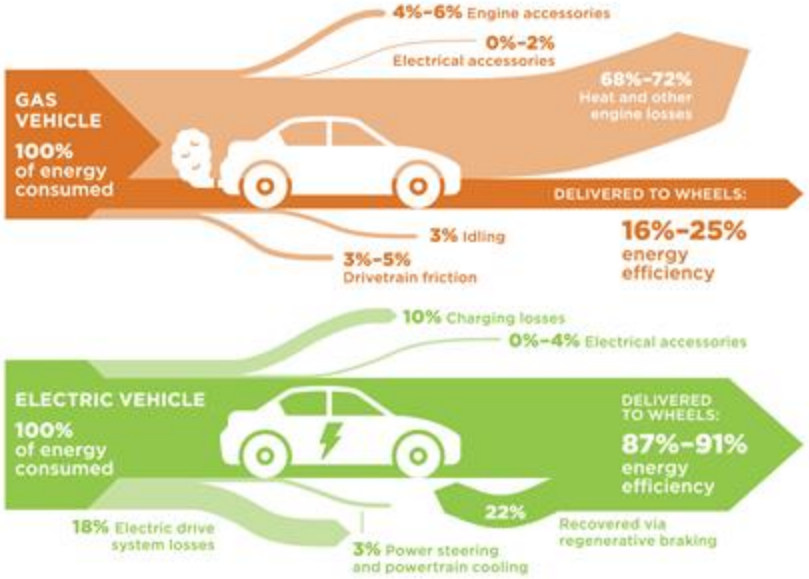
Average efficiency: New residential heating systems



Sources: Pellet stoves, air-source heat pumps, and fuel oil, propane, and fossil gas boiler efficiencies: Vermont Public Utility Commission, "TAG Tier III Annual Report," 2021. Ground-source heat pumps: US Energy Information Agency, "Updated Buildings Sector Appliance and Equipment Costs and Efficiencies," 2023. **Notes:** Heating efficiency refers to the average rate at which an appliance converts energy from fuel to heat output, expressed as a percentage. Heat pumps are capable of achieving efficiency rates greater than 100% because the energy input is used to transfer—rather than generate—heat. Efficiency rates for air-source heat pumps can vary considerably depending on outdoor air temperature. The efficiency presented here is an average over the course of the heating season.

ENERGY ACTION NETWORK

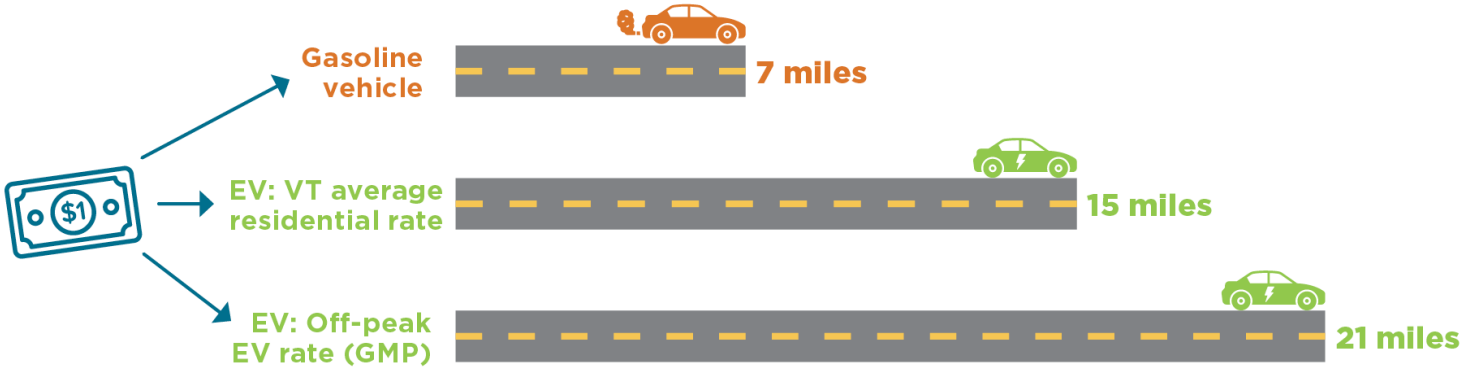
Efficiency of energy use: Gas vehicles vs electric vehicles



Source: fueleconomy.gov. **Note:** Estimates shown are combined city and highway driving.

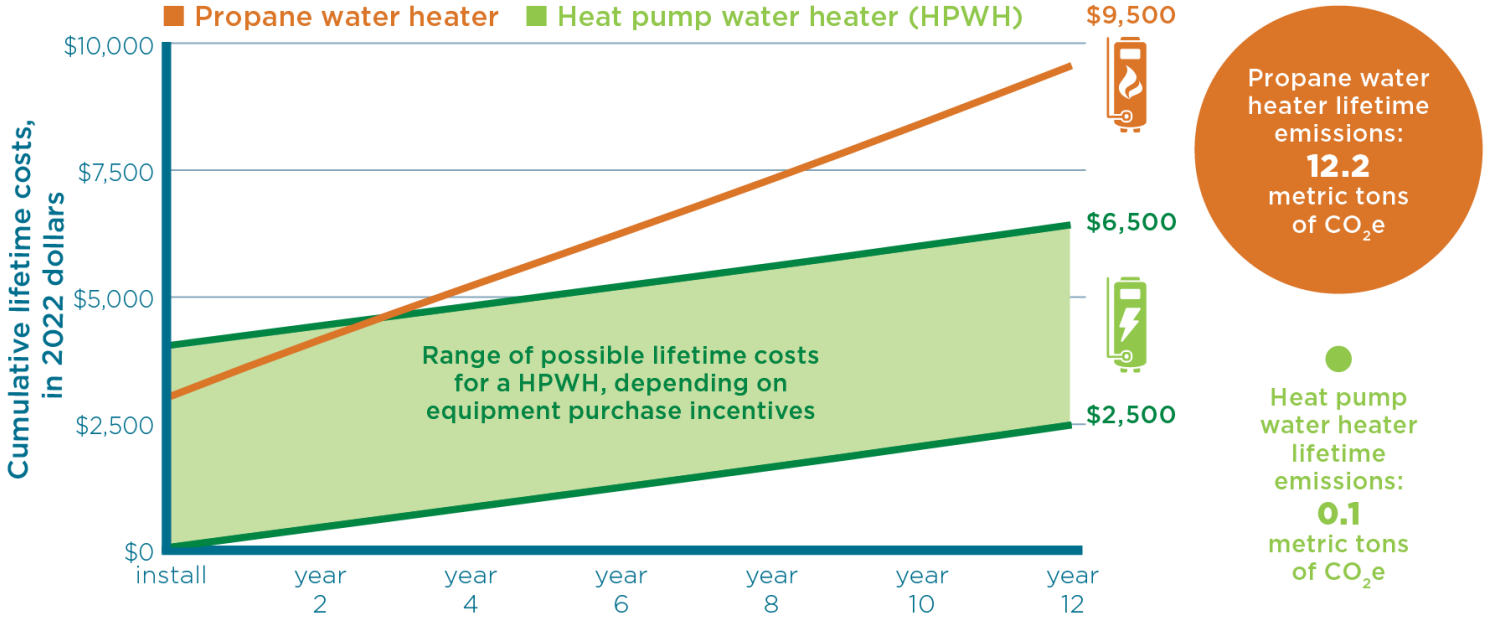
With an electric vehicle, your dollar takes you further

Average miles per dollar of gasoline vs. electricity



Sources: Average 2024 gasoline prices for New England and average residential electricity prices for VT from EIA; Off-peak EV charging rate from Green Mountain Power (GMP); Average EV efficiency rate of 0.306 kWh/mile and average VT fleetwide fuel economy of 23.4 MPG from the 2021 Vermont Transportation Energy Profile.

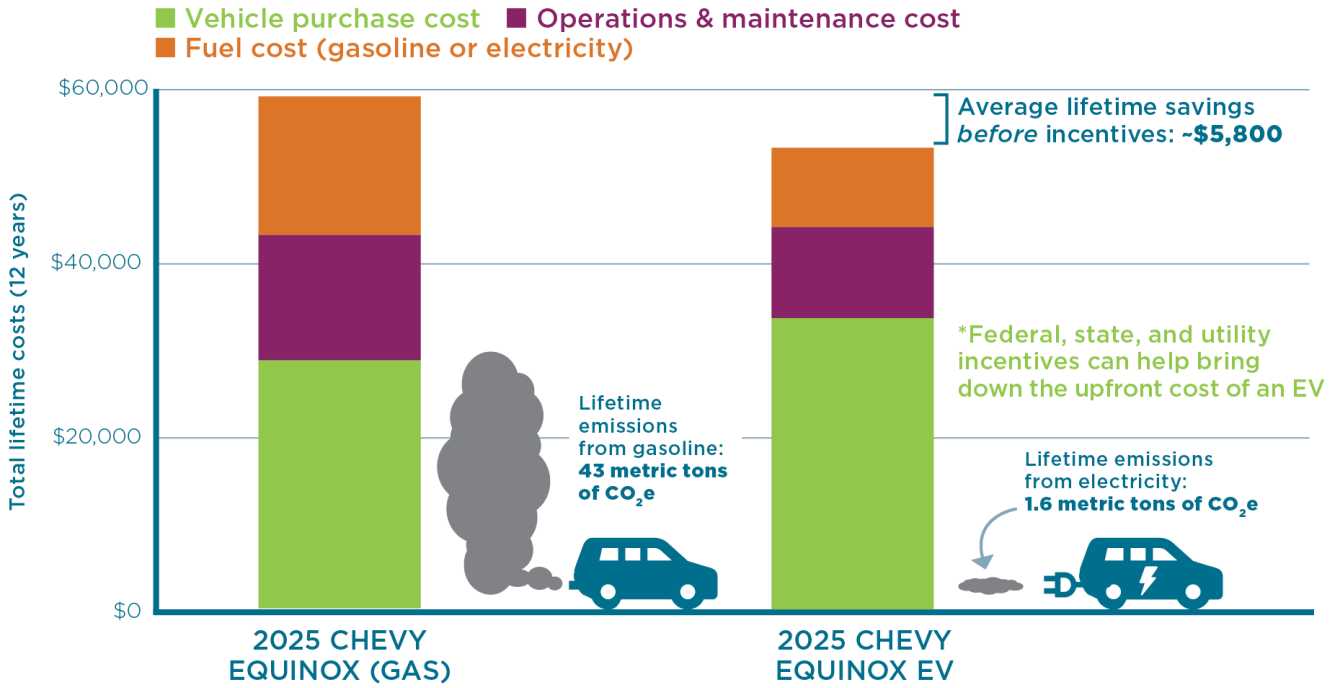
Lifetime costs of propane water heater vs. heat pump water heater (installed cost + fuel)



Sources: Annual energy load and efficiency assumptions from the Efficiency Vermont 2023 Technical Reference Manual; Propane emissions factor from EPA; Electricity emissions factors assume a linear reduction over time, reaching zero emissions by 2035 in accordance with Vermont's Renewable Energy Standard. Prices shown are in 2022 dollars and reflect projections from EIA's 2023 Annual Energy Outlook for 2024-2035. **Note:** While installed costs of propane water heaters can vary, there is greater variation in heat pump water heater installed costs due to the availability of incentives. Different installed costs for heat pump water heaters reflect federal tax credits and state-level incentives for various income levels, including Switch and Save and Weatherization Assistance Program incentives that can bring the upfront cost as low as $0.

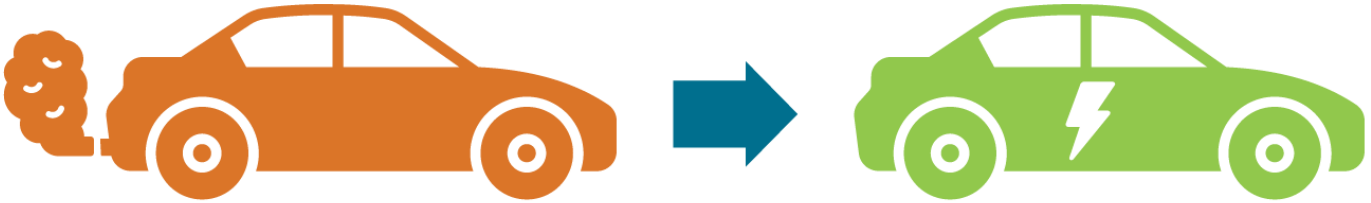
ENERGY ACTION NETWORK

Lifetime costs and GHG emissions of comparable gas vs. electric vehicles in Vermont



Sources: Vehicle costs represent the base MSRP for 2025 models. Gasoline emissions factor from EIA; electricity emissions factor calculated based on Vermont's 2021 GHG Emissions Inventory (VT ANR). Fuel costs calculated based on 2024 average gasoline prices for New England and average VT electricity prices from EIA. Operations and maintenance costs estimated based on AAA 2024 Your Driving Costs study. Operating costs and fuel costs are calculated based on VT average annual mileage of 11,084 miles from the Federal Highway Administration.
Notes: Charging costs for EVs can be even lower than presented with the use of EV charging rates offered by some VT utilities. Vehicle efficiency rates are from manufacturer reporting; however, actual efficiency rates are often lower in colder temperatures. For the latest information about EV incentives, visit driveelectricvt.com.

Lifetime cost savings of switching to an electric vehicle



Estimated savings on fuel and maintenance: ~ $9,500

+

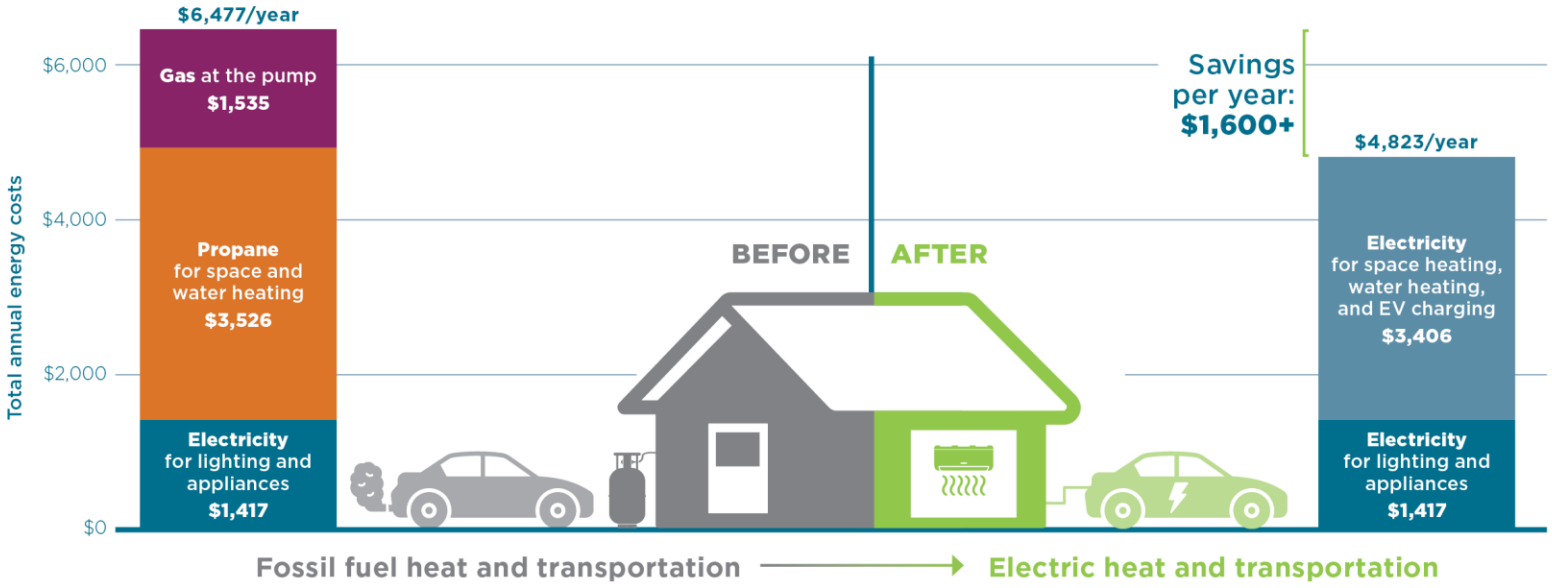
Avoided social costs from reduced fuel-related GHG emissions over the life of the vehicle: ~ $7,000

Sources: Annual mileage assumed to be 11,084 based on 2022 data for Vermont from Federal Highway Administration; Fuel economy assumptions from the 2021 Vermont Transportation Energy Profile; Gasoline and electricity prices are 2023 averages for Vermont from EIA; gasoline emissions factors from EIA and EPA; electricity emissions intensity assumed to decrease linearly to 100% carbon-free by 2035; Social Cost of GHG values from the EPA (2023), using a 2% discount rate. Calculation based on a vehicle lifetime of 8 years, per assumptions in the 2023 Vermont Tier III Technical Reference Manual. **Note**: Upfront vehicle costs vary based on make/model and incentive eligibility; because of this variance, upfront vehicle costs are not quantified here. All costs and savings presented in 2024 dollars.

ENERGY ACTION NETWORK

Electrification can bring down overall energy costs, even as electricity bills increase

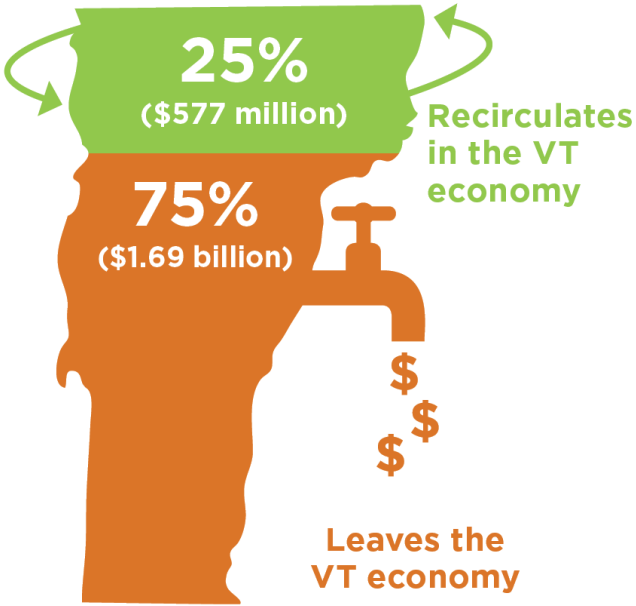
Estimated annual costs for a sample VT single-family household



Sources: Energy bill savings calculated based on the average monthly prices for propane, gasoline, and electricity in 2024, from the Vermont Department of Public Service and EIA. Electricity costs for lighting and appliances reflect statewide average annual household electricity expenditures (Efficiency Vermont, "Vermont Energy Burden Report," 2023). Annual transportation fuel costs calculated using average fuel efficency of 23.4 MPG for vehicles registered in VT from the 2021 Vermont Transportation Energy Profile and VT average annual vehicle miles traveled (VMT) of 11,084 miles/year from the Federal Highway Administration. **Note:** Actual energy cost savings will depend on a number of factors, including a household's electricity rate. Several Vermont utilities offer lower electric rates for managed EV charging, providing additional savings to households with access to those rates. Upfront equipment/vehicle costs vary based on model and incentive eligibility; because of this variance, upfront costs are not quantified here. Savings estimates are for a one car household. Estimated savings would be higher for households replacing multiple gas vehicles with electric vehicles.

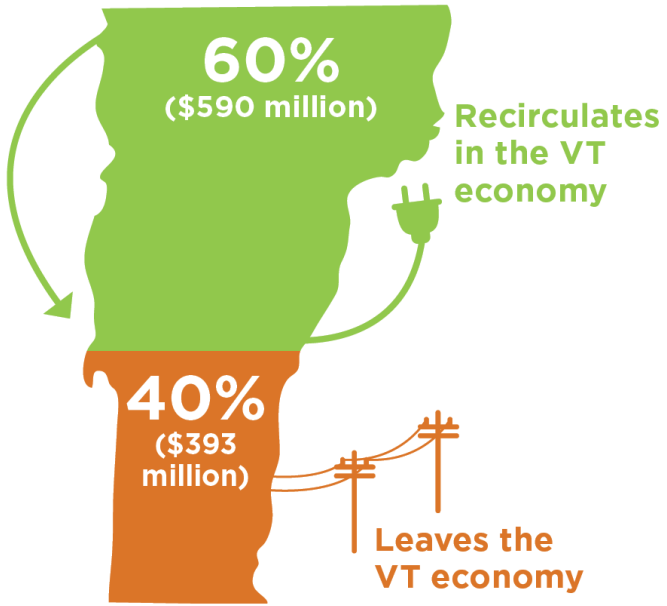
Fossil fuels are a drain on Vermont's economy

Vermont fossil fuel spending, 2023



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.

Vermont electricity spending, 2023

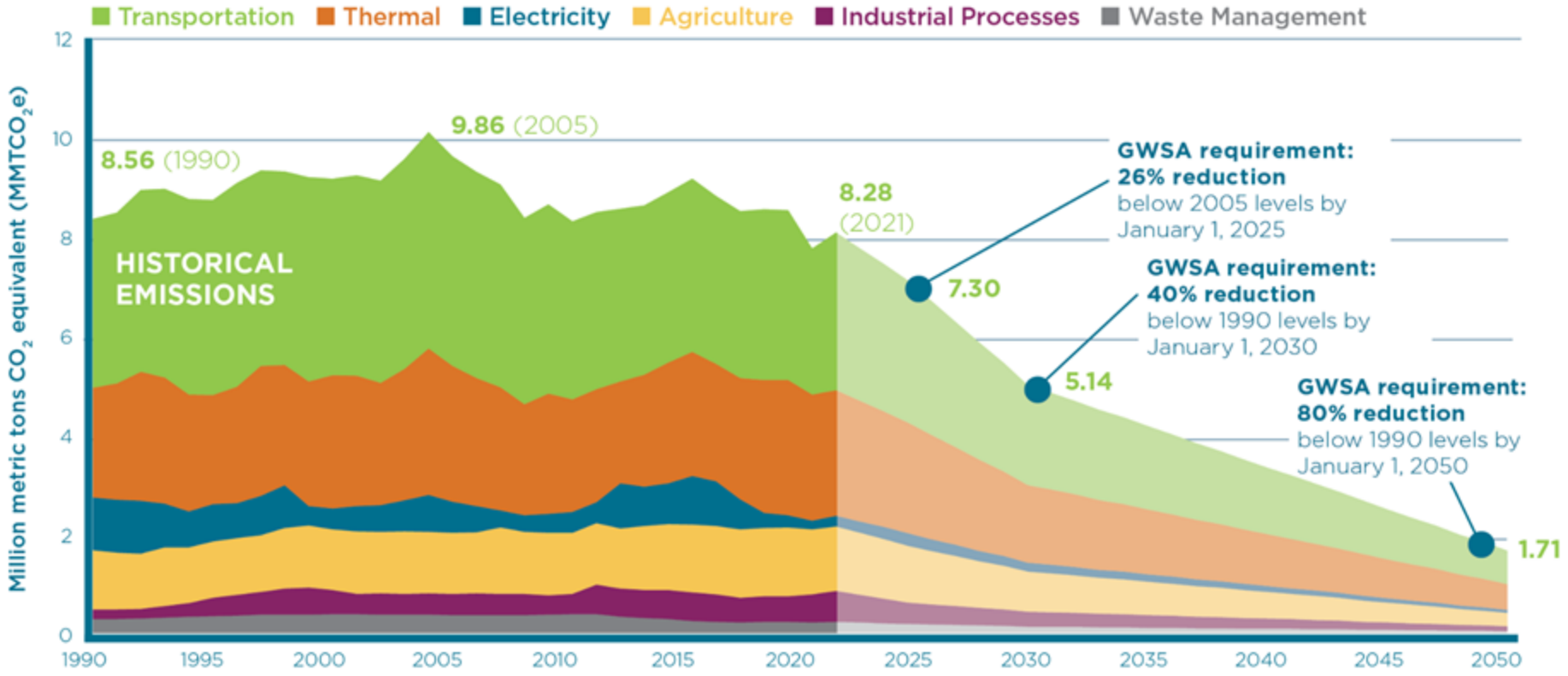


Sources: Electricity spending: Vermont electric utilities. Dollar recirculation share: Ken Jones, Senior Fellow for Economic Analysis, 2024. **Note:** Dollar recirculation share was updated in January 2025 to reflect out-of-state transmission costs.

ENERGY ACTION NETWORK

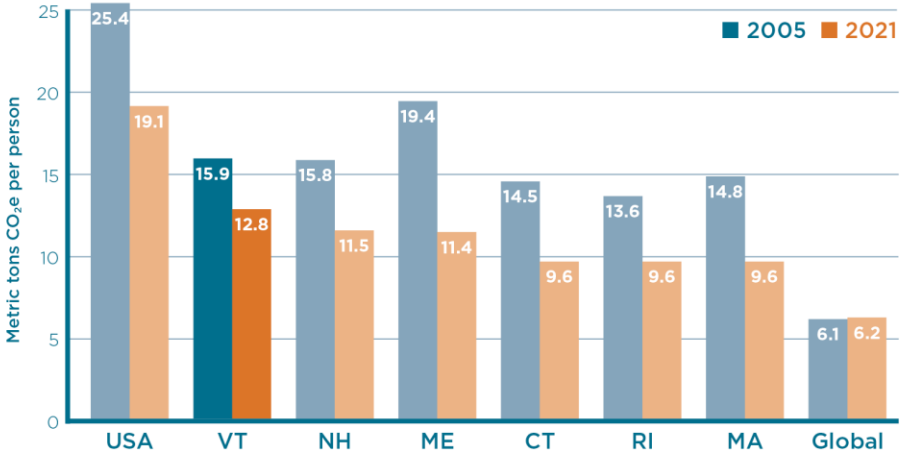
Emissions Analysis

Vermont's historical GHG emissions and future requirements



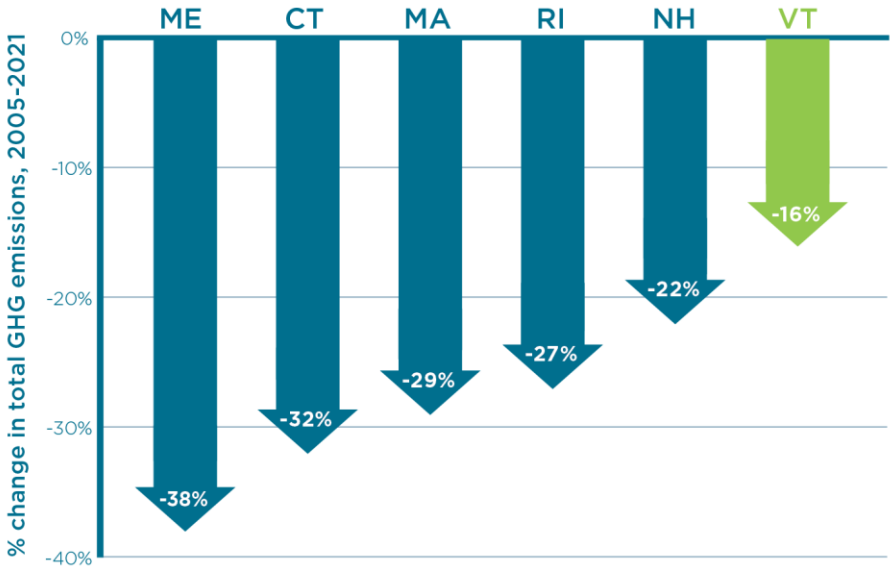
Emissions data from VT ANR

Per capita GHG emissions, 2005 vs. 2021



Sources: U.S. EPA, "Inventory of Greenhouse Gas Emissions and Sinks: 1990-2022," 2024; Vermont ANR, "Vermont Greenhouse Gas Emissions Inventory and Forecast: 1990-2021," 2024; New Hampshire DES, "State of New Hampshire Priority Climate Action Plan," 2024; Maine DEP, "Tenth Biennial Report on Progress Toward Greenhouse Gas Reduction Goals," 2024; Connecticut DEEP, "Connecticut Greenhouse Gas Emissions Inventory: 1990-2021," 2024; Rhode Island DEM, "2022 Rhode Island Greenhouse Gas Inventory," 2024; Massachusetts DEP, "Massachusetts Annual Greenhouse Gas Emissions Inventory: 1990-2021," 2024; Gütschow, et al., "The PRIMAP-hist national historical emissions time series v2.6 (1750-2023)," 2024 via Climate Watch; U.S. Census Bureau, "Annual Estimates of the Resident Population for the United States, Regions, States, District of Columbia, and Puerto Rico," 2024.

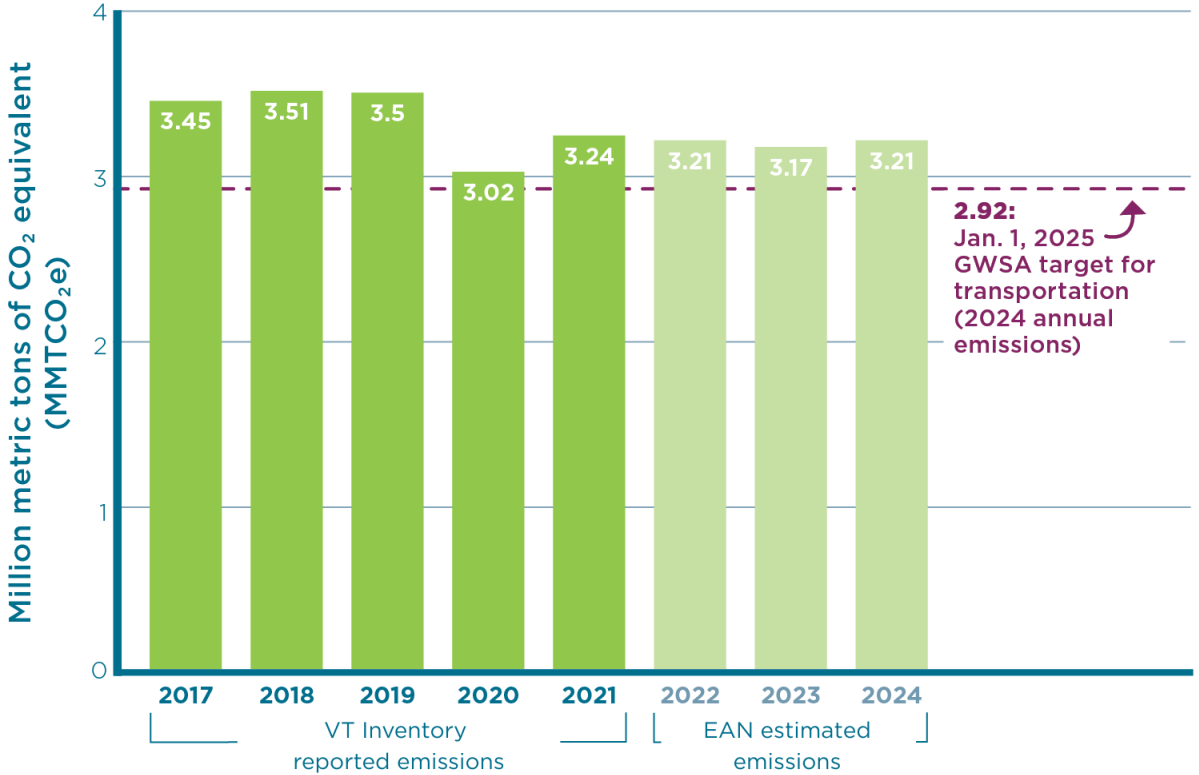
Percent reduction in total GHG emissions, 2005–2021



Sources: Vermont ANR, "Vermont Greenhouse Gas Emissions Inventory and Forecast: 1990-2021," 2024; Connecticut DEEP, "Connecticut Greenhouse Gas Emissions Inventory: 1990-2021," 2024; Maine DEP, "Tenth Biennial Report on Progress Toward Greenhouse Gas Reduction Goals," 2024; Massachusetts DEP, "Massachusetts Annual Greenhouse Gas Emissions Inventory: 1990-2021," 2024; Rhode Island DEM, "2022 Rhode Island Greenhouse Gas Inventory," 2024; New Hampshire DES, "State of New Hampshire Priority Climate Action Plan," 2024; U.S. Census Bureau, "Annual Estimates of the Resident Population for the United States, Regions, States, District of Columbia, and Puerto Rico," 2024.

ENERGY ACTION NETWORK

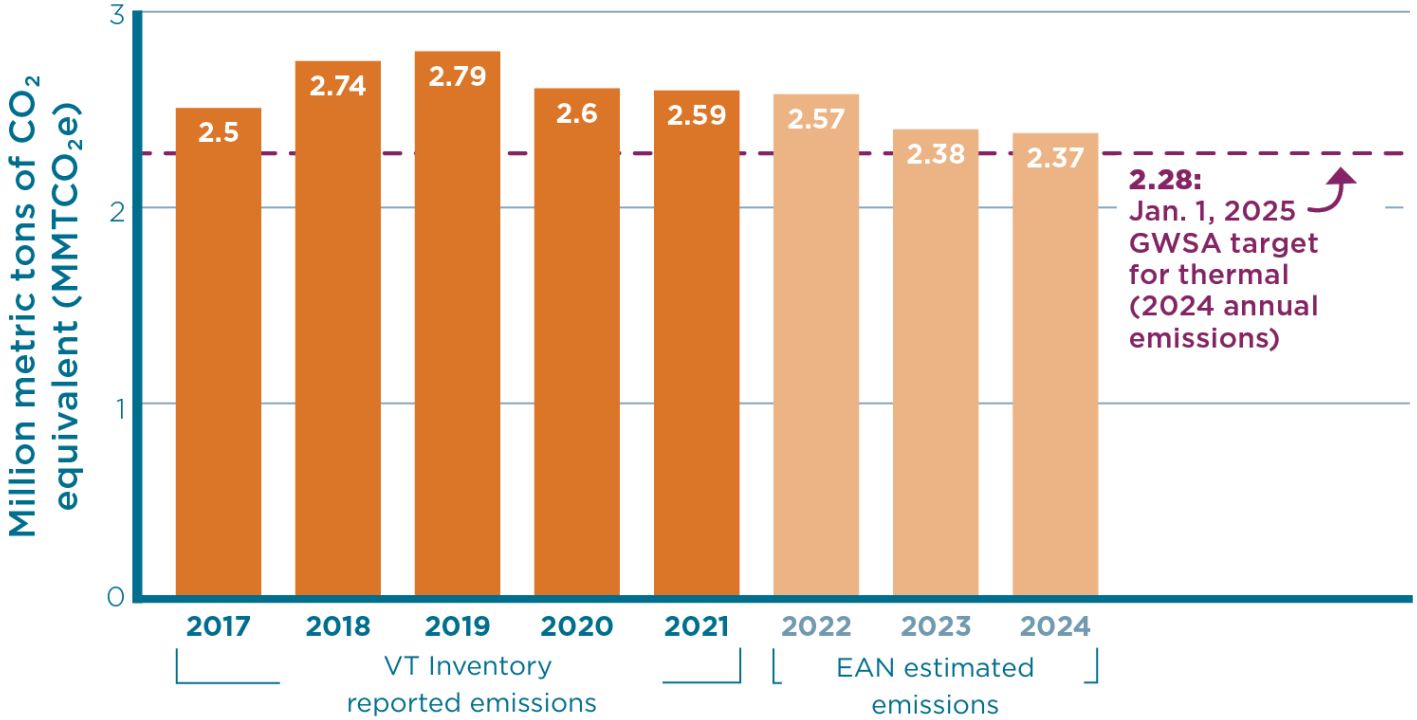
Vermont GHG emissions in the transportation sector



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

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

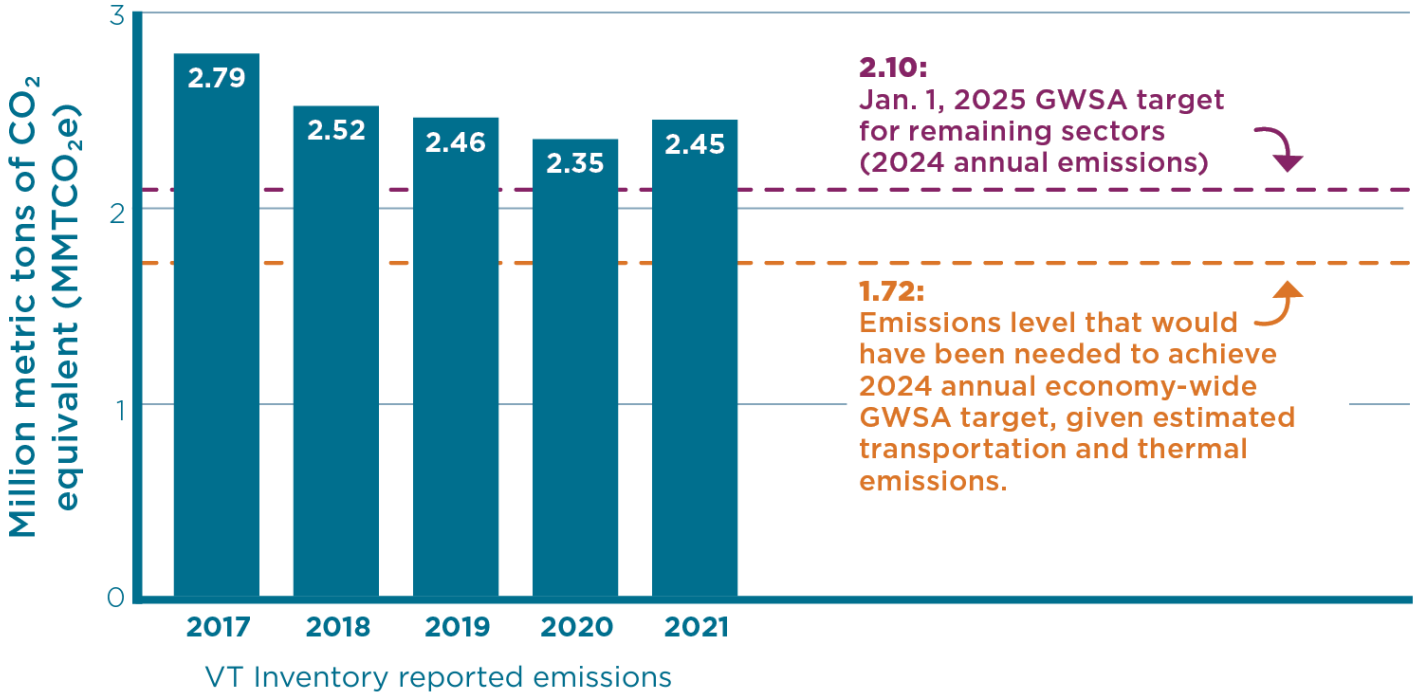
VT GHG emissions from the transportation and thermal sectors: Historical and projected

		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

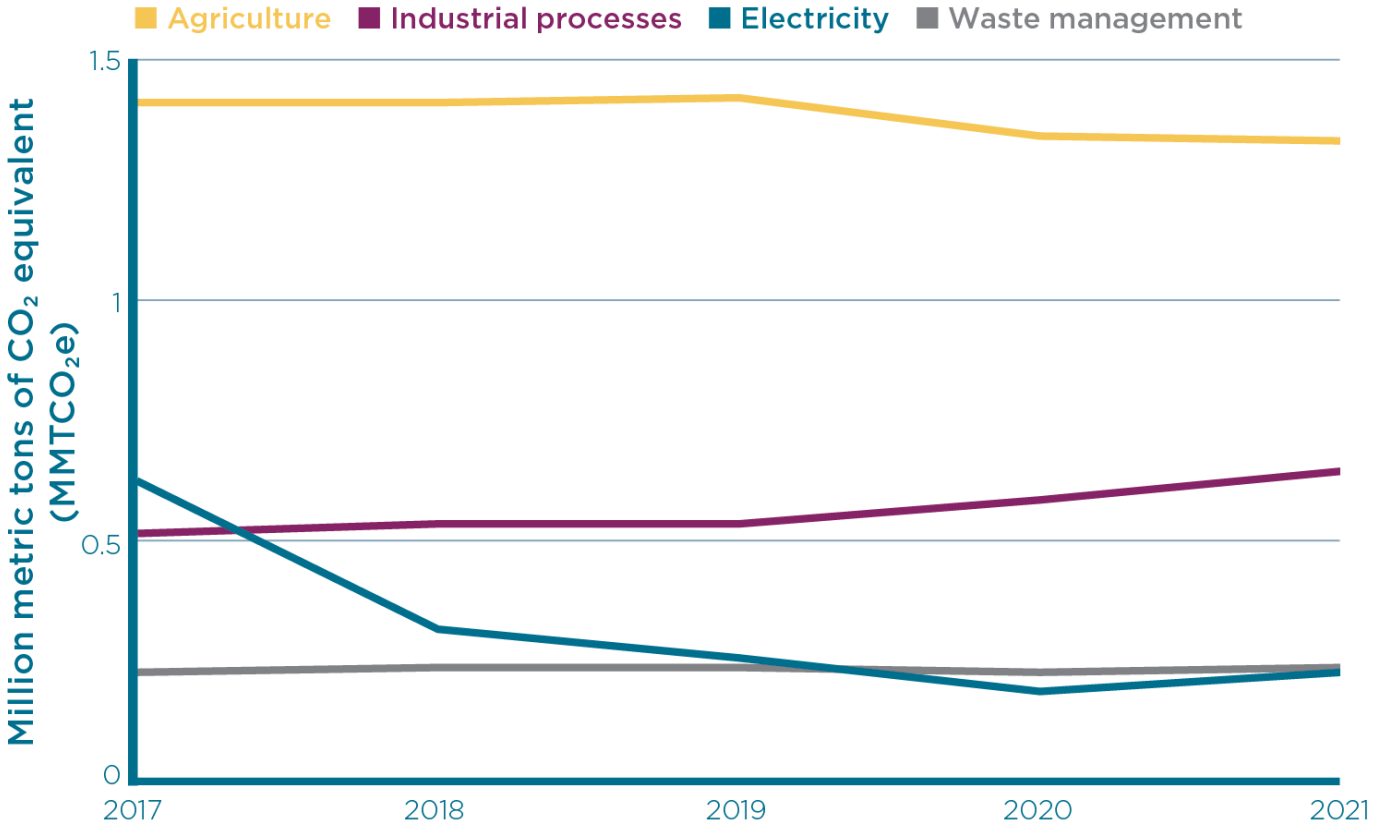
Vermont GHG emissions in remaining sectors



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

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

The Good News

- Many states and countries have shown that **it is possible to reduce energy costs while reducing pollution with proven policies and regulation**.

- That Vermont did not meet our first obligation under the GWSA is not because it was not possible to do so – it is because we have failed to implement policies that could help to significantly cut pollution while cutting costs.

- It is still possible to meet future GWSA obligations – if Vermont is willing to learn from and join with other states that are advancing cost-effective and equitable policies and regulations to reduce climate pollution, such as Washington, Oregon, California, Maryland, and Quebec.

California GHG Emissions

Figure 1. Annual Statewide GHG Emissions and the 2020 GHG Limit.

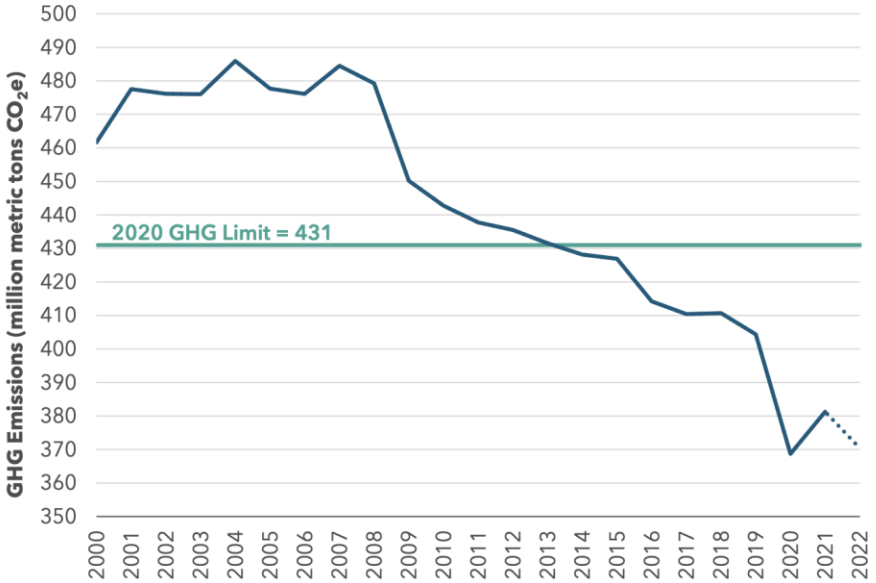


Figure 1 shows California's annual GHG emissions from 2000 to 2021 in relation to the 2020 GHG Limit established by AB 32 [1]. The dotted blue line shows an estimate of AB 32 GHG Inventory emissions for 2022 based solely on data reported and third-party verified to CARB pursuant to the Regulation for the Mandatory Reporting of GHG Emissions (MRR). The 2022 estimate is provided for informational purposes only and should not be used for any policy making decisions or regulatory compliance. The 2022 estimate of AB 32 GHG Inventory emissions is calculated as 2022 MRR non-biogenic emissions, divided by the ratio of 2019-2021 MRR non-biogenic emissions to 2019-2021 AB 32 GHG Inventory emissions. California's GHG emissions dropped below the 2020 GHG Limit in 2014 (428.2 $MMTCO_2e$) and have remained below this level since that time.

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.

Thank you!

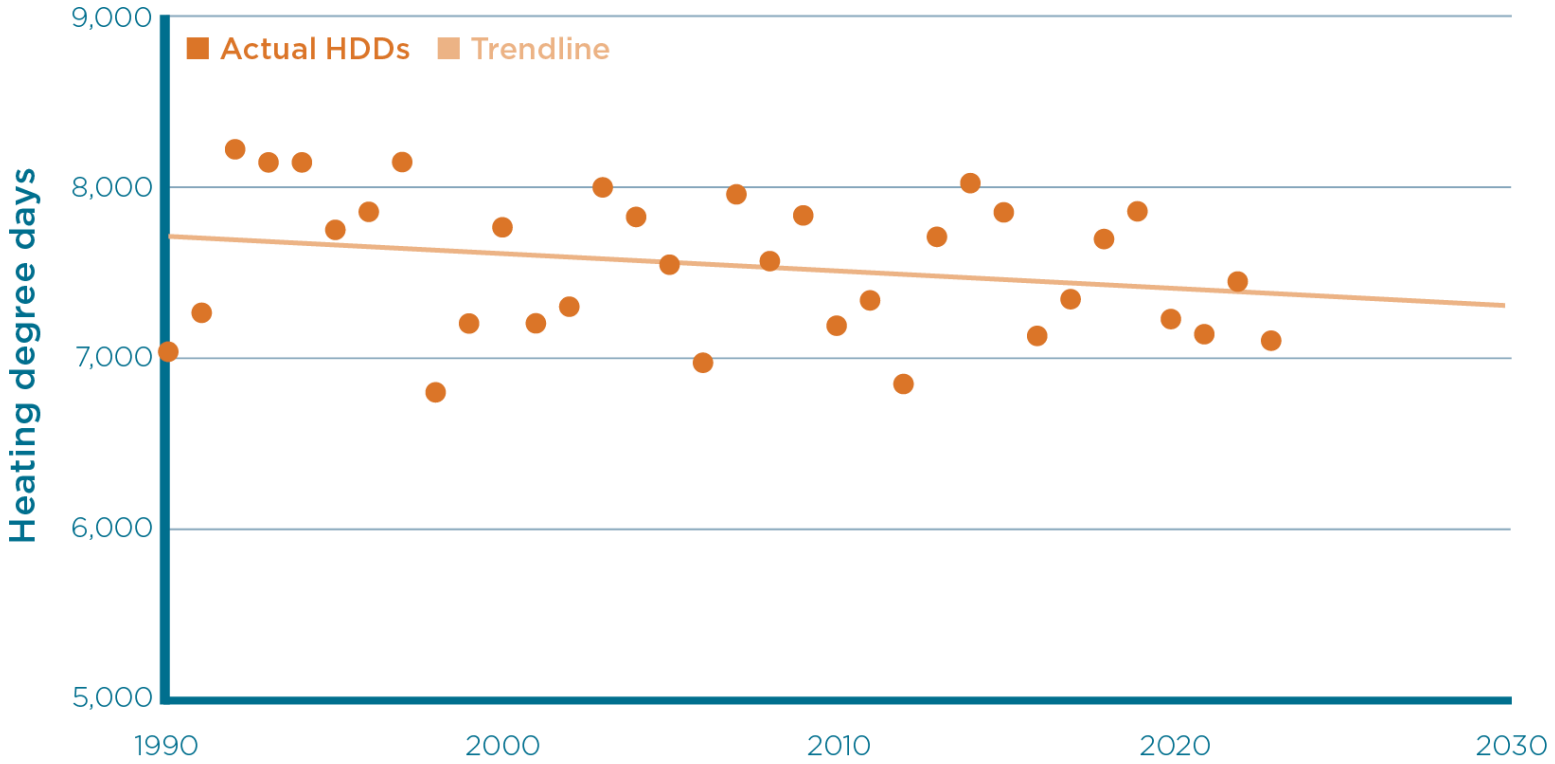
Questions?

jduval@eanvt.org

Paper available online at:

https://eanvt.org/research-and-reports/

Vermont annual heating degree days, 1990–2023

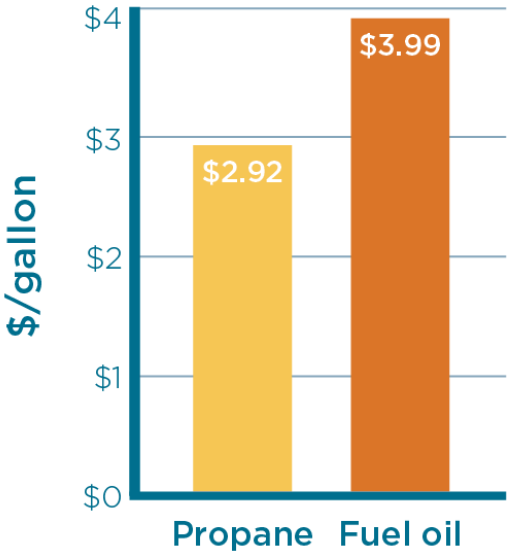


Source: NOAA Climate Prediction Center, Vermont population-weighted heating degree day data, 1990-2023.

ENERGY ACTION NETWORK

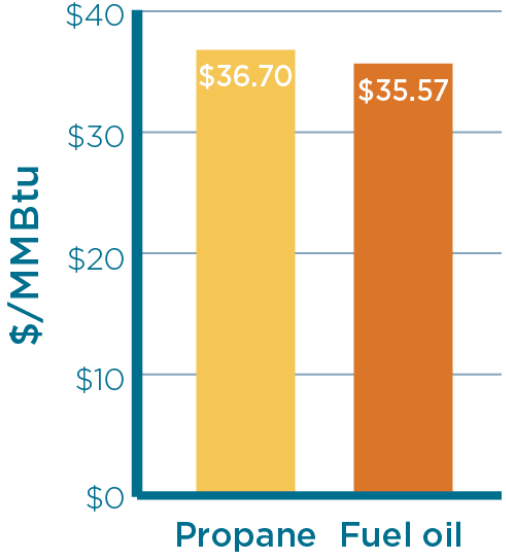
Propane and fuel oil price comparison in Vermont

Price per gallon of fuel



Propane contains only **66%** as much energy per gallon as fuel oil.

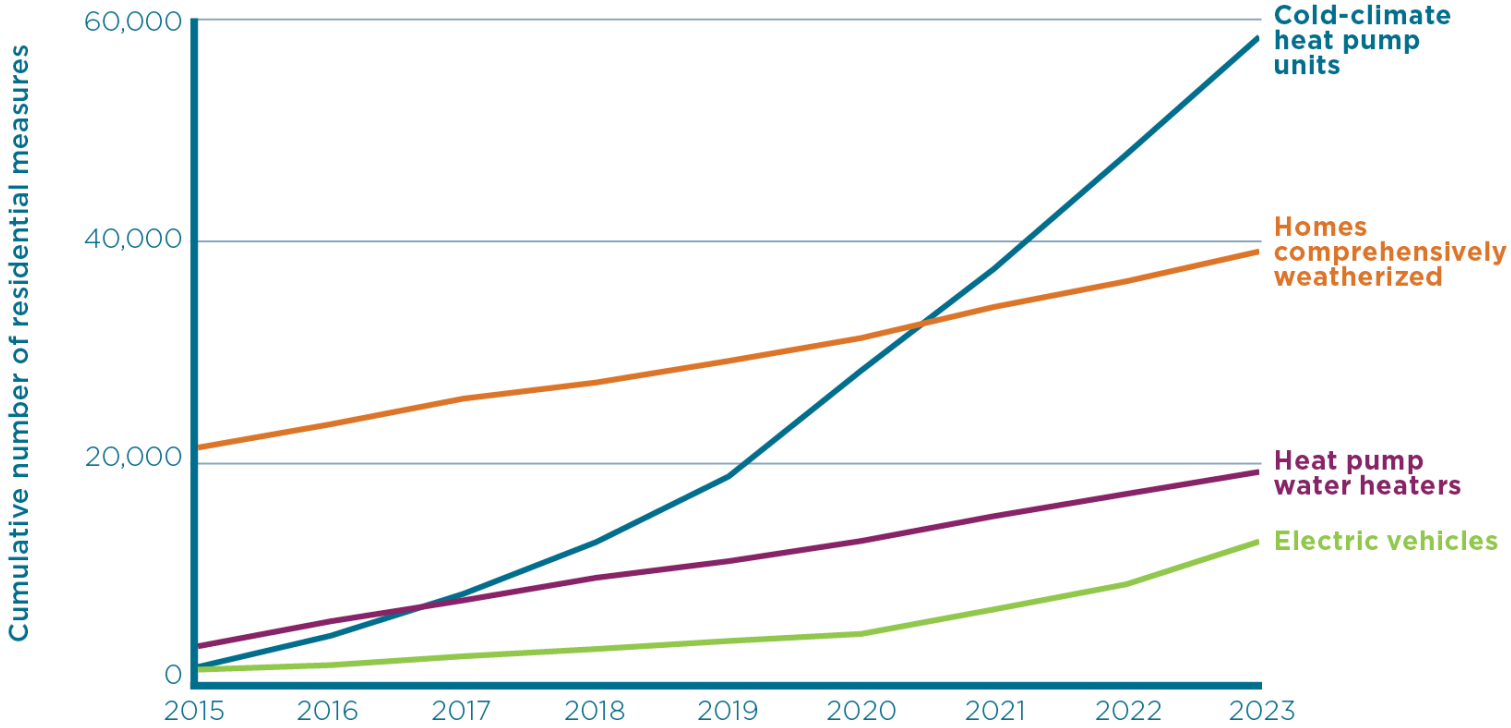
Price per unit of heat



Sources: Vermont Department of Public Service, Retail Prices of Heating Fuels, Dec 2023; EIA, 2024. Efficiency Vermont Technical Reference Manual, 2023. **Notes:** This comparison uses average prices from December 2023 for illustration. Price per MMBtu assumes average equipment efficiencies of 81% for fuel oil and 87% for propane.

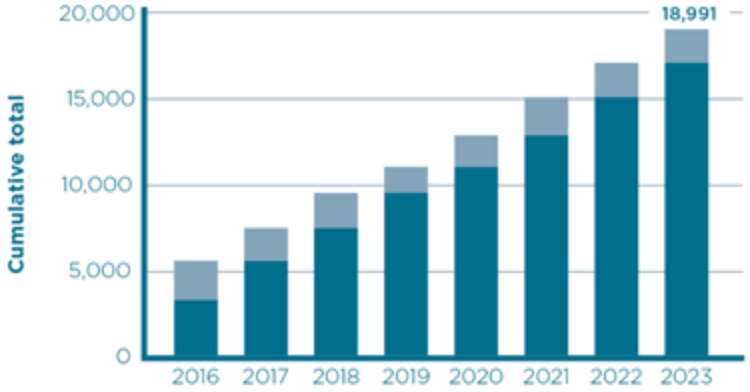
ENERGY ACTION NETWORK

Adoption of key climate solutions in Vermont, 2015–2023



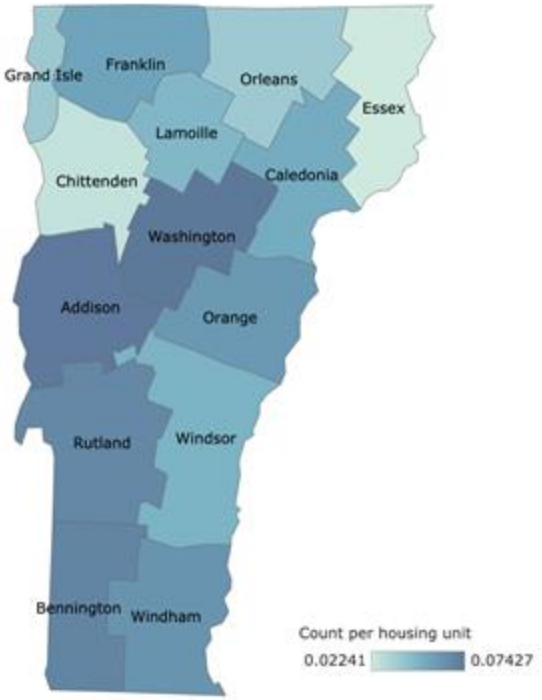
Sources: Cold-climate heat pumps and heat pump water heaters: Efficiency Vermont, Burlington Electric Department, and VGS; Electric vehicles: Vermont Department of Motor Vehicles via Drive Electric Vermont; Weatherization: Vermont Department of Public Service. **Notes:** Data include residential measures only. The heat pump totals represent the number of outdoor units installed, not the number of individual indoor heads. Individual homes may have multiple outdoor units.

Residential heat pump water heaters

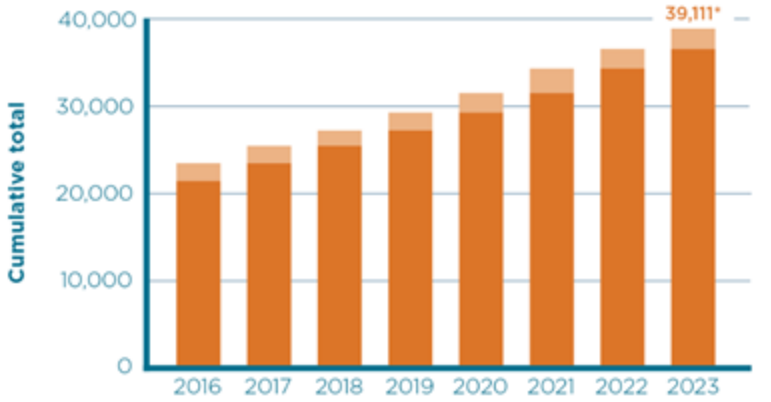


Heat pump water heaters by county as of 2022

Click on a county to filter

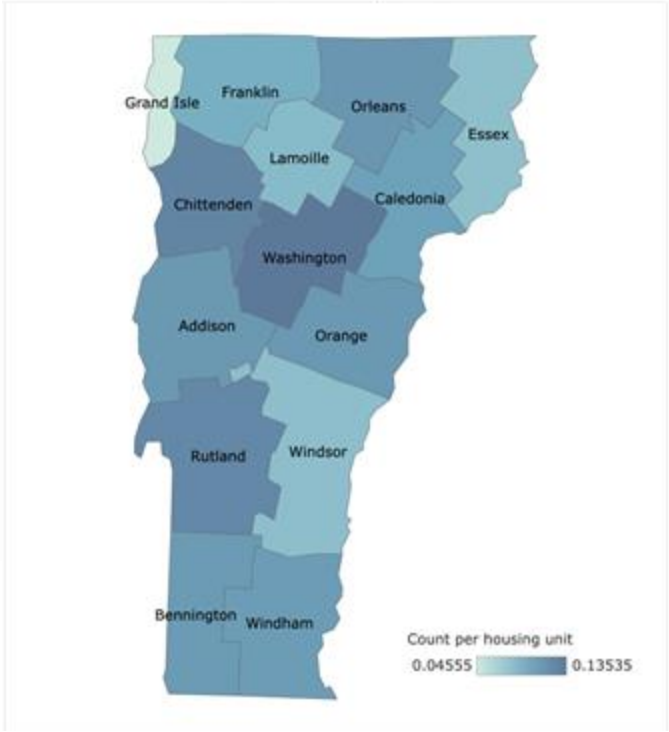


Housing units comprehensively weatherized

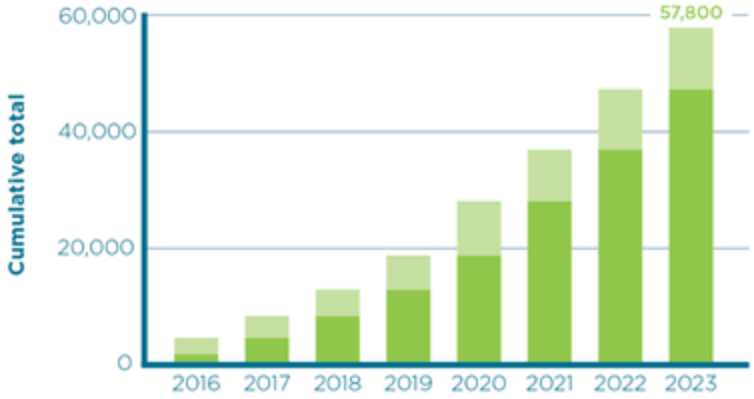


Weatherization by county as of 2022

Click on a county to filter



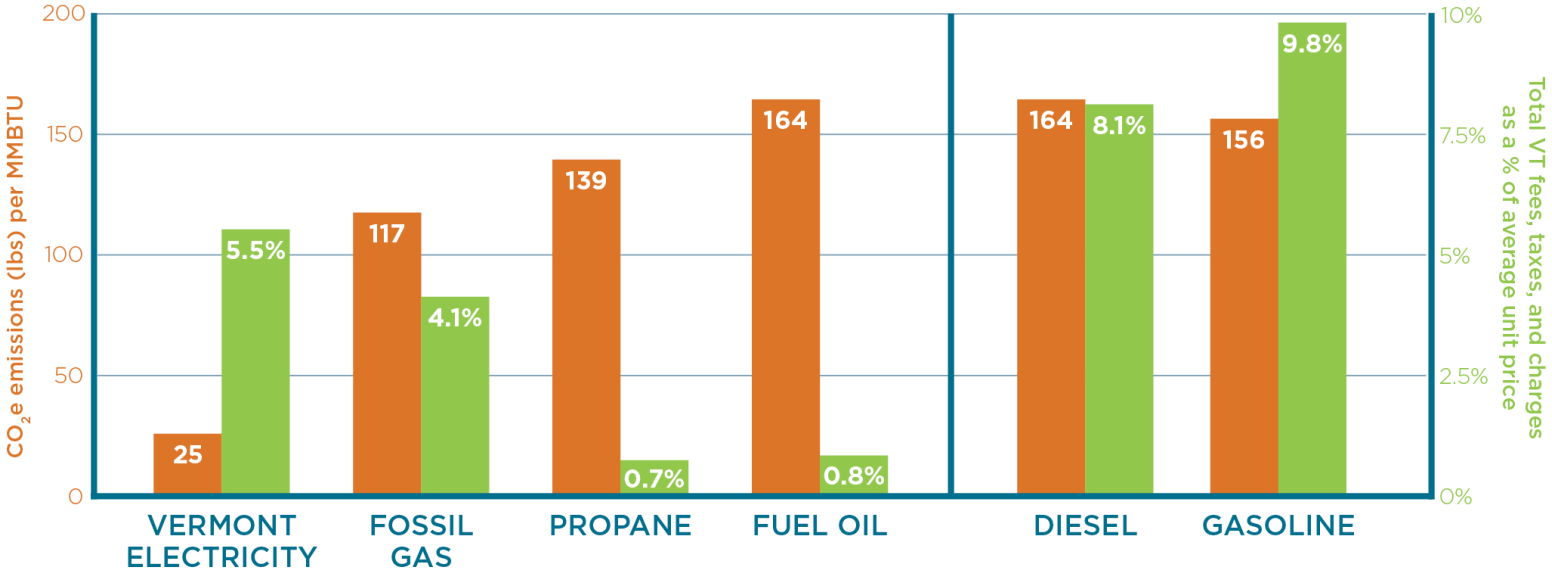
Residential cold-climate heat pumps



Cold-climate heat pumps by county as of 2022

Click on a county to filter

Vermont fees, taxes, and charges vs. emissions by fuel, 2024

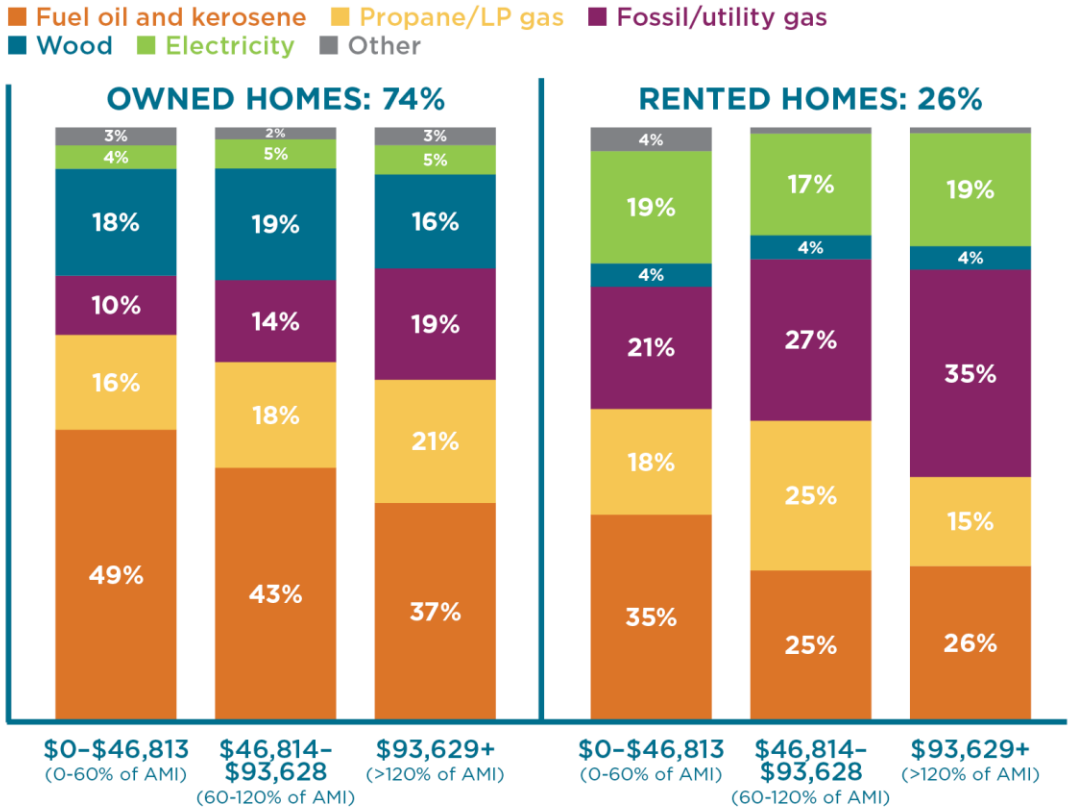


Sources: Thermal fuels fees and taxes: Vermont Department of Taxes, 2024. 2024 Energy Efficiency Charge for electricity and fossil gas: PUC Determination of 2024 Energy Efficiency Charge Rates. Gasoline and diesel fees and taxes: Vermont Department of Motor Vehicles, 2025. Emissions factors for fossil fuels: EPA. Emissions factor for Vermont electricity: Vermont Agency of Natural Resources, "Vermont Greenhouse Gas Emissions Inventory and Forecast, 1990-2021," 2024. Unit price of fuels is based on the annual average in 2024. The totals for thermal fuels represent residential rates only.

Table 1. Average spending by energy category +/- standard deviation for the current report and the previous version of the report released in 2019.

Energy Type	Average Expenditure (2019)	Range of expenditures (2019)	Proportion of total energy cost (2019)	Average Expenditure (2023)	Range of expenditures (2023)	Proportion of total energy cost (2023)
Electricity	$1,150 ±$199	$302 - $1,777	20%	$1,417 ±$209	$619 - $2,073	20%
Thermal	$2,050 ±$290	$1,041 - $2,916	35%	$2,447 ±$390	$1,050 - $4,340	35%
Transportation	$2,638 ± $126	$2,047 - $2,874	45%	$3,217 ±$417	$1,682 - $4,196	45%
Total	$5,837 ± $471	$3,859 - $6,949	-	$7,071 ±$741	$3,498 - $9,100	-

Vermont primary household fuel use by income and housing type

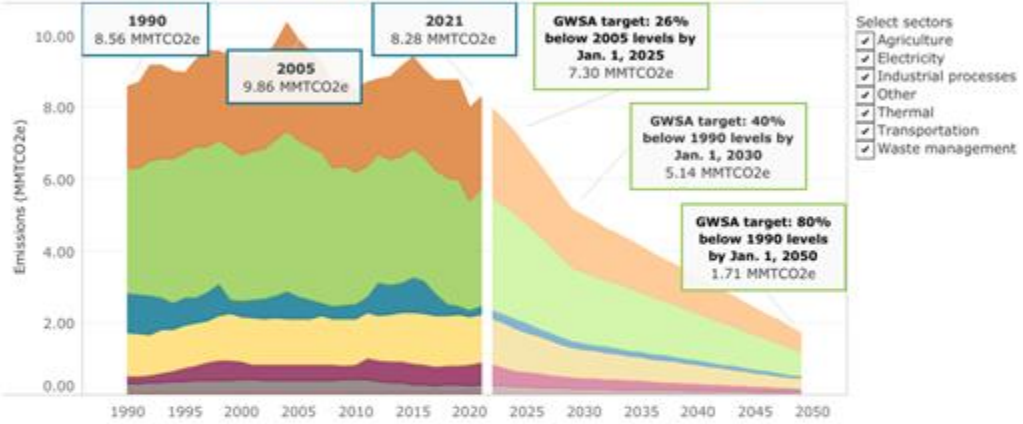


Source: U.S. Census Bureau, 2019-2023 American Community Survey 5-year Public Use Microdata Samples.
Notes: Income categories are based on 2019-2023 median household income in Vermont of $78,024. Data is self-reported. Percentages may not sum exactly to 100% due to independent rounding.

Vermont GHG emissions dashboard

Overall | Thermal | Transportation | Electricity | Progress by sector

VT historical GHG emissions and future requirements



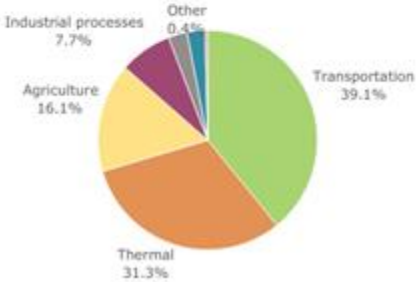
What is the GWSA? The GWSA (Global Warming Solutions Act) was passed by the Vermont Legislature in 2020 and established legally binding emissions reduction obligations for Vermont. The Act requires:

- 26% reduction below 2005 levels by Jan. 1, 2025
- 40% reduction below 1990 levels by Jan. 1, 2030
- 80% reduction below 1990 levels by Jan. 1, 2050

In 2021, Vermont's GHG emissions were 8.28 million metric tons of CO2 equivalent, just **16%** below 2005 levels.

VT GHG emissions by sector, 2021

Click on a sector to highlight in the graph above



Source: Vermont Agency of Natural Resources, Vermont Greenhouse Gas Emissions Inventory and Forecast: 1990-2021, 2024 (https://climatechange.vermont.gov/climateactionoffice/greenhouse-gas-inventory).

https://eanvt.org/emissions-dashboard/

Year	Actual Reported GHG Emissions, Official VT GHG Inventory (thousand metric tons CO_2e)	LEAP Modeled "VT Pathways" BAU Emissions (thousand metric tons CO_2e)	Difference (thousand metric tons CO_2e)	Percentage difference
2015	9,392	8,528	-864	-9.2%
2016	9,041	8,316	-725	-8.0%
2017	8,746	8,226	-520	-5.9%
2018	8,759	8,244	-515	-5.9%
2019	8,750	8,390	-360	-4.1%
2020	7,965	7,668	-297	-3.7%
2021	8,280	7,675	-605	-7.3%

Sources: *Actual reported emissions from Vermont ANR, "Vermont Greenhouse Gas Inventory and Forecast, 1990-2021", 2024. LEAP Modeled emissions from ANR/EFG LEAP Baseline model, provided by ANR on July 26, 2024.*