

NET ZERO ENERGY

BURLINGTON VERMONT



About Burlington Electric Department (BED)

- Burlington's municipal electric utility
 - Public power since 1905
 - 123 employee positions, including the McNeil Generating Station; 86 are IBEW positions
 - Third-largest electric utility in Vermont
- 21,000+ customers
 - 17,282 residential, 3,983 commercial and industrial
 - 5,500-6,000 residential accounts turn over each year
- Electricity facts:
 - Summer peak: ~65 MW; annual energy use: ~330,000 MWH
 - 100% of power from renewable generation as of 2014





2030 Vision: Make Burlington a Net Zero Energy city by eliminating fossil fuel usage across electric, thermal, and ground transportation sectors.

- The City Council adopted the Net Zero Roadmap in September 2019.
- Burlington's Net Zero goal is the most ambitious local climate change plan in the nation that BED is aware of, recognized by the Smart Electric Power Alliance as the *"first US Net-Zero 2030 plan."*
- All Departments of the City play a role in supporting implementation.
- Synapse Energy Economics updates the Roadmap progress data, drawn from BED, VGS, DMV, and Vermont and Chittenden County travel data.



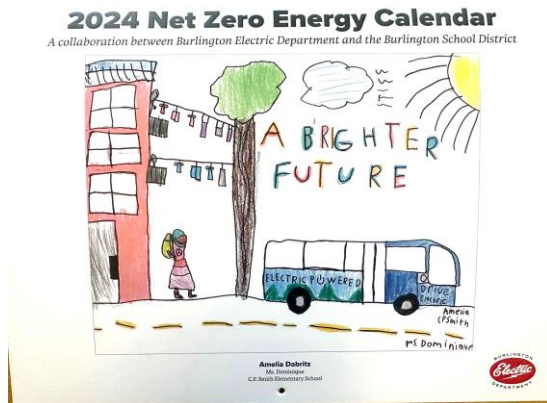
Emery Nichols, Ms. Rochman Champlain Elementary





Net Zero Energy Roadmap Update Highlights

- Greenhouse gas emissions in ground transportation and thermal/buildings sector **down 18.2% in 2023** relative to 2018 baseline
- 2023 was second largest year-over-year reduction at -8%, behind pandemic-impacted 2020 -14%
- 2023 reductions driven by thermal/buildings sector, with **natural gas consumption in 2023 at its lowest levels** since Roadmap tracking started.





Net Zero Energy Roadmap Update Highlights (continued)

Burlington's progress is ahead of state/national pace –

- Burlington natural gas consumption is down **19%** since 2018, statewide natural gas consumption is down 9% over same period.
- Burlington's ground transportation fuel consumption is down **13%** since 2018, compared to an approximate 4.3% decline in ground transportation fuel emissions nationally 2018-2022.

Initiatives to-date that have supported progress –

- Primary renewable heating ordinance
- BED heat pump, EV, and dozens of other incentives, with enhanced incentives for income-qualified customers
- EV charging infrastructure – public and Parks, multi-family buildings, CarShare, off-peak home charging rate
- NZE revenue bond \$20 million investment
- Electrifying City fleet and GMT buses
- BED Energy Assistance Program
- VMT reductions; remote and hybrid work options
- On-bill financing partnerships with VHFA, EDA





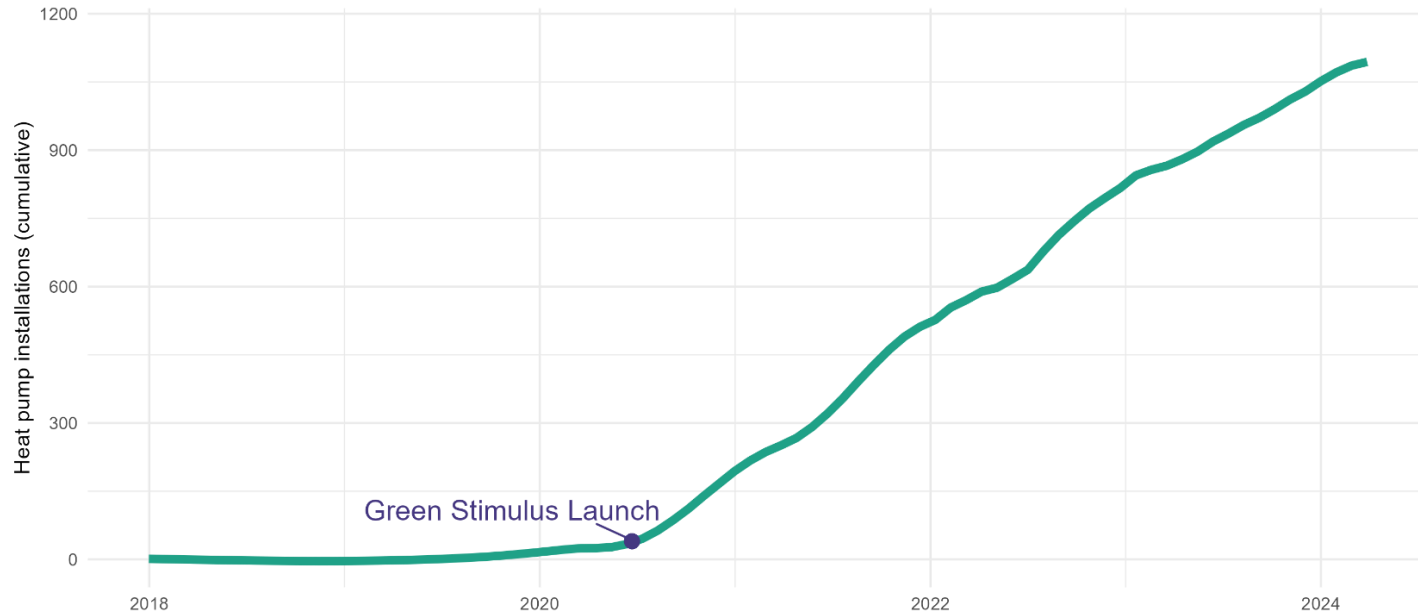
Progress Since Launching Green Stimulus in June 2020





Over 2,300 heat pumps installed in Burlington to-date
increased 25x since launch of Green Stimulus in June 2020

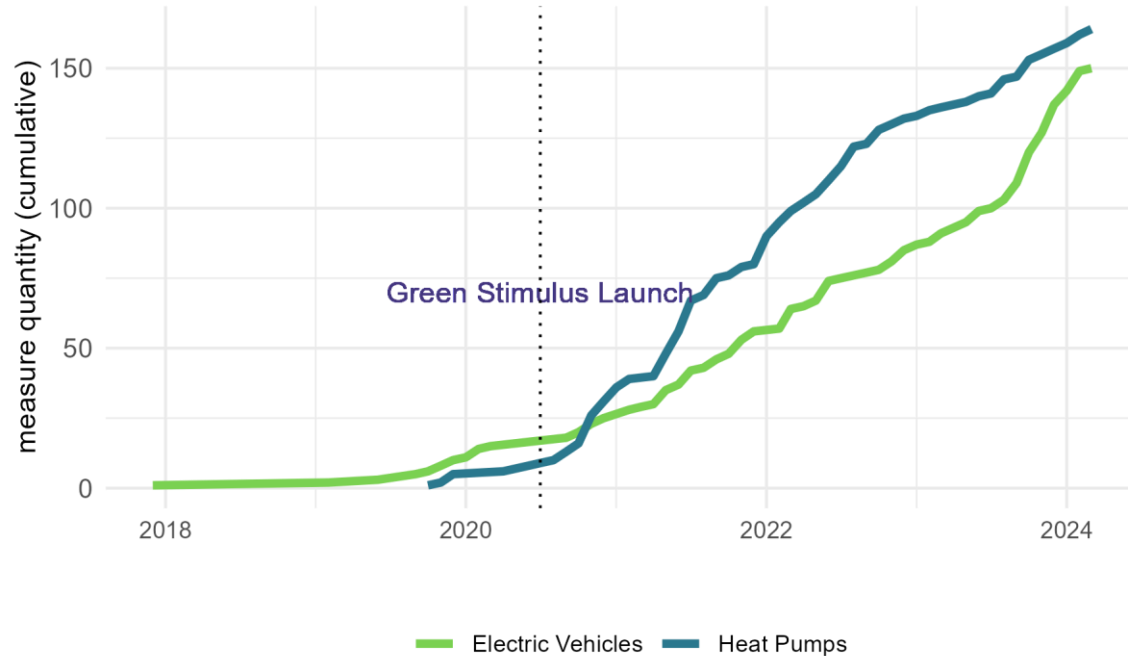
Tier 3 Residential Heat Pump Installations





21% of BED's EV/PHEV rebates and **14%** of heat pump rebates have been enhanced rebates available to income-qualified customers, as of early 2024

Improved Accessibility to Tier 3 Programs

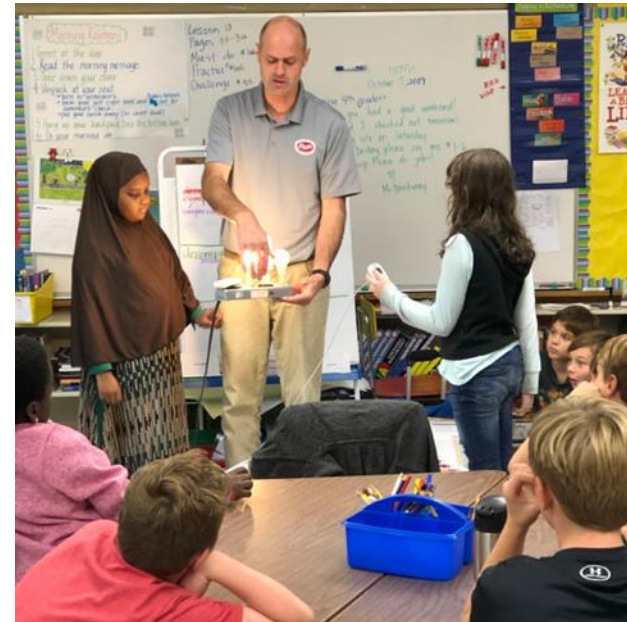




Net Zero Energy Roadmap Update 2023 Data

Performed by Synapse Energy Economics

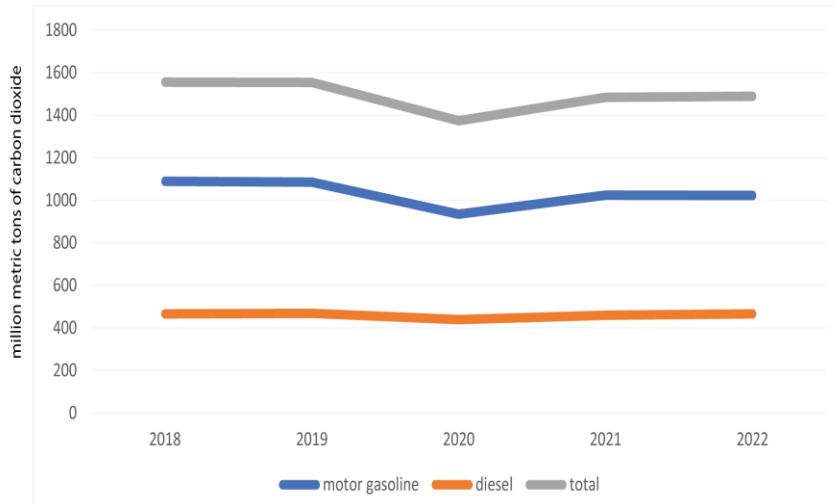
Commissioned by BED





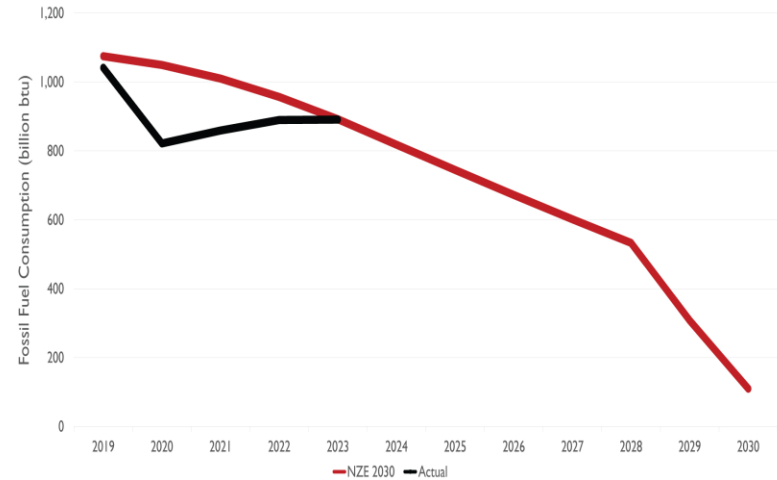
U.S. Motor Gasoline and Diesel CO2 Emissions 4.3% reduction 2018-2022

TRANSPORTATION CO₂ EMISSIONS BY FUEL SOURCE



Burlington Gasoline & Diesel Consumption 13% reduction 2018-2023

GASOLINE AND DIESEL CONSUMPTION 2018-2023





Vermont

(not weather normalized)

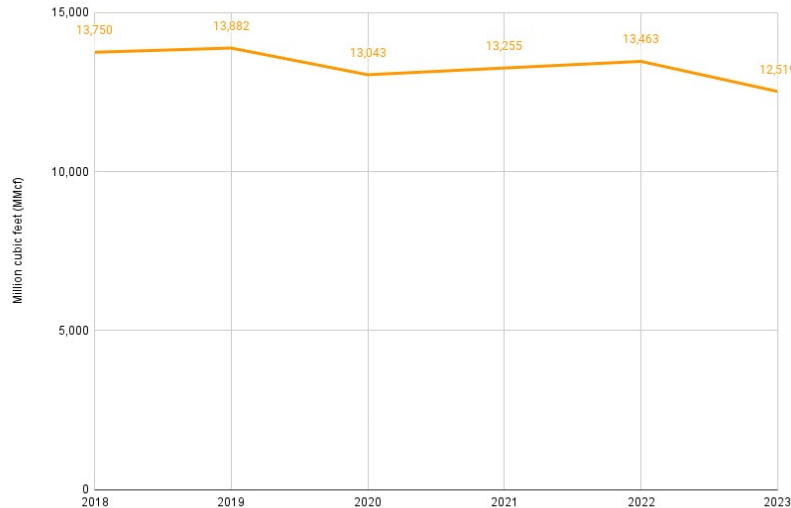
9% reduction 2018-2023

Burlington

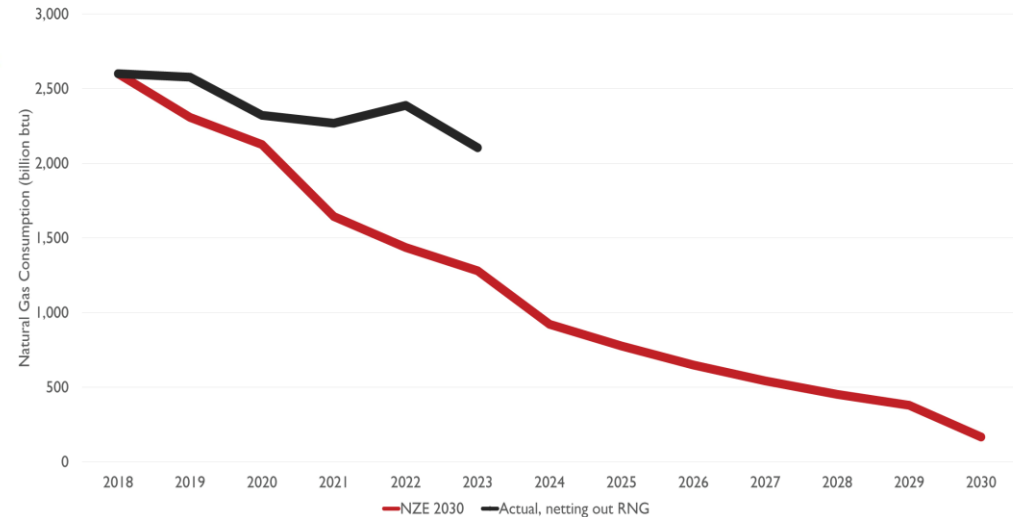
(not weather normalized)

19% reduction 2018-2023

Vermont total fossil gas sales, 2018-2023



TOTAL NATURAL GAS CONSUMPTION 2018-2023

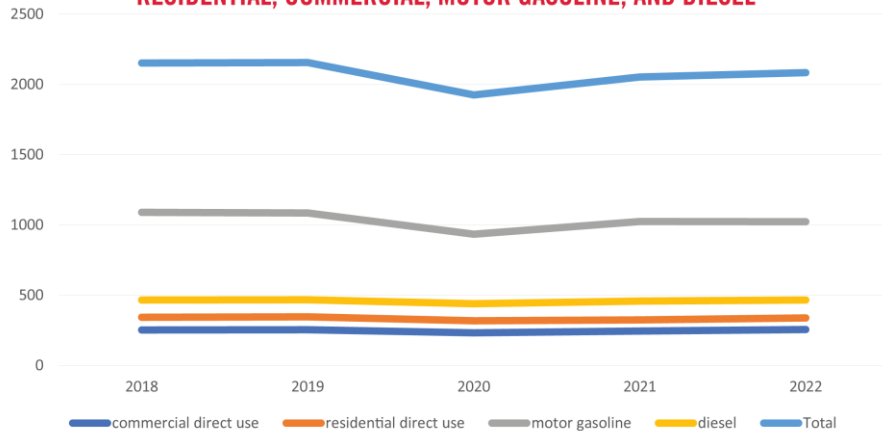




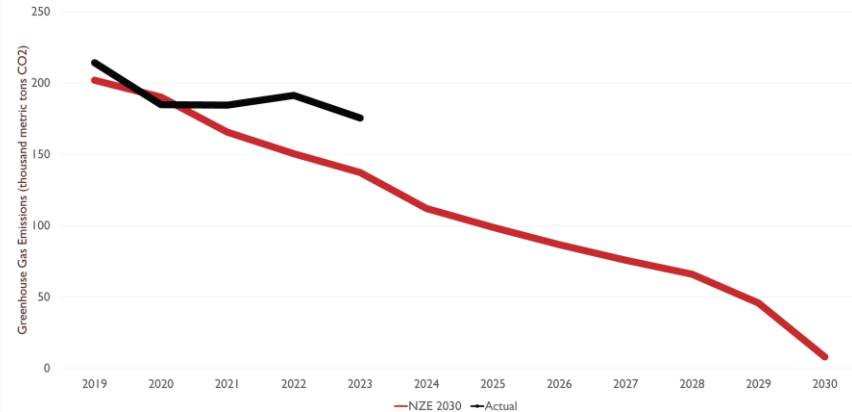
U.S., 2018-2022
3.3% reduction

Burlington, 2018-2023
18.2% reduction

U.S. ENERGY-RELATED CO₂ EMISSIONS FROM RESIDENTIAL, COMMERCIAL, MOTOR GASOLINE, AND DIESEL



GHG EMISSIONS: THERMAL AND GROUND TRANSPORTATION 2018-2023





Net Zero Energy Next Steps

- New BED programs launched in March 2024: “superuser” EV incentives, increased E-bike incentives, increased EV charging incentives, and expected fall 2024 E-bus incentives, Switch and Save income-qualified water heater changeout, heat pump bill credit pilot program (pending approval) supported by U.S. DOE GRIP grant
- Continue to expand outreach and engagement to increase equitable access to programs
- Inflation Reduction Act incentives/rebates; awaiting income-qualified rebates from State
- Carbon Fee Ordinance began Jan. 1 2024
- BED work with buildings decarbonization
- Clean Heat Standard implementation



2023 Net Zero Energy Calendar

A collaboration between Burlington Electric Department and the Burlington School District



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FLATBREAD

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