www.efficiencyvermont.com
888-921-5990 | 802-860-4095

Case No. 22-2954-PET

Exhibit EVT-KL-7

Efficiency Vermont Proposal for 2024-2026 Energy Efficiency Modernization Act Programs

Submitted to

The Vermont Public Utility Commission

November 17, 2023

Categories:

Part I: Efficiency Vermont EEMA 2024-2026 Program Proposal
Part II: Proposal Achievement of Statutory Criteria
Part III: Role and Anticipated Impacts of 2024-2026 EEMA Programs

20 Winooski Falls Way, Winooski, Vermont 05404

Table of Contents

Part I: Efficiency Vermont 2024-2026 EEMA Programs Proposal

Introduction: Context

On June 1, 2023, Act No. 44,[1] an act relating to energy efficiency modernization, was signed into law by Governor Phil Scott. The intent of this legislation is to extend for an additional three years (2024-2026) Efficiency Vermont's successful transportation and thermal programs initially authorized by the Legislature through the passage of Act No. 151[2] and approved by the Public Utility Commission ("PUC" or "Commission") on May 27, 2021.[3] Collectively, Act Nos. 151 and 44, are also referred to as the Energy Efficiency Modernization Act ("EEMA"). EEMA legislation enables the "the use of Energy Efficiency Charge funds for greenhouse gas emissions reduction programs"[4] in the thermal and transportation sectors. EEMA legislation in part is a response to gaps identified in the Commission's Interim Act 62 Report to the Legislature, which identified a gap in Vermont's marketplace for "upstream programs that support transportation electrification, including working with manufacturers, creating dealer networks, training sales teams, strategic placement of electric vehicle supply equipment, and other supply chain development activities to make EVs more readily available and accessible in Vermont."[5] The Commission's Interim Report supports and recommends a limited expansion of the use of EEC funds to fill this market need.

This *EEMA 2024-2026 Proposal* comprehensively describes Efficiency Vermont's proposed EEMA transportation and thermal program scope, activities, and budgets for the 2024-2026 period. It also describes how the current program's results and stakeholder input inform the EEMA's scope and direction for 2024-2026. As a result of the success of the current programs and predominately positive stakeholder feedback on current services, the proposed EEMA program activities are intended to continue and build on the solid foundation of the current programs. The proposed transportation sector work will continue to focus on two critical activities related to plug-in electric vehicle[6] ("EV") market development and transformation - expanding current EV supply chain development efforts while supporting consumer outreach and education. To support the thermal sector, Efficiency Vermont proposes to continue the successful Low-Income Fuel Switch Program which enables low-income customers across Vermont to access the economic and environmental benefits of reducing fossil fuel consumption by utilizing heat pump technology. The proposed three-year (2024-2026) budget for the entirety of Efficiency Vermont's proposed EEMA program activities is $6,000,000.

[1] https://legislature.vermont.gov/bill/status/2024/S.137

[2] https://legislature.vermont.gov/bill/status/2020/S.337

[3] *See* Case No. 19-3272-PET, Order of 5/27/2021.

[4] https://legislature.vermont.gov/Documents/2024/Docs/ACTS/ACT044/ACT044%20As%20Enacted.pdf p. 1

[5] See page 38 of the Vermont Public Utility Commission's *Act 62 – Preliminary Report on All-Fuels Energy Efficiency,* submitted to the Vermont State Legislature on January 15, 2020.

[6] For this workpaper plug-in electric vehicles ("EV") refers to both all-electric vehicles ("AEV") and plug-in hybrid electric vehicles ("PHEV").

Building on 2021-2023 Activities Through Market Transformation

As with many of Efficiency Vermont's activities, EEMA programs are designed within a market transformation framework. Market transformation focuses on increasing and accelerating adoption of new technologies and practices by strategically intervening in markets, to assist in overcoming market gaps and barriers. Fundamentally, market conditions provide the foundation for program design decisions regarding how to apply resources to achieve long-term, lasting change.

Efficiency Vermont has developed the following plan for continuing EEMA programs for 2024-2026 that will support market transformation of the electric vehicle and low-income home heating markets in Vermont:

- Leverage the existing network of highly engaged EV dealers and the educational resources available through Drive Electric Vermont to ensure Vermonters have ready access to EVs, and the information they need to inform their purchase decisions.
- Emphasize equity and access within the EV market transformation program, by placing a strong focus on understanding and influencing the market for used EVs.
- Grow the reach and impact of the LI Fuel Switch program, by embedding program improvements recommended by participating contractors and seeking opportunities to leverage additional funding sources to offset program costs

Electric Transportation Program Description

Following the Commission's approval of Efficiency Vermont's Act No. 151 Programs in 2021, in 2022, Vermont's Agency of Natural Resources adopted the Advanced Clean Cars II ("ACCII") regulation, requiring an increasing fraction of new vehicle deliveries in Vermont to be electric – starting at 20% to 30% in 2026, hitting 49% to 70% in 2030, and ending at 100% by 2035. The number of EVs anticipated to be delivered to Vermont due to the adoption of Clean Cars II regulations will not be enough to account for all the EVs needed to meet Vermont's 2030 emission reductions requirement. This is supported by a 2022 report by the Energy Action Network that explores the impacts of ACCII, which compares the potential cumulative ZEV market supply from ACCII to the estimated EVs needed to replace fossil fuel vehicles for Vermont to meet its transportation emissions reduction goals, as illustrated in Figure 1 below.[7]

[7] https://www.eanvt.org/impacts-accii/

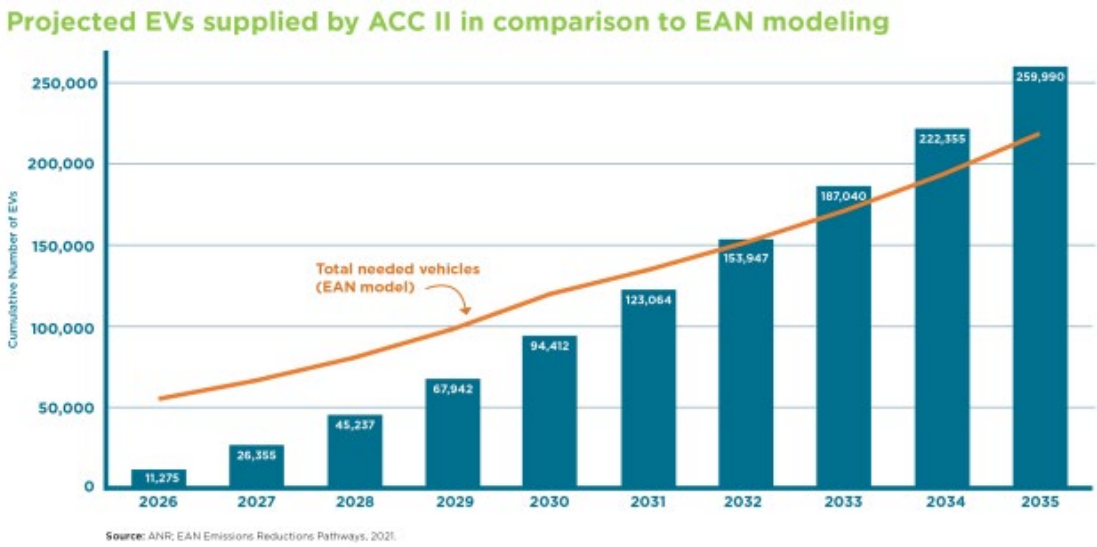

Figure 1: Source: EAN Advanced clean Cars II in VT: Implications for EVs and GHG Emissions Report

Between 2020-2022, the annual growth rate of EVs (within total Vermont vehicle registrations) was around 30%. When one forecasts future EV registration with a 30% compound annual growth rate, as well as factors-in anticipated EV market supply from ACCII, Vermont's EV registrations are still not at pace to meet 2030 transportation emission reduction targets as modeled by EAN and the Climate Action Plan's mitigation scenario in the LEAP model.[8] Accordingly, Efficiency Vermont's EEMA proposal continues a strong emphasis on building the market and dealer capacity for growing electric vehicle sales within Vermont.

The EV Dealer Program, administered through Efficiency Vermont's Efficiency Excellence Network ("EEN"), is a network of new and used car dealerships across Vermont who are committed to promoting EVs to their customers. Dealers who join the EV Dealer Program become members of the EEN EV Dealer group and have access to financial incentives for selling EVs, support for installing the infrastructure needed to sell and service EVs, and marketing and promotional support. Key program benefits include:

The *EV Readiness Incentive* helps offset dealership costs associated with electric vehicle service equipment and installations, OEM electric vehicle certification, and technical trainings for employees. Many participating dealers have utilized this benefit for Level 2 and Level 3/DC fast charging station installations, as well as EV tools and equipment for their service department.

The *Dealership and Salesperson EV Sales Incentive* is an opt-in benefit that provides an incentive to participating dealers and their sales staff for the sale or lease of a new or used plug-in EV registered in Vermont during the program period. By opting in, the participating dealer agrees to share a portion of the incentive with the salesperson who assisted the customer. The EV Sales Incentive is designed to encourage and motivate sales staff to discuss EVs with their customers. All participating dealers opted into this program benefit during the 2021-2023 program period.

[8] https://climatechange.vermont.gov/sites/climatecouncilsandbox/files/2022-03/Pathways%20Analysis%20Report_Version%202.0.pdf

The *EV Sales Training* is both a program benefit and requirement. The training provides information on Vermont EV market trends, EV benefits, and customer incentive programs – in sum, information that a salesperson might find helpful in their conversations with customers. Dealers are required to have at least two of their sales staff complete the training in order to have full access to EV Dealer Program benefits.

Other EV Dealer Program benefits include point-of-sale materials promoting EV benefits and informational resources such as DriveElectricVermont.com, and general EEN member benefits such as a website listing at EfficiencyVermont.com and access to co-op advertising funds.

The EV Dealer Program is complemented by a statewide EV education campaign, the goal of which is to increase consumer awareness of, familiarity with, and interest in EVs. While the campaign promotes Drive Electric Vermont as a trusted, third-party resource, resources and information can be found on Efficiency Vermont's website as well. Both platforms offer tools and resources to support every step of the customer journey, from learning about EV technology to comparing vehicles prior to making a purchase. Information is communicated through the various channels where Vermonters get information, including digital/social, television, radio, print, bus wraps, and point of sale materials. The effort is informed by consumer research conducted by Efficiency Vermont in 2021 to better understand Vermonters' car-shopping preferences and perspectives on electric vehicles.

2024-2026 Program Proposal

Efficiency Vermont proposes to build on current efforts launched in the 2021-2023 performance period to understand and address the barriers dealerships face in selling and servicing EVs, by continuing to offer an EV Dealer Program administered through the EEN. The program benefits are expected to remain consistent with those described above, with the following improvements or new activities proposed:

Increased engagement with used car dealerships, to better understand the unique barriers they may face in stocking and selling EVs. Engagement with used car dealerships is increasingly important for helping the used EV market in Vermont grow, especially as today's new EV purchases become tomorrow's used EV inventory. Efficiency Vermont will encourage more used car dealerships to join the EV Dealer Program, and seek their feedback on program improvements that can best support their participation in the EV market.

Continuation of both financial incentive offerings, with potential bonus or enhanced incentives for used EVs and/or used car dealerships, pending further feedback and insights from used car dealerships.

EV Readiness Incentives: While many Vermont dealerships have invested in EV infrastructure over the past few years, Efficiency Vermont expects a continued need for support with these projects, especially among used car dealerships. Incentives may range from $20,000-$30,000 per participating dealership, with the potential for additional incentives to support used car dealership investments in electric vehicle service equipment.

Dealership and Salesperson EV Sales Incentives: Efficiency Vermont has found the EV sales incentive to be a successful tool for engaging dealers through the program, as the benefit is widely popular and a draw for many dealers to participate in the program. Additionally, EEN EV Dealer responses in the annual EEN Member survey indicate that the EV sales incentive had a positive impact on motivating

dealers and their staff to sell EVs. The EV sales incentive may start at around $400 per EV, and scale down over the three year period as market adoption of EVs increases. During the 2021-2023 program period, the per-vehicle incentive amount was the same regardless of the EV type (all-electric or plug-in hybrid) or whether the vehicle was new or used. To support growth in the used EV market and encourage dealerships that sell used vehicles to incorporate used EVs into their inventory, Efficiency Vermont may offer a bonus incentive for used EVs.

Project management support for DC fast charging station installations and make-ready projects. As automakers continue to announce dealership EV certification requirements, Vermont's new car dealerships will be tasked with building up or expanding their EV infrastructure. For many, this will involve electrical service upgrades in order to support an expanding fleet of charging stations. Dealers can benefit from support with navigating utility requirements as well as potential state grant programs that can support such projects. In addition, access to a network of contractors that are skilled in and available to support charging station installations can make for a smoother process. Efficiency Vermont will coordinate with DUs, state agencies, and the EEN electrical contractor network to facilitate this support for EV Dealer Program participants.

Additional training opportunities for dealers and sales staff, with training topics and content refined based on the latest advancements in the EV industry, new or updated EV incentive program offerings, and dealer feedback. Efficiency Vermont expects to continue to offer salesperson trainings both as a requirement for program participation, and a benefit to enhance knowledge around various EV topics. Such trainings may be developed and delivered by Efficiency Vermont, Drive Electric Vermont, third party partners, or a combination.

Continuation of the EV consumer education efforts. Efficiency Vermont will continue to highlight the benefits of EVs and available federal, state, and DU incentives, in order to advance consumer consideration and adoption of these vehicles in Vermont. Tactics will include many of those deployed during the 2021-2023 campaign as described above, with an increased focus on direct outreach channels such as community engagement in addition to web search. The campaign will not include television advertising.

Low-Income Thermal Fuel Switch Program Description

The goal of the Low-Income Fuel Switch Program is to provide low-income customers with access to no-cost home heating electrification, and in so doing, implement new approaches to delivering services that ensure equitable access to technologies that reduce greenhouse gas emissions. In addition, by partnering with distribution utilities to jointly fund installations, the program assists distribution utilities with meeting their Tier III goals for serving and investing in low-income customers.

For the average low-income customer in Vermont, access to home heating electrification remains out of reach. In 2020, Efficiency Vermont analyzed the annual household income of 500 customers who previously qualified for its Targeted High Use Program, which provides low and no cost electric efficiency measures to customers with a high electric energy burden. The study revealed an average annual household income of $22,000. Efficiency Vermont replicated this analysis again in 2023, and the results were nominally higher at $23,444. While current midstream and post-purchase rebates serve to reduce the cost of heat pump installations for customers across the state, the remaining incremental cost of a

single ductless cold climate heat pump can easily exceed 25% of a low-income customer's annual household income.

These figures serve as a proof point towards the financial barriers facing low-income customers and have been incorporated into the program design and service delivery plan for 2024-2026. To overcome the financial barriers facing low-income customers, the proposed Low-Income Fuel Switch Program will continue to provide participating customers with free ductless cold climate heat pumps while directly addressing the lessons learned in 2021-2023. The primary activities of this program include:

- Recruitment of customers through direct mail promotion. Eligible customers will include those previously served by the state's Weatherization Assistance Program.
- Enrollment of eligible customers using a screening tool that will generate a referral summary to future installers, and customer economics calculator that individually estimates potential energy and cost savings.
- Referral of enrolled customers to a participating contractor who in turn contacts the customer for development of project timeline, conducts initial site visit to determine appropriate equipment, and schedules and performs heat pump installation. In addition, the heat pump contractor coordinates any electrical panel work necessary and germane to the heat pump installation.
- Efficiency Vermont direct payment to the heat pump contractor for the full cost of the installation less any available mid-stream rebates, thereby removing any financial obligation or first cost barrier for the customer.
- Efficiency Vermont program administration and work with participating utilities to share costs, thereby eliminating the need for participants and contractors to work with multiple entities to receive services and reimbursement respectively.
- In 2024 the program will prioritize serving the 166 customers presently on the waitlist. Thereafter the program will aim to serve between 150-200 customers each year.
- Maintaining established network of participating contractors that field referrals and serve enrolled customers. This includes retaining the 16 existing participating contractors, and selectively enrolling new contractors to add further capacity and geographic redundancy.

Heat pumps installed through this program will replace or offset existing fossil fuel heating systems, though the existing systems will remain as backup. Savings for installed units are claimed via the existing statewide midstream buydown, with Efficiency Vermont and DUs reporting any additional incentives paid through the Low-Income Fuel Switch Program towards their low income spending goals.

Customer Outreach and Enrollment

During the 2021-2023 period of the Low-Income Fuel Switch Program, the five[9] Weatherization Agencies mailed letters on behalf of Efficiency Vermont and the distribution utilities to clients previously served through a WAP announcing the program and offer. Drafted in coordination with OEO, the letter invited

[9] The five Weatherization Assistance Programs include BROC, Capstone, Champlain Valley Weatherization ("CVOEO"), Northeast Employment and Training Organization ("NETO"), and Southeast Vermont Community Action ("SEVCA").

customers to contact Efficiency Vermont's Customer Support team to learn more about and enroll in the program.

Response rates were significantly higher than anticipated (at times nearing 30%) in the initial outreach in October 2022 and March 2023. Individual utilities had set allocations for spending on this program in advance of program launch, but these amounts were quickly surpassed by interested participants and Efficiency Vermont created a waitlist for customers. At present, there are 166 customers who have been provisionally screened. These waitlist customers will be enrolled and served on a priority basis in 2024, after which the program will resume direct customer outreach.

To ensure the pace of customer enrollment remains sustainable for contractors and does not exceed their capacity, Efficiency Vermont will continue to actively manage the pace and volume of enrollment, seeking to match enrollment periods with contractor business cycles.

Customer Enrollment Criteria

Efficiency Vermont will gather and assess customer information with a live representative when a customer contacts Customer Support. Once a customer is determined to be eligible for the program, details on their home will be inputted into a Referral Summary. As part of the referral process, the Referral Summary is forwarded to the heat pump contractor who will perform the installation as part of the referral process. The following details will be reviewed with and obtained from the customer during the screening call:

- Ascertaining the *current fuel type* for the primary heating system being replaced or offset with the heat pump, as well as *how frequently the homeowner maintains the current system*.
- To help *determine potential location of heat pump head(s),* assess whether any window air conditioners are currently used, if any rooms are routinely too hot or cold, and the average preferred thermostat set point during heating season.
- To *assess the space feasibility,* present customer with approximate dimensions of heat pump head and exterior compressor unit. Additionally, determine *homeowner's ability to access filters for routine cleaning*.
- Perform customer economics calculation to illustrate estimated financial impact of fuel switch or offset through installation of the heat pump. Outputs will also inform recommendations for balance point temperature cross over and will convey estimated energy savings and GHG reduction.
- Determine if customer experiences frozen pipes, which would indicate insufficient weatherization. A *history or frequent occurrence of frozen pipes may disqualify the customer* from participating in the Low-Income Fuel Switch Program. In this case, EVT Customer Support will refer customers to their appropriate WAP.
- Customers will receive *a single head ductless mini split heat pump in the home's primary living space,* unless certain conditions are met that warrant a multi head setup, including occupants' age (*e.g*., under 6 years old and/or over 65 years old) and health conditions.

Service Delivery

The Low-Income Fuel Switch Program will continue to work with a select pool of Efficiency Excellence Network ("EEN") heat pump contractors to perform heat pump installations in eligible customers' homes. Efficiency Vermont will submit customer referrals to participating contractors, who will perform

installations within 60 days. Information collected during the above-mentioned screening process will be relayed to help inform contractors' determination on heat pump size and location. Contractors will subsequently invoice Efficiency Vermont for all associated costs after completing the installation.

As part of the service provided, participating contractors will review with all customers how to safely operate and maintain the newly installed heat pump. This training will also include how to optimize energy savings and comfort, as well as the conditions under which it may be recommended for the customer to rely on their backup heat source.

Contractor Recruitment and Training

Efficiency Vermont will continue to maintain the robust group of participating contractors within the EEN CCHP installer list to participate in the Low-Income Fuel Switch Program. Efficiency Vermont will also work to identify additional contractors to enroll to ensure adequate coverage and distribution of referrals across the state. Ensuring geographic access for customers will remain a critical component of the program.

Participating contractors will sign a participation agreement which will outline obligations of participation, including program requirements, length of commitment, and installation and invoicing processes. Efficiency Vermont will host a training for all enrolled contractors to review the program and contractor obligations.

Cost Share with Distribution Utilities

Efficiency Vermont and distribution utilities will continue to jointly cover the full cost of each heat pump unit and associated installation costs for customers participating in the Low-Income Fuel Switch Program. To establish predictable program costs for distribution utility partners, there will be a contribution cap for each installation above which DUs will not be responsible for additional project costs. Based on feedback provided by DUs, Efficiency Vermont anticipates this cap will continue to be $2,000 for each heat pump installation. Efficiency Vermont program funds allocated to the Low-Income Fuel Switch Program will pay the remaining balance invoiced by the participating contractor. As noted in Table 1 below, increased contributions from DUs would enable the program to serve more customers annually in the 2024-2026 performance period.

	$2,000 DU Cost Cap (no change)	$2,500 DU Cost Cap ($500 increase)	$3,000 DU Cost Cap ($1,000 increase)
Est Annual Qty of Customers	175	195	221

Table 1: DU contribution cap scenarios for the EEMA Low-income Fuel Switch Program

For the Low-Income Fuel Switch Program to remain scalable and successful, Efficiency Vermont will continue to rely heavily on close coordination with utilities, particularly with regards to any planned changes to mid-stream rebates or cost share proportions within the program. Efficiency Vermont anticipates that if the DU contribution cap were to change, the change would need to be applied consistently for all DUs as it would be administratively burdensome for Efficiency Vermont to implement different cost share amounts among utilities.

Electric Panel Work

30% of the customers served in 2022 and 2023 required electric panel or service upgrade to complete the heat pump installation. To reduce barriers to participation and further defray costs for customers, Efficiency Vermont will again support electric panel work as part of the heat pump installation. During the 2024-2026 program period, Efficiency Vermont will leverage panel upgrade funds made available through a grant from the Department of Public Service. This shift to grant-based funding will also further reduce EVT's cost share per project using the EEC budget authorized by the Commission. At the same time, it will allow customers to "future proof" their electric panels, making it relatively simple to support further electrification in subsequent years.

Budgets

Below are proposed annual budgets for Efficiency Vermont's proposed 2024-2026 EEMA program activities:

Efficiency Vermont Proposed EEMA Budget - Annual	**Incentives**	**Non-Incentives**	**Total**
EV Market Transformation Program	$510,000	$520,000	$1,030,000
Low-Income Fuel Switch Program	$840,000	$130,000	$970,000
Total	$1,350,000	$650,000	$2,000,000

Table 2: Efficiency Vermont Proposed EEMA Budget (annual)

Efficiency Vermont Proposed EEMA Budget: 2024-2026 (3 year)	**Incentives**	**Non-Incentives**	**Total**
EV Market Transformation Program	$1,530,000	$1,560,000	$3,090,000
Low-Income Fuel Switch Program	$2,520,000	$390,000	$2,910,000
Total	$4,050,000	$1,950,000	$6,000,000

Table 3: Efficiency Vermont Proposed EEMA Budget (3 year)

Efficiency Vermont will offer and deliver these programs on a statewide basis, and the funds spent for services shall be reasonably proportionate to the EEC collected in each utility territory.

Metrics and Evaluation

Transportation Program Impact Metrics

Achieving long-term EV market transformation requires that Efficiency Vermont programs and services address market gaps and barriers to increase and accelerate market adoption of EVs. The ways in which Efficiency Vermont intervenes in the market are specifically designed to support long-term, positive market impact. The ultimate purpose of the EV Consumer Awareness and Education and the EV Dealer Programs is progress toward true market change. During the 2021-2023 programs, Efficiency Vermont tracked a variety of program and market metrics designed to measure the impact of Efficiency Vermont's EV programs and track market impacts and trends, respectively. Efficiency Vermont's performance across these metrics from programs launching in the fourth quarter of 2021 through the program's operation through the third quarter of 2023 can be found in Appendix A.

Below is a summary of Efficiency Vermont's proposed program metrics for the 2024-2026 period, which will be updated in the Efficiency Vermont Triennial Plan.

EV Consumer Awareness and Education:

- Customer engagement with the EV campaign digital platform, as measured by number of website sessions at DriveElectricVermont.com
- Number of EV-related contacts to VEIC's contact center (including Efficiency Vermont and Drive Electric Vermont)
- Average likelihood of Vermonters to purchase an EV, as measured through Efficiency Vermont's consumer research

EV Dealer Program:

- Number of participating dealerships in the EV Dealer Program, including new car dealerships and used car dealerships
- Number of participating dealerships that complete an EV Readiness project
- Number of EVs associated with the Dealership/Salesperson EV Sales Incentive
- (NEW) Number of sales staff that receive the Dealership/Salesperson EV Sales Incentive
- Dealer satisfaction with trainings offered through the program
- Percent of participating dealers that report being motivated by the program to increase the number of EVs they stock and sell

Low-Income Fuel Switch Program Impact Metrics

The Low-Income Fuel Switch Program is specifically and intentionally designed to increase equitable access to and the impacts of home heating electrification efforts statewide. By braiding resources, working in close partnership with distribution utilities, and leveraging a nimble and dedicated pool of contractors, the Low-Income Fuel Switch Program can continue delivering on its mission and purpose. To track and measure performance towards this, Efficiency Vermont proposes the following metrics for the forthcoming 2024-2026 period.

- Number of customers served in total and by DU
- Geographic distribution of customers across all counties
- Customer satisfaction with the program and services provided
- Participating contractor satisfaction with the program

Evaluation

EEMA programs continue to be exploratory and experimental pilots. The metrics being used to track progress over the three years could change if market conditions or stakeholder needs change, and as such, the metrics proposed above are intentionally separate from Efficiency Vermont's Commission-approved 2024-2026 Quantitative Performance Indicators ("QPIs") in the DRP Proceeding

Efficiency Vermont anticipates that if the Department chooses to evaluate or verify any of the programs described in this work paper, such activities will be funded with a proportional share of the evaluation funds that have been allocated to the Department. As such, Efficiency Vermont has not identified or budgeted any incremental evaluation funds for these EEMA programs.

Part II: Achievement of EEMA Statutory Criteria

Sec. 1(a) – Total electric resource acquisition budget

For programs as envisioned in Act No. 44 to be approved for Efficiency Vermont, Sec. 1(a) of Act No. 44 requires that Efficiency Vermont's "total electric resource acquisition budget for 2024-2026 does not exceed" Efficiency Vermont's "total electric resource acquisition budget for 2021-2023, adjusted for cumulative inflation between January 1, 2021, and July 1, 2023, using the national consumer price index."

Efficiency Vermont's total 2021-2023 Electric RA budget is $121,585,770.[10] Efficiency Vermont's total 2024-2026 Electric RA budget is $126,428,680.[11] As such, Efficiency Vermont's total 2024-2026 Electric RA budget is 4% greater than its total 2021-2023 Electric RA budget. According to the U.S. Bureau of Labor Statistics, the 'all items in U.S. city average' CPI increased 16.9% from January 2021 (261.582 CPI points) to July 2023 (305.691 CPI points).[12] Thus, Efficiency Vermont's total 2021-2023 Electric RA budget adjusted for inflation between January 2021 and July 2023 using the national CPI would be $142,088,048.58. Therefore Efficiency Vermont's total 2024-2026 Electric RA budget does not exceed this amount and meets the requirement set forth in Act No. 44 at Sec. 1(a).

Sec. 1(b) – PUC authorization of EEC budget for EEMA programs

Act No. 44 states that the PUC shall authorize the use of electric resource acquisition budget amounts, in "an amount to be determined by the PUC but not to exceed $2,000,000 per year, on programs, measures, and services that reduce greenhouse gas emissions in the thermal energy or transportation sectors."[13]

As demonstrated in Tables 3 and 4 above, Efficiency Vermont's proposed EEMA programs would be entirely funded from Efficiency Vermont's electric resource acquisition budget, and do not exceed $2,000,000 per year. As such Efficiency Vermont's proposal meets the Act No. 44 Sec. 1(b) budget requirement.

---

[10] See page 68 of Efficiency Vermont 2023 Update to the 2021-2023 Triennial Plan, filed in Case No. 22-4719-INV on November 1, 2022.

[11] See Case No. 22-2954-PET, Order Addressing Clarifications and Revisions to Efficiency Vermont's 2024-2026 Demand Resource Plan, issued 11/13/2023.

[12] See https://data.bls.gov/timeseries/CUUR0000SA0 for U.S. Bureau of Labor Statistics CPI data and https://www.bls.gov/data/inflation_calculator.htm for Bureau of Labor Statistics CPI Inflation Calculator.

[13] Note that funds can only be authorized for EEMA Programs where certain conditions are satisfied. These conditions are discussed below.

Sec. 1(b)(1) – Thermal or transportation sector greenhouse gas emissions reduction

Pursuant to Sec. 1(b)(1), programs, measures, and services authorized by Act No. 44 shall "reduce greenhouse gas emissions in the thermal energy or transportation sectors, or both."

The Low-Income Fuel Switch Program provides low-income customers with access to no-cost home heating electrification, and in doing so, reduces greenhouse gas emissions in the thermal energy sector

As discussed on pages 7-11 above, the Low-Income Fuel Switch Program enables the installation of heat pumps in weatherized low-income households that would likely not otherwise be financially achievable for low-income customers through baseline Tier III and EEU programs. Efficiency Vermont estimates the Low-Income Fuel Switch Program could support the installation of approximately 600 heat pumps in weatherized low-income households in 2024-2026, resulting in approximately 8,430 MTCO2e of reduced greenhouse gases in Vermont's thermal energy sector. Efficiency Vermont highlights this figure to demonstrate the incremental greenhouse gas reduction impact of the Low-Income Fuel Switch program, but as discussed on page 8 and in keeping with EEMA program practices in the 2021-2023 performance period, neither the distribution utilities nor Efficiency Vermont claim additional savings from these projects, which are considered incentive-only measures. Instead, these measures are captured through the existing statewide midstream program, where DUs claim the thermal fossil fuel savings for Tier III credits and Efficiency Vermont will claim electric savings.

Efficiency Vermont's EV Market Transformation programs reduce greenhouse gas emissions in the transportation sector

In its January 2020 Act 62 Preliminary Report to the legislature, the Commission identified that stakeholders in the state had determined "there is a gap in the marketplace for upstream programs that support transportation electrification, including working with manufacturers, creating dealer networks, training sales teams, strategic placement of electric vehicle supply equipment, and other supply-chain development activities to make EVs more readily available and accessible in Vermont."[14]

With the passage of Act No. 151 later in 2020, the EEMA programs were designed and approved by the PUC to directly address this gap in the transportation sector, and by doing so are believed to enable greater reduction of greenhouse gas emissions in the transportation sector by increasing the adoption of EVs in Vermont. This is accomplished by addressing market barriers and gaps to accelerate Vermont's shift to electric-based transportation from fossil fuel-based transportation.

Efficiency Vermont's EV Campaign and EV Dealer programs are directed at the "market transformation" and midstream level, which drive EV growth through improved market and consumer demand conditions but cannot be measured to have a singular effect on the vehicle-purchasing decision. Notwithstanding this phenomenon, as part of its development of 2024-2026 EEMA programs, Efficiency Vermont conducted analysis of EEMA performance in the 2021-2023 period to better-understand if and what impact(s) Efficiency Vermont's EEMA transportation programs are having in Vermont's

[14] *Act 62 – Preliminary Report on All-Fuels Energy Efficiency,* Vermont Public Utility Commission, January 15, 2020.

marketplace.[15] Analysis suggests Efficiency Vermont's EEMA transportation programs are having a positive impact on EV adoption, and as a result, contribute to the reduction of greenhouse gas emissions in Vermont's transportation sector.

Figure 2 below illustrates the quantity of EVs sold annually in Vermont from 2020-2022, and further breaks down these sales for those from dealerships that became members of the EEN in 2022, and for dealerships that did not become members of the EEN in 2022. Participating EEN Dealerships saw a 14% increase in EV sales between 2021 and 2022. For non-EEN dealerships, EV sales decreased by 26% overall between 2021 and 2022. This difference between EEN Dealer and non-EEN Dealer EV sales suggests Efficiency Vermont's EV Dealer Program had a beneficial impact for selling more electric vehicles in 2022, and despite poor market conditions was able to support continued growing sales while other, non-program EV dealers saw reductions. This is made more notable given new retail light vehicle registrations (both ICE and EVs) in Vermont were 15% lower between 2021 and 2022, and EV sales remained steady between 2021 and 2022.

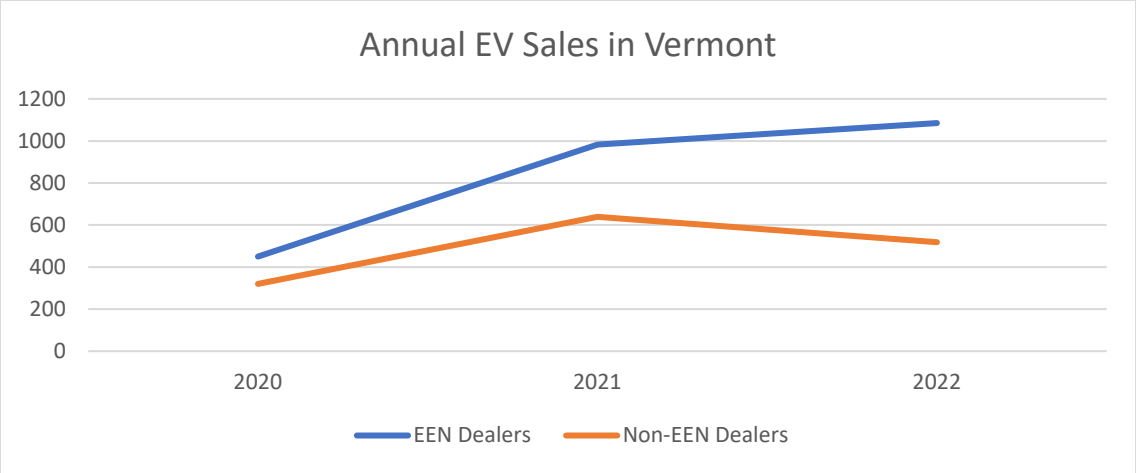

Figure 2: Annual EV Sales in VT

Sec. 1(b)(2) – Electricity usage nexus

Programs, measures, and services authorized by Act No. 44 shall "[h]ave a nexus with electricity usage."

[15] Understanding the impact of Efficiency Vermont's EEMA transportation programs in the 2021-2023 performance period is not a clear nor straight-forward assessment. Firstly, there is limited timeframe and data to assess EEMA programs' impact in the market given programs launched late in 2021, ran throughout 2022 and for the first half of 2023, and began winding-down in the second half of 2023. 2023 year-end results are not yet available at the time of this filing. Secondly, the 2021-2023 performance period has been a dynamic and unpredictable time for the vehicle market in Vermont and nationally. A significant number of new vehicle purchases have been postponed since the onset of the COVID-19 pandemic in 2020, mainly due to supply chain constraints. Vermont's new vehicle market is predicted to improve in 2023 and continue its recovery in 2024, as "stored potential" of postposed purchases move forward. However, despite the stored potential, sales are anticipated to remain close to average levels due to higher interest rates, slowing economy, and weakening vehicle affordability. See Vermont Auto Outlook (July 2023) for more information of Vermont's auto marketplace trends.

The Low-Income Fuel Switch Program has been designed based on its nexus with electric usage. The program supports electrification of home heating in weatherized low-income households across the state with the installation of heat pumps, which are an electric-based heating and cooling system.

The EV Market Transformation programs are also designed based on their nexus with electric usage because they support the growth of the marketplace for electric vehicles in the State of Vermont. By supporting activities that lead to an increase in the sale of electric vehicles and an increase in consumer education to drive consumer demand for electric vehicles, the programs encourage more Vermonters to switch from internal fossil-fuel combustion vehicles to electric-powered vehicles. These programs have a nexus with electricity usage because the effect of these programs reduce total fuel consumption and energy costs for customers by shifting from fossil fuels to electric-based vehicles.

Sec 1(b)(3) – Additive and complementary to utility energy transformation projects and existing thermal efficiency programs

Programs, measures, and services authorized by Act No. 44 shall "[b]e additive and complementary to and shall not replace or be in competition with electric utility energy transformation projects"[16] and "existing thermal efficiency programs"[17] such that "they result in the largest possible greenhouse gas emissions reductions in a cost-effective manner." The requirement for programs to be additive and complementary to existing thermal efficiency programs is a requirement of Act No. 44 that was not present in Act No. 151.

Efficiency Vermont's midstream electric transportation proposal leverages Drive Electric Vermont

Efficiency Vermont's EEMA program plans are informed by the Drive Electric Vermont ("DEV") public-private partnership that has been in existence for more than a decade. VEIC, the administrator of Efficiency Vermont, coordinates and stewards the DEV program (www.driveelectricvt.com), a statewide effort dedicated to accelerating the adoption of electric transportation in Vermont. VEIC has developed EV consumer engagement campaigns, educational materials and worked with EV dealerships across the state through this program. This work has informed Efficiency Vermont's strategy in developing the continuation of EEMA transportation programs and these efforts will continue to complement ongoing DEV program activities.

DEV and Efficiency Vermont coordination will continue to be guided by the principle that "every door opens," an approach common in the implementation of human services programs. In other words, in order to reach as many Vermonters as possible, we must ensure that useful information about EVs can be accessed across any communications channel they might engage with – no matter which partner or channel they engage with first. This coordinated approach will enable us to leverage existing websites, newsletters, and other channels from all DEV campaign partners to promote a consistent message, and

[16] Such programs are established pursuant to 30 V.S.A. § 8005(a)(3).

[17] As operated by an entity appointed under 30 V.S.A. § 209(d)(2)(A) – *i.e.* and EEU.

ultimately enable all partners to cost-effectively engage with Vermonters who are considering the purchase of an EV.

Efficiency Vermont's midstream electric transportation proposal is complementary to Distribution Utility Tier III Programs

The Vermont DUs' Tier III plans for 2024-2026 continue to include a focus on EVs, and Efficiency Vermont's EEMA efforts will complement—and not duplicate—those existing plans. The distribution utilities have focused their Tier III support for EVs at the consumer level, aiming to encourage the purchase of EVs. Efficiency Vermont's proposed EV midstream program complements this by training and working with dealerships to ensure that vehicle stocks are available, and that the salesforce is trained on the issues important to consumers.

Efficiency Vermont's midstream electric transportation proposal will be carried out in coordination with Other EEUs

Efficiency Vermont has been in regular communication with Burlington Electric ("BED") during the EEMA planning process. As an electric EEU, BED is also authorized to develop programs for EEMA, and Efficiency Vermont will ensure that program efforts continue to be well coordinated with BED's plans.

Efficiency Vermont's Low-Income Fuel Switch EEMA program is additive and complementary to Tier III programs

Efficiency Vermont and the Distribution Utilities work in partnership to offer rebates on heat pumps to customers statewide. As described in Part I of this proposal, customers participating in the Low-Income Fuel Switch program pay nothing for the cost of a new heat pump. Efficiency Vermont and distribution utilities jointly cover the full cost and associated installation costs (including electric panel work). Distribution utilities contribute funds to cover invoiced costs up to the established DU Cost Cap while Efficiency Vermont Low-Income Fuel Switch program funds cover the remaining balance.

Efficiency Vermont's Low-Income Fuel Switch EEMA program is additive and complementary to existing EEU electric and thermal efficiency programs

Efficiency Vermont provides cold climate heat pumps at no cost through the Low-Income Electrical Efficiency Program ("LEEP") and Targeted High Use ("THU") Program to customers whose homes rely on electric resistance heat as the primary heat source. Since 2018, Efficiency Vermont has installed 110 single and multi-head ductless heat pumps through these two program channels. Despite the impact and benefits delivered, the majority of customers served through LEEP and THU are unable to access the benefits of electrification at no cost, as these programs have been unable to support fuel switching for customers who currently use fossil fuel-based heating systems. Fisher, Sheehan & Colton's Home Energy

Affordability Gap data[18] indicates that only 3% of Vermont's low-income households rely on electricity as their primary heating fuel.

Data from Efficiency Vermont's Home Energy Loan program demonstrates low-cost financing alone is not sufficient to transform the low-income building electrification marketplace. Of the 135 Home Energy Loans closed in 2021 for heat pumps projects, only 28 (20%) were by low-income customers. So far in 2023, this figure hovers at just 12%. While current program approaches including low-cost financing expands access to electrification, Efficiency Vermont recognizes the need for program(s) that enables fuel switching from fossil fuels to efficient electric heating at little to no-cost to enable Vermont's low-income population to access electrification and its related benefits. The EEMA Low-Income Fuel Switch Program provides that opportunity.

Efficiency Vermont's Low-Income Fuel Switch EEMA Program is additive and complementary to the work of Low-Income Weatherization Agencies ("WAPs")

Vermont's WAPs are currently leveraging federal funding to install cold climate heat pumps in homes they serve, and will continue to do so as long as that funding remains available. Under the EEMA program, Efficiency Vermont works with the WAPs to "look back" at customers they have served in the past, prior to these federal funds being made available. In this way, it ensures that resources are maximized and that more customers can be reached, who would not otherwise have access to CCHP technology and the cost savings it can provide.

Sec. 1(b)(4) – Consultation with State agencies

Programs, measures, and services authorized by Act No. 44 shall "[b]e proposed after the entity consults with any relevant State agency or department and shall not be duplicated or in competition with programs delivered by that agency or department."

Efficiency Vermont engaged stakeholders and State Agencies throughout the initial development and design of these EEMA programs in 2020 and 2021 for transportation efforts, and in 2021-2022 for the thermal program. In developing the proposal to continue delivery of these existing programs, Efficiency Vermont re-engaged with these stakeholders and State Agencies to share program updates and outline a proposed direction for 2024-2026. Stakeholders voiced strong support for existing programs and the proposed direction, while sharing valuable insights that have been incorporated into Efficiency Vermont's plans.

Transportation Outreach

Efficiency Vermont placed a strong focus on stakeholder engagement throughout the EEMA EV program development process, which has created a strong foundation for development of the 2024-2026 proposal, grounded in ongoing feedback and market context.

[18] http://www.homeenergyaffordabilitygap.com/03a_affordabilityData.html

In discussions throughout October 2023, as well as in a survey of EEN member dealerships, stakeholders were asked to provide feedback on the existing midstream sales incentive offering, the EV infrastructure support incentive, and on the outreach and education campaign. In addition, Efficiency Vermont staff shared some concepts for the evolution of these programs, including:

- An expanded focus on used car dealerships and the used EV supply chain; and
- A reorientation of the education and outreach campaign, to focus primarily on in-person events and outreach, as well as promotion of digital resources soon to be available on the Drive Electric Vermont website, and on point-of-sale materials for dealerships.

The following stakeholders were consulted in the development of the EEMA 2024-6 EV Market Transformation proposal:

State Agencies	**Utilities**	**EEN EV Dealerships**	**Others**
VT Agency of Transportation	Green Mountain Power	15 EEN EV members, who responded to a survey fielded in September-October 2023	VT Vehicle and Automotive Distributors Association (“VADA”)
VT Agency of Natural Resources	VT Electric Cooperative		VT Clean Cities Coalition
	Washington Electric Cooperative		
	VT Public Power Supply Authority		
	Stowe Electric Department		

Table 4: Stakeholders consulted in the development of the 2024-2026 EEMA EV Market Transformation program proposal

Stakeholders voiced broad satisfaction with the existing EV programs, noting that the focus on supply chain engagement in support of EV dealerships is addressing a market need not being served by any other programs. There was also wide support for the directional evolution of proposed programs to focus on the supply chain for used EVs. The VT Clean Cities Coalition noted that there is a need for training of mechanics and first responders to enable broader access to EVs and to help instill consumer confidence in the technology. VADA emphasized the importance of continuing to support dealerships with infrastructure improvements needed to meet manufacturer requirements: without this program as a source of financial support for those projects, there is risk that Vermont dealerships (particularly those in smaller and rural areas) will stop stocking EVs, impeding access for their customers. The issue of manufacturer requirements also came up with the Agency of Natural Resources and VTrans, and both expressed concern for the underlying ability of Auto manufacturers to focus efforts on a small market like Vermont. VTrans also identified that the requirements to sell zero-emission vehicles in Vermont is not extended to used vehicles, and that particular support for used EVs would be a critical gap to fill with Efficiency Vermont’s program.

Efficiency Vermont intends to provide regular updates to affected State Agencies, and with other stakeholders through existing forums, such as the quarterly Drive Electric Vermont coordination meeting and the monthly Distribution Utility Working Group, and the annual VADA member meeting, while

soliciting ongoing input in the implementation of programs throughout the 2024-2026 performance period.

Low-Income Fuel Switch Outreach

The Low-Income Fuel Switch Program was originally developed over the course of 2021-2022 through an extensive stakeholder process, encompassing the VT Office of Economic Opportunity ("OEO"), WAPs, the Agency of Natural Resources, Distribution Utilities, and EEN contractors. These same partners were consulted in the development of the 2024-2026 EEMA proposal.

In meetings and outreach conducted throughout October 2023, stakeholders were asked to provide feedback on the current program and offer suggestions for improvement. In addition, they were asked to offer their perspective on the continued evolution of the program, including:

- Program targets and prioritization; and
- Opportunities to leverage other sources of funding to help stretch resources further and serve more customers

The following stakeholders were consulted in the development of the EEMA 2024-2026 Low-Income Fuel Switch Proposal:

State Agencies	Utilities	EEN HVAC Installers
VT Office of Economic Opportunity	Green Mountain Power	8 EEN HVAC Installation contractors participated in individual interviews in October 2023
VT Agency of Natural Resources	VT Electric Cooperative	
	Washington Electric Cooperative	
	VT Public Power Supply Authority	
	Stowe Electric Department	

Table 5: Stakeholders consulted in the development of the 2024-2026 EEMA Low-Income Fuel Switch Program proposal

Feedback on the program was resoundingly positive, with some suggested improvements in the customer outreach process (to minimize strain on Weatherization Agency partners), and some helpful feedback from participating contractors on their anticipated business cycle for 2024 and when they would be most available to receive and quickly follow through on program referrals. Distribution Utility partners were very appreciative that the program provides an opportunity to invest their Tier 3 budgets in support of verified low-income customers whose homes had previously been weatherized. They also asked clarifying questions about Efficiency Vermont's application of an indirect and Core IT fee (which will be no higher than 10% in 2024) to ensure program administration is appropriately resourced.

Going forward, Efficiency Vermont intends to provide regular updates to these and other stakeholders at existing forums, such as regular outreach to EEN members, via the monthly Distribution Utility Working Group meeting, the monthly invoicing and reporting process between Efficiency Vermont and

Distribution Utilities, and the monthly meeting of OEO, Efficiency Vermont, and PSD staff. These forums will also provide an opportunity to solicit ongoing input on program implementation throughout the 2024-2026 performance period.

Sec. 1(b)(5) – Statewide delivery

Programs, measures, and services authorized by Act No. 44 shall "[b]e delivered on a statewide basis. However, this shall not preclude the delivery of services specific to a retail electricity provider. Should such services be offered, all distribution utilities and [VPPSA] shall be provided the opportunity to participate, and those services shall be designed and coordinated in partnership with each of them. For programs and services that are not offered on a statewide basis, the proportion of utility-specific program funds used for services to any distribution utility shall be no less than the proportionate share of the energy efficiency charge…."[19]

Efficiency Vermont's Low-Income Fuel Switch and EV Market Transformation programs are proposed to be delivered on a statewide basis. As such, the Act No. 44 Sec 1(b)(5) requirement is met.

From 2021 through 2023 the Low-Income Fuel Switch program was delivered across the state, and the results are presented in Figure 3 below.

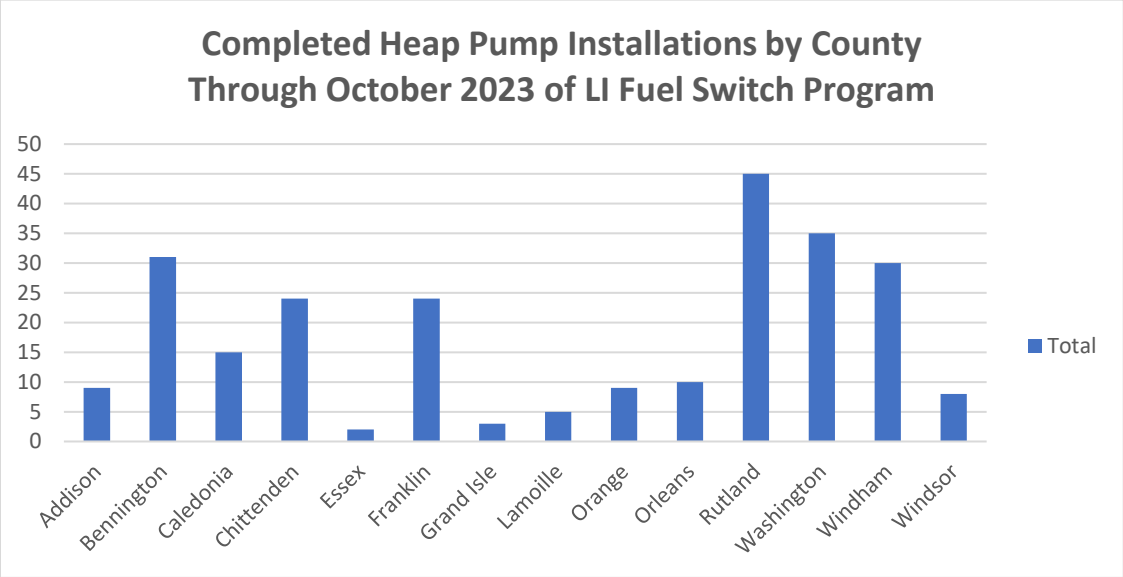

Figure 3: Completed installations by county

Efficiency Vermont's EV Dealer Program supported the presence and growth of dealerships selling EVs in almost all counties in Vermont. Because of the positive relationship between the presence of dealership(s) selling EVs in a county and EV registrations in that county,[20] these activities will support

[19] In the case of VPPSA, the proportionate share of the energy efficiency charge is the amount collected across their combined member utility territories during the period Act No. 44 remains in effect. Id.

[20] See Appendix B.

higher registration rates in these counties with the added benefit of supporting a more geographically equitable transportation electrification transition.

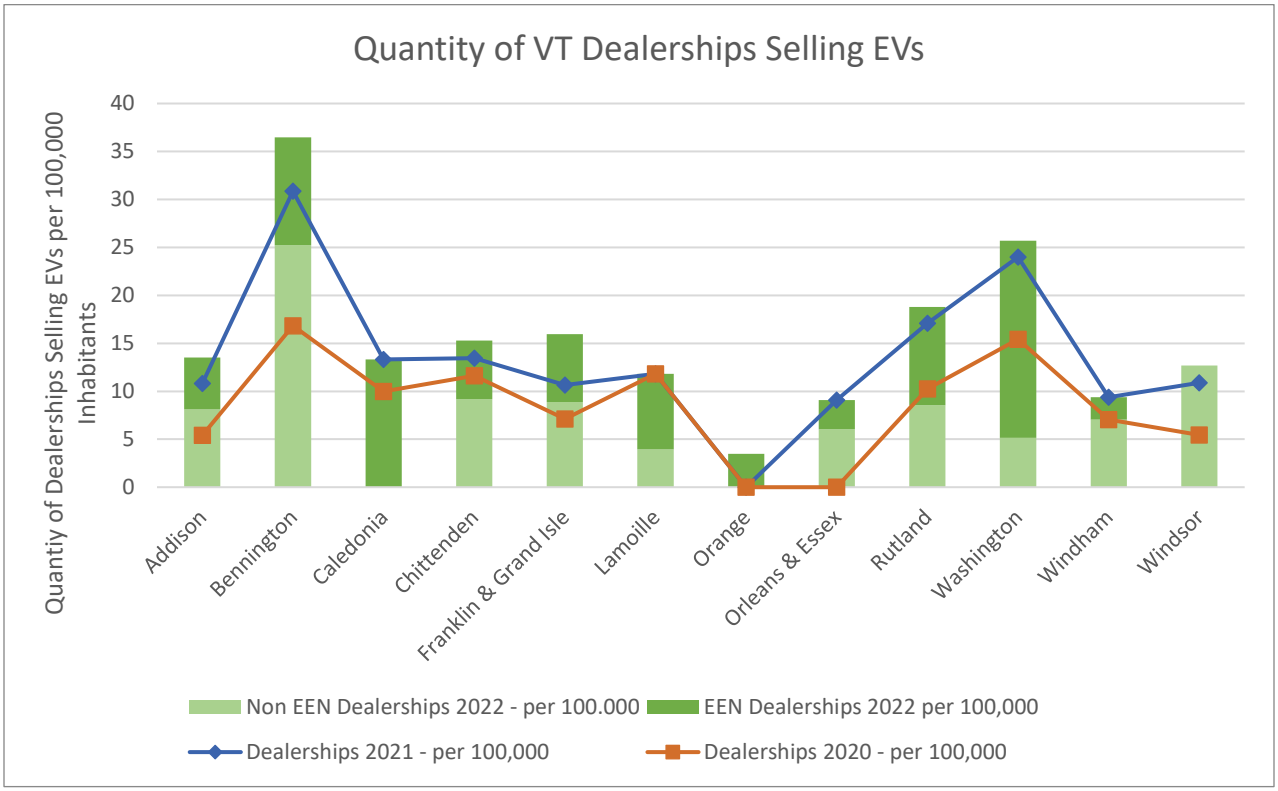

Figure 4: VT EV dealerships, per capita and by county

Sec. 1(c) – Cooperation with retail electricity providers

"An entity that is approved to provide a program, measure, or service pursuant to [Act No. 44] shall provide the program, measure, or service in cooperation with a retail electricity provider."

As noted above, Efficiency Vermont's EEMA programs have been designed and implemented in close collaboration with Distribution Utility partners, with the express purpose of helping support their achievement of Tier III goals, in service of Vermont's broader transportation and thermal electrification efforts.

Sec. 1(c)(1) – Savings claims

The entity administering Act No. 44 programs "shall not claim any savings and reductions in fossil fuel consumption and in greenhouse gas emissions by the customers of the retail electricity provider resulting from the program, measure, or service if the retail electricity provider offers the program, measure, or service pursuant to 30 V.S.A. § 8005(a)(3) *unless the entity and provider agree upon how savings and reductions should be accounted for, apportioned, and claimed*."

Nothing in this proposal competes with distribution utilities' claim of Tier III credits based on direct reductions in fossil fuel use.

Sec. 1(c)(2) – Standards and methods to measure effectiveness of programs, measures, and services

"The PUC shall develop standards and methods to appropriately measure the effectiveness of the programs, measures, and services in relation to the entity's Demand Resources Plan proceeding."

Efficiency Vermont is not proposing new or EEMA-specific QPIs as part of this proposal. Efficiency Vermont recommends continuing to measure EEMA program performance using metrics identified on page 12, which has the benefit of enabling identification of trends or impacts across the same metrics over time.

Part III: Role and Anticipated Impacts of 2024-2026 EEMA Programs

Q1: What are the budget and benefit-related tradeoffs of Efficiency Vermont's EEMA proposal? Why are these appropriate?

Efficiency Vermont has identified traditional efficiency programs that can be reduced in budget without sacrificing the integrity or sustainability of the existing program. That is, no program is being terminated to run the EEMA programs, but some are being projected to run at reduced budgets and lower rates of acquisition than what was described in the DRP proceeding. Those programs receiving reduced budget to fund EEMA activities are as follows:

Budget shifted from these programs to fund EEMA	Reporting Category	Budget
Existing Homes Non-Incentives	6036	$ (200,000)
Existing Homes Incentives	6036	$ (400,000)
Business Existing Facilitities: Non-Incentives	6012	$ (450,000)
Business Existing Facilitities: Incentives	6012	$ (875,000)
Business Existing Facilitities: Incentives	6013	$ (75,000)
Total		**$ (2,000,000)**

Table 6

Budget shifted to these EEMA programs	Reporting Category	Budget
EV Program: Non-Incentives	6032	$ 520,000
EV Program: Incentives	6032	$ 510,000
Low Income Fuel Switch Program: Non-Incentives	6034	$ 130,000
Low Income Fuel Switch Program: Incentives	6034	$ 840,000
Total		**$2,000,000**

Table 7

Slower run rates are reflected in Efficiency Vermont's modeling results as reduced QPI values compared to the Baseline DRP. Efficiency Vermont is not proposing changes to the minimum performance standards approved in the Baseline DRP. As such, the only notable changes are to those of the primary QPI values, as follows:

Tables 8 and 9 show impacts to Efficiency Vermont Electric and TEPF QPI Performance.

QPI #	Electric QPI	Approved DRP 100% QPI Targets (2024 - 2026)	Updated 100% QPI Targets due to EEMA (2024 - 2026)	% Change in Value
1	Total Resource Benefit	$195,094,500	$180,842,000	-7.3%
2	Annual MWh	204,000	193,200	-5.3%
3	Summer Peak kW	22,100	20,600	-6.8%
4	Winter Peak kW	29,600	28,400	-4.1%
5	Lifetime MWh	2,657,800	2,520,300	-5.2%
6	Tons CO2e	135,000	130,500	-3.3%

7	Flexible kW	2,260	2,260	0%
8	Administrative Efficiency	1,078,100	1,078,100	0%

Table 8: Impacts to Electric QPI Performance

QPI #	TEPF QPI	Approved DRP 100% QPI Targets (2024 - 2026)	Updated 100% QPI Targets due to EEMA (2024 - 2026)	% Change in Value
1	MMBtu	381,300	381,300	0%
2	Residential Comprehensiveness	100%	100%	0%
3	Residential Housing Units Weatherized	4,100	3,700	-9.8%
4	Greenhouse Gas Reduction (metric tons CO_2e)	21,000	21,000	0%

Table 9: Impacts to TEPF QPI Performance

Efficiency Vermont believes this proposal and its accompanying tradeoffs are appropriate because the EEMA proposal is consistent with the run rate and scope of activities within current programs approved through the end of 2023, while providing the additional benefits identified by the EEMA activities. If the EEMA programs were not continued, Efficiency Vermont would need to ramp up the identified program activities from their current run rate to the higher level identified in the Baseline DRP.

Q2: How does Efficiency Vermont's EEMA proposal better meet or continue to meet 30 V.S.A. § 209(d)(3)(B)?

In setting the appropriate EEU budget and commensurate EEC charges, the Commission is directed by 30 V.S.A. § 209(d)(3)(b) to:

> *…determine an appropriate balance among the following objectives; provided, however, that particular emphasis shall be accorded to the first four of these objectives: reducing the size of future power purchases; reducing the generation of greenhouse gases; limiting the need to upgrade the State's transmission and distribution infrastructure; minimizing the costs of electricity…*

Id. By this proposal, the vast majority of the EEU portfolio costs remains focused on the creation of electric system benefits, whereas only 4.7% of the electric RA budget is proposed to be directed toward EEMA programs, which are focused on the second statutory priority of Section 209(d)(3)(b): the reduction of greenhouse gas emissions. Further, the EEMA program activities have the potential to out-perform the small reduction in the GHG-reduction QPIs projected from Efficiency Vermont's modeling. As indicated on Table 8 above, the reduction in traditional electric efficiency activities will reduce the

greenhouse gas reduction QPI by 4,500 metric tons – the equivalent to saying electric generators will emit 4,500 additional tons of greenhouse gasses.

Efficiency Vermont believes this tradeoff is reasonable. For example, the U.S. EPA estimates that the typical internal combustion passenger vehicle emits 4.6 tons of greenhouse gas emissions per year.[21] As presented in Section II of this proposal, Efficiency Vermont has found that the EEN Dealer network supported the sale of over 1,000 plug-in electric vehicles in 2022. While the emissions from generators powering those EVs cannot be discounted, the effect is that by supporting 1,000 electric vehicles on the road, the equivalent to 4,600 tons of greenhouse gas emissions from fossil fuel-fired cars have been avoided for every year these electric vehicles are on the road. The EEMA program claims no direct "credit" for vehicles sold, but are instead moving the market towards more robust sales and a transformed market that is sustainable over the long term. Nonetheless, if the EEN Dealer network experiences growth of EV sales from 2022 levels, then the simple number of vehicles sold through the network would have a net-benefit in year 1 of the program of reduced greenhouse gas emissions in the state, and therefore consistent with the Statutory intent of Section 209 for prioritizing the reduction of greenhouse gas emissions. Further, with two additional years of EEN Dealer support through 2026, the opportunity exists to significantly out-perform the changes in greenhouse gas reductions from the Baseline DRP as a result of the EEMA Proposal.

The remaining portions of the electric efficiency portfolio continue to represent a robust and concerted effort by Efficiency Vermont to improve the efficiency of the electric system towards the creation of system benefits. By spending less than 5% of the EEC RA budget on EEMA greenhouse-gas reduction focused activities, Efficiency Vermont's capacity to create additional benefits that would not have been realized through the Baseline DRP approved by the Commission is greatly expanded. Efficiency Vermont acknowledges that after only two years of implementation of EEMA programs, these numbers and the causality of EEMA programing could be considered qualitative and not quantitative. However, the statutory intent of Act No. 44 is to drive market transformation for greater potential for greenhouse gas emissions reductions, and this proof of concept remains highly probable based on the evidence collected through the first two years of EEMA activities. Efficiency Vermont believes an additional three years of implementation will create greater understanding and the potential for measuring impact further through evaluation by the DPS and quantitative determination of benefits.

Q3: How does Efficiency Vermont's EEMA proposal perform against electric MPR #9's threshold, and how does this compare to Efficiency Vermont's Baseline DRP performance against electric MPR #9's threshold?

Minimum Performance Requirement ("MPR") #9 represents an electric system benefits-to-cost ratio, which has a minimum threshold of 1.0. A preliminary estimate for the 2024-2026 Baseline DRP results in a value of approximately 1.50, whereas the EEMA Proposal preliminary estimate for MPR #9 is 1.42. Both values are greater than the 1.0 threshold and therefore generate greater electric system benefits

[21] https://www.epa.gov/greenvehicles/greenhouse-gas-emissions-typical-passenger-vehicle#:~:text=A%20typical%20passenger%20vehicle%20emits,of%20carbon%20dioxide%20per%20year.

than the costs to implement. The EEMA proposal MPR #9 estimate is approximately 5.3% lower than that for the Baseline DRP, and is consistent with the estimated reduction in MWH-savings.

Q4: how have the electric quantifiable performance indicators ("QPIs") changed as a result of the EEMA proposal?

Tables 8 and 9 of Part III provides a summary of the QPI values that have been presented in this DRP Proceeding Case No. 22-2954-INV. Efficiency Vermont projects a 7.3% reduction in TRB and 5.3% reduction in MWH savings. Similar reductions are expected for the remaining QPIs: 6.8% for Summer KW, 4.1% for winter KW, 5.2% for lifetime KW, and as already discussed a 3.3% reduction in claimed greenhouse gas savings. There is no impact to the anticipated savings of flex-kW. Only TEPF QPI #3, Number of Housing Units Weatherized, is impacted within the TEPF QPIs. This reflects a reduction in the number of electrically heated homes funded through the EEC for moderate income households as these weatherization projects will be able to utilize ARPA and other federal funding sources.

Q5: Are there any additional or new QPIs and minimum performance requirements being proposed with Efficiency Vermont's Act No. 44 "EEMA" proposal?

There are no additional or new QPIs or minimum performance requirements being proposed with Efficiency Vermont's EEMA proposal. The EEMA programs are intended to be a long-running Pilot to determine the efficacy of market uplift for greenhouse gas reduction opportunities. As such, it remains unknown what an adequate performance indicator should be for this form of market uplift. Instead, Efficiency Vermont proposes to continue tracking market indicators for electric vehicle adoption as outlined in the Part I "Market Metrics" section of this proposal.

Q6: What are the estimated rate and bill impacts resulting from the Baseline DRP approved on September 26, 2023 compared to those estimated under the Act No. 44 "EEMA" proposal?

There is not a completed rate and bill analysis for the Baseline DRP approved by the Commission on September 26, 2023 and amended on November 13, 2023. Therefore, it is not an easy comparison between what the Commission approved, to Efficiency Vermont's EEMA proposal. As a general matter, the Baseline DRP would likely result in greater bill savings as a result of the Commission's determination to shift $1.2 million from Flexible Load Management to general resource acquisition activities, which increased MWH savings by 1,956 MWh over the 2024-2026 performance period. Nonetheless, the rate and bill impacts of the EEMA proposal are presented in Exhibit EVT-JP-2, which includes a full remodeling of the RA budget based on the PUC's Baseline DRP Order and reduced FLM spending requirement.

The cost savings for switching to electric vehicles is not reflected as bill savings among participating consumers, which causes upward pressure on rates compared to the Baseline DRP approved by the Commission on September 26th. Similarly, the Low-Income Fuel Switch heat pump installations would

also not be considered in the Efficiency Vermont electric model for anticipated electric savings, as these savings are already accounted for in the heat pump mid-stream program and therefore does not impact the rate and bill analysis.

Customer Class	Efficiency Vermont Proposal		
	Rates (2024-2043)	Average Participant Bill Impacts	Average Non-participant Bill Impacts
Residential	**5.1%**	**-5.6%**	**4.9%**
C&I (No Demand Charge)	**2.5%**	**-8.2%**	**2.0%**
C&I (Demand Charge Customers)	**1.0%**	**-9.6%**	**0.5%**
All Customers	**3.1%**	**-7.6%**	**2.7%**

Table 10: Rate and Bill Impacts of the EEMA Proposal

Overall, the rate and bill analysis from the EEMA proposal is very similar to the Rate and Bill results presented in Efficiency Vermont's December 9, 2022 DRP Update Proposal.

Customer Class	Efficiency Vermont DRP Update Proposal		
	Rates (2024-2043)	Average Participant Bill Impacts	Average Non-participant Bill Impacts
Residential	**5.0%**	**-5.7%**	**4.8%**
C&I (No Demand Charge)	**2.5%**	**-8.2%**	**2.0%**
C&I (Demand Charge Customers)	**1.0%**	**-9.6%**	**0.4%**
All Customers	**3.0%**	**-7.6%**	**2.6%**

Table 11: Efficiency Vermont Dec. 9, 2022 DRP Update Proposal Rate and Bill Analysis

Q7: Are there important changes that have occurred since the Commission's approval of Act No. 151 programs, including yield rates (cost of savings), changes in technical reference manual measure characterizations, or changes in the minimum performance requirement addressing electric system benefits?

Yes.

- *Cost of savings*? Inflation, an increase in measures that require larger customer incentives, and increased engagement and technical support have increased the acquisition costs (*i.e.*, the dollars spent per first-year MWh saved) for the 2024-2026 performance period as compared to the DRP model for the 2021-2023 period. See pages 12 and Figures 5 of Exhibits *EVT-JP-1* and *EVT-JP-2* for further discussion of acquisition costs. From a total EEC cost per annual MWh savings perspective, both Efficiency Vermont's baseline and EEMA Amendment Proposal remain below the regional average.[22]

- *TRM Measure Characterization*? There are no changes to the TRM Measure Characterization as a result of the EEMA programs because the transportation and thermal EEMA measures have incentives but no savings.

- *Minimum Electric System Benefits Requirement*? Since approval of the Act No. 151 programs in May of 2021, the Commission has reduced the minimum requirement for Efficiency Vermont's electric system benefits-to-cost ratio Minimum Performance Requirement ("MPR") #9 from 1.2 to 1.0, and approved some modifications to the electric system benefits-to-cost ratio calculation. As discussed in the above response, Efficiency Vermont expects that both the Baseline DRP and EEMA DRP Amendment Proposal would meet the MPR #9 requirement for the 2024-2026 performance period.

There are additional changes that have occurred since the passage of Act No. 151, including the passage of the Global Warming Solutions Act ("GWSA"). Additionally, responses from stakeholder engagement carried out for the 2024-2026 DRP Update development period differed from responses from stakeholder engagement carried out for the 2021-2023 DRP development period in that they demonstrated an even greater focus GHG reduction; equity was also named as a critical area of focus (though that represented the first time Efficiency Vermont asked stakeholders to provide perspective on that topic). Both Efficiency Vermont's EEMA programs focus on greenhouse gas reductions and equity.[23]

[22] Efficiency Vermont's total EEC cost per annual MWh savings established by the 2024-2026 DRP Baseline Order is $715.26/MWh. Efficiency Vermont's total EEC cost per annual MWh savings as established in its EEMA Amendment Proposal is $755.24. The regional average (excluding Vermont) total cost per annual MWh savings is $1,051.

[23] For additional discussion see Case No. 22-2954-PET, Exhibits EVT-KL-1, EVT-KL-2 and EVT-KL-3.

Q8: Does the adoption of the Advanced Clean Car II rule, requiring the delivery of specific quantities of zero-emission vehicles to the state, in any way obviate or diminish the need for Efficiency Vermont to support midstream electric vehicle dealers?

Between 2020 and 2022, the annual growth rate of EVs (within total Vermont vehicle registrations) was around 30%. When one forecasts future EV registration with a 30% compound annual growth rate, as well as factoring-in anticipated EV market supply from ACCII, Vermont's EV registrations are still not at pace to meet the 2030 transportation emission reduction targets as modeled by EAN and the Climate Action Plan's mitigation scenario in the LEAP model.[24]

Figure 5 demonstrates that additional market support is needed, on top of ACC II regulation, to support Vermont's achievements of the GHG reduction requirements established pursuant to the Global Warming Solutions Act. As such, Efficiency Vermont believes a gap remains between Vermont's anticipated EV market under ACCII and the EV market needed to meet GWSA requirements. EEMA transportation programs provide market support designed to fill that gap. Even more importantly, the years 2024-2026 are an important time to provide dealerships with support through the EEN Dealer Program to ensure they are prepared for the EV supply impacts of ACCII starting in 2026. Additionally, the ACCII only applies to the percent of new car supply entering the state. It is important to maintain if not grow support for the used EV marketplace and used car dealerships in the state, which will also support the equitable realization of transportation decarbonization for a sizable portion of the population who purchase and own used vehicles. Efficiency Vermont plans to expand involvement in the used EV market through the proposed 2024-2026 EEMA activities.

[24] https://climatechange.vermont.gov/sites/climatecouncilsandbox/files/2022-03/Pathways%20Analysis%20Report_Version%202.0.pdf

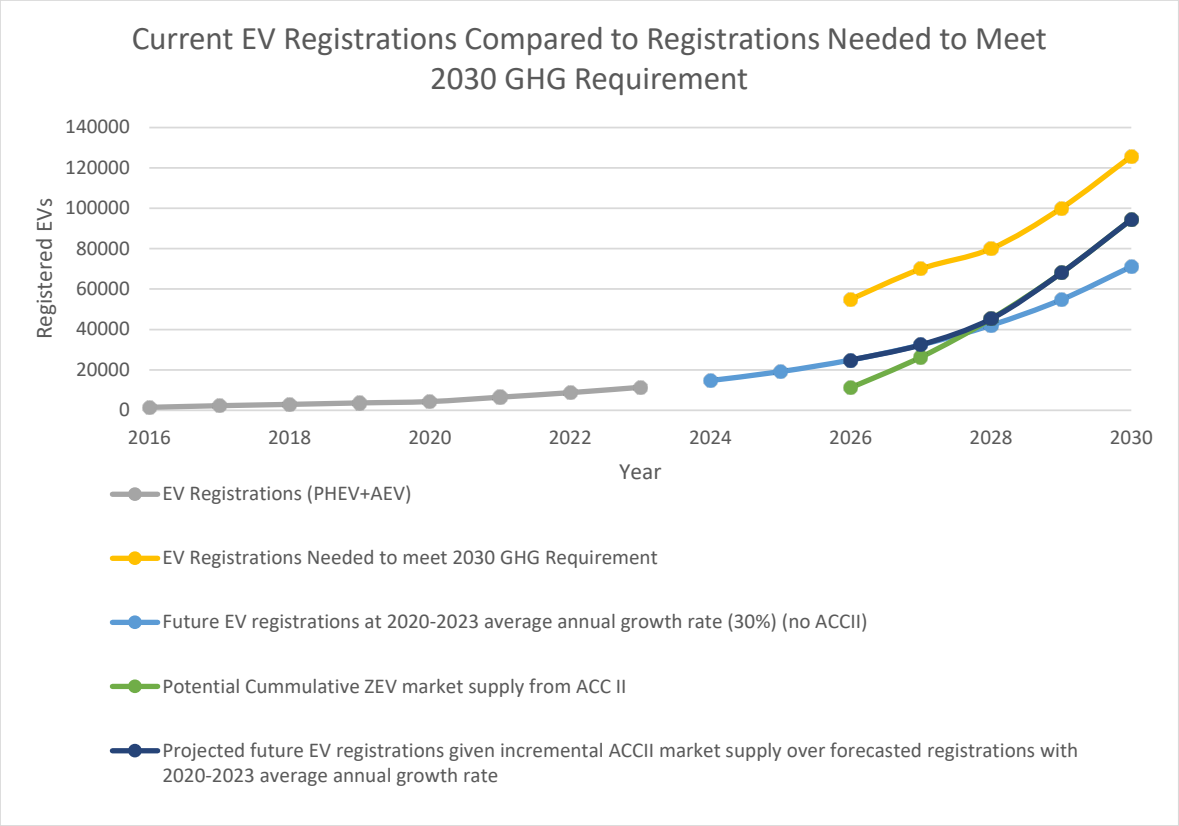

Figure 5: Current EV Registrations vs. Registrations Required for 2030 GHG Emissions Reduction Requirements

Q9: Do auto dealers feel Efficiency Vermont's EEMA transportation programs are helping them to sell more EVs? Are the dealers supportive of Efficiency Vermont's programs?

Yes.

The 2023 annual EEN Member Survey included a question block specifically for EEN EV Dealers. Fifteen EEN EV Dealers completed the 2023 survey. One of the questions asked respondents to rate their level of agreement with statements about the EV Dealer Program's impact on their dealership. As shown in Figure 6, all respondents agreed that the EV Dealer Program motivated their team to succeed in their EV sales goals. In addition, all but one respondent agreed that the program enabled their dealership to sell more EVs. The more neutral response to the statement around whether the program enabled dealers to stock more EVs is somewhat expected, as dealers' ability to stock EVs is influenced by factors outside of the scope of the EV Dealer Program, such as OEM vehicle availability and shipment quotas. Even so, over half of respondents did indicate that the program had a positive effect in this regard as well.

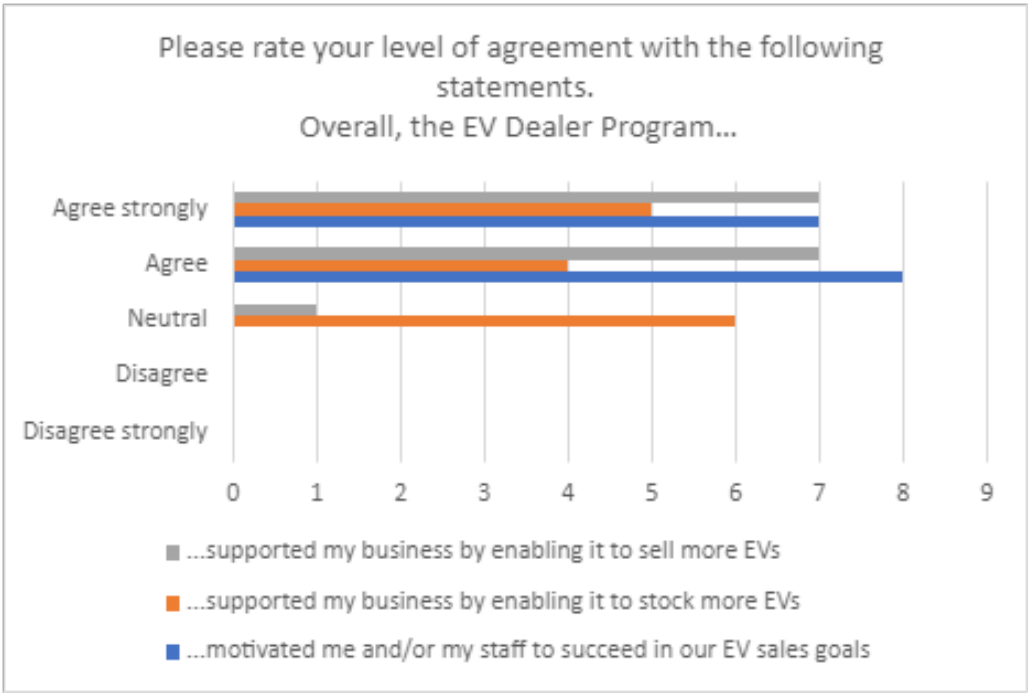

Figure 6: EEN EV Dealer member survey responses

Q10: Is it Efficiency Vermont's observation that EEMA transportation programs are having an incremental impact on Vermont's transportation electrification market, and therefore reducing greenhouse gas emissions?

Yes, see discussion on page 25-6.

Additionally, Efficiency Vermont's EEMA transportation program addresses the continued need for comprehensive market transformation support, such as consumer education and supply chain development, to ensure all models of EVs are receiving the boost of market support, not just specific models supported by federal, State of Vermont, and Tier III incentives or tax credits. Efficiency Vermont's EV promotion and dealership activities through EEMA promote the sale and registration of EVs regardless of qualification for Tier III and State of Vermont incentives. Efficiency Vermont's EV Dealer Program supports any Vermont dealership committed to selling plug-in EVs, even dealerships that do not offer vehicles that qualify for the State of Vermont incentives (due to price restrictions) or the federal incentives (based on the number of sales by the equipment manufacturer and in 2023 the location of vehicle production). This support helps to grow Vermont's EV market, and increases the availability and access to all EVs sold in Vermont at dealerships, broadening the scope of market transformation activities beyond existing customer incentive programs and reaching additional customers and market opportunities.

Q11: Is Efficiency Vermont proposing to continue the EV Consumer Awareness Campaign in 2024-2026?

Yes, but to a somewhat lesser extent to what was implemented in 2021-2023. While Vermont has seen growth in the adoption of EVs thanks to a concerted effort on the part of distribution utilities, Drive Electric Vermont, and the State of Vermont, significant barriers related to consumer awareness and knowledge (of EV benefits as well as available incentives), model availability, and vehicle preferences continue to exist in Vermont. Efficiency Vermont's EV consumer research conducted in 2021 suggested that few Vermonters associate EVs with the vehicle factors that are most important to their purchasing choices, such as safety and reliability, performance in winter or on dirt roads, and affordability. This research also showed that shoppers' opinions are primarily informed by internet resources as well as friends and family. These findings demonstrate a continued need for information and resources to support Vermonters as they consider vehicle options, especially if there is an opportunity to influence purchase decisions prior to their visit to the dealership.

Efficiency Vermont outreach and education efforts will continue to focus on the benefits of EVs and available federal, State, and DU incentives; thereby advancing consumer familiarity, consideration and adoption of these vehicles in Vermont. Tactics will include many of those deployed during the 2021-2023 EEMA campaign, as described above, with an additional focus on community-based and in-person outreach. 2024-2026 advertising will be significantly scaled down, with no planned investments in broad media channels, such as television.

Q.12 Has Efficiency Vermont coordinated with Distribution Utilities on the cap for their per project contributions to Low-Income Fuel Switch program?

Yes.

Efficiency Vermont has had extensive conversations and agreements with DUs in order to ensure that EEMA program design integrates with their Tier III plans and budgets. These discussions have taken place throughout the duration of the current Act No. 151 EEMA activities, and are expected to continue through the next EEMA program cycle through 2026. Efficiency Vermont strongly prefers setting a consistent contribution cap for all utilities to the alternative of negotiating individual contribution caps for singular Distribution Utilities, which would be highly complex and administratively burdensome. Therefore, Efficiency Vermont's EEMA proposal to maintain the current $2,000 contribution cap is based on the feedback from some DUs that they are not in a position to devote additional Tier III budget to this program. It should be noted that some DUs did voice a willingness to increase their contributions above the current level.

Appendix A: Efficiency Vermont Reporting: Act No. 151 Transportation Program and Market Metrics

Transportation Program Metrics

The Program Metrics are tied to specific to program activities and can be measured with Efficiency Vermont program data. Developed to support and be in alignment with the Market Metrics and goals presented in the Act No. 151 workpaper,[25] the Program Metrics in many cases represent "leading indicators" for desired long-term market results focused on two key areas of program activity: dealership engagement and consumer education. These metrics are meant to inform progress toward program objectives and evaluate program impact and success (this is the main distinction from the Market Metrics).

Results from Efficiency Vermont's Act No. 151 transportation program metrics were reported in Efficiency Vermont's 2023 Third Quarter Report. Those results are provided for reference at the end of this appendix (Appendix A).[26]

Transportation Market Metrics

The Market Metrics were presented in the Act No. 151 workpaper. The purpose of these metrics is to track general market trends that will inform Efficiency Vermont program decisions and direction. These metrics will be tracked using data largely from outside Efficiency Vermont, and will help us understand how the market is transforming and assess whether our market interventions are appropriate based on market adoption trends.

Results from Efficiency Vermont's Act No. 151 transportation market metrics were reported in Efficiency Vermont's 2023 Third Quarter Report. Those results are provided for reference at the end of this appendix (Appendix A).[27]

[25] See Case No. 19-3272-PET, Exhibit EVT-CW-4, dated 2/12/2021.

[26] Case No. 23A-3968, *Efficiency Vermont 2023 Third Quarter Report*, dated 11/15/2023 at 48.

[27] Id. at 49.

Appendix B: Relationship Between EV Registrations and Dealerships Selling EVs in Vermont

Additional market-based data shows a relationship between presence/quantity of dealerships in a county selling EVs and the quantity of newly registered EVs in that county. Figure 7 below shows the relationship between per capita values of EVs registered in Vermont and EV dealerships in Vermont by county from 2020 to 2022. This regression analysis has a R^2 value of 0.14, meaning that ~14% of the difference in EV registrations by county is attributable to the presence of EV dealerships in that county. These results are statistically significant with a p value <0.05.

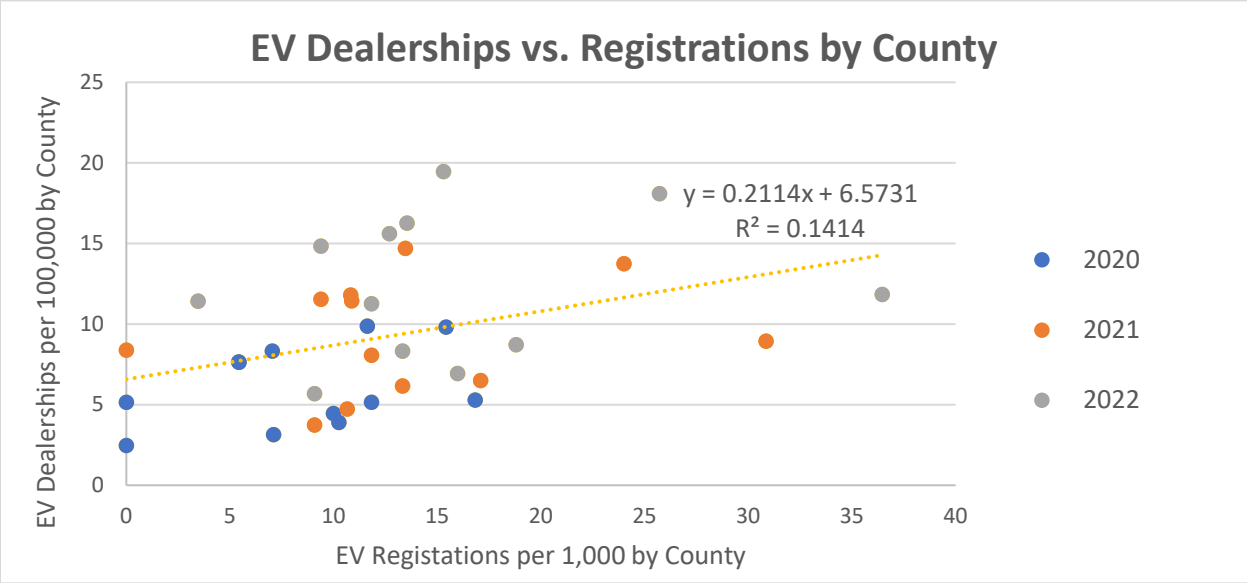

Figure 7: EV Registrations vs. Dealerships by County in Vermont in 2022