Efficiency Vermont Annual Report 2022

For the period 1/1/2022-12/31/2022

March 29, 2024

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Pursuant to the December 27, 2022 Process and Administration of an Energy Efficiency Utility Order of Appointment (Appendix B.3), Efficiency Vermont submits its 2022 Annual Report to the Vermont Public Utility Commission (Commission) and the Vermont Department of Public Service (Department) in fulfillment of its energy efficiency utility (EEU) annual reporting requirements.

1 Executive Summary

1.1 About Efficiency Vermont

Efficiency Vermont is helping the state transition to a more affordable and cleaner future. The work of Efficiency Vermont, which is enabled by the support of Vermont electric ratepayers, aims to reduce the cost of energy for all Vermonters, while creating good jobs, improving the economy, and lowering carbon emissions. Efficiency Vermont helps Vermont families, businesses, and institutions understand and make better use of energy, whether lowering the cost of heating and cooling buildings or adopting efficient appliances, lighting, and other technologies that drive down the total cost of energy. By engaging up and down the supply chain, Efficiency Vermont works with partners to lower the cost of energy efficiency solutions through the utilization of market transformation tools including incentives, training, and expert advice. These market transformation tools assist Efficiency Vermont in partnering with distribution utilities (DUs), heating fuel suppliers, building trades professionals, manufacturers, distributors, and retailers to save customers energy and money.

Efficiency Vermont operates in three-year periods with specific State-mandated performance goals linked to compensation. Efficiency Vermont was created by the Commission and the Vermont Legislature in 2000 as a statewide, third-party, objective resource to meet the public's need for energy services through the development and implementation of energy efficiency programs in Vermont. Since its inception, Efficiency Vermont has been administered by VEIC, which currently holds an appointment from the Commission to administer Efficiency Vermont through the end of 2033.

1.2 2022 Summary

In 2022, the second year of the three-year performance period (2021–2023), Efficiency Vermont was privileged to help more than 38,500 Vermonters with objective guidance to improve the affordability and comfort of their homes, businesses, institutions, and communities with energy efficiency. Together, Vermonters will save more than $203 million over the lifetime of the 2022 investments[1] in efficient equipment and buildings.

These benefits are the result of a statewide effort. While Efficiency Vermont worked with Vermonters in every county, it also supported and grew the Efficiency Excellence Network (EEN). the statewide network of installers, designers, builders, architects, and electric vehicle [EV] auto dealers trained to deliver the highest-quality efficient technologies and services. With these partners—who provide a growing number of green jobs—Efficiency Vermont worked hard to ensure that all Vermonters have local access to affordable, top-quality efficient goods and services.

[1] 2022 investments factored into the lifetime savings calculation include the following costs: a) Efficiency Vermont 2022 costs: $51,124,760 (includes Resource Acquisition and Development and Support Services spending actuals, and the 2022 Performance Award; b) Customer costs: $34,619,677; and 3) Department of Public Service evaluation and other costs, $2,205,549.

As Vermont's energy sector changes rapidly, the critical role of effective partnerships in delivering value has emerged in every aspect of Efficiency Vermont's work. Efficiency Vermont partnered with distribution utilities (DUs), state agencies, weatherization agencies, clean energy advocates, retailers, and contractors to ensure a positive customer experience in the delivery of comprehensive energy services that lower customers' energy burden, including new Flexible Load Management (FLM) and refrigerant management programs intended to lower both energy costs and greenhouse gas (GHG) emissions, while helping the state achieve its clean energy and climate goals.

1.3 2022 Savings

Efficiency Vermont's deployment of 2022 funds and savings results provided in this Annual Report are reported in relation to its 2022 budgets and three-year 100% Quantifiable Performance Indicators (QPIs) and Minimum Performance Requirements (MPRs).[2] At the end of 2022, which represents two-thirds of the three-year performance period, Efficiency Vermont had achieved savings results of 60% of its three-year 100% Electric QPI#2 megawatt hours (MWh) savings goal and 64% of its three-year 100% Thermal Energy and Process Fuels (TEPF) QPI#1 million British thermal units (MMBtu) savings goal. Efficiency Vermont achieved between 60% and 72% of its 100% goals for electric QPIs #1 through #6, with an average of 65%, and 64% and 51% of its 100% goals for TEPF QPIs #1 and #4, respectively. Figure 1 illustrates Efficiency Vermont's 2022 savings results toward its 100% energy-related QPI goals.

[2] Efficiency Vermont's 2022 budgets and 2021-2023 QPIs and MPRs were originally approved by the Commission in the following Orders in Case No. 19-3272-PET: *Order Approving Revised Demand Resources Plan for Efficiency Vermont*, 5/27/2021; and *Order Approving Compliance Filing of Efficiency Vermont's Performance Targets for 2021-2023 Performance Period*, 9/20/2021. Subsequently, on 3/23/2022, Efficiency Vermont filed updated budgets in its Revised 2022 Budget Variance Report in Case No. 22A-0616. The budgets filed on 3/23/2023 reflected the carryover of unspent 2021 funds. The carryover of unspent 2021 funds was approved by the Commission in its *Order Approving Efficiency Vermont Request to Carry Over Unspent EEC and TEPF Funds*, 6/2/2022, Case No. 22-0946-PET.

Figure 1. Efficiency Vermont's 2021-2022 savings results toward its three year (2021-2023) 100% energy-related QPI goals

1.4 Electric Efficiency

In 2022, Efficiency Vermont generated electric energy savings of 89,450 MWh. By the end of 2022, this brought Efficiency Vermont's performance towards its three-year 100% Electric QPI #2 goal to 60% or 158,953 MWh. In 2022, Efficiency Vermont electric resource acquisition (RA) spending was $39,989,729[3] or 92% of the electric RA budget for the year.[4] The vast majority of 2022 MWh savings came from investments in three major markets: the business existing facilities market with 38,904 MWh or 43% of total electric MWh savings for the year; the residential efficient products market with 26,782 MWh or 30% of total electric MWh savings for the year; and the business new construction market with 20,516 or 23% of total electric MWh savings for the year.

[3] This spending figure excludes Efficiency Vermont's operations fee.
[4] For more information on Efficiency Vermont's 2022 spending results, please see Efficiency Vermont's 2022 Budget Variance Report filed on 3/23/2023 in Case No. 23A-0924.

Figure 2 shows 2022 electric RA spending by major market and the Energy Savings Account (ESA) Pilot.[5] Figure 3 shows 2022 MWh savings by major market and the ESA Pilot. (See Sections 2-4 for RA program highlights, and Section 5 for Development and Support Services [DSS] program highlights.)

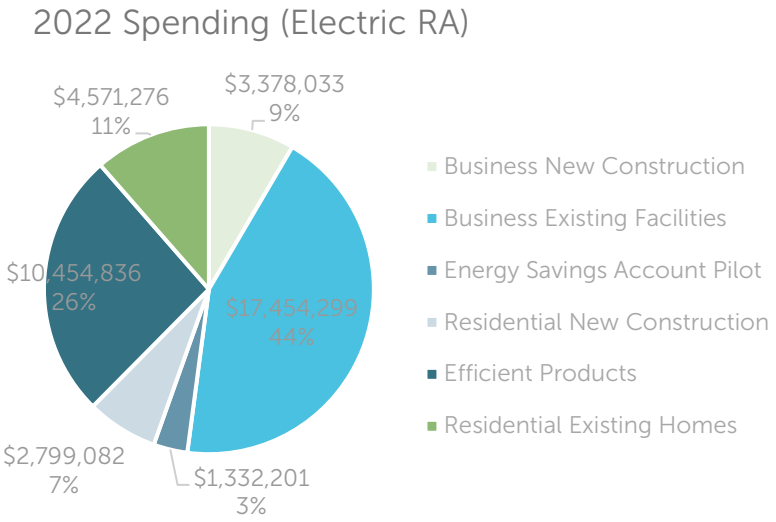

Figure 2. 2022 electric RA spending

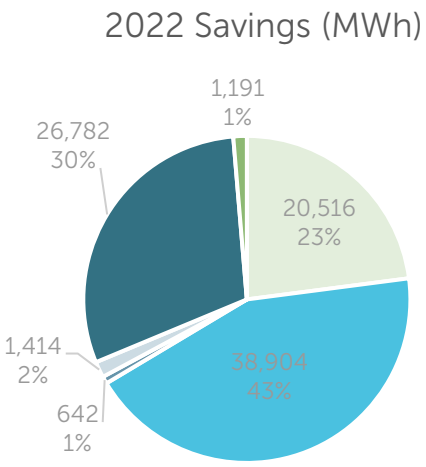

Figure 3. 2022 electric savings (MWh) by major market and the ESA Pilot.

1.5 Thermal Energy and Process Fuels Efficiency

In 2022, Efficiency Vermont generated savings of 83,237 MMBtu. By the end of 2022, this brought Efficiency Vermont's performance towards its three-year 100% TEPF QPI #1 goal to 216,563 MMBtu or 64%. In 2022, Efficiency Vermont TEPF RA spending was $5,755,538[6] or 82% of the TEPF RA budget for the year. 2022 MMBtu savings came from RA investments in three major markets: the business existing facilities market with 34,435 MMBtu or 41% of total TEPF MMBtu savings for the year; efficient products with 30,719 MMBtu or 37% of total MMBtu savings for the year; and existing homes with 18,082 MMBtu or 22% of total MMBtu savings for the year. Figure 4[7] shows 2022 TEPF major market RA spending. Figure 5 shows 2022 TEPF major market MMBtu savings. (See Section 2-4 for RA program highlights and Section 5 for DSS program highlights.)

[5] The spending values reported in Figure 2 exclude Efficiency Vermont's operations fee.
[6] Excludes Efficiency Vermont's operations fee.
[7] The spending values reported in Figure 4 exclude Efficiency Vermont's operations fee.

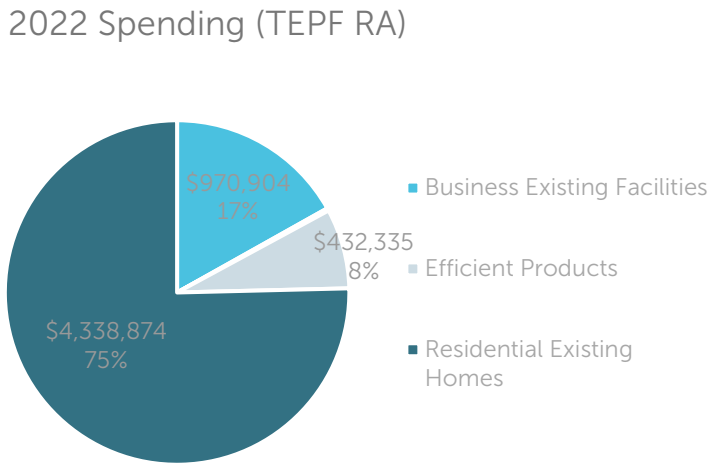

Figure 4. 2022 TEPF RA spending

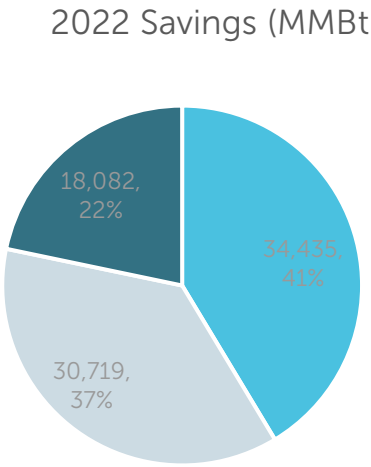

Figure 5. 2022 TEPF savings (MMBtu)

2022 Services

Efficiency Vermont designed and delivered objective, customer-focused technical, financial, and educational services to help Vermonters overcome barriers to improving the energy efficiency of their homes, businesses, institutions, municipal facilities, and transportation choices.

2 Services for Business Customers

2.1 Business Existing Facilities

This category includes commercial, industrial, institutional, and municipal facilities. Efficiency Vermont provided electric and TEPF prescriptive rebates across a range of technologies for lighting; heating, ventilation, and air conditioning (HVAC); and refrigeration equipment. In addition, Efficiency Vermont offered customized efficiency incentives and financing to help business owners purchase and install specialized energy-saving equipment, and technical support for high-performance operations that match their unique needs. Business services were tailored for businesses of all sizes and market sectors in Vermont. (See Section 2.3 for information about crosscutting services for both business existing facilities and business new construction.)

2.1.1 Energy Savings Account Pilot

In 2022, Efficiency Vermont provided support for project screening, Energy Management Plan (EMP) review, and reimbursements for participants. Eight of the nine ESA pilot participants had submitted EMPs by the end of 2022. Efficiency Vermont provided annual reporting templates to all ESA participants for their updates to the annual ESA progress report. In addition, Efficiency Vermont provided project completion guidance and a template to report completed projects. Efficiency Vermont also provided testimony to Vermont's Senate Natural Resources committee on Bill S.269, a bill related to extending the ESA pilot program. The bill was enacted into law, allowing all ESA pilot participants to continue accruing funds in their ESA through December 31, 2024. Eight participants chose to continue in the program and one participant left the program at the end of the initial pilot term. To reflect the program extension, Efficiency Vermont drafted amended Memorandums of Understanding (MOUs) and distributed them to the remaining participants.

2.2 Business New Construction

Efficiency Vermont's support for the creation of efficient new buildings continued to focus on architects, engineers, specialty design service providers, construction tradespeople, equipment suppliers, installation contractors, commissioning agents, appraisers, lenders, developers, and real estate agents. Efficiency Vermont also worked with building owners who were key members of teams undertaking construction projects by institutions, government agencies, and large businesses with multiple buildings. Efficiency Vermont completed 69 building projects in 2022. Additionally, Efficiency Vermont provided energy efficiency training and information to professionals and tradespeople involved in new construction and renovation projects through the EEN, Energy Code Assistance Center, and Better Buildings by Design (BBD) conference (see sections 4.3, 5.1.1, and 5.1.4), and through video-based training on Efficiency Vermont's website.

For information about crosscutting services for both business new construction and existing facilities, see Section 2.3.

Efficiency Vermont:

- Completed many large, comprehensive projects throughout the year, including a large new dairy building with efficient lighting and ventilation, a new efficient food processing facility, a training facility with a wide variety of different energy savings measure types, and a new data center that uses a ground source heat pump (GSHP) for cooling.
- Experienced increased program activities for new cannabis growing facilities. (See Section 2.3.3 for more information.)
- Presented on a panel at ACX 2022 (https://www.acxvermont.com/) regarding building new construction and electrification.

2.3 Crosscutting Services for Business Existing Facilities and New Construction

2.3.1 Vermont's Largest Energy Users

In 2022, Efficiency Vermont supported approximately 287 large businesses that typically use more than 1,000 MWh of electricity per year. Efficiency Vermont continued to take a customized approach, with designated staff maintaining long-term proactive relationships with individual businesses. To design and deliver effective, customized services, Efficiency Vermont maintained a deep understanding of each company's priorities and challenges. Additionally, Efficiency Vermont increased its engagement with the supply chain to help address the unique hurdles facing its largest customers. In 2022, customers continued to face supply chain constraints, though customers' own workforce needs were often a bigger barrier.

Efficiency Vermont:

- Developed 357 new projects in 2022 with customers that were in the top (approximately) 250 energy users statewide within the last three years.
- Increased its support for supply chain–related challenges among customers, using the EEN to expedite projects wherever possible.
- Consulted with regional development corporations to understand unmet customer needs. Many customers named staff retention, equity / diversity, or GHG emissions as among their top concerns. Worked with regional development corporations (RDCs) to build out a second iteration of Efficiency Vermont's RDC partnership initiative, toward a successful and collaborative launch in January 2023.
- Completed customer sign up for Strategic Energy Management (SEM) Direct. These customers receive enhanced support, including Kaizens/sleeping plant tours and increased engagement tactics.
- Hosted its 11th annual Best Practices Exchange in September with three tracks: lighting, HVAC, and industrial processes, for a total of six sessions.

2.3.2 Small and Medium-Sized Businesses

Efficiency Vermont designed and implemented services addressing the needs of Vermont businesses that typically use up to 1,000 MWh per year and that are not served under Efficiency

Vermont's targeted markets initiatives (see Targeted Markets in Section 2.3.3). In 2022, Efficiency Vermont engaged with over 700 businesses, including conducting 376 on-site business energy walk-throughs throughout the state, to assist customers in identifying efficiency opportunities and help them leverage Efficiency Vermont's rebates and services.

Additionally, Efficiency Vermont:

- Launched the 2022 small and medium-sized businesses (SMB) media campaign, which directed customers to the landing page at www.efficiencyvermont.com/bizconsult to encourage businesses to sign up for a consultation. As a result of the campaign, landing page traffic increased by nearly 23% year over year, with 14,000 unique page views in 2022.
- Ran small, limited-time campaigns with local organizations, including Sustainable Woodstock and Norwich Energy Committee, to promote business energy walk-throughs in their towns.
- Piloted an online energy assessment tool called MyEnergyXpert (MEX), which presented customers with energy savings measures specific to their business type. By the time the pilot ended on August 31, 79 customers had set up a user account and engaged with Efficiency Vermont through the tool, exceeding the initial goal of 50. MEX proved to be a successful means of generating leads; however, Efficiency Vermont opted not to extend the use of the tool, having found that its customer base preferred working directly with the Efficiency Vermont team to self-service.

2.3.3 Targeted Markets

Efficiency Vermont continued to implement targeted initiatives—each with its own approaches, energy-saving measures, and incentives—to address the priorities, challenges, and motivations of specific markets. Activities in selected targeted markets are described below.

Agriculture

Controlled Environment Agriculture (CEA) – Cannabis Growing

Efficiency Vermont:

- Engaged with 81 customers planning the development of cannabis growing facilities, including conducting interviews to understand their energy and business profiles to inform development of a standard methodology, approach, and baseline recommendations for cannabis growing operations of various sizes, in preparation for many facilities opening prior to the end of the year. Efficiency Vermont worked with these growers to help mitigate excessive energy usage for planned indoor growing facilities.
- Collaborated with the Cannabis Control Board to educate growers, contractors, and distributors on the energy requirements for cultivator licenses.
- Tested and deployed the new CEA energy savings modeling tool.

Commercial Kitchen Equipment (CKE)

Efficiency Vermont:

- Partnered with participating distributors to provide midstream incentives for the purchase of efficient commercial kitchen equipment. The uptake of electric measures was dominated by refrigerators and freezers, followed by dishwashers; for TEPF measures, it was dominated by fryers, followed by convection ovens.

- Implemented a direct mail campaign targeting the food industry and promoting the CKE program; four new distributors joined the program in 2022.

Colleges and Universities

Efficiency Vermont:

- Assisted with a lighting retrofit, integrating lighting controls into a building's energy management system.
- Aided a retro commissioning project.
- Helped complete the second phase of a steam distribution system insulation analysis audit, along with completing its second comprehensive steam leak study.
- Helped complete an upgrade to LED lights in college common areas available 24/7.
- In partnership with utility, educational, and municipal stakeholders, performed campus submetering work as part of a utility master planning process.
- Provided master planning support for college campuses.

Hospitals and Healthcare

Efficiency Vermont:

- Presented to the Vermont hospital network of facility managers on available offers and services through Efficiency Vermont (for example, controls programs and lighting programs).
- Co-presented at a conference with a regional hospital about a lighting controls project completed at their facility.

In 2022, hospitals demonstrated a significant increase in their level of engagement since the COVID-19-related downturn, as they began to again pursue new construction projects. Capital projects slowly began to return; however, most support was provided through midstream programs (lighting and HVAC).

K–12 Schools

Efficiency Vermont:

- Provided incentives for high-performance pumps, kitchen hood exhaust controls, lighting improvements, and other efficiency measures.
- Installed monitors in schools participating in the indoor air quality monitoring program.
- Presented at the Vermont School Custodians and Maintenance Association annual conference, providing a detailed look at two examples of its work with schools in the past several years.

Municipalities

Efficiency Vermont:

- Launched www.efficiencyvermont.com/towns, the municipal consultation landing page.
- Entered into a marketing partnership with the Vermont League of Cities and Towns (VLCT). As a component of the partnership, Efficiency Vermont ran a monthly article and tip in VLCT's two e-newsletters. It also had a page on the VLCT website, focused on sustainability and resilience tips for municipalities, which generated leads.

- Significantly increased its involvement with municipalities after Vermont bill H.518 was signed into law, creating the State Energy Management Program Expansion (SEMPX). SEMPX made more than $40 million available through a grant program administered by the State of Vermont Department of Buildings and General Services (BGS). The program focuses on improving municipal energy resilience. Efficiency Vermont assists with aspects of program design and implementation.

Ski Areas

Efficiency Vermont continued its partnership with the Vermont Ski Areas Association and provided ongoing project development and support to most Vermont ski areas. Specifically, Efficiency Vermont:

- Examined baseline assumptions regarding new low-energy snow guns, and supported related snow gun projects and air use reduction in existing guns.
- Continued support of ski area base lodge retro commissioning.
- Closed a new construction project.
- Supported building envelope audits and improvements in ski area buildings, as well as upgrades to ski areas' existing lighting, including working with resorts on their efforts to use 100% LED lights.
- Supported ski resort compressor sequencing controls.
- Developed a project to replace pressure control valves with variable frequency drives (VFDs).
- Developed a project to modify a snow melt system.
- Created projects to ensure that lift terminal heater time clocks were operating as desired at several ski resorts.
- Worked on an innovative ski resort hotel heat recovery feasibility study.
- Concluded a snowmaking air system leak rate study.

State Buildings

Efficiency Vermont updated the State Energy Management Program (SEMP) MOU between Efficiency Vermont and BGS. This allows Efficiency Vermont to integrate updates into the MOU that ensure successful operation and oversight of this program. For information on SEMP Expansion, see the Municipalities section above.

2.3.4 Key Commercial Technologies

Efficiency Vermont promoted awareness of efficient technologies and engaged in the following efforts to bring these benefits to the state's commercial sector (also see Section 4.7 for HVAC and Refrigeration).

Commercial Lighting

Efficiency Vermont:

- In anticipation of federal efficiency standards for lighting products ending support of ENERGY STAR® downlights and fixtures by July 1, 2023, performed impact analyses of these changes to its lighting program. Continued developing new strategies to increase market activity in lighting prior to these and other changes going into effect, including the passage of Vermont bill H.500, which prohibits the sale of four-foot linear fluorescent lighting products in Vermont beginning January 1, 2024.

- Developed a communications plan to inform distributors, contractors, and end-use customers of 2023 changes to the midstream lighting program.
- Developed a go-to-market strategy for commercial lighting programs and implemented two of four tactics identified.
- Launched a retail chain custom lighting retrofit project for multiple locations across the state.
- Launched increased SMARTLIGHT incentives.

Industrial Process Equipment

Efficiency Vermont piloted a steam trap program for breweries and distilleries. Nine companies participated at 10 locations. Opportunities for efficiency improvements were identified and projects were slated for early 2023.

3 Services for Residential Customers

3.1 Existing Homes

3.1.1 Existing Low-Income Homes

Efficiency Vermont undertook its efforts in service to low-income households in collaboration with the following long-standing partners: low-income housing and service providers, including agencies of Vermont's weatherization program and 3E Thermal; affordable housing funders, including the Vermont Housing & Conservation Board (VHCB) and the Vermont Housing Finance Agency (VHFA); and multifamily housing developers, including Housing Vermont. In 2022, Efficiency Vermont engaged in the activities described below, as well as those described in Section 3.2.1 for new low-income homes.

Single-Family

Efficiency Vermont provided diversified offers to income-eligible households in order to better meet customers' needs depending on their annual electric usage and household energy burden. Efficiency Vermont:

- Through one-on-one phone calls, qualified 653 customers for Efficiency Vermont's four primary low-income programs for residential customers: 264 customers for Targeted High Use (THU); 186 customers for THU-Lite; 83 customers for the appliance replacement voucher program; and 120 customers for the low-income energy savings kit program.
- Maintained the popular and effective THU program, which provides a comprehensive suite of electrical efficiency improvements to eligible households in partnership with the state's Weatherization Assistance Program agencies. THU was designed for customers with high electric use and a high electrical energy burden.
- Offered the THU-Lite program, which allows customers to select one piece of equipment eligible for replacement in addition to receiving efficient lighting and water conservation measures. THU-Lite was designed for customers with high electric use and a low electrical energy burden.
- Repeated the appliance replacement voucher program, this time with a maximum $700 value. Customers could redeem their voucher for a qualifying appliance at participating

retailers. This program was designed for customers with lower electric use and a high electrical energy burden.
- Offered energy savings kits for customers with low electric use and a low electrical energy burden.
- Promoted these programs through direct mail, including a bill insert for Green Mountain Power (GMP) customers in the Energy Assistance Program, and through several town energy committees and Front Porch Forum advertising.

Multifamily

Efficiency Vermont completed 23 projects in partnership with 3E Thermal. Notable projects included:

- Offered a free efficient products program for rental properties in the Focused Communities (see Section 4.4), which increased its direct-to-customer offerings for renters via an online storefront. Efficiency Vermont also created a separate version of the online platform with more extensive product options for property owners.
- Worked with Champlain Valley Weatherization and Vermont Gas Systems (VGS) on a gut rehabilitation project.
- Continued to support owners of existing low-income rental properties through prescriptive rebate programs, including offers for water-saving devices, LEDs, and efficient refrigerator replacements.

3.1.2 Existing Market-Rate Homes

Single-Family

Efficiency Vermont:

- Completed 464 Home Performance with ENERGY STAR projects, of which 352 were market-rate projects, and 112 were projects for low- or moderate-income customers. All the completed projects were reviewed and approved through Efficiency Vermont's pre-approval system implemented in September 2021.
- Offered statewide access to virtual home energy visits and conducted 550 such visits.
- Saw a total of 423 projects submitted or processed in the do-it-yourself (DIY) program.
- Released an RFP (request for proposals) for the implementation of quality assurance and quality control for the Home Performance with ENERGY STAR program and awarded a contract to a third-party implementer.

Multifamily

Efficiency Vermont:

- Worked on various projects in partnership with 3E Thermal providing incentives for: exterior, slab, and foundation insulation; comprehensive thermal shell weatherization, for instance resulting in an almost 50% reduction in air infiltration; fossil fuel burning system removal; heat recovery ventilator (HRV) installation; full building electrification through heat pumps; and a district pellet plant installation.
- Continued to support owners of existing market-rate rental properties through prescriptive rebate programs, including offers for water-saving devices, LEDs, and efficient refrigerator replacements.

3.2 Residential New Construction

3.2.1 New Low-Income Homes

Single-Family

Efficiency Vermont:

- Supported the planning and design of zero energy modular (ZEM) units for affordable housing partner organizations assisting homeless Vermonters for deployment in 2023. Homes are to be built in conjunction with federal stimulus funds. Efficiency Vermont has been working with a ZEM manufacturer for several years to help modify the manufacturing process so high-performing homes can be built to order; this effort has expanded to include two other manufacturers.
- Worked with Housing Foundation Inc. (HFI), VHCB, and the National Renewable Energy Laboratory on design and deployment of VHCB-funded ENERGY STAR U.S. Housing and Urban Development (HUD) retrofit manufactured homes to meet the U.S. Department of Energy Zero Energy Ready Homes HUD standard for manufactured homes. This included work with a property management company to deliver 35–40 advanced manufactured homes to replace existing homes in a floodway (and relocate them). Efficiency Vermont also partnered with a manufacturer on the building specification package and pricing for this project.
- In partnership with several Vermont chapters of Habitat for Humanity, completed five Efficiency Vermont 2.0 low-income single-family homes: one of these qualified for the Efficiency Vermont all-electric bonus; two were high-performance, all-electric low-income home projects. Of the five homes, two single-unit homes (one through Green Mountain Habitat for Humanity in Morrisville and the other through Habitat for Humanity of Addison County in Vergennes) were completed.
- Continued, through the residential new construction (RNC) program, to offer incentives for income-eligible projects meeting either the Efficiency Vermont certified 2.0 or high-performance specifications.
- Worked with the Vermont Housing Conservation Board, Champlain Housing Trust, Vermont Community Foundation, VLITE, and Milk with Dignity to begin identifying eight pilot homes as part of the Farmworker Housing initiative. One housing unit, a triplex, was completed and will house 24 farmworkers (this met the Efficiency Vermont certified 3.0 and all-electric build standards). Additionally, Efficiency Vermont completed the design and funding phase for one one-bedroom, one four-bedroom, and one five-bedroom farmworker house.
- Worked with a design / build firm, the Intervale Center, the Vermont Land Trust, and Northeast Organic Farming Association on helping farmers access new housing. Advanced a pilot project and leveraged resources across several organizations for farmers replacing mobile homes with ZEM homes.
- Worked closely with the City of Burlington and Burlington Electric Department (BED) on 35 homeless shelter pods as well as an adjoining ZEM community resource center and bathroom facility.
- Continued partnering with the Randolph Area Community Development Corporation to build 21 units of affordable housing in a new DC microgrid community in Randolph.
- Continued to work with Vermont Habitat for Humanity on efforts to advance affordable homeownership, despite the extreme challenges posed by the high costs of construction.

- Supported Central Vermont Habitat for Humanity as it explored the purchase of a parcel to develop a community of more than 50 units and discussed ZEM models and net-zero-energy homes.

Multifamily

Efficiency Vermont:

- In collaboration with 3E Thermal, Downstreet Housing Authority, and the Vermont Housing and Conservation Board, completed an 18-room, 35-bed emergency shelter for people experiencing homelessness.
- In collaboration with Champlain Housing Trust, completed a 20-unit condo building. The owner-occupied units are intended to remain perpetually affordable.
- Provided technical assistance and coaching on a housing development, which resulted in the installation of floor-by-floor energy recovery ventilators (ERVs).
- Continued working with two partners on a five-story downtown building project.
- Completed the final blower door test on an efficiency project that achieved 0.12 CFM50 (a measure of air leakage in the building enclosure) per exterior surface area, indicating very high performance in terms of the thermal efficiency of the building envelope.
- Completed an all-electrically heated building project with cold climate air source heat pumps, whole-building heat recovery ventilation, and exceedingly low air leakage of 0.09 CFM50, and provided support to enable developer to hire a building commissioning agent to help attain the ultra-low leakage number.
- Surveyed eight customers (developers/builders) about their practices for maintaining installed heat pumps, then worked with a heat pump cleaning contractor to provide free cleaning and maintenance demonstrations.

3.2.2 New Market-Rate Homes

Single-Family

To encourage best practices intended to result in healthy and comfortable homes that both exceed residential building energy standards and align with the State's goal of a net-zero ready residential building energy standard by 2030, Efficiency Vermont provided ongoing technical support and educational materials to homeowners and professionals engaged in the design and construction of new homes in Vermont. In 2022, Efficiency Vermont, through the EEN RNC trade group, implemented programming that more directly supported builders and developers in delivering newly constructed, high-performing homes that were healthy, comfortable, and net-zero ready (for more information, see Efficiency Vermont's 2022 Update to the 2021–2023 Triennial Plan, Section 3.3/Residential New Construction at www.efficiencyvermont.com/about/annual-plans-reports).

Additionally, Efficiency Vermont:

- Completed 137 Efficiency Vermont certified 2.0 homes and 22 high-performance homes.
- Assisted in the completion of 159 home units enrolled in the Efficiency Vermont legacy RNC program, which terminated at the end of 2022. Worked with three third-party rating companies to provide inspection and rating services to builders and homeowners enrolled in the legacy RNC program.
- Began development of four new measure-level incentives to add to the current offerings of drain water heat recovery and balanced ventilation.

- Evaluated feedback from builders, developers, and designers to improve the ability of the RNC program to continue to support above-code construction and best practices.
- Developed a framework to support the growth of a rating industry within the state.

Multifamily

Efficiency Vermont:

- Completed 12 projects. Notable highlights included the installation of air source heat pumps for heating and cooling in an all-electric building; an all-electric project that included electric resistance domestic hot water tanks in each unit; the installation of continuous exterior insulation; and the installation of individual ERVs in each unit.
- Worked with a customer constructing a large building in northern Vermont: after testing, the customer planned to install all-in-one units that provide heating and cooling via heat pump as well as HRV.
- Partnered with VGS on a feasibility study for a campus-wide GSHP system on a development of 200-plus units (a mix of duplex, four-plex, and large multifamily).

3.3 Retail Efficient Product Services

Efficiency Vermont's services were designed to increase availability and knowledge of high-quality efficient products and to reduce purchase costs, to motivate Vermonters to select them for their homes and businesses. Efficiency Vermont incentivized products that met or exceeded efficiency standards set by the U.S. Department of Energy's / Environmental Protection Agency's ENERGY STAR program, which included heat pump water heaters (HPWHs) and clothes dryers, appliances, smart thermostats, electronics, and lighting (including indoor horticultural lighting and connected lighting). An essential element of these efforts continued to be services to retailers and to upstream partners in the product supply chain to ensure the availability of high-quality efficient products in Vermont stores, which included the following tactics: price reductions at the manufacturer and retail level, midstream sales incentives that influenced stocking practices, point-of-purchase information, advertising, an online marketplace scoring the energy efficiency of products to inform customer buying decisions, and promotional and public information activities (also, see Section 4.3 for services to contractors and equipment suppliers). Additionally, Efficiency Vermont:

- Continued to play a role in regional and national efforts regarding efficient product specification and emerging products of benefit to Vermont through its engagement with Northeast Energy Efficiency Partnerships (NEEP), the Consortium for Energy Efficiency (CEE), Attachments Energy Rating Council, and ENERGY STAR, and as a participant or lead on teams of the EPA's Retail Products Platform.
- Offered a seasonal appliance recycling program for refrigerators, freezers, dehumidifiers, window air conditioners, and mini-fridges. More than 1,500 appliances were collected (a 250% increase over 2021). The most popular appliance to recycle was window air conditioner units. Appliance recycling (a limited-time, curbside pickup initiative) had over 10,000 visits to the offer page.
- Provided a statewide energy savings kit offer. Kits included a variety of LED bulbs, water-saving features, and wildflower seed packets. In total, 19,808 energy savings kits were distributed. Promotion of the kits reached new audiences through multiple direct-to-consumer channels, including email, digital, and social media advertising. In 2022, the energy savings kit rebate page had 45,461 views.

- In anticipation of federal efficiency standards for lighting products ending support of ENERGY STAR downlights and fixtures by July 1, 2023, developed and deployed a communications plan to inform manufacturers and retailers of 2023 changes to the midstream lighting program.

4 Activities in Service to All Major Markets

While serving specific markets (as described in previous sections), Efficiency Vermont also provided services with an impact on multiple sectors. A key priority for Efficiency Vermont is to serve all Vermonters, no matter their race, income level, or geographic location. In 2022, Efficiency Vermont increased its focus on diversity, equity, and inclusion (DEI) in its services.

Recognizing that barriers to saving energy are higher for many BIPOC (Black, Indigenous, and people of color) and low-income Vermonters, Efficiency Vermont implemented a plan in 2022 to continue to advance DEI in energy efficiency programming.[8] The plan will evolve as Efficiency Vermont learns from partners, customers, and communities.

Efficiency Vermont offers ongoing support for the businesses that Vermonters turn to for efficient products and services. Although these partnerships are not always evident to the general public, they have a profound impact on all Vermonters' ability to lower energy use in their homes and places of business. Joint efforts included workforce development training, information exchange, quality assurance, financial incentives, and promotional activities. In addition to the activities outlined in this section, efforts made alongside partners in various initiatives appear in other sections throughout this report. Included in this section are also the results of Efficiency Vermont's annual brand performance research (see Section 4.11).

4.1 Coordination with Utility Partners

Efficiency Vermont participated in a number of broad partnership efforts with DUs. It also convened monthly Utility Working Group meetings to share technology, program, and customer insights, while ensuring continuous improvement in program coordination and collaboration. Specific partnership activities are discussed below, and in other sections of this report.

Tier III[9] and Efficiency Vermont programs collaboration

Efficiency Vermont:

- In collaboration with utility partners, continued to administer the midstream heat pump program for all electric DUs (for more details see Section 4.7). Additionally, worked with utility partners to integrate their rebates into Efficiency Vermont processes.
- Continued coordinating with DU partners to support EV adoption through customer education and dealer engagement (see Section 4.9.1 for electric transportation activities).

[8] Advancing Diversity, Equity, & Inclusion (DEI) in Vermont's Energy Efficiency Programs

[9] In 2015, a renewable energy standard (RES) became law in Vermont. The law establishes three categories of required resources to meet the requirements of the RES: 1) total renewable energy, 2) distributed renewable generation, and 3) energy transformation. The third category, energy transformation (or "Tier III"), encourages Vermont retail electricity providers to support projects that reduce fossil fuel consumed by their customers and the emission of GHG attributable to that consumption.

- Provided DUs with access to Efficiency Vermont's contractor and supplier network, such as by arranging meetings with distributors, including Tier III program updates in newsletters, and inviting DU representatives to join contractor call workshops.
- In collaboration with utility partners, continued an integrated controls pilot for ductless cold climate heat pumps (CCHPs) in order to both improve heat pump performance and reduce fossil fuel usage from central heating systems (the electric DUs claimed 100% of the fossil fuel savings); and continued a GSHP program (see Section 4.7).
- In collaboration with GMP and Vermont Public Power Supply Authority (VPPSA), administered DU-specific customer rebates in conjunction with Efficiency Vermont customer/distributor rebate payments, for customers participating in joint Efficiency Vermont / Tier III programs. The partnership with VPPSA focused on its member DUs participating in the 2022 Tailored Programs initiative (Lyndonville Electric Department, Hardwick Electric Department, and Morrisville Water and Light Department), and member DUs enrolled in the Weatherization Repayment Assistance Program (WRAP) (Ludlow). See "Tailored Programs with VPPSA" below and in Section 4.4.
- Continued close coordination with BED and VGS in the design and promotion of programs to ensure a clear message to suppliers, contractors, and customers. Additionally, Efficiency Vermont provided technical assistance to the City of Burlington and BED on 30 homeless shelter pods, as well as an adjoining community resource center and bathroom facility.

Efficiency Vermont also worked with its utility partners on the following projects:

- Commercial and Industrial (C&I)—Efficiency Vermont worked closely with GMP, VPPSA, Stowe Electric Department, VGS, and Vermont Electric Coop (VEC) to provide financial and technical support to business customers in order to lower both their cost of energy and their carbon emissions. Efficiency Vermont also briefed all utility partners on the opportunities, challenges, and technologies involved in CEA, particularly industrial cannabis growing facilities.
- Pilots—Efficiency Vermont explored opportunities to innovate and collaborate on pilots such as exploring new technologies and increasing participation with hard-to-reach customers. These efforts included targeted and tailored engagement efforts and co-branded marketing and communications through social media, bill inserts and events.
- Docket No. 8316 (Data Standard)—Data migration to the new standard required under Docket 8316 was completed for most DUs. As it neared completion, Efficiency Vermont continued to work with several of Vermont's smallest DUs to support them in migrating to the new standard.
- WRAP Tariff-Based Loan—In coordination with VGS, GMP, VEC, VPPSA, BED, and VHFA, a program was developed to finance weatherization projects on customers' electric or natural gas bills. The tariff-based loan allows qualified energy efficiency and Tier III electrification measures to be bundled with the weatherization project.
- Act No. 151 Coordination—See Section 4.9 for Efficiency Vermont's close work with all of its DU partners in the design and development of its Act No. 151 electric transportation and low-income heating electrification fuel switch programs, which augmented DUs' existing Tier III heat pump and EV programs.

- **Low-Income**—In addition to the aforementioned Act 151 low-income fuel switch collaboration with DUs, see Section 3.1.1 for Efficiency Vermont and GMP targeted low-income customer outreach.
- **Flexible Load Management**—See Section 4.8 for Efficiency Vermont's collaboration with utility partners on expanding FLM efforts.
- **Tailored Programs with VPPSA**—See Section 4.4 for Efficiency Vermont's cornerstone collaboration with VPPSA in the Tailored Programs initiative, which is a customer engagement initiative that aims to increase customer participation in the following VPPSA member DUs participating in the program (in 2022): Lyndonville Electric Department, Hardwick Electric Department, and Morrisville Water and Light Department.
- **Demand Resources Plan (DRP) Stakeholder Engagement**—See Section 5.3.2 for Efficiency Vermont's DRP stakeholder engagement efforts and outreach with DUs.

4.2 State, Regional and National Partnerships

In service to Vermonters and in support of the State's energy goals, Efficiency Vermont continued to leverage the expertise and resources of entities engaged in a range of energy and efficiency endeavors. Efficiency Vermont shared its own expertise at regional and national gatherings, enabling Vermont to be both recognized for its innovations and informed by best practices in other states. Efficiency Vermont's work has influenced the establishment of specifications that ensure that Vermont consumers have access to the highest-quality, most energy-efficient products. In Vermont, partners included the Vermont Community Foundation, the VHCB, the Regulatory Assistance Project, and many others. On a regional and national level, Efficiency Vermont maintained partnerships with such organizations as NEEP, the New Buildings Institute, CEE, ENERGY STAR, and the American Council for an Energy-Efficient Economy (ACEEE), working to share information on best practices and to establish uniform product eligibility criteria and program designs.

4.3 Services to Contractors and Equipment Suppliers

4.3.1 The Efficiency Excellence Network

Efficiency Vermont:

- Provided 137 trainings to trade ally groups and made site visits to trade partners. At many trainings, contractors could earn Building Performance Institute and American Institute of Architects continuing education credits to maintain respective licensures. Other trainings were dedicated to EV auto dealerships that enrolled in the EV dealership trade group. (See Section 4.9.1.)
- Added 22 electric vehicle supply equipment (EVSE) installers as EEN members, for a total of 51.
- Restructured the RNC trade ally group to expand builder eligibility and increase member retention. Added 27 members to the RNC trade group, bringing total RNC membership to 55 in 2022.
- Continued to provide value to current EEN members (with a goal of retention) while attracting new members (recruitment) across both current and new trade groups. Held 20 trade ally–specific contractor calls on a variety of focused topics (10 for Home

Performance with ENERGY STAR contractors; 6 for heat pump contractors, and 4 for RNC builders, a newly revised trade group for 2022) to provide program updates, explore emerging technologies, and provide time for discussion in an informal peer learning environment.
- Registered 724 contractors, suppliers, and energy and policy experts for the April BBD conference. Thirteen sessions were presented by EEN members (see Section 5.1.4 for the BBD conference).
- Distributed the quarterly LINK newsletter, which provides information on trade and supply chain matters, to 1,993 recipients.
- Provided EEN members with co-op advertising funds to help promote energy-efficient services and equipment.
- Held trade ally appreciation events at a Lake Monsters baseball game and the Tunbridge World's Fair, to allow EEN members both to network with Efficiency Vermont's supply chain team and to make connections with peers in their profession.

4.3.2 Trade Association Partnerships

In addition to engaging in direct customer interaction, Efficiency Vermont worked with professional and trade member organizations representing a wide range of constituents. By sharing targeted information through these trusted channels, Efficiency Vermont empowered businesses with knowledge about best practices and resources intended to help strengthen their bottom line. Vehicles included association newsletters, websites, and technical materials, as well as event sponsorship, speaking engagements, conference and trade show participation, training workshops, and promotional and educational campaigns.

4.4 Community-Based Activities

Throughout the state, Efficiency Vermont engaged with Vermonters in their communities in the following efforts to reduce energy use in their businesses, homes, institutions, and municipal facilities.

Focused Communities

Efficiency Vermont:

- Continued the Focused Communities (formerly Targeted Communities) program. Entering the fifth year of the program, Efficiency Vermont kicked off the 2022–2023 Focused Communities in Winooski and Brattleboro, two of Vermont's most diverse areas. These efforts align with Efficiency Vermont's increased effort to ensure DEI in Efficiency Vermont programs and services.
- Built strategic partnerships with service providers and DEI-focused organizations to help Efficiency Vermont deepen its understanding of how to reach and best serve disadvantaged communities. Partners included Age Well, the Roots and Social Justice Center, Champlain Community Services, and the Working Communities Challenge in Winooski.
- Provided 11 business walk-throughs in the Focused Communities.
- Hosted 13 community events focusing on weatherization and EVs, which attracted over 290 attendees.
- Developed unique landing pages and translated content on its website for the Focused Communities.

Tailored Programs

Tailored Programs are intended to meet the needs of individual municipal electric utilities, providing both residential and business customers served by these utilities a suite of programs including enhanced rebates, income-eligible services, and workshops and education on weatherization, heat pumps, and EVs.

Efficiency Vermont in coordination with VPPSA provided tailored services for three member utilities: Lyndonville Electric Department, Hardwick Electric Department, and Morrisville Water and Light Department. These efforts included co-branded bill inserts promoting free energy savings kits and appliance coupons, information tables at local events, and targeted outreach to local municipalities and businesses. Notable activities included:

- 32 residential low- and moderate-income heat pump bonuses, through which customers could receive as much as $1,000. The offers were marketed via social media.
- Eight business walk-throughs.
- 11 community events focusing on weatherization and EVs, which attracted 255 attendees.

These efforts resulted in 76 appliance coupons redeemed and 610 free energy savings kits distributed.

In addition to the Focused Communities and Tailored Programs work, Efficiency Vermont:

- Conducted a new 2022 Button Up Vermont weatherization media campaign (October 1–November 30): 22 communities registered. The campaign garnered 2.9 million "impressions" and 64,000 YouTube views. Efficiency Vermont hosted four webinars on Zoom and live-streamed them via Facebook. Nearly 1,200 people watched the Weatherization Wednesday webinars, and over 100 customer questions were answered live by webinar panelists and in-house experts.
- Participated in 78 events across the state including home shows, farmers markets, town fairs, and energy-focused workshops.

4.5 Financial Services

Efficiency Vermont continued coordinating with credit unions that provide capital for the following loan products.

4.5.1 Home Energy Loan

A total of 447 loans to homeowners totaling $4,562,795 in loan principal closed in 2022. The cost to Efficiency Vermont for those loans was $508,012 in interest rate buy-down (classified as incentive payments) and $94,317 in loan loss reserve deposits (which are refundable if they are not utilized). Of the 447 loans closed, 129 were for low-income customers (below 80% of area median income) and 196 were for moderate-income customers (80–120% of area median income). Efficiency Vermont also worked with the VHFA, other Vermont EEUs, and DU partners to develop an on-bill financing program to be launched in early 2023.

4.5.2 Business Energy Loan

A total of 20 loans totaling $698,384 in loan principal closed in 2022. Of the 20 loans closed, 100% were for SMB customers, including farms and agricultural businesses, food sales and service, and lodging facilities. Measures supported included heat pumps, lighting, weatherization measures, custom HVAC, advanced wood heating, and commercial kitchen equipment.

4.6 Data Analytics

Efficiency Vermont:

- Maintained and operated software infrastructure to collect and store Advanced Metering Infrastructure (AMI) data from GMP, Stowe Electric Department, VEC, and Washington Electric Co-op (WEC).
- Completed a refactor project for AMI data ingest. This update addressed performance issues with the existing infrastructure and focused on reliability and flexibility. As a result, Efficiency Vermont expects to be able to handle future ingest issues in a more timely and responsive way.
- Made improvements to application deployment using containerized architecture and open-source dashboard frameworks. These improvements simplified support needs for Efficiency Vermont's data analytics applications.

4.7 Heating, Ventilation, Air Conditioning, and Refrigeration

Efficiency Vermont:

- Observed continued high demand for CCHPs (supported 10,960 units in 2022) despite continued supply chain disruptions.
- Continued to administer the midstream CCHP program for all electric DUs, which resulted in a larger discount that was universally available to Vermont ratepayers. This allowed Efficiency Vermont and its utility partners to cohesively message and promote heat pump technologies to customers.
- Continued to see a high level of interest among customers for GSHPs. In an effort to address low contractor availability, Efficiency Vermont sponsored a training in October by the International Ground Source Heat Pump Association to help contractors obtain their accredited Installer certification.

4.7.1 Refrigerant Management

Efficiency Vermont implemented a refrigerant management portfolio to provide meaningful GHG and energy savings. Offers included refrigerant leak repair (including installation of permanent leak detection systems, where appropriate), natural refrigerant freezers and refrigerators, and natural refrigerant racks.

Efficiency Vermont:

- Continued engagement with the large grocery sector to facilitate installation of networked permanent leak detection systems and completed 12 such system projects at grocery locations in the state.
- Followed Vermont bill H.523, which passed as Act No. 121 and went into effect in July. This legislation supported low global warming potential (GWP) refrigerants to be used in Vermont. Low-GWP refrigerants are energy efficient, perform better at low temperatures, and provide lower-cost opportunities in commercial refrigeration. Shortly after the law's

passage, a major heat pump manufacturer introduced into Vermont the first ductless heat pump utilizing the low-GWP refrigerant R22.

4.8 Flexible Load Management

Efficiency Vermont:

- Collaborated with C&I customers interested in joining GMP's FLM program. The program had success; more than 20 customers were fully enrolled and during one month's peak event, more than 1 megawatt (MW) was flexed as a result of the combined flexed load from all enrolled customers.
- Held discussions with VEC, VPPSA, and Stowe Electric Department to assess the feasibility of building out a C&I FLM program. Assisted VEC in building out an innovation pilot filing with the intention to implement FLM measures with VEC's large C&I customers in 2023.
- Worked with VPPSA on installation of FLM-ready EV chargers in homes through launch of the PowerShift program.
- Established residential technical reference manuals (TRMs) for EVSE, HPWHs, and electric resistance water heaters.
- Supported WEC's evolution of its PowerShift program, aligning the VPPSA and WEC service delivery models. Supply chain delays in WEC's acquisition of new transformers led to a program pause; Efficiency Vermont expects it to be resolved in 2023.
- See Section 4.3.3 for the number of EVSE installers enrolled in the EEN.

4.9 Act No. 151 Programs

Act No. 151 enables up to $2 million per year of Efficiency Vermont's 2021–2023 energy efficiency charge (EEC) funds for programs, measures, and services that reduce GHG emissions in the transportation and thermal energy sectors. Efficiency Vermont's Act No. 151 programs complement the Tier III energy transformation projects implemented by electric DUs in the statewide EEU service area as well as State programs. In 2022, Efficiency Vermont delivered the following services.

4.9.1 Electric Transportation

Efficiency Vermont's EEN EV Dealer Program:

- Expanded to include a total of 50 dealers participating in the program in 2022 (45 new car dealers and five used car dealers). This exceeded Efficiency Vermont's minimum target of 40 participating dealers by the end of the pilot.
- Provided EV sales incentives for 531 plug-in EVs submitted by EEN EV dealers, including 412 new all-electric vehicles, 81 new plug-in hybrids, 26 used all-electric vehicles, and 12 used plug-in hybrids.
- Helped dealers complete 14 EV readiness projects. Dealers can leverage the readiness incentive to help pay for projects such as charging stations, service tools and equipment, trainings for tech and service department staff, and any other EV-related investment at the dealership. On August 1, the incentive was increased to 50% of project costs up to $50,000 per year, in response to dealer needs.
- Offered 15 EV sales trainings, which covered Vermont-specific EV topics such as battery health and winter performance, with the goal of providing knowledge and information to dealer sales staff to support their conversations with car shoppers. Over 90 dealer staff, representing 33 dealerships, participated in the trainings in 2022.

- Surveyed participating dealers as part of the annual EEN member survey, to learn more about dealers' experience and satisfaction with the program thus far. The survey was sent to all 45 participating dealers enrolled at the time, and 19 dealers responded (42% response rate). The majority of dealers reported that the program had had a positive impact on their dealership's EV readiness and EV sales, and overall satisfaction with the program was high.

Efficiency Vermont's EV Consumer Education and Awareness Campaign:

- Employed tactics including: TV ads, media partnerships, Front Porch Forum posts, digital search and display ads, radio ads, social media posts, bus wraps, point-of-sale materials at EEN EV dealerships, an EV installation at Burlington International Airport, and consumer resources such as blog posts and a vehicle comparison tool. The driveelectricvt.com website saw an 83% increase in users from 2021 to 2022.
- Won second place in E Source's Utility Ad Awards (in the solar, storage, EVs, and electrification category).

4.9.2 Heating Electrification with Weatherization (Low-Income Fuel Switch)

In consultation with electric DU partners, weatherization agencies, and others, Efficiency Vermont launched a program to support low-income customers in combining weatherization with heating electrification. In partnership with DUs, Efficiency Vermont installed CCHPs at no cost to qualifying low-customers whose homes were previously weatherized by the State's Weatherization Assistance Program. Of the approximately 150 customers who enrolled within the first three months of the program, a total of 31 customers had their units installed by year end. [10] EEN member heat pump installers who serve as participating contractors for the program performed the installations in 2022. The cost of the heat pump unit and installation was shared between Efficiency Vermont and the customer's DU.

Additionally, Efficiency Vermont:

- Developed key tools to support the customer enrollment process, including an enrollment tracker, customer economics tool, and heat pump assessment survey as well as contractor training (e.g., a Q&A webinar) for 16 participating EEN ductless heat pump contractors.
- Engaged with Low Income Home Energy Assistance Program (LIHEAP) leadership to ensure program alignment.

4.10 Customer Engagement

Efficiency Vermont customer engagement activities and results including the following:

- On its core website, Efficiency Vermont welcomed 459,173 unique users, who spent an average of two minutes and 16 seconds on the site. In total, the website experienced 1,947,047 page views.
- The "Find-a-Pro or Retailer" (www.efficiencyvermont.com/Pro) tool saw 368,217 page views, which is a 39% increase compared with 2021. Top searches were for ductless heat pump contractors, weatherization contractors, all EEN members, and energy assessment providers. Expanded functionality of the tool provided easier navigation and a better user experience.

[10] At the end of 2022, Efficiency Vermont had expected that the remaining customers who enrolled in the fourth quarter would receive their installed heat pump in the beginning of 2023. Efficiency Vermont also expected that approximately 300 customers would be served by the program by the end of 2023.

- Efficiency Vermont's digital marketplace tool, where Vermonters can read reviews, find rebates, and compare equipment (www.efficiencyvermont.com/shop), welcomed 51,225 unique visitors with a total of 146,527 page views.
- Efficiency Vermont engaged with customers on various social media platforms. As of the end of the year, Efficiency Vermont had:
    - 20,915 Facebook followers
    - 4,549 Twitter followers
    - 2,016 Instagram followers
    - 1,654 LinkedIn followers
- Efficiency Vermont's blog (www.efficiencyvermont.com/blog), which features market insights, customer stories, and "How To" guides, saw a 23% increase in traffic for a total of 218,818 unique page views.
- Efficiency Vermont experienced increased newsletter subscriptions across almost all markets.
    - *Watts New*, a residential e-newsletter, added 4,977 subscribers in 2022 for a total of 31,191 subscriptions (a 19% increase from 2021).
    - *Business Solutions,* which is focused on the state's SMB market, gained 357 subscribers in 2022, bringing the total subscriptions to 2,924 (a 14% increase from 2021).
    - *EVT Insider,* a newsletter geared toward partners, stakeholders, and energy committees, lost 17 subscribers, bringing the total to 322 (a 5% drop from 2021).
    - *The LINK*, a newsletter geared toward trade partners and EEN members, gained 306 subscribers, bringing the total to 2,060 (a 17% increase from 2021).
- Efficiency Vermont launched translation services for its website and developed unique landing pages and translated content for the 2022 Focused Communities, Brattleboro, and Winooski.
- Efficiency Vermont published 19 consumer education blog posts with high engagement, garnering a total of 218,818 blog page views. Top blog posts included "How to save when fuel costs are high," "How the new climate law could save you money," "Don't leave money on the table for weatherization," and "12 simple tips to save energy at your rental."

5 Development and Support Services

Efficiency Vermont engaged in efforts that built customer awareness, knowledge, and motivation regarding energy use reduction; supported efforts to shape energy efficiency policies; and identified approaches for optimal service development, delivery, and improvement. DSS activities may not directly result in efficiency savings but represent valuable aspects of energy efficiency service delivery and development. These activities are essential to Efficiency Vermont's efforts to deepen energy savings and to have a lasting, positive impact on Vermont households, businesses, and communities.

5.1 Education and Training

5.1.1 Codes and Standards Support—Residential and Commercial / Industrial

Efficiency Vermont:

- Offered 11 Residential Building Energy Standards (RBES) trainings with a total of 28 attendees and three Commercial Building Energy Standards (CBES) trainings with a total of 34 attendees.

- Through the Energy Code Assistance Center, managed 463 inbound and outbound residential code assistance communications, and 98 related to commercial code assistance. This included technical support as well as support for code material and training requests.
- Coordinated with the Department on proposed RBES and CBES changes prior to the Department's submission of the draft rules with the Interagency Committee on Administrative Rules. For RBES: provided 25 proposed code changes, attended three advisory group meetings, and attended one public hearing. For CBES: provided nine proposed code changes, attended two advisory group meetings, and attended one public hearing.
- Distributed a survey for commercial architects, builders, and engineers to better understand what CBES resources they utilize, and what additional supporting materials and training they would find useful. Received 32 responses.

5.1.2 Energy Literacy Project (ELP)

Efficiency Vermont worked in coordination with K–12 schools throughout the state to inspire lifelong commitment to energy efficiency, conservation, and environmental stewardship in Vermont's youth. In 2022, Efficiency Vermont's contract implementer, Vermont Energy Education Program:

- Enrolled 92 Vermont schools, delivered 72 workshops to 47 schools, and sent 105 hands-on energy learning kits to 64 schools with continued support on curriculum development and implementation. 77 classrooms (approximately 2,830 students) were equipped with the kits.
- Engaged 22 Vermont teachers from 14 schools in professional learning programs.
- Engaged 63 students in virtual STEM Lab workshops, including 48 homeschooled participants.
- Completed outreach to every district in the state before the start of the school year.
- Overhauled two curricula and prepared shareable lesson plans to give to teachers for the 2022–2023 school year, including embedding opportunities for energy action in all materials.

5.1.3 General Public Education

To increase public awareness of energy efficiency and available services, Efficiency Vermont developed, managed, and shared key messages and materials through traditional print and broadcast media, social media, and website content. Attendance at community events and energy efficiency presentations was curtailed substantially due to COVID-19. In 2021, efforts focused on:

- Earned Media*:* Efficiency Vermont was mentioned nearly 200 times by media outlets across Vermont and beyond. Media coverage was driven in part by Efficiency Vermont press releases.
- Efficiency Vermont website: Efficiency Vermont's website engaged 362,747 users, garnering almost 1.68 million page views.
- Newsletter Subscriptions*:* Newsletter subscriptions to Efficiency Vermont's newsletters increased by 7% year-over-year, and totaled 29,798 subscribers.
- Social Media*:* Efficiency Vermont engaged with customers on various social media platforms, sharing information about programs, events, and initiatives. As of the end of the year, Efficiency Vermont had:
    - 18,582 Facebook followers

- 4,635 Twitter followers
- 1,808 Instagram followers
- 1,129 LinkedIn followers

5.1.4 Better Buildings by Design Conference

Efficiency Vermont hosted its 24th BBD conference in South Burlington April 27–28, offering trade allies access to experts in the energy efficiency and building performance fields. It also showcased the latest residential and commercial building products and services and offered technical workshops.

The conference welcomed more than 720 participants and featured 54 educational sessions with over 100 presenters, in addition to 62 sponsors and exhibitors. It also offered up to 11 professional credit hours across nine eligible organizations. A number of recorded sessions were made available for participants who couldn't attend the conference in person. The new April time frame was well received, and in a survey, 92% of attendee respondents said the BBD conference met or exceeded their expectations.

5.1.5 Customer Support

Efficiency Vermont's Contact Center provided Vermonters with information about electrical, thermal, and transportation efficiency; conservation; resources; and referrals. The Contact Center:

- Managed 30,523 customer contacts, which included all inbound and outbound calls, emails, and live chats.
- Tracked activity breakout of those contacts by market as follows: 90% residential, 10% commercial.
- Recorded the following key contact topics:
  - 25% residential weatherization
  - 23% residential HVAC
  - 15% residential efficient products
  - 8% low income
- Successfully implemented language translation services.

5.1.6 Building Labeling and Benchmarking

Efficiency Vermont:

- Created 107 Home Energy Profiles providing customers information about their home energy use and next steps to pursue energy improvements.
- Worked with partners VGS, BED, and the Vermont Office of Economic Opportunity to create a consistent way of reporting completed home weatherization projects and making the record available in NEEP's database. This will allow real estate professionals to see that a home undertook weatherization improvements through a utility or state program.
- Surpassed its program goal of creating 100 home energy labels in the first year: a total of 178 labels had been created by the end of the year. This included 77 labels created in Montpelier since July 1, 2022, when a city ordinance went into effect requiring any residential building being sold to have a completed building energy label for any potential buyer to see.

5.2 Applied Research and Development

Efficiency Vermont engaged in a range of research and development projects to gather information on areas with potential for inclusion in future programming.

5.2.1 Technology Demonstrations

Technology demonstration funding supported applied research, development, and demonstrations to optimize the creation of cost-effective solutions for meeting Efficiency Vermont's long-term RA goals. Efficiency Vermont engaged in these activities to advance the goals of sound product and program design through field testing, demonstrations, and research into emerging technologies and implementation strategies. Efficiency Vermont maintained a web page at https://www.efficiencyvermont.com/media-room/whitepapers, providing the public with access to information about technology demonstration efforts. An overview of 2022 activities follows.

Greenhouse Gas Reduction

Efficiency Vermont undertook two projects:

- *Residential electric rate plans that incentivize carbon reduction*—using rates collected from DUs and sample AMI data sets, Efficiency Vermont created a calculator prototype to estimate potential customer cost impacts of existing electric rate structures.
- *Load shape segmentation study*—Efficiency Vermont performed a load shape clustering analysis and developed a process to calculate and store energy usage metrics from AMI data across a population using cloud computation and storage resources. Efficiency Vermont conducted a retrospective study using data from commercial retrofit projects completed between 2018 and 2021 within GMP's territory. The results of the study showed that using AMI energy use metrics to identify customers with the most savings opportunity can increase overall at-the-meter savings across the program.

Healthy Buildings

In alignment with customer interest and national trends, Efficiency Vermont evaluated the potential impacts of energy efficiency services on health in residences and commercial buildings. Efficiency Vermont conducted the following activities:

- Established a contract with the Vermont Department of Health to provide air quality monitoring at 50 schools. Continued providing the Department of Public Service with Weatherization and Health Initiative (WHI) pilot program design support and collaborated with the Vermont Department of Health on a WHI program proposal for funding outside traditional energy efficiency funds.

Justice

Efficiency Vermont developed a matrix for evaluating the social justice impacts of energy efficiency projects. The matrix consists of approximately 70 metrics, some of which are traditionally used in energy efficiency programs, and others of which are used to measure social impacts and not typically used to assess energy efficiency programs. Efficiency Vermont interviewed two small businesses, three DU partners, and two regional development corporation partners to discuss the project and their business priorities for equity and justice.

Resilience Investigations

Efficiency Vermont undertook five projects:

- *Phase change materials (PCM)*—Efficiency Vermont monitored performance of PCM installations at two sites. PCM tiles installed in a small office showed no change, compared with historical data, in energy use from its propane boiler. The result is primarily a function of differences in tile temperature, relative to space temperature, and range of operability around the temperature point of the tiles. In the second installation, a PCM tank was integrated with an air-to-water heat pump. Efficiency Vermont installed metering equipment to begin collecting the data and entering them into an OpenStudio whole building energy modeling software platform.
- *Residential energy resilience*—This study used OpenStudio and field data to create a model home that will be able to show homeowners how much space temperature float time they can expect at varying outage lengths and how much weatherization improvement they need to increase their float time to their preferred duration. Efficiency Vermont called several "events" requesting that participants increase indoor temperature and then shut off heating systems to simulate a power outage or demand response event and monitor the duration of comfort in the home. The data collected during these events will be used to verify whether the model accurately predicted float time. The modeling exercise highlighted weaknesses in the modeling software. Efficiency Vermont worked with NREL to enhance the software with the intention of producing an accurate model home.
- *Direct current (DC) microgrid*— Efficiency Vermont supported the design team in soliciting and reviewing general contractor bids for new homes in a community-based DC electrical distribution and microgrid system in an income-qualified development and evaluating the feasibility of a Ford F-150 Lightning EV truck at the site. Efficiency Vermont also explored microgrid component ownership structure options with GMP, the community's electric utility.
- *Innovative energy storage*—Efficiency Vermont examined non-electrochemical storage opportunities for site and statewide electrification, and load management.
- *Investigating resilience and GHG reduction through an EV-to-grid modeling plan*—Efficiency Vermont used computer simulation to examine the effects of distributed energy resources (DER)—solar, EVs, and home batteries—on the grid. Using a sample of actual meter data from 100 residences served by GMP, the computer models demonstrated what various DER scenarios would mean for a sample residential neighborhood. Inputs can be adjusted to show varying levels of adoption and to simulate the behavior of individual households. The model also allows users to observe fleet-level behavior (e.g., all the EVs collectively) as well as any combination of fleets (e.g., all home batteries and all EVs together).

5.3 Planning and Reporting

5.3.1 Annual Plans and External Reporting

Efficiency Vermont prepared and submitted required documents to the Commission, the Department, and other stakeholders. The below documents were presented in fulfillment of requirements specified under its regulations, to maintain accountability and provide accurate tracking of progress for service delivery optimization, public benefit, and the benefit of entities outside Vermont seeking replication:

- 2022 Quarterly Reports for March, June, and September, including any program change or budget variance forecast notices as needed
- 2021 Budget Variance Report, including the 2021 carryover and fund disposition request
- 2021 Savings Claim Summary Report, including new data tables for Efficiency Vermont's Act No. 151 program and market metrics
- 2021 Administrative Cost Report
- 2023 Update to the 2021–2023 Triennial Plan
- Monthly invoices

5.3.2 Demand Resources Plan

Efficiency Vermont conducted planning, development, and support activities related to its proposed update to its 2024–2026 DRP, which was filed in Case No. 22-2954-PET, including these actions:

- Reviewed the Department's preliminary energy efficiency market potential study results and supported the Department's analysis.
- Performed modeling activities for 10-year TEPF and 20-year electric RA plans.
- Performed scoping activities for other components of the DRP, including DSS, DEI, performance goals, and budgets.
- Engaged in monthly calls with the Department and EEUs regarding proposed updates to EEU DRPs. Collaborated on proposed revisions to the Process and Administration of an Energy Efficiency Utility Order of Appointment (P&A) document regarding the DRP. Filed a notice in Case No. 22-1647-PET.
- Conducted external stakeholder engagement with partners, customers, DUs, and EEUs. Consulted with the Department on this engagement, as well as the development of Efficiency Vermont's proposed DRP updates.
- Conducted analysis and updates to RA models, budgets, minimum performance requirements, QPI weighting, and the Service Quality and Reliability Plan (SQRP).
- Conducted analysis and development of new DEI programming.
- Prepared and filed testimony and exhibits in Case No. 22-2954-PET.

5.3.3 Vermont System Planning Committee Participation (VSPC)

Efficiency Vermont participated in quarterly VSPC meetings, including engagement with the forecasting subcommittee on Efficiency Vermont's DRP modeling activities (discussed in section 5.3.2.)

5.3.4 Independent System Operator–New England Forward Capacity Market (FCM) Administration

Efficiency Vermont qualified 5 MW of additional summer capacity and 25 MW of additional winter capacity. It also bid capacity exceeding the obligation into monthly reconfiguration auctions, to monetize a small amount of performance above its obligation, resulting in over $183,000 of additional revenue.

5.3.5 External Non-Regulatory Reporting

Efficiency Vermont produced and distributed items in support of the following:

- Electric DU Tier III MOUs and benefits reports.

- Periodic and ad hoc reports summarizing Efficiency Vermont performance for electric DUs, Regional Planning Commissions, the Energy Action Network (EAN), town energy committees, Focused Communities, NEEP, RGGI annual proceeds reporting, the ISO-NE energy efficiency forecast, and the U.S. Energy Information Administration.
- Efficiency Vermont performance and pipeline reports (for VPPSA service territory).
- EAN's 2022 Vermont Energy Dashboard.
- EEU shared-services agreements with BED and VGS.
- NEEP's Regional Energy Efficiency Database.
- Quarterly electric DU reports summarizing contributions, incentives, customer annual energy and bill savings, customer call volume, and projects by service type.

5.4 Evaluation

As an essential part of its reporting efforts, Efficiency Vermont engaged in activities designed to maintain the accuracy of reported savings claims. These activities included the following initiatives.

5.4.1 Annual Savings Verification

Efficiency Vermont supported the annual savings verification process for program year (PY) 2021, by coordinating with the Department's third-party evaluation contractor, including: transferring the 2021 program tracking database, providing sampled project data, responding to custom project reports, and reviewing evaluation findings and recommendations. Results of the savings verification:

- Efficiency Vermont's realization rates for electric efficiency programs in 2021 were 97.2% for MWh, 99.5% for winter kW, 95.9% for summer kW, 97.5% for lifetime MWh savings, and 95.4% for GHG reductions.
- Efficiency Vermont's realization rate for TEPF efficiency programs in 2021 was 97.8% for MMBtu savings and 97.5% for GHG reductions.
- Efficiency Vermont's realization rate was 97.2% for total resource benefits, and 100.0% for flexible kW installed.

5.4.2 Technical Advisory Group (TAG)

Efficiency Vermont's TAG activities included discussion and review of the TRM. In addition to TRM review, TAG discussed technical topics related to EEU savings claims, reviewed Program Implementation Procedures (PIPs), and coordinated other EEU evaluation efforts.

Efficiency Vermont:

- Approved updates to the retail lighting PIP and Net Savings Factor updates for the next performance period, and updated HRV / ERV and drain water heat recovery guidance for residential new construction.
- Reviewed commercial and residential market assessment reports.
- Presented on CEA projects and custom project processes.
- Discussed weather data sets for custom and prescriptive analyses. It provided VGS input on moving away from TMY3 (Typical Meteorological Year 3) data, which the third-party evaluator suggested had become outdated for use in modeling.

5.4.3 Technical Reference Manual

Efficiency Vermont:

- Maintained, updated, and ensured the reliability of the TRM, which characterizes energy-saving measures on the basis of numerous parameters: annual electric savings, annual coincident peak savings, annual fossil fuel energy savings, incremental costs and measure lives, and other applicable resource savings such as water savings and operational and maintenance cost savings.
- TRM efforts included continuous process improvement activities and quality assurance and evaluations of high-impact efficiency programs and measures.
- Developed two new measure characterizations, including those for HRV / ERV, drain water heat recovery, and completed updates for 25 existing characterizations that were submitted for review by the Department and its contractor, including Home Performance with ENERGY STAR measures, lighting, refrigerators, evaporator fan motors, milk vacuum pump VFDs, clothes washers, high-efficiency evaporators, a maple sap vacuum pump VFD, pellet stoves and woodstoves, an ENERGY STAR retail products platform, and others.

5.4.4 ISO-NE FCM Metering, Monitoring, and Evaluation

The FCM evaluation process entailed the identification and metering of completed projects, followed by the acquisition of data to confirm projected savings for PY 2020 for the 60 sites selected for evaluation. Efficiency Vermont completed 23 large stratum deployments and used the Option-C software framework to determine which of the PY 2020 projects were good candidates for Option-C evaluation using only AMI data.

Additionally, Efficiency Vermont completed PY 2020 documentation, including:

- Fielding data requests. Provided dozens of data files to the Department's evaluation contractors and coordinated dozens of customer–evaluator discussions.
- Delivering new submetering deployment data to fill gaps where in-program or AMI data were not sufficient for evaluation.
- Reviewing or accepting large, medium, and small site analyses and reports from the Department's evaluation contractor.

Efficiency Vermont also:

- Received realization results for the completed FCM 2020 evaluation. Efficiency Vermont received 101% for winter kW and 80% for summer kW.
- Performed in-program metering to mitigate risk in the 2022 savings claim, as a result of moving from an annual to a three-year evaluation. Custom projects that had 35 kW or more savings in summer or winter were metered. This threshold was set to align with the FCM evaluation classification of a "large project."

5.4.5 Quality Management

Service Quality and Reliability Plan

Working with the quality management contractor, Efficiency Vermont revised the transactional customer satisfaction surveys. Efficiency Vermont achieved the following service quality results:

- Contact Center metrics[11]
  - 7 seconds average speed to answer
  - 88% of calls handled by a live agent during normal business hours
  - 4.7% call abandonment rate
- Complaints
  - Received 0 complaints
  - Followed up within 24 hours — N/A
  - Resolution within 12 business days — N/A
- General customer satisfaction (as measured by the percentage of customers who contact Efficiency Vermont and are satisfied or very satisfied with Efficiency Vermont customer service; should be greater than or equal to 80%)[12]
  - Residential = 85%
  - Commercial = 73%[13]
- Transactional customer satisfaction (as measured per each transaction category; annual percentage of survey respondents with average service rating of 3 or better equals 90%)
  - Commercial prescriptive projects = 100%
  - Home Performance with ENERGY STAR = 97%
  - Custom C&I = 94%

5.5 Administration and Regulatory Affairs

5.5.1 General Administration

Efficiency Vermont:

- Coordinated service implementation across various functions; performed budget management; participated in regular check-ins with the two other EEUs; and reviewed, managed, monitored, and conducted internal communication of overall performance and spending.
- Undertook activities in key organizational functions, including preparing and administering biweekly staff town calls and manager exchanges, weekly leadership team meetings, and the 2023 EEC rates calculation. Additionally, the data steward for Efficiency Vermont reviewed third-party requests for Efficiency Vermont information consistent with its guidelines and processes for sharing intellectual property.

5.5.2 Regulatory Affairs (Non-DRP)

Efficiency Vermont:

- In Case No. 19-0856-RULE (Proposed Rule 5.500 on interconnection procedures for proposed electric generation resources), filed comments regarding default communication protocols and EVs.
- Provided testimony to the Vermont Legislature on several issues.

[11] A staffing shortfall led to a small decrease in contact response performance, though performance was still within SQRP performance thresholds.
[12] These percentages represent customers who responded to survey questions.
[13] Lower performance in 2022 was primarily due to resource constraints and delayed customer follow up across the organization. While the status of performance is provided on an annual basis, Efficiency Vermont's performance on this metric is measured based on the three-year performance period (2021-2023). Efficiency Vermont expects the performance on this metric to improve in 2023 as a result of adjustments, including custom project and technical assistance assignment process improvements intended to increase responsiveness to customers.

- Continued to meet and coordinate with numerous State agencies and stakeholders to ensure alignment on key issues, including the proposed Clean Heat Standard legislation; SEMP expansion to municipalities; and awareness of transportation legislative matters.
- Met with the electric DUs, EEUs, and VHFA to discuss an on-bill financing mechanism.
- Concluded work in the Overall Performance Assessment proceeding (Case No. 21-1500-PET); the Commission approved reissuing the Order of Appointment to VEIC for administration of Efficiency Vermont for another 11 years, effective January 2023. VEIC will continue to serve as the administrator and implementer of Efficiency Vermont through the end of 2033.
- Filed its proposed findings and brief, as well as a reply brief, in the proceeding to update avoided costs and other screening values used by the EEUs (Case No. 21-2436-PET).
- Supported the development and execution of the ARPA weatherization grant agreement with the Department to begin expending $5 million appropriated to Efficiency Vermont for additional weatherization services.
- Met with stakeholders regarding how the proposed Clean Heat Standard legislation would affect weatherization in the state.
- Worked with the Vermont BGS on the Municipal Energy Resiliency Bill.
- Worked with the Department and EEUs on the scope and schedule of the proceeding to update EEUs' Orders of Appointment, and the Process and Administration document (Case No. 22-1647-PET).
- Filed proposed 2023 EEC rates.
- Filed a status report on discussions with the Department regarding the VEIC indirect rate, and ISO-NE financial assurance obligation.

5.5.3 Public Affairs

In addition to providing physical or virtual representation at policy forums, meetings, and conferences around the state, Efficiency Vermont:

- Participated in testimony, emails, and meetings with legislators as they continued to discuss spending federal COVID-19 relief funds.
- Engaged in extensive discussion, testimony, and information gathering related to the proposed Clean Heat Standard legislation.
- Testified before the Vermont Legislature nearly a dozen times on topics including weatherization, the efficiency of Vermont's municipal buildings, transportation policy, legislation to ban mercury lightbulbs, and workforce development.
- Responded to lawmaker inquiries, assisted with requests to help constituents access Efficiency Vermont services and rebates, and monitored relevant legislation.
- Studied the federal Inflation Reduction Act of 2022 and its implications for Efficiency Vermont.

5.6 Information Systems

5.6.1 Core Business Software Applications

Efficiency Vermont supported some existing software applications that enabled program implementation activities. Efficiency Vermont's long-term large software update project is intended to improve the prescriptive measure management system and the applications that interact with prescriptive measures. Efficiency Vermont used an agile development process, building out functionality over a series of sprints, testing and vetting features with key stakeholders

along the way. The release of this functionality into the production system is expected in early 2023.

Efficiency Vermont's releases and updates in 2022 included:

- Navigator maintenance and strengthening of existing features to support enhanced reports.
- Online Rebate Center, measure catalog, and KITT database releases to support Home Performance with ENERGY STAR program changes.
- Qualified Product Manager releases to support product qualification.
- Budget tracking updates required to support FLM and Act No. 151 programs.
- New cost and incentive algorithms.
- Application maintenance releases for certificate updates to the Efficient Products upload, FCM application, KITT Web, and TRM+.
- Large software project updates to improve the prescriptive measure management system and the applications that interact with prescriptive measures.
- Screening application programming interface (API) release to support DRP planning using new 2023 screening assumptions and the weatherization adder.
- Upstream application release to support program changes.
- Measure catalog release to support program changes in Online Rebate Center.
- Updates to survey system to increase efficiency and reduce the cost of deploying new or modified program surveys.
- Upgrade of VEIC's Identity Management System.

5.6.2 Utility Data Management

Efficiency Vermont:

- Continued communication and support activities to acquire utility data securely from Vermont's 16 participating electric DUs and one participating gas utility.
- Performed ongoing maintenance of custom data integration and staging packages to ingest billing data from the DUs on a quarterly, monthly, and weekly basis to the Tracker utility database.
- Tested and deployed enhancement to WEC billing data transfer and package to incorporate missing EEC and usage charge data. Performed additional DU data integrity checks and data flow improvements to reduce load failure when DU transfers incomplete files, bad data records, and / or multiple files.
- Continued engagement with numerous Vermont municipal utilities, their vendors, and VPPSA to acquire billing data transfer files conforming to the standard and protocols established in Docket No. 8316. Completed development, testing, and deployment of new Ludlow Electric Light Department, Lyndonville Electric Department, and Village of Orleans, billing data staging and ingest packages.

5.6.3 Reporting and Business Intelligence

Data storage, management, and access provided critical support for EEU operations. As the volume of data and number of business software applications continued to grow in 2022, so did the need to provide scaled data systems, architecture, and reporting to support this growth. Efficiency Vermont:

- Supported several large marketing outreach campaigns.
- Improved EEN and trade ally engagement reports.

- Deployed an enhanced Efficiency Vermont Deltek Tracker incentive reconciliation report, in partnership with the VEIC Finance division.
- Undertook general database administration, reporting, and business intelligence support to facilitate all quality assurance activities.
- Performed significant cleanup in reporting, data set, email subscription, and metadata in support of the migration to a new server and web platform.
- Provided general database, warehouse, and report support for Efficiency Vermont Home Performance with ENERGY STAR program changes.
- Continued targeted report assessment, report cleanup, and archival work in support of the project to consolidate and modernize the report platforms. Approximately 50 Efficiency Vermont reports and dashboards were archived as part of this effort.
- Completed a significant project to lift and shift the existing Efficiency Vermont report repository (SharePoint) to a new upgraded server and web portal. This project provides Efficiency Vermont support staff with a modern and easy-to-use web portal with improved capabilities and user experience when accessing business intelligence reports and dashboards.
- Updated the Efficiency Vermont survey system and reporting to increase efficiency and reduce the cost of survey reporting.
- Provided business intelligence support for large software project updates to improve Efficiency Vermont prescriptive measure management system and the applications that interact with prescriptive measures. This included initial design of new Efficiency Vermont reporting warehouse structures and self-service tools.

6 Resource Acquisition and Development And Support Services Results

6.1 Resource Acquisition Summary[1]

Resource Acquisition Category	Total Efficiency Vermont Resource Acquisition	Thermal Energy and Process Fuels Resource Acquisition	Electric Resource Acquisition
Efficiency Vermont Costs			
Year to Date Costs	$46,189,397	$5,813,094	$40,376,303
Annual Budget Estimate[2]	$50,864,402	$7,115,030	$43,749,372
Unspent Annual Budget Estimate	$4,675,005	$1,301,936	$3,373,069
% Annual Budget Estimate Unspent	9.2%	18.3%	7.7%
MWh Savings Results			
MWh Year to Date	87,029	-2,421	89,450
MWh Cumulative starting 1/1/21	156,387	-2,567	158,953
Winter Peak Coincident kW Savings Results			
Winter Coincident Peak kW Year to Date	13,124	-698	13,823
Winter Coincident Peak kW Cumulative Starting 1/1/21	24,090	-687	24,776
Summer Peak Coincident kW Savings Results			
Summer Coincident Peak kW Year to Date	11,107	-75	11,182
Summer Coincident Peak kW Cumulative Starting 1/1/21	18,641	-97	18,737
Total Resource Benefits (TRB) Savings Results			
TRB Year to Date	$113,075,307	$22,204,306	$90,871,001
TRB Cumulative Starting 1/1/21	$222,862,431	$61,386,754	$161,475,676
MMBtu Savings Results			
MMBtu Year to Date	119,894	83,237	36,657
MMBtu Cumulative Starting 1/1/21	277,955	216,563	61,392
MWh Lifetime Savings Results			
MWh Lifetime Year to Date	1,112,614	-37,839	1,150,453
MWh Lifetime Cumulative Starting 1/1/21	2,034,400	-41,270	2,075,670
Greenhouse Gas (GHG) Savings Results			
GHG Reductions (metric tons CO2e) Year to Date	49,103	2,913	46,190
GHG Reductions (metric tons CO2e) Starting 1/1/21	96,020	10,263	85,757

[1] All values in this table include Operations Fees.

[2] Annual budgets are estimates only and provided for informational purposes. Efficiency Vermont operates under three-year Commission approved budgets.

6.2 Budget Summary

	Budget 2022[1]	Actual 2022	%	Budget 2021-2023	Actual 2021-2023	%
RESOURCE ACQUISITION						
Electric Efficiency Funds Activities						
Business Sector	$ 21,775,089	$ 20,832,332	96%	$ 60,993,699	$ 40,106,058	66%
Energy Savings Account Pilot	$ 3,626,919	$ 1,332,201	37%	$ 6,000,000	$ 1,705,282	28%
Residential Sector	$ 17,950,112	$ 17,825,196	99%	$ 54,592,071	$ 35,505,322	65%
Total Electric Efficiency Funds Activities	**$ 43,352,120**	**$ 39,989,729**	**92%**	**$ 121,585,770**	**$ 77,316,662**	**64%**
Thermal Energy and Process Fuels Funds Activities						
Business Sector	$ 1,755,875	$ 970,904	55%	$ 4,473,932	$ 1,933,086	43%
Residential Sector	$ 5,288,710	$ 4,784,635	90%	$ 16,596,568	$ 10,824,868	65%
Total Thermal Energy and Process Fuels Funds Activities	**$ 7,044,585**	**$ 5,755,538**	**82%**	**$ 21,070,500**	**$ 12,757,953**	**61%**
TOTAL RESOURCE ACQUISITION	**$ 50,396,705**	**$ 45,745,267**	**91%**	**$ 142,656,270**	**$ 90,074,616**	**63%**
DEVELOPMENT & SUPPORT SERVICES						
Education and Training	$ 470,600	$ 431,805	92%	$ 1,418,225	$ 907,429	64%
Applied Research and Development	$ 174,100	$ 164,890	95%	$ 519,364	$ 336,054	65%
Planning and Reporting	$ 619,400	$ 644,123	104%	$ 1,688,329	$ 977,452	58%
Evaluation, Measurement, and Verification	$ 486,500	$ 437,675	90%	$ 1,375,675	$ 838,050	61%
Administration and Regulatory Affairs	$ 545,400	$ 539,071	99%	$ 1,674,653	$ 1,186,224	71%
Information Systems	$ 1,351,433	$ 1,301,219	96%	$ 3,875,179	$ 2,473,331	64%
TOTAL DEVELOPMENT & SUPPORT SERVICES	**$ 3,647,433**	**$ 3,518,784**	**96%**	**$ 10,551,424**	**$ 6,718,541**	**64%**
Operations Fee[2]	$ 504,172	$ 479,319	95%	$ 1,513,037	$ 1,115,925	74%
Sub-Total Prior to Performance-Based Compensation	**$ 54,548,310**	**$ 49,743,369**	**91%**	**$ 154,720,731**	**$ 97,909,081**	**63%**
Performance-Based Compensation (4.0%)[3]	$ 2,016,700	$ 1,381,391	68%	$ 5,847,400	$ 2,475,783	42%
Total Efficiency Vermont	**$ 56,565,010**	**$ 51,124,760**	**90%**	**$ 160,568,131**	**$ 100,384,864**	**63%**

[1] Annual budgets are provided for information purposes only. Efficiency Vermont operates under three-year Commission approved budgets.

[2] The 2022 Operations Fee was 1.0%. (Note, the 2021 Operations Fee was 1.35% and the 2023 Operations Fee is 0.75%.)

[3] The 2021-2023 performance award actuals, as shown in this table, include the approved 2021 and 2022 performance awards.

In accordance with both statutory and Vermont Public Utility Commission requirements, the funding source for Efficiency Vermont's electric efficiency services was separate and distinct from funding sources for efficiency services related to thermal energy and process fuels (TEPF). Electric services were funded through the Energy Efficiency Charge, whereas TEPF services were funded by Vermont's Regional Greenhouse Gas Initiative revenues and by revenues earned from meeting electric capacity commitments (Efficiency Vermont demand savings) bid into the regional grid's Forward Capacity Market (FCM). The Efficiency Vermont administrator—the Vermont Energy Investment Corporation—bid these expected demand savings into the FCM on behalf of the State of Vermont. 2022 FCM activities are discussed in Section 5.3.4. Also see Sections 8.8 FCM current claim and forecasts, and 8.9 FCM future commitments and revenue forecast.

6.3 2021-2023 Electric Performance Indicators & Minimum Requirements

QPI#	Title	Performance Indicator / Milestone	Target	Status	%
1	Total Resource Benefits	Present value of lifetime electric, fuel, and water benefits	$223,860,700	$161,475,676	72%
2	Annual Electricity Savings	Annual incremental net MWh savings	263,900	158,953	60%
3	Statewide Summer Peak Demand Savings	Cumulative net summer peak demand (kW) savings	28,400	18,737	66%
4	Statewide Winter Peak Demand Savings	Cumulative net winter peak demand (kW) savings	35,500	24,776	70%
5	Lifetime Electricity Savings	Lifetime incremental net MWh savings	3,302,400	2,075,670	63%
6	Greenhouse Gas Reduction	Energy and non-energy benefits, in metric tons of CO_2e	140,200	85,757	61%
7	Flexible Load	Annual kW of flexible load (controllable load)	2,700	1,455	54%
8	Administrative Efficiency	5% administrative cost reduction	$988,600	$529,404	54%

MPR#	Title	Minimum Requirement	Minimum	Status	%
9	Minimum Electric Benefits	Total electric benefits divided by total costs	1.2	1.5	127%
10	Threshold (or minimum acceptable) Level of Participation by Residential Customers	Total residential sector spending	$37,989,000	$35,922,256	95%
11	Threshold (or minimum acceptable) Level of Participation by Low-Income Households	Total low-income services spending	$11,480,000	$8,115,977	71%
12	Threshold (or minimum acceptable) Level of Participation by Small Business Customers	Number of total non-residential premises with annual electric use of 40,000 kWh/yr or less that acquire kwh savings	2,000	4,935	247%
13	Geographic Equity - County	TRB for each geographic area is greater than values shown on Geo-Equity County table	12	7	58%
14	Geographic Equity - Utility	Customer Lifetime Savings for each distribution utility is greater than values shown on Geo-Equity Utility table (VPPSA aggregated)	6	6	100%
15	Service Quality	Achieve 92 or more metric points	92	55	60%
16	Resource Acquisition- Performance Period Spending	Total spending for a three-year performance period (including applicable operations fees) is less than threshold	$124,004,000	$78,202,115	63%
17	Development and Support Services- Performance Period Spending	Total spending for a three-year performance period (including applicable operations fees) is less than threshold	$11,071,000	$6,275,260	57%

6.4 2021-2023 Electric Minimum TRB per Geographic Area (MPR #13)

Geographic Area[1]	Required TRB per Geographic Area[2]	Period To Date TRB per Geographic Area	% of Goal
Addison	$8,929,033	$15,754,861	176%
Bennington	$10,499,973	$8,312,979	79%
Caledonia	$6,035,370	$6,395,979	106%
Chittenden	$29,862,922	$33,644,512	113%
Essex/Orleans	$7,766,941	$11,290,264	145%
Franklin	$15,072,873	$12,106,309	80%
Grand Isle/Lamoille	$8,136,246	$9,085,762	112%
Orange	$5,189,836	$5,267,686	102%
Rutland	$16,858,625	$16,275,806	97%
Washington	$14,142,821	$18,003,136	127%
Windham	$15,708,749	$13,656,208	87%
Windsor	$15,812,773	$11,682,173	74%
Total	**$154,016,162**	**$161,475,676**	**105%**

[1] All geographic names above refer to Vermont Counties.

[2] Required Total Resource Benefits (TRB) targets have been adjusted for the Self Managed Energy Efficiency Program (SMEEP)

6.5 2021-2023 Electric Minimum Customer Lifetime Savings per Distribution Utility (MPR #14)

Distribution Utility	% EEC by Utility[1]	Minimum Lifetime Customer Savings[2] per Utility	Period To Date Lifetime Customer Savings per Utility	% of Goal
VPPSA Aggregate[3]	7.70%	$10,782,391	$21,812,949	202%
Barton Village Electric Department	0.30%	$420,093	$1,080,059	257%
Enosburg Falls Inc. Water & Light Department	0.60%	$840,186	$1,325,280	158%
Hardwick Electric Department	0.80%	$1,120,248	$3,438,491	307%
Ludlow Electric Light Department	1.10%	$1,540,342	$2,174,341	141%
Lyndonville Electric Department	1.40%	$1,960,435	$4,630,828	236%
Swanton Village Electric Department	1.20%	$1,680,373	$2,353,197	140%
Town of Northfield Electric Department	0.60%	$840,186	$996,692	119%
Village of Jacksonville Electric Department	0.10%	$140,031	$208,527	149%
Village of Johnson Electric Department	0.30%	$420,093	$1,171,932	279%
Village of Morrisville Water & Light Department	1.00%	$1,400,311	$3,976,916	284%
Village of Orleans	0.30%	$420,093	$456,685	109%
Green Mountain Power	79.00%	$110,624,536	$255,640,195	231%
Stowe Electric Department	1.70%	$2,380,528	$5,793,420	243%
Vermont Electric Co-op	9.70%	$13,583,013	$35,023,630	258%
Village of Hyde Park	0.20%	$280,062	$634,352	227%
Washington Electric Co-op	1.70%	$2,380,528	$5,166,674	217%
Total		**$140,031,058**	**N/A**	**N/A**

[1] % EEC by Utility is the average percent contributed by ratepayers in each distribution utility for the period 2016-2018 per the annual December reports issued by the Efficiency Vermont Fiscal Agent

[2] Minimum Lifetime Customer Savings values are the sum of customer electric, water and fuel cost savings at DPS approved retail rate averages over the lifetime of the efficiency measures

[3] Minimum Lifetime Customer Savings for VPPSA is an aggregate target for all VPPSA members.

6.6 2021-2023 Thermal Energy and Process Fuels Funds Performance Indicators & Minimum Requirements

QPI#	Title	Performance Indicator / Milestone	Target	Status	%
1	Thermal & Mechanical Energy Efficiency Savings	Annual incremental net MMBtu savings	340,600	216,563	64%
2	Residential Single Family Comprehensiveness	Combined performance for metrics 2.a.-2.c.	100%	97%	97%
		a. Average air leakage reduction per comprehensive project.	34%	29%	85%
		b. Percent of comprehensive projects with square feet of added insulation at least 50% of the home's finished square feet of floor area.	44%	45%	102%
		c. Percent of households (premises) that implement shell measures, and also have a heating system measures installed within three years of the shell measure.	16%	17%	104%
3	Housing Units Weatherized	Number of Residential Housing Units comprehensively weatherized.	4,400	1,929	44%
4	Greenhouse Gas Reductions	Energy and non-energy benefits, in metric tons CO_2e	20,400	10,263	50%

MPR#	Title	Minimum Requirement	Minimum	Status	%
5	Threshold (or minimum acceptable) Level of Participation by Residential Customers	Residential sector spending as % of total 2021-2023 spending	62.5%	84.9%	136%
6	Threshold (or minimum acceptable) Level of Participation by Low-Income Households	Low-income single- and multi-family spending as % of total 2021-2023 spending	17.0%	25.6%	151%
7	Performance Period Spending	Total 2021-2023 spending (including applicable operations fees) is less than threshold	$21,500,000	$12,910,041	60%

6.7 Service Quality and Reliability Summary Report

Metric #	Metric Description	Reporting Frequency	Performance this Period	Points Earned this Period	Cumulative 2021-2023 Points Earned	Total Possible 2021-2023 Points	Points Earned % of Total Possible
1	Residential Customer Service Satisfaction: Percentage of Residential Customers who contact Efficiency Vermont and are satisfied or very satisfied with Efficiency Vermont Customer Service will be greater than or equal to 80%	performance period	NA	0	0	12	0%
2	Business Customer Service Satisfaction: Percentage of Business Customers who contact Efficiency Vermont and are satisfied or very satisfied with Efficiency Vermont Customer Service will be greater than or equal to 80%	performance period	NA	0	0	12	0%
3	Customer Satisfaction upon Project Completion: Per each market segment, annual percentage of survey respondents with average service ratings of 3 (or better) shall be ≥ 90%	annually	97.6%	4	8	12	67%
4	Average answer time shall be ≤ 15 seconds per call	quarterly	7.0	1	8	12	67%
5	Average percentage of calls answered shall be ≥ 85%	quarterly	88.3%	1	8	12	67%
6	Average percentage of abandoned calls shall be ≤ 3%	quarterly	4.7%	0	7	12	58%
7	Percentage of complaint follow-up call attempted by end of next business day shall be ≥ 95%	quarterly	100.0%	1	8	12	67%
8	Percentage of complaints closed within 12 business days of initial complaint call shall be ≥ 95%	quarterly	100.0%	1	8	12	67%
9	For each reporting year, the ratio of total complaints received per total number of Efficiency Vermont participants shall be ≤ 0.5% (one-half of one percent)	annually	0.0%	4	8	12	67%
	Totals			**12**	**55**	**108**	**51%**

6.8 Electric Resource Acquisition Summary

	Totals			Business Energy Services			Residential Energy Services		
Services	Total Electric Efficiency Services	Subtotal Business Efficiency Services	Subtotal Residential Efficiency Services	New Construction	Business Existing Facilities (excl ESA Pilot)	Business Existing Facilities (ESA Pilot only)	New Construction	Efficient Products	Existing Homes
Electric Resource Acquisiton Costs									
Year to Date Costs	$40,376,303	$22,372,856	$18,003,447	$3,411,813	$17,628,842	$1,332,201	$2,827,073	$10,559,385	$4,616,989
Annual Budget Estimate[1]	$43,749,372	$25,619,759	$18,129,613	$2,492,636	$19,500,204	$3,626,919	$2,951,028	$10,020,512	$5,158,073
Unspent Annual Budget Estimate	$3,373,069	$3,246,903	$126,166	($919,178)	$1,871,362	$2,294,718	$123,955	($538,873)	$541,084
% Annual Budget Estimate Unspent	8%	13%	1%	-37%	10%	63%	4%	-5%	10%
MWh Savings Results									
MWh Year to Date	89,450	60,063	29,387	20,516	38,904	642	1,414	26,782	1,191
MWh Starting 1/1/21	158,953	101,783	57,170	24,202	76,940	642	3,106	50,845	3,220
3-Year MWh Goal	263,900	175,700	88,200	10,100	165,600	N/A	5,800	70,300	12,100
% of 3-Year MWh Goal	60%	58%	65%	240%	46%	N/A	54%	72%	27%
Winter Peak Coincident kW Savings Results									
Winter Coincident Peak kW Year to Date	13,823	7,540	6,282	2,821	4,672	48	304	5,748	230
Winter Coincident Peak kW Starting 1/1/21	24,776	12,702	12,074	3,402	9,252	48	609	10,775	691
3-Year Winter Coincident Peak kW Goal	35,500	20,400	15,100	1,200	19,200	N/A	900	12,400	1,800
% of 3-Year Winter Coincident Peak kW Goal	70%	62%	80%	284%	48%	N/A	68%	87%	38%
Summer Peak Coincident kW Savings Results									
Summer Coincident Peak kW Year to Date	11,182	9,349	1,833	3,555	5,746	48	93	1,632	108
Summer Coincident Peak kW Starting 1/1/21	18,737	15,037	3,700	4,124	10,866	48	191	3,269	240
3-Year Summer Coincident Peak kW Goal	28,400	21,300	7,100	1,500	19,800	N/A	300	6,200	600
% of 3-Year Summer Coincident Peak kW Goal	66%	71%	52%	275%	55%	N/A	64%	53%	40%
Total Resource Benefits (TRB) Savings Results									
TRB Year to Date	$90,871,001	56,967,406	$33,903,595	$17,453,862	$37,484,954	$2,028,590	$3,186,928	$29,939,469	$777,199
TRB Starting 1/1/21	$161,475,676	96,114,127	$65,361,550	$23,816,071	$70,269,466	$2,028,590	$7,136,822	$55,721,761	$2,502,967
3-Year TRB Goal	$223,860,700	$149,750,300	$74,110,400	$8,908,100	$140,842,200	N/A	$20,728,800	$46,767,500	$6,614,100
% of 3-Year TRB Goal	72%	64%	88%	267%	50%	N/A	34%	119%	38%
MWh Lifetime Savings Results									
MWh Lifetime Year to Date	1,150,453	743,663	406,789	232,002	505,244	6,417	25,441	367,542	13,806
MWh Lifetime Starting 1/1/21	2,075,670	1,289,634	786,036	294,476	988,741	6,417	55,002	689,683	41,351
3-Year MWh Lifetime Goal	3,302,400	2,280,600	1,021,800	133,600	2,147,000	N/A	104,100	827,700	90,000
% of 3-Year MWh Lifetime Goal	63%	57%	77%	220%	46%	N/A	53%	83%	46%
Greenhouse Gas (GHG) Savings Results									
GHG Reductions (metric tons CO2e) Year to Date	46,190	31,973	14,217	9,183	22,260	530	895	12,822	500
GHG Reductions (metric tons CO2e) Starting 1/1/21	85,757	58,132	27,625	11,234	46,367	530	2,016	24,191	1,417
3-Year GHG Goal	140,200	98,600	41,600	4,600	94,000	N/A	4,800	31,200	5,600
% of 3-Year GHG Goal	125%	59%	66%	244%	49%	N/A	42%	78%	25%

[1] Annual budgets are provided for information purposes only. Efficiency Vermont operates under three-year Commission approved budgets.

6.9 Electric Resource Acquisition Detail Summary

	Prior Year 2021	Current Year 2022	Cumulative starting 1/1/21
# participants with installations	37,441	35,542	68,930
Operating Costs			
Administration	$2,288,648	$2,341,992	$4,630,640
Programs and Implementation	$4,244,319	$3,810,865	$8,055,185
Strategy and Planning	$427,393	$595,870	$1,023,263
Subtotal Operating Costs	**$6,960,360**	**$6,748,727**	**$13,709,087**
Technical Assistance Costs			
Services to Participants	$6,185,670	$6,562,031	$12,747,702
Services to Trade Allies	$1,186,366	$1,274,081	$2,460,447
Subtotal Technical Assistance Costs	**$7,372,036**	**$7,836,112**	**$15,208,149**
Support Services			
Consulting	$77,417	$87,368	$164,785
Customer Support	$84,474	$83,263	$167,736
Data and Technical Services	$863,146	$833,611	$1,696,757
Information Technology	$0	$0	$0
Marketing	$3,614,054	$3,224,500	$6,838,554
Policy & Public Affairs	$0	$0	$0
Other	$0	$0	$0
Subtotal Support Services Costs	**$4,639,091**	**$4,228,742**	**$8,867,833**
Incentive Costs			
Incentives to Participants	$18,658,359	$21,196,776	$39,146,848
Incentives to Trade Allies	$195,964	$365,945	$561,909
Subtotal Incentive Costs	**$18,854,323**	**$21,562,721**	**$39,708,757**
Total Efficiency Vermont Costs	**$37,825,810**	**$40,376,303**	**$77,493,826**
Total Participant Costs	$21,995,077	$23,483,491	$45,478,569
Total Third Party Costs	$69,822	$113,731	$183,553
Total Resource Acquisition Costs	**$59,890,710**	**$63,973,525**	**$123,155,947**

Annualized MWh Savings	69,503	89,450	158,953
Lifetime MWh Savings	925,214	1,150,453	2,075,670
TRB Savings (2021 $)	$70,604,671	$90,871,001	$161,475,676
Winter Coincident Peak kW Savings	10,954	13,823	24,776
Summer Coincident Peak kW Savings	7,555	11,182	18,737
GHG Reductions (metric tons CO_2e)	39,567	46,190	85,757
Annualized MWh Savings/Participant	1.856	2.517	2.306
Weighted Lifetime	13.3	12.9	13.1

6.10 Electric Resource Acquisition - End Use Breakdown

End Use	# of Participants	MWh Net	GHG (metric tons CO2e) Saved	Lifetime MWh Net	Winter KW Net	Summer KW Net	MMbtu Net	TRB Net	Participant Incentives Paid	Participant Costs
Air Conditioning Eff.	2,468	1,825	985	21,715	56	346	2,503	$1,912,801	$369,266	$326,954
Behavior	1	74	33	74	12	12	0	$5,989	$2,000	$0
Cooking and Laundry	1,617	1,724	843	21,528	234	192	1,242	$3,104,735	$571,285	$822,503
Design Assistance	160	16,073	7,172	160,809	1,890	2,846	4,394	$12,426,507	$1,851,313	$2,826,442
Electronics	0	1	0	3	0	0	0	$143	$365	-$365
Hot Water Efficiency	1,995	3,925	1,414	46,850	606	307	-6,311	$1,615,439	$1,038,645	$397,112
Hot Water Fuel Switch	2	64	12	1,921	10	5	-307	$51,171	$7,484	$40,054
Industrial Process	55	3,233	2,628	34,182	431	409	21,787	$8,477,819	$567,412	$1,583,218
Lighting	16,588	30,356	12,537	390,497	4,263	4,658	-12,752	$23,482,570	$5,364,778	$5,512,492
Motors	2,416	4,594	2,030	57,932	751	708	315	$3,923,194	$812,775	$813,880
Other Efficiency	3,658	4,416	3,156	58,814	978	319	18,356	$13,468,283	$2,575,139	-$986,463
Other Indirect Activity	158	0	0	0	0	0	0	$0	$985,060	-$55,162
Refrigeration	2,208	5,697	7,200	74,817	700	581	1,553	$5,080,176	$1,612,320	$996,538
Space Heat Efficiency	9,509	15,372	7,133	250,561	3,511	479	4,542	$14,413,872	$3,857,010	$10,382,832
Space Heat Fuel Switch	1	56	25	1,112	7	0	-559	-$81,512	$10,425	$9,575
Ventilation	916	2,037	995	29,624	374	318	1,490	$2,509,986	$323,093	$792,065
Water Conservation	211	3	27	14	0	0	405	$479,829	$0	$21,815
Totals		89,450	46,190	1,150,453	13,823	11,182	36,657	$90,871,001	$19,948,369	$23,483,491

6.11 Electric Resource Acquisition - Utility Breakdown

Utility	# of Participants	MWh Net	GHG (metric tons CO2e) Saved	Lifetime MWh Net	Winter KW Net	Summer KW Net	MMbtu Net	TRB Net	Participant Incentives Paid	Participant Costs
Barton	228	374	166	4,544	57	60	0	$332,406	$100,245	$57,683
Burlington	76	48	23	699	7	5	20	$67,844	$277,791	-$239,949
Enosburg Falls	181	317	146	4,434	47	43	82	$366,113	$82,803	$54,765
Green Mountain	31,842	69,848	36,189	883,001	10,655	8,836	27,975	$68,578,847	$15,200,808	$18,478,814
Hardwick	615	1,185	536	18,056	138	164	161	$1,292,511	$298,331	$157,190
Hyde Park	160	135	62	1,786	24	15	34	$143,654	$38,941	$15,358
Jacksonville	42	40	19	538	8	2	25	$48,695	$9,439	$9,301
Johnson	100	473	262	5,795	71	72	38	$405,840	$62,822	$176,469
Ludlow	205	593	272	6,232	108	72	121	$436,262	$97,210	$97,976
Lyndonville	1,110	1,479	674	20,679	208	238	304	$1,635,070	$415,570	$288,098
Morrisville	793	1,069	1,111	15,589	171	119	-108	$981,976	$285,872	$259,285
Northfield	167	224	103	3,282	42	25	49	$253,304	$67,296	$17,815
Orleans	57	87	43	1,108	15	10	63	$119,173	$32,810	-$8,200
Stowe	996	1,248	642	18,051	238	106	1,373	$1,779,654	$376,682	$556,553
Swanton	324	970	418	11,072	122	136	-208	$818,064	$176,469	$236,100
VT Electric Coop	3,979	10,127	4,957	138,932	1,696	1,149	6,397	$12,277,467	$2,070,702	$3,127,363
Washington Electric	1,088	1,234	567	16,654	216	130	331	$1,334,120	$354,579	$198,869
Totals	41,963	89,450	46,190	1,150,453	13,823	11,182	36,657	$90,871,001	$19,948,369	$23,483,491

6.12 Electric Resource Acquisition - County Breakdown

County	# of Participants	MWh Net	GHG (metric tons CO2e) Saved	Lifetime MWh Net	Winter KW Net	Summer KW Net	MMbtu Net	TRB Net	Participant Incentives Paid	Participant Costs
Addison	2,238	14,704	6,527	166,190	1,982	2,242	581	$11,640,570	$1,457,515	$2,512,881
Bennington	2,623	4,564	2,476	61,963	816	448	721	$4,550,559	$1,167,856	$1,484,828
Caledonia	1,966	3,835	1,734	53,596	514	577	536	$4,151,309	$1,072,244	$537,250
Chittenden	8,132	16,376	8,892	216,944	2,505	2,158	3,189	$16,314,933	$4,207,756	$5,179,586
Essex	219	410	202	5,515	71	44	281	$467,983	$139,220	$91,964
Franklin	2,138	7,273	3,236	96,698	1,184	1,077	256	$7,142,315	$1,390,722	$1,365,898
Grand Isle	547	1,395	630	18,261	237	154	161	$1,268,109	$315,977	$291,347
Lamoille	1,962	3,637	2,398	50,748	615	414	1,413	$4,029,065	$949,982	$1,184,674
Orange	1,178	3,302	1,444	41,185	457	479	-310	$2,841,921	$687,263	$531,074
Orleans	1,605	5,629	2,856	75,915	903	618	4,812	$7,135,223	$1,106,905	$1,433,461
Rutland	4,732	8,971	5,208	107,883	1,418	958	-370	$7,678,183	$2,202,617	$2,451,240
Washington	3,323	8,415	3,974	111,384	1,214	946	5,537	$8,712,837	$2,591,886	$2,447,791
Windham	2,260	5,931	3,642	76,434	990	595	18,678	$9,963,676	$1,375,184	$2,128,740
Windsor	2,619	5,008	2,972	67,737	916	474	1,172	$4,974,318	$1,283,241	$1,842,759
Totals	35,542	89,450	46,190	1,150,453	13,823	11,182	36,657	$90,871,001	$19,948,369	$23,483,491

6.13 Electric Business Energy Services Summary

	Prior Year 2021	Current Year 2022	Cumulative starting 1/1/21
# participants with installations	6,512	7,174	12,253
Operating Costs			
Administration	$1,187,780	$1,213,763	$2,401,543
Programs and Implementation	$1,766,507	$1,760,398	$3,526,905
Strategy and Planning	$258,287	$337,609	$595,896
Subtotal Operating Costs	**$3,212,573**	**$3,311,770**	**$6,524,344**
Technical Assistance Costs			
Services to Participants	$4,535,508	$4,919,203	$9,454,711
Services to Trade Allies	$804,349	$886,001	$1,690,350
Subtotal Technical Assistance Costs	**$5,339,857**	**$5,805,204**	**$11,145,061**
Support Services			
Consulting	$62,896	$70,871	$133,768
Customer Support	$35,191	$35,408	$70,599
Data and Technical Services	$627,680	$580,294	$1,207,974
Information Technology	$0	$0	$0
Marketing	$1,272,611	$1,296,077	$2,568,688
Policy & Public Affairs	$0	$0	$0
Other	$0	$0	$0
Subtotal Support Services Costs	**$1,998,379**	**$1,982,649**	**$3,981,029**
Incentive Costs			
Incentives to Participants	$9,239,664	$11,014,791	$19,546,168
Incentives to Trade Allies	$116,529	$258,441	$374,970
Subtotal Incentive Costs	**$9,356,193**	**$11,273,232**	**$19,921,138**
Total Efficiency Vermont Costs	**$19,907,003**	**$22,372,856**	**$41,571,571**
Total Participant Costs	$14,178,291	$15,880,254	$30,058,545
Total Third Party Costs	$0	$20,000	$20,000
Total Resource Acquisition Costs	**$34,085,293**	**$38,273,110**	**$71,650,116**

Annualized MWh Savings	41,721	60,063	101,783
Lifetime MWh Savings	545,971	743,663	1,289,634
TRB Savings (2021 $)	$39,146,720	$56,967,406	$96,114,127
Winter Coincident Peak kW Savings	5,162	7,540	12,702
Summer Coincident Peak kW Savings	5,688	9,349	15,037
GHG Reductions (metric tons CO_2e)	26,159	31,973	58,132
Annualized MWh Savings/Participant	6.407	8.372	8.307
Weighted Lifetime	13.1	12.4	12.7

6.14 Electric Residential Energy Services Summary

	Prior Year 2021	Current Year 2022	Cumulative starting 1/1/21
# participants with installations	30,929	28,368	56,677
Operating Costs			
Administration	$1,100,868	$1,128,229	$2,229,097
Programs and Implementation	$2,477,812	$2,050,467	$4,528,280
Strategy and Planning	$169,106	$258,261	$427,367
Subtotal Operating Costs	**$3,747,787**	**$3,436,957**	**$7,184,743**
Technical Assistance Costs			
Services to Participants	$1,650,162	$1,642,828	$3,292,991
Services to Trade Allies	$382,017	$388,080	$770,097
Subtotal Technical Assistance Costs	**$2,032,179**	**$2,030,908**	**$4,063,088**
Support Services			
Consulting	$14,520	$16,497	$31,017
Customer Support	$49,282	$47,855	$97,137
Data and Technical Services	$235,466	$253,318	$488,783
Information Technology	$0	$0	$0
Marketing	$2,341,443	$1,928,424	$4,269,867
Policy & Public Affairs	$0	$0	$0
Other	$0	$0	$0
Subtotal Support Services Costs	**$2,640,712**	**$2,246,093**	**$4,886,805**
Incentive Costs			
Incentives to Participants	$9,418,695	$10,181,985	$19,600,680
Incentives to Trade Allies	$79,435	$107,504	$186,939
Subtotal Incentive Costs	**$9,498,130**	**$10,289,489**	**$19,787,619**
Total Efficiency Vermont Costs	**$17,918,807**	**$18,003,447**	**$35,922,255**
Total Participant Costs	$7,816,787	$7,603,237	$15,420,024
Total Third Party Costs	$69,822	$93,731	$163,553
Total Resource Acquisition Costs	**$25,805,416**	**$25,700,415**	**$51,505,832**

Annualized MWh Savings	27,783	29,387	57,170
Lifetime MWh Savings	379,244	406,789	786,036
TRB Savings (2021 $)	$31,457,951	$33,903,595	$65,361,550
Winter Coincident Peak kW Savings	5,792	6,282	12,074
Summer Coincident Peak kW Savings	1,867	1,833	3,700
GHG Reductions (metric tons CO_2e)	13,408	14,217	27,625
Annualized MWh Savings/Participant	0.898	1.036	1.009
Weighted Lifetime	13.7	13.8	13.7

6.15 Thermal Energy and Process Fuels Resource Acquisition Summary

	Totals			Business Energy Services		Residential Energy Services		
Services	Total Thermal Energy and Process Fuels Efficiency Services	Subtotal Business Efficiency Services	Subtotal Residential Efficiency Services	New Construction	Existing Facilities	New Construction[2]	Efficient Products	Existing Homes
Costs								
Year to Date Costs	$5,813,094	$980,613	$4,832,481	$0	$980,613	$13,560	$436,658	$4,382,263
Annual Budget Estimate[1]	$7,115,030	$1,773,434	$5,341,596	$0	$1,773,434	$0	$639,106	$4,702,490
Unspent Annual Budget Estimate	$1,301,936	$792,821	$509,115	($0)	$792,821	($13,560)	$202,447	$320,227
% Annual Budget Estimate Unspent	18%	45%	10%	0%	45%	0%	32%	7%
Savings Results								
MMBtu Year to Date	83,237	34,435	48,802	-	34,435	-	30,719	18,082
MMBtu Cumulative starting 1/1/21	216,563	81,524	135,038	-	81,524	-	96,158	38,881
3-Year MMBtu Goal	340,600	194,100	146,500	N/A	194,100	N/A	88,100	58,400
% of 3-Year MMBtu Goal	64%	42%	92%	N/A	42%	N/A	109%	67%
Associated Electric Benefits								
MWh Year to Date	(2,421)	(350)	(2,070)	-	(350)	-	(1,997)	(73)
MWh Cumulative starting 1/1/21	(2,567)	(414)	(2,153)	-	(414)	-	(1,941)	(213)
Winter Coincident Peak kW Year to Date	(698)	(171)	(528)	-	(171)	-	(507)	(20)
Winter Coincident Peak kW Cumulative starting 1/1/21	(687)	(170)	(516)	-	(170)	-	(474)	(42)
Summer Coincident Peak kW Year to Date	(75)	0	(75)	-	0	-	(75)	0
Summer Coincident Peak kW Cumulative starting 1/1/21	(97)	(19)	(78)	-	(19)	-	(77)	(1)
TRB Year-to-Date	$22,204,306	$9,106,979	$13,097,327	$0	$9,106,979	$0	$5,668,115	$7,429,211
TRB Starting 1/1/21	$61,386,754	$21,261,957	$40,124,797	$0	$21,261,957	$0	$23,747,861	$16,376,936
Lifetime MWh Year to Date	(37,839)	(5,385)	(32,454)	-	(5,385)	-	(31,171)	(1,283)
Lifetime MWh Cumulative starting 1/1/21	(41,270)	(7,620)	(33,650)	-	(7,620)	-	(30,054)	(3,597)
GHG Reductions (metric tons CO2e) Year to Date	2,913	1,365	1,548	-	1,365	-	437	1,111
GHG Reductions (metric tons CO2e) Starting 1/1/21	10,263	4,332	5,931	-	4,332	-	3,608	2,323

[1] Annual budgets are provided for information purposes only. Efficiency Vermont operates under three-year Commission approved budgets.

[2] Costs reported for Residential New Construction were for off-grid homes.

6.16 Thermal Energy and Process Fuels Resource Acquisition Detail Summary

	Prior Year 2021	Current Year 2022	Cumulative starting 1/1/21
# participants with installations	4,611	2,991	7,533
Operating Costs			
Administration	$534,417	$314,421	$848,838
Programs and Implementation	$923,074	$1,316,291	$2,239,365
Strategy and Planning	$6,266	$8,036	$14,302
Subtotal Operating Costs	**$1,463,757**	**$1,638,749**	**$3,102,506**
Technical Assistance Costs			
Services to Participants	$303,894	$417,605	$721,499
Services to Trade Allies	$14,595	$20,298	$34,892
Subtotal Technical Assistance Costs	**$318,489**	**$437,902**	**$756,391**
Support Services			
Consulting	$2,963	$4,356	$7,319
Customer Support	$22,480	$31,776	$54,256
Data and Technical Services	$63,301	$75,589	$134,709
Information Technology	$0	$0	$0
Marketing	$250,569	$331,418	$581,862
Policy & Public Affairs	$0	$0	$0
Other	$0	$0	$0
Subtotal Support Services Costs	**$339,314**	**$443,139**	**$778,146**
Incentive Costs			
Incentives to Participants	$4,773,638	$3,123,503	$7,897,142
Incentives to Trade Allies	$201,750	$169,800	$371,550
Subtotal Incentive Costs	**$4,975,388**	**$3,293,303**	**$8,268,692**
Total Efficiency Vermont Costs	**$7,096,948**	**$5,813,094**	**$12,905,734**
Total Participant Costs	$14,783,426	$10,654,040	$25,437,466
Total Third Party Costs	$476,797	$368,415	$845,212
Total Resource Acquisition Costs	**$22,357,170**	**$16,835,549**	**$39,188,411**
Annualized MMBtu Savings	133,326	83,237	216,563
Lifetime MMBtu Savings	2,129,350	1,283,590	3,412,940
TRB Savings (2021 $)	$39,182,448	$22,204,306	$61,386,754
GHG Reductions (metric tons CO_2e)	7,350	2,913	10,263
Annualized MMBtu Savings/Participant	28.915	27.829	28.749
Weighted Lifetime	16.0	15.4	15.8

[1]2022 budgeted amount represents a correcting entry (made in 2022) for miscoded costs reported for Residential New Construction in 2021.

6.17 Thermal Energy and Process Fuels Services & Initiatives - End Use Breakdown

End Use	# of Participants	MWh Net	GHG (metric tons CO2e) Saved	Lifetime MWh Net	Winter KW Net	Summer KW Net	MMbtu Net	TRB Net	Participant Incentives Paid	Participant Costs
Air Conditioning Eff.	1	0	0	0	0	0	3,076	$399,820	$0	$7,800
Cooking and Laundry	29	7	65	114	1	1	977	$355,075	$32,600	$5,145
Design Assistance	16	0	99	2	2	0	1,561	$454,038	$129,325	$431,340
Hot Water Efficiency	209	-43	81	-505	-12	-3	1,428	$345,405	$44,423	$72,859
Hot Water Fuel Switch	22	0	11	0	0	0	152	$39,551	$0	$15,845
Industrial Process	16	-23	59	-246	0	0	2,383	$367,680	$34,650	$221,684
Motors	1	0	116	0	0	0	1,582	$715,319	$60,000	$60,000
Other Efficiency	621	0	0	0	0	0	0	$0	$2,020	-$2,020
Other Fuel Switch	4	-3	52	-57	0	0	731	$240,325	$14,500	$81,224
Other Indirect Activity	111	0	0	0	0	0	0	$0	$578,207	-$578,207
Refrigeration	1	94	41	1,403	-65	13	0	$88,752	$10,000	$47,087
Space Heat Efficiency	2,098	46	1,043	498	-4	8	34,234	$8,085,280	$1,426,644	$4,743,987
Space Heat Fuel Switch	527	-2,500	1,296	-39,051	-619	-93	36,372	$10,965,061	$784,385	$5,458,941
Ventilation	11	0	49	3	0	0	741	$148,000	$6,750	$88,354
Totals		-2,421	2,913	-37,839	-698	-75	83,237	$22,204,306	$3,123,503	$10,654,040

6.18 Thermal Energy and Process Fuels Business Energy Services Summary

	Prior Year 2021	Current Year 2022	Cumulative starting 1/1/21
# participants with installations	186	210	382
Operating Costs			
Administration	$80,188	$62,738	$142,926
Programs and Implementation	$8,895	$47,309	$56,205
Strategy and Planning	$0	$120	$120
Subtotal Operating Costs	**$89,084**	**$110,168**	**$199,251**
Technical Assistance Costs			
Services to Participants	$118,731	$175,928	$294,659
Services to Trade Allies	$67	$0	$67
Subtotal Technical Assistance Costs	**$118,798**	**$175,928**	**$294,726**
Support Services			
Consulting	$2,338	$3,856	$6,194
Customer Support	$215	$64	$279
Data and Technical Services	$21,813	$25,097	$46,910
Information Technology	$0	$0	$0
Marketing	$22	$15	$36
Policy & Public Affairs	$0	$0	$0
Other	$0	$0	$0
Subtotal Support Services Costs	**$24,388**	**$29,032**	**$53,420**
Incentive Costs			
Incentives to Participants	$739,102	$659,585	$1,398,687
Incentives to Trade Allies	$3,800	$5,900	$9,700
Subtotal Incentive Costs	**$742,902**	**$665,485**	**$1,408,387**
Total Efficiency Vermont Costs	**$975,171**	**$980,613**	**$1,955,784**
Total Participant Costs	$2,946,124	$2,649,526	$5,595,649
Total Third Party Costs	$165,413	$0	$165,413
Total Resource Acquisition Costs	**$4,086,708**	**$3,630,138**	**$7,716,846**

Annualized MMBtu Savings	47,089	34,435	81,524
Lifetime MMBtu Savings	669,274	482,744	1,152,018
TRB Savings (2021 $)	$12,154,978	$9,106,979	$21,261,957
GHG Reductions (metric tons CO_2e)	2,966	1,365	4,332
Annualized MMBtu Savings/Participant	253.167	163.978	213.415
Weighted Lifetime	14.2	14.0	14.1

6.19 Thermal Energy and Process Fuels Residential Energy Services Summary

	Prior Year 2021	Current Year 2022	Cumulative starting 1/1/21
# participants with installations	4,425	2,781	7,151
Operating Costs			
Administration	$454,228	$251,684	$705,912
Programs and Implementation	$914,179	$1,268,982	$2,183,160
Strategy and Planning	$6,266	$7,916	$14,182
Subtotal Operating Costs	**$1,374,673**	**$1,528,581**	**$2,903,254**
Technical Assistance Costs			
Services to Participants	$185,162	$241,677	$426,839
Services to Trade Allies	$14,528	$20,298	$34,826
Subtotal Technical Assistance Costs	**$199,691**	**$261,974**	**$461,665**
Support Services			
Consulting	$625	$500	$1,125
Customer Support	$22,266	$31,711	$53,977
Data and Technical Services	$41,488	$50,492	$87,799
Information Technology	$0	$0	$0
Marketing	$250,548	$331,404	$581,825
Policy & Public Affairs	$0	$0	$0
Other	$0	$0	$0
Subtotal Support Services Costs	**$314,926**	**$414,107**	**$724,726**
Incentive Costs			
Incentives to Participants	$4,034,536	$2,463,918	$6,498,454
Incentives to Trade Allies	$197,950	$163,900	$361,850
Subtotal Incentive Costs	**$4,232,486**	**$2,627,818**	**$6,860,304**
Total Efficiency Vermont Costs	**$6,121,776**	**$4,832,481**	**$10,949,950**
Total Participant Costs	$11,837,302	$8,004,514	$19,841,816
Total Third Party Costs	$311,384	$368,415	$679,799
Total Resource Acquisition Costs	**$18,270,462**	**$13,205,410**	**$31,471,565**

Annualized MMBtu Savings	86,237	48,802	135,038
Lifetime MMBtu Savings	1,460,076	800,846	2,260,922
TRB Savings (2018 $)	$27,027,470	$13,097,327	$40,124,797
GHG Reductions (metric tons CO_2e)	4,384	1,548	5,931
Annualized MMBtu Savings/Participant	19.489	17.548	18.884
Weighted Lifetime	16.9	16.4	16.7

7 Major Market Resource Acquisition Results

7.1 Electric Business New Construction Summary

	Prior Year 2021	Current Year 2022	Cumulative starting 1/1/21
# participants with installations	57	67	121
Operating Costs			
Administration	$110,332	$204,659	$314,991
Programs and Implementation	$217,937	$191,852	$409,789
Strategy and Planning	$36,832	$39,089	$75,921
Subtotal Operating Costs	**$365,101**	**$435,600**	**$800,701**
Technical Assistance Costs			
Services to Participants	$689,058	$846,166	$1,535,224
Services to Trade Allies	$102,905	$107,687	$210,592
Subtotal Technical Assistance Costs	**$791,963**	**$953,853**	**$1,745,816**
Support Services			
Consulting	$7,501	$11,054	$18,555
Customer Support	$4,506	$4,052	$8,559
Data and Technical Services	$77,088	$73,011	$150,099
Information Technology	$0	$0	$0
Marketing	$183,053	$167,323	$350,376
Policy & Public Affairs	$0	$0	$0
Other	$0	$0	$0
Subtotal Support Services Costs	**$272,148**	**$255,441**	**$527,589**
Incentive Costs			
Incentives to Participants	$708,288	$1,766,919	$1,766,919
Incentives to Trade Allies	$0	$0	$0
Subtotal Incentive Costs	**$708,288**	**$1,766,919**	**$1,766,919**
Total Efficiency Vermont Costs	**$2,137,500**	**$3,411,813**	**$4,841,026**
Total Participant Costs	$1,553,969	$3,321,635	$4,875,603
Total Third Party Costs	$0	$20,000	$20,000
Total Resource Acquisition Costs	**$3,691,469**	**$6,753,448**	**$9,736,629**
Annualized MWh Savings	3,685	20,516	24,202
Lifetime MWh Savings	62,474	232,002	294,476
TRB Savings (2021 $)	$6,362,209	$17,453,862	$23,816,071
Winter Coincident Peak kW Savings	582	2,821	3,402
Summer Coincident Peak kW Savings	569	3,555	4,124
GHG Reductions (metric tons CO_2e)	2,052	9,183	11,234
Annualized MWh Savings/Participant	64.651	306.216	200.013
Weighted Lifetime	17.0	11.3	12.2

7.2 Electric Business Existing Facilities Summary

	Prior Year 2021	Current Year 2022	Cumulative starting 1/1/21
# participants with installations	6,455	7,107	12,132
Operating Costs			
Administration	$1,077,448	$1,009,105	$2,086,553
Programs and Implementation	$1,548,570	$1,568,546	$3,117,116
Strategy and Planning	$221,455	$298,520	$519,974
Subtotal Operating Costs	**$2,847,472**	**$2,876,171**	**$5,723,643**
Technical Assistance Costs			
Services to Participants	$3,846,450	$4,073,037	$7,919,487
Services to Trade Allies	$701,444	$778,314	$1,479,758
Subtotal Technical Assistance Costs	**$4,547,894**	**$4,851,351**	**$9,399,244**
Support Services			
Consulting	$55,395	$59,817	$115,212
Customer Support	$30,685	$31,356	$62,040
Data and Technical Services	$550,593	$507,282	$1,057,875
Information Technology	$0	$0	$0
Marketing	$1,089,558	$1,128,753	$2,218,312
Policy & Public Affairs	$0	$0	$0
Other	$0	$0	$0
Subtotal Support Services Costs	**$1,726,231**	**$1,727,208**	**$3,453,440**
Incentive Costs			
Incentives to Participants	$8,531,377	$9,247,871	$17,779,248
Incentives to Trade Allies	$116,529	$258,441	$374,970
Subtotal Incentive Costs	**$8,647,906**	**$9,506,313**	**$18,154,218**
Total Efficiency Vermont Costs	**$17,769,503**	**$18,961,043**	**$36,730,545**
Total Participant Costs	$12,624,322	$12,558,619	$25,182,941
Total Third Party Costs	$0	$0	$0
Total Resource Acquisition Costs	**$30,393,825**	**$31,519,662**	**$61,913,487**
Annualized MWh Savings	38,035	39,546	77,582
Lifetime MWh Savings	483,496	511,661	995,158
TRB Savings (2021 $)	$32,784,511	$39,513,544	$72,298,056
Winter Coincident Peak kW Savings	4,580	4,720	9,300
Summer Coincident Peak kW Savings	5,119	5,794	10,914
GHG Reductions (metric tons CO_2e)	24,107	22,790	46,897
Annualized MWh Savings/Participant	5.892	5.564	6.395
Weighted Lifetime	12.7	12.9	12.8

7.3 Electric Residential New Construction Summary

	Prior Year 2021	Current Year 2022	Cumulative starting 1/1/21
# participants with installations	745	629	1,348
Operating Costs			
Administration	$163,810	$159,269	$323,079
Programs and Implementation	$200,270	$204,498	$404,769
Strategy and Planning	$28,250	$33,621	$61,870
Subtotal Operating Costs	**$392,330**	**$397,388**	**$789,718**
Technical Assistance Costs			
Services to Participants	$854,691	$817,618	$1,672,309
Services to Trade Allies	$47,075	$43,408	$90,483
Subtotal Technical Assistance Costs	**$901,766**	**$861,026**	**$1,762,792**
Support Services			
Consulting	$10,891	$13,223	$24,114
Customer Support	$5,802	$3,464	$9,266
Data and Technical Services	$44,980	$41,175	$86,155
Information Technology	$0	$0	$0
Marketing	$165,175	$146,307	$311,482
Policy & Public Affairs	$0	$0	$0
Other	$0	$0	$0
Subtotal Support Services Costs	**$226,848**	**$204,170**	**$431,018**
Incentive Costs			
Incentives to Participants	$1,346,882	$1,364,489	$2,711,371
Incentives to Trade Allies	$0	$0	$0
Subtotal Incentive Costs	**$1,346,882**	**$1,364,489**	**$2,711,371**
Total Efficiency Vermont Costs	**$2,867,826**	**$2,827,073**	**$5,694,899**
Total Participant Costs	$462,223	$223,940	$686,162
Total Third Party Costs	$44,000	$37,400	$81,400
Total Resource Acquisition Costs	**$3,374,048**	**$3,088,413**	**$6,462,461**
Annualized MWh Savings	1,692	1,414	3,106
Lifetime MWh Savings	29,560	25,441	55,002
TRB Savings (2021 $)	$3,949,894	$3,186,928	$7,136,822
Winter Coincident Peak kW Savings	305	304	609
Summer Coincident Peak kW Savings	98	93	191
GHG Reductions (metric tons CO_2e)	1,122	895	2,016
Annualized MWh Savings/Participant	2.271	2.248	2.304
Weighted Lifetime	17.5	18.0	17.7

7.4 Electric Efficient Products Summary

	Prior Year 2021	Current Year 2022	Cumulative starting 1/1/21
# participants with installations	26,218	25,209	49,078
Operating Costs			
Administration	$742,452	$732,756	$1,475,207
Programs and Implementation	$944,484	$874,923	$1,819,407
Strategy and Planning	$83,261	$152,142	$235,402
Subtotal Operating Costs	**$1,770,197**	**$1,759,820**	**$3,530,017**
Technical Assistance Costs			
Services to Participants	$375,567	$333,335	$708,902
Services to Trade Allies	$177,332	$149,159	$326,491
Subtotal Technical Assistance Costs	**$552,899**	**$482,493**	**$1,035,392**
Support Services			
Consulting	$2,022	$1,734	$3,756
Customer Support	$18,074	$17,702	$35,777
Data and Technical Services	$127,998	$124,404	$252,402
Information Technology	$0	$0	$0
Marketing	$1,695,209	$1,316,077	$3,011,286
Policy & Public Affairs	$0	$0	$0
Other	$0	$0	$0
Subtotal Support Services Costs	**$1,843,303**	**$1,459,917**	**$3,303,221**
Incentive Costs			
Incentives to Participants	$5,991,341	$6,762,850	$12,754,191
Incentives to Trade Allies	$69,635	$94,304	$163,939
Subtotal Incentive Costs	**$6,060,976**	**$6,857,154**	**$12,918,130**
Total Efficiency Vermont Costs	**$10,227,375**	**$10,559,385**	**$20,786,760**
Total Participant Costs	$6,893,177	$7,624,383	$14,517,560
Total Third Party Costs	$0	$0	$0
Total Resource Acquisition Costs	**$17,120,552**	**$18,183,768**	**$35,304,320**
Annualized MWh Savings	24,063	26,782	50,845
Lifetime MWh Savings	322,138	367,542	689,683
TRB Savings (2021 $)	$25,782,288	$29,939,469	$55,721,761
Winter Coincident Peak kW Savings	5,026	5,748	10,775
Summer Coincident Peak kW Savings	1,637	1,632	3,269
GHG Reductions (metric tons CO_2e)	11,369	12,822	24,191
Annualized MWh Savings/Participant	0.918	1.062	1.036
Weighted Lifetime	13.4	13.7	13.6

7.5 Electric Existing Homes Summary

	Prior Year 2021	Current Year 2022	Cumulative starting 1/1/21
# participants with installations	3,966	2,530	6,251
Operating Costs			
Administration	$194,606	$236,204	$430,810
Programs and Implementation	$1,333,058	$971,046	$2,304,104
Strategy and Planning	$57,596	$72,498	$130,094
Subtotal Operating Costs	**$1,585,260**	**$1,279,749**	**$2,865,009**
Technical Assistance Costs			
Services to Participants	$419,905	$491,876	$911,781
Services to Trade Allies	$157,610	$195,513	$353,123
Subtotal Technical Assistance Costs	**$577,514**	**$687,389**	**$1,264,904**
Support Services			
Consulting	$1,607	$1,540	$3,147
Customer Support	$25,406	$26,688	$52,094
Data and Technical Services	$62,488	$87,739	$150,227
Information Technology	$0	$0	$0
Marketing	$481,059	$466,039	$947,098
Policy & Public Affairs	$0	$0	$0
Other	$0	$0	$0
Subtotal Support Services Costs	**$570,560**	**$582,006**	**$1,152,566**
Incentive Costs			
Incentives to Participants	$2,080,472	$2,054,646	$4,135,118
Incentives to Trade Allies	$9,800	$13,200	$23,000
Subtotal Incentive Costs	**$2,090,272**	**$2,067,846**	**$4,158,118**
Total Efficiency Vermont Costs	**$4,823,607**	**$4,616,989**	**$9,440,596**
Total Participant Costs	$461,387	($245,085)	$216,302
Total Third Party Costs	$25,822	$56,331	$82,153
Total Resource Acquisition Costs	**$5,310,816**	**$4,428,235**	**$9,739,051**
Annualized MWh Savings	2,028	1,191	3,220
Lifetime MWh Savings	27,545	13,806	41,351
TRB Savings (2021 $)	$1,725,768	$777,199	$2,502,967
Winter Coincident Peak kW Savings	460	230	691
Summer Coincident Peak kW Savings	132	108	240
GHG Reductions (metric tons CO_2e)	917	500	1,417
Annualized MWh Savings/Participant	0.511	0.471	0.515
Weighted Lifetime	13.6	11.6	12.8

7.6 Thermal Energy and Process Fuels Business New Construction Summary

	Prior Year 2021	Current Year 2022	Cumulative starting 1/1/21
# participants with installations	0	0	0
Operating Costs			
Administration	$0	$0	$0
Programs and Implementation	$0	$0	$0
Strategy and Planning	$0	$0	$0
Subtotal Operating Costs	**$0**	**$0**	**$0**
Technical Assistance Costs			
Services to Participants	$0	$0	$0
Services to Trade Allies	$0	$0	$0
Subtotal Technical Assistance Costs	**$0**	**$0**	**$0**
Support Services			
Consulting	$0	$0	$0
Customer Support	$0	$0	$0
Data and Technical Services	$0	$0	$0
Information Technology	$0	$0	$0
Marketing	$0	$0	$0
Policy & Public Affairs	$0	$0	$0
Other	$0	$0	$0
Subtotal Support Services Costs	**$0**	**$0**	**$0**
Incentive Costs			
Incentives to Participants	$0	$0	$0
Incentives to Trade Allies	$0	$0	$0
Subtotal Incentive Costs	**$0**	**$0**	**$0**
Total Efficiency Vermont Costs	**$0**	**$0**	**$0**
Total Participant Costs	$0	$0	$0
Total Third Party Costs	$0	$0	$0
Total Resource Acquisition Costs	**$0**	**$0**	**$0**
Annualized MMBtu Savings	-	-	-
Lifetime MMBtu Savings	-	-	-
TRB Savings (2021 $)	$0	$0	$0
GHG Reductions (metric tons CO_2e)	-	-	-
Annualized MMBtu Savings/Participant	-	-	-
Weighted Lifetime	0.0	0.0	0.0

7.7 Thermal Energy and Process Fuels Business Existing Facilities Summary

	Prior Year 2021	Current Year 2022	Cumulative starting 1/1/21
# participants with installations	186	210	382
Operating Costs			
Administration	$80,188	$62,738	$142,926
Programs and Implementation	$8,895	$47,309	$56,205
Strategy and Planning	$0	$120	$120
Subtotal Operating Costs	**$89,084**	**$110,168**	**$199,251**
Technical Assistance Costs			
Services to Participants	$118,731	$175,928	$294,659
Services to Trade Allies	$67	$0	$67
Subtotal Technical Assistance Costs	**$118,798**	**$175,928**	**$294,726**
Support Services			
Consulting	$2,338	$3,856	$6,194
Customer Support	$215	$64	$279
Data and Technical Services	$21,813	$25,097	$46,910
Information Technology	$0	$0	$0
Marketing	$22	$15	$36
Policy & Public Affairs	$0	$0	$0
Other	$0	$0	$0
Subtotal Support Services Costs	**$24,388**	**$29,032**	**$53,420**
Incentive Costs			
Incentives to Participants	$739,102	$659,585	$1,398,687
Incentives to Trade Allies	$3,800	$5,900	$9,700
Subtotal Incentive Costs	**$742,902**	**$665,485**	**$1,408,387**
Total Efficiency Vermont Costs	**$975,171**	**$980,613**	**$1,955,784**
Total Participant Costs	$2,946,124	$2,649,526	$5,595,649
Total Third Party Costs	$165,413	$0	$165,413
Total Resource Acquisition Costs	**$4,086,708**	**$3,630,138**	**$7,716,846**
Annualized MMBtu Savings	47,089	34,435	81,524
Lifetime MMBtu Savings	669,274	482,744	1,152,018
TRB Savings (2021 $)	$12,154,978	$9,106,979	$21,261,957
GHG Reductions (metric tons CO_2e)	2,966	1,365	4,332
Annualized MMBtu Savings/Participant	253.167	163.978	213.415
Weighted Lifetime	14.2	14.0	14.1

7.8 Thermal Energy and Process Fuels Residential New Construction Summary

	Prior Year 2021	Current Year 2022	Cumulative starting 1/1/21
# participants with installations	0	5	5
Operating Costs			
Administration	$0	$1,163	$1,163
Programs and Implementation	$0	$0	$0
Strategy and Planning	$0	$0	$0
Subtotal Operating Costs	**$0**	**$1,163**	**$1,163**
Technical Assistance Costs			
Services to Participants	$13	$0	$13
Services to Trade Allies	$0	$0	$0
Subtotal Technical Assistance Costs	**$13**	**$0**	**$13**
Support Services			
Consulting	$0	$0	$0
Customer Support	$6	$0	$6
Data and Technical Services	$0	$0	$0
Information Technology	$0	$0	$0
Marketing	$0	$0	$0
Policy & Public Affairs	$0	$0	$0
Other	$0	$0	$0
Subtotal Support Services Costs	**$6**	**$0**	**$6**
Incentive Costs			
Incentives to Participants	$0	$12,396	$12,396
Incentives to Trade Allies	$0	$0	$0
Subtotal Incentive Costs	**$0**	**$12,396**	**$12,396**
Total Efficiency Vermont Costs [1]	**$19**	**$13,560**	**$13,579**
Total Participant Costs	$0	($12,396)	($12,396)
Total Third Party Costs	$0	$0	$0
Total Resource Acquisition Costs	**$19**	**$1,163**	**$1,182**

Annualized MMBtu Savings	-	-	-
Lifetime MMBtu Savings	-	-	-
TRB Savings (2021 $)	$0	$0	$0
GHG Reductions (metric tons CO_2e)	-	-	-
Annualized MMBtuSavings/Participant	-	-	-
Weighted Lifetime	0.0	0.0	0.0

[1] Costs reported for Residential New Construction were for off-grid homes.

7.9 Thermal Energy and Process Fuels Efficient Products Summary

	Prior Year 2021	Current Year 2022	Cumulative starting 1/1/21
# participants with installations	2,761	1,447	4,196
Operating Costs			
Administration	$129,425	$35,864	$165,289
Programs and Implementation	$22,876	$20,253	$43,129
Strategy and Planning	$0	$40	$40
Subtotal Operating Costs	**$152,301**	**$56,158**	**$208,459**
Technical Assistance Costs			
Services to Participants	$79	$0	$79
Services to Trade Allies	$0	$0	$0
Subtotal Technical Assistance Costs	**$79**	**$0**	**$79**
Support Services			
Consulting	$0	$0	$0
Customer Support	$34	$0	$34
Data and Technical Services	$4,181	$5,019	$5,019
Information Technology	$0	$0	$0
Marketing	$126	$529	$529
Policy & Public Affairs	$0	$0	$0
Other	$0	$0	$0
Subtotal Support Services Costs	**$4,341**	**$5,548**	**$5,582**
Incentive Costs			
Incentives to Participants	$1,216,887	$374,953	$1,591,839
Incentives to Trade Allies	$0	$0	$0
Subtotal Incentive Costs	**$1,216,887**	**$374,953**	**$1,591,839**
Total Efficiency Vermont Costs	**$1,373,608**	**$436,658**	**$1,805,958**
Total Participant Costs	$5,136,561	$2,704,513	$7,844,262
Total Third Party Costs	$0	$0	$0
Total Resource Acquisition Costs	**$6,510,169**	**$3,141,171**	**$9,650,221**
Annualized MMBtu Savings	65,400	30,719	96,158
Lifetime MMBtu Savings	996,109	417,627	1,414,429
TRB Savings (2021 $)	$18,066,927	$5,668,115	$23,747,861
GHG Reductions (metric tons CO_2e)	3,171	437	3,608
Annualized MMBtu Savings/Participant	23.687	21.230	22.917
Weighted Lifetime	15.2	13.6	14.7

7.10 Thermal Energy and Process Fuels Existing Homes Summary

	Prior Year 2021	Current Year 2022	Cumulative starting 1/1/21
# participants with installations	1,664	1,329	2,950
Operating Costs			
Administration	$324,803	$214,656	$539,459
Programs and Implementation	$891,303	$1,248,729	$2,140,032
Strategy and Planning	$6,266	$7,875	$14,142
Subtotal Operating Costs	**$1,222,372**	**$1,471,260**	**$2,693,633**
Technical Assistance Costs			
Services to Participants	$185,070	$241,677	$426,747
Services to Trade Allies	$14,528	$20,298	$34,826
Subtotal Technical Assistance Costs	**$199,598**	**$261,974**	**$461,573**
Support Services			
Consulting	$625	$500	$1,125
Customer Support	$22,226	$31,711	$53,938
Data and Technical Services	$37,306	$45,473	$82,780
Information Technology	$0	$0	$0
Marketing	$250,422	$330,875	$581,297
Policy & Public Affairs	$0	$0	$0
Other	$0	$0	$0
Subtotal Support Services Costs	**$310,579**	**$408,560**	**$719,139**
Incentive Costs			
Incentives to Participants	$2,817,650	$2,076,569	$4,894,218
Incentives to Trade Allies	$197,950	$163,900	$361,850
Subtotal Incentive Costs	**$3,015,600**	**$2,240,469**	**$5,256,068**
Total Efficiency Vermont Costs	**$4,748,150**	**$4,382,263**	**$9,130,413**
Total Participant Costs	$6,700,741	$5,312,398	$12,009,951
Total Third Party Costs	$311,384	$368,415	$679,799
Total Resource Acquisition Costs	**$11,760,274**	**$10,063,076**	**$21,820,162**
Annualized MMBtu Savings	20,837	18,082	38,881
Lifetime MMBtu Savings	463,966	383,219	846,493
TRB Savings (2021 $)	$8,960,544	$7,429,211	$16,376,936
GHG Reductions (metric tons CO_2e)	1,213	1,111	2,323
Annualized MMBtu Savings/Participant	12.522	13.606	13.180
Weighted Lifetime	22.3	21.2	21.8

8 Special Reports

8.1 Incentive, Non-Incentive, and Administrative Cost Summary - Electric & Thermal Energy and Process Fuels

2022 Electric and TEPF Costs	Business Energy Services		Residential Energy Services			Development & Support Services	Total	Row
	Business New Construction	Business Existing Facilities	Residential New Construction	Efficient Products	Existing Homes			
Program Costs								
Incentive and Technical Assistance Costs								
Incentive Costs								
Incentives to Participants (RA)	$1,766,919	$9,907,057	$1,376,886	$7,138,185	$4,131,215	$0	**$24,320,262**	1
Incentives to Trade Allies (RA)	$0	$264,341	$0	$94,304	$177,100	$0	**$535,745**	2
Sub-Total Incentive Costs	**$1,766,919**	**$10,171,398**	**$1,376,886**	**$7,232,489**	**$4,308,315**	**$0**	**$24,856,007**	3
Technical Assistance Costs								
Services to Participants (RA)	$765,316	$3,826,263	$737,562	$313,845	$665,734	N/A	**$6,308,720**	4
Services to Trade Allies (RA)	$97,802	$707,178	$39,013	$148,969	$196,397	N/A	**$1,189,359**	5
Energy Code and Standards Support (DSS)	N/A	N/A	N/A	N/A	N/A	$24,146	**$24,146**	6
Building Energy Labeling and Benchmarking (DSS)	N/A	N/A	N/A	N/A	N/A	$17,673	**$17,673**	7
Better Buildings by Design (DSS)	N/A	N/A	N/A	N/A	N/A	($38,299)	**($38,299)**	8
Sub-Total Technical Assistance Costs	**$863,117**	**$4,533,441**	**$776,574**	**$462,814**	**$862,131**	**$3,519**	**$7,501,597**	9
Sub-Total Incentive & Technical Assistance Costs	**$2,630,037**	**$14,704,839**	**$2,153,460**	**$7,695,303**	**$5,170,446**	**$3,519**	**$32,357,604**	10
Non-Incentive Program Costs								
Programs and Implementation (RA)	$141,394	$1,244,137	$144,837	$674,716	$1,978,071	N/A	**$4,183,156**	11
Strategy and Planning (RA)	$35,671	$272,586	$30,665	$138,922	$73,383	N/A	**$551,228**	12
Marketing Program (RA)	$152,897	$1,031,445	$133,676	$1,203,432	$728,348	N/A	**$3,249,798**	13
Customer Support (DSS)	N/A	N/A	N/A	N/A	N/A	$175,498	**$175,498**	14
General Public Education (DSS)	N/A	N/A	N/A	N/A	N/A	$60,860	**$60,860**	15
Energy Literacy (DSS)	N/A	N/A	N/A	N/A	N/A	$130,069	**$130,069**	16
Applied R&D (DSS)	N/A	N/A	N/A	N/A	N/A	$152,046	**$152,046**	17
Support Services (RA)	$86,044	$613,122	$59,452	$136,959	$179,047	N/A	**$1,074,624**	18
Quality Assurance	N/A	N/A	N/A	N/A	N/A	N/A	**$0**	19
Sub-Total Non-Incentive Program Costs	**$416,006**	**$3,161,290**	**$368,630**	**$2,154,029**	**$2,958,850**	**$518,474**	**$9,577,280**	20
Total Program Costs	**$3,046,043**	**$17,866,130**	**$2,522,090**	**$9,849,332**	**$8,129,296**	**$521,993**	**$41,934,884**	21
Administrative Costs								
Sr. Management, Budget, Financial Oversight (RA)	$32,675	$202,684	$25,402	$72,808	$38,208	N/A	**$371,777**	22
Planning & Reporting (DSS)	N/A	N/A	N/A	N/A	N/A	$594,758	**$594,758**	23
Administration & Regulatory (DSS)	N/A	N/A	N/A	N/A	N/A	$424,031	**$424,031**	24
Public Affairs (DSS)	N/A	N/A	N/A	N/A	N/A	$68,277	**$68,277**	25
Information Systems (DSS)	N/A	N/A	N/A	N/A	N/A	$1,200,702	**$1,200,702**	26
Evaluation (DSS)	N/A	N/A	N/A	N/A	N/A	$403,577	**$403,577**	27
Direct and Indirect Overhead	$296,968	$1,672,756	$262,425	$957,561	$739,171	$305,445	**$4,234,327**	28
Total Administrative Costs	**$329,643**	**$1,875,441**	**$287,827**	**$1,030,369**	**$777,379**	**$2,996,790**	**$7,297,449**	29
Total Program and Administrative Costs	**$3,375,686**	**$19,741,570**	**$2,809,917**	**$10,879,702**	**$8,906,675**	**$3,518,783**	**$49,232,333**	30
Earned Compensation								
Base Compensation	N/A	N/A	N/A	N/A	N/A	N/A	**$646,652**	31
Performance Compensation	N/A	N/A	N/A	N/A	N/A	N/A	**$1,967,981**	32
Total Earned Compensation							**$2,614,633**	33
						Overall Total Costs	**$51,846,965**	34

Summary Metrics			
Incentive	**Costs**	**% of Total**	**Row Sources**
Incentive	$24,856,007		3
Technical Assistance	$7,501,597		9
Total Incentive & Technical Assistance	**$32,357,604**	62%	10
Non-Incentive			
Non-Incentive Program Costs	$9,577,280		20
Administrative Costs	$7,297,449		29
Earned Compensation	$2,614,633		33
Total Non-Incentive	**$19,489,361**	38%	20, 29, 33
Overall Total	**$51,846,965**	**100%**	34
Incentive-to-Non-Incentive Cost Ratio		**1.6 to 1.0**	**10 / (20,29,33)**
	Costs	**% of Total**	
Program	$41,934,884	81%	21
Administrative	$7,297,449	14%	29
Earned Compensation	$2,614,633	5%	33
Overall Total	**$51,846,965**	**100%**	34

8.2. Incentive, Non-Incentive, and Administrative Cost Summary - Electric

2022 Electric Costs	Business Energy Services		Residential Energy Services			Development & Support Services	Total	Row
	Business New Construction	Business Existing Facilities	Residential New Construction	Efficient Products	Existing Homes			
Program Costs								
Incentive and Technical Assistance Costs								
Incentive Costs								
Incentives to Participants (RA)	$1,766,919	$9,247,872	$1,364,489	$6,762,832	$2,054,646	$0	**$21,196,758**	1
Incentives to Trade Allies (RA)	$0	$258,441	$0	$94,304	$13,200	$0	**$365,945**	2
Sub-Total Incentive Costs	**$1,766,919**	**$9,506,313**	**$1,364,489**	**$6,857,136**	**$2,067,846**	**$0**	$21,562,703	3
Technical Assistance Costs								
Services to Participants (RA)	$765,316	$3,675,295	$737,562	$313,845	$446,100	N/A	**$5,938,117**	4
Services to Trade Allies (RA)	$97,802	$707,178	$39,013	$148,969	$177,840	N/A	**$1,170,802**	5
Energy Code and Standards Support (DSS)	N/A	N/A	N/A	N/A	N/A	$21,283	**$21,283**	6
Building Energy Labeling and Benchmarking (DSS)	N/A	N/A	N/A	N/A	N/A	$15,593	**$15,593**	7
Better Buildings by Design (DSS)	N/A	N/A	N/A	N/A	N/A	($32,554)	**($32,554)**	8
Sub-Total Technical Assistance Costs	**$863,117**	**$4,382,474**	**$776,574**	**$462,814**	**$623,940**	**$4,322**	**$7,113,242**	9
Sub-Total Incentive & Technical Assistance Costs	**$2,630,037**	**$13,888,786**	**$2,141,063**	**$7,319,950**	**$2,691,786**	**$4,322**	**$28,675,945**	10
Non-Incentive Program Costs								
Programs and Implementation (RA)	$141,394	$1,200,886	$144,837	$656,431	$837,177	N/A	**$2,980,725**	11
Strategy and Planning (RA)	$35,671	$272,476	$30,665	$138,885	$66,184	N/A	**$543,881**	12
Marketing Program (RA)	$152,897	$1,031,432	$133,676	$1,202,949	$425,953	N/A	**$2,946,906**	13
Customer Support (DSS)	N/A	N/A	N/A	N/A	N/A	$152,039	**$152,039**	14
General Public Education (DSS)	N/A	N/A	N/A	N/A	N/A	$52,609	**$52,609**	15
Energy Literacy (DSS)	N/A	N/A	N/A	N/A	N/A	$110,559	**$110,559**	16
Applied R&D (DSS)	N/A	N/A	N/A	N/A	N/A	$131,534	**$131,534**	17
Support Services (RA)	$86,044	$576,725	$59,452	$132,371	$106,760	N/A	**$961,351**	18
Quality Assurance	N/A	N/A	N/A	N/A	N/A	N/A	**$0**	19
Sub-Total Non-Incentive Program Costs	**$416,006**	**$3,081,519**	**$368,630**	**$2,130,635**	**$1,436,074**	**$446,742**	**$7,879,605**	20
Total Program Costs	**$3,046,043**	**$16,970,305**	**$2,509,693**	**$9,450,585**	**$4,127,860**	**$451,064**	**$36,555,550**	21
Administrative Costs								
Sr. Management, Budget, Financial Oversight (RA)	$32,675	$202,066	$25,402	$72,602	$34,324	N/A	**$367,069**	22
Planning & Reporting (DSS)	N/A	N/A	N/A	N/A	N/A	$505,545	**$505,545**	23
Administration & Regulatory (DSS)	N/A	N/A	N/A	N/A	N/A	$360,424	**$360,424**	24
Public Affairs (DSS)	N/A	N/A	N/A	N/A	N/A	$58,035	**$58,035**	25
Information Systems (DSS)	N/A	N/A	N/A	N/A	N/A	$1,020,573	**$1,020,573**	26
Evaluation (DSS)	N/A	N/A	N/A	N/A	N/A	$347,014	**$347,014**	27
Direct and Indirect Overhead	$296,968	$1,598,295	$261,396	$924,180	$405,616	$259,629	**$3,746,084**	28
Total Administrative Costs	**$329,643**	**$1,800,362**	**$286,798**	**$996,782**	**$439,941**	**$2,551,219**	**$6,404,744**	29
Total Program and Administrative Costs	**$3,375,686**	**$18,770,667**	**$2,796,491**	**$10,447,367**	**$4,567,800**	**$3,002,283**	**$42,960,294**	30
Earned Compensation								
Base Compensation	N/A	N/A	N/A	N/A	N/A	N/A	**$561,979**	31
Performance Compensation	N/A	N/A	N/A	N/A	N/A	N/A	**$1,665,492**	32
Total Earned Compensation							**$2,227,471**	33
						Overall Total Costs	$45,187,766	34

Summary Metrics			
Incentive	**Costs**	**% of Total**	**Source of Rows**
Incentive	$21,562,703		3
Technical Assistance	$7,113,242		9
Total Incentive & Technical Assistance	**$28,675,945**	63%	10
Non-Incentive			
Non-Incentive Program Costs	$7,879,605		20
Administrative Costs	$6,404,744		29
Earned Compensation	$2,227,471		33
Total Non-Incentive	**$16,511,820**	37%	20, 29, 33
Overall Total	**$45,187,766**	**100%**	34
Incentive-to-Non-Incentive Cost Ratio		**1.5 to 1.0**	**10 / (20,29,33)**
	Costs	**% of Total**	
Program	$36,555,550	81%	21
Administrative	$6,404,744	14%	29
Earned Compensation	$2,227,471	5%	33
Overall Total	**$45,187,766**	**100%**	34

8.3 Incentive, Non-Incentive, and Administrative Cost Summary - Thermal Energy and Process Fuels

2022 TEPF Costs	Business Energy Services: Business New Construction	Business Energy Services: Business Existing Facilities	Residential Energy Services: Residential New Construction	Residential Energy Services: Efficient Products	Residential Energy Services: Existing Homes	Development & Support Services	Total	Row
Program Costs								
Incentive and Technical Assistance Costs								
Incentive Costs								
Incentives to Participants (RA)	$0	$659,185	$12,396	$375,353	$2,076,569	$0	**$3,123,503**	1
Incentives to Trade Allies (RA)	$0	$5,900	$0	$0	$163,900	$0	**$169,800**	2
Sub-Total Incentive Costs	**$0**	**$665,085**	**$12,396**	**$375,353**	**$2,240,469**	**$0**	**$3,293,303**	3
Technical Assistance Costs								
Services to Participants (RA)	N/A	$150,968	($0)	N/A	$219,634	N/A	**$370,602**	4
Services to Trade Allies (RA)	N/A	N/A	N/A	N/A	$18,556	N/A	**$18,556**	5
Energy Code and Standards Support (DSS)	N/A	N/A	N/A	N/A	N/A	$2,863	**$2,863**	6
Building Energy Labeling and Benchmarking (DSS)	N/A	N/A	N/A	N/A	N/A	$2,079	**$2,079**	7
Better Buildings by Design (DSS)	N/A	N/A	N/A	N/A	N/A	($5,745)	**($5,745)**	8
Sub-Total Technical Assistance Costs	**$0**	**$150,968**	**($0)**	**$0**	**$238,191**	**($803)**	**$388,356**	9
Sub-Total Incentive & Technical Assistance Costs	**$0**	**$816,053**	**$12,396**	**$375,353**	**$2,478,660**	**($803)**	**$3,681,659**	10
Non-Incentive Program Costs								
Programs and Implementation (RA)	N/A	$43,251	N/A	$18,286	$1,140,894	N/A	**$1,202,431**	11
Strategy and Planning (RA)	N/A	$110	N/A	$37	$7,200	N/A	**$7,347**	12
Marketing Program (RA)	N/A	$13	N/A	$483	$302,395	N/A	**$302,892**	13
Customer Support (DSS)	N/A	N/A	N/A	N/A	N/A	$23,459	**$23,459**	14
General Public Education (DSS)	N/A	N/A	N/A	N/A	N/A	$8,251	**$8,251**	15
Energy Literacy (DSS)	N/A	N/A	N/A	N/A	N/A	$19,510	**$19,510**	16
Applied R&D (DSS)	N/A	N/A	N/A	N/A	N/A	$20,512	**$20,512**	17
Support Services (RA)	N/A	$36,397	($0)	$4,588	$72,288	N/A	**$113,273**	18
Quality Assurance	N/A	N/A	N/A	N/A	N/A	N/A	**$0**	19
Sub-Total Non-Incentive Program Costs	**$0**	**$79,771**	**($0)**	**$23,394**	**$1,522,777**	**$71,732**	**$1,697,674**	20
Total Program Costs	**$0**	**$895,825**	**$12,396**	**$398,747**	**$4,001,436**	**$70,929**	**$5,379,333**	21
Administrative Costs								
Sr. Management, Budget, Financial Oversight (RA)	N/A	$618	N/A	$207	$3,883	N/A	**$4,708**	22
Planning & Reporting (DSS)	N/A	N/A	N/A	N/A	N/A	$89,214	**$89,214**	23
Administration & Regulatory (DSS)	N/A	N/A	N/A	N/A	N/A	$63,607	**$63,607**	24
Public Affairs (DSS)	N/A	N/A	N/A	N/A	N/A	$10,241	**$10,241**	25
Information Systems (DSS)	N/A	N/A	N/A	N/A	N/A	$180,129	**$180,129**	26
Evaluation (DSS)	N/A	N/A	N/A	N/A	N/A	$56,563	**$56,563**	27
Direct and Indirect Overhead	$0	$74,461	$1,029	$33,381	$333,555	$45,817	**$488,243**	28
Total Administrative Costs	**$0**	**$75,079**	**$1,029**	**$33,588**	**$337,438**	**$445,571**	**$892,705**	29
Total Program and Administrative Costs	**$0**	**$970,904**	**$13,425**	**$432,335**	**$4,338,874**	**$516,500**	**$6,272,038**	30
Earned Compensation								
Base Compensation	N/A	N/A	N/A	N/A	N/A	N/A	**$84,673**	31
Performance Compensation	N/A	N/A	N/A	N/A	N/A	N/A	**$302,489**	32
Total Earned Compensation							**$387,162**	33
						Overall Total Costs	**$6,659,200**	34

Summary Metrics			
Incentive	**Costs**	**% of Total**	**Row Sources**
Incentive	$3,293,303		3
Technical Assistance	$388,356		9
Total Incentive & Technical Assistance	**$3,681,659**	55%	10
Non-Incentive			
Non-Incentive Program Costs	$1,697,674		20
Administrative Costs	$892,705		29
Earned Compensation	$387,162		33
Total Non-Incentive	**$2,977,541**	45%	20, 29, 33
Overall Total	**$6,659,200**	**100%**	34
Incentive-to-Non-Incentive Cost Ratio		**2.0 to 1.0**	**10 / (20,29,33)**

	Costs	**% of Total**	
Program	$5,379,333	81%	21
Administrative	$892,705	13%	29
Earned Compensation	$387,162	6%	33
Overall Total	**$6,659,200**	**100%**	34

8.4 Flexible Load Management Summary

	% of Year Expired	*100%*		*% of Period Expired*	*67%*	
FLM Major Market Spending	**Budget 2022**	**Actual 2022**	**%**	**Budget 2021-2023**	**Actual 2021-2023**	**%**
Business Sector						
Existing Facilities	$1,031,625	$330,778	32%	$2,527,257	$794,784	
New Construction	$35,000	$12,650	36%	$104,939	$47,591	
Total Business Sector	**$1,066,625**	**$343,428**	**32%**	**$2,632,196**	**$842,376**	**32%**
Residential Sector						
New Construction	$0	$0	N/A	$0	$0	N/A
Efficient Products	$200,000	$86,282	43%	$566,990	$144,829	
Existing Homes	$75,000	$20,710	28%	$241,634	$37,344	
Total Residential Sector	**$275,000**	**$106,993**	**39%**	**$808,624**	**$182,173**	**23%**
Total FLM Spending	**$1,341,625**	**$450,420**	**34%**	**$3,440,820**	**$1,024,549**	**30%**

Annual kW of Flexible Load (controllable load) Installed	**Target 2022**	**Actual 2022**	**%**	**Target 2021-2023**	**Actual 2021-2023**	**%**
Business Sector						
Existing Facilities	400	251	63%	1,725	1,415	82%
New Construction	25	-	0%	75	25	33%
Total Business Sector	**425**	**251**	**59%**	**1,800**	**1,440**	**80%**
Residential Sector						
New Construction	-	-	N/A	-	-	N/A
Efficient Products	-	6	N/A	-	6	N/A
Existing Homes	200	-	0%	900	9	1%
Total Residential Sector	**200**	**6**	**3%**	**900**	**15**	**2%**
Total kW Flexible Load Installed	**625**	**257**	**41%**	**2,700**	**1,455**	**54%**

FLM Incentive & Non-Incentive Spending	**Budget 2022**	**Actual 2022**	**%**	**Budget 2021-2023**	**Actual 2021-2023**	**%**
Incentives	$921,980	$87,341	9%	$1,237,500	$312,546	25%
Non-Incentives	$419,645	$363,080	87%	$2,203,320	$712,003	32%
Total FLM Spending	**$1,341,625**	**$450,420**	**34%**	**$3,440,820**	**$1,024,549**	**30%**

8.5 Act No. 151 Programs Summary

	% of Year Expired	*100%*		*% of Period Expired*	*67%*	
Act 151 Major Market Spending	**Budget 2022**	**Actual 2022**	**%**	**Budget 2021-2023**	**Actual 2021-2023**	**%**
Business Sector						
Existing Facilities	$0	$0	N/A	$0	$0	N/A
New Construction	$0	$0	N/A	$0	$0	N/A
Total Business Sector	**$0**	**$0**	N/A	**$0**	**$0**	N/A
Residential Sector						
New Construction	$0	$0	N/A	$0	$0	N/A
Efficient Products	$1,718,834	$1,593,493	93%	$4,712,340	$2,993,999	64%
Existing Homes	$350,000	$171,374	49%	$704,660	$176,034	25%
Total Residential Sector	**$2,068,834**	**$1,764,867**	**85%**	**$5,417,000**	**$3,170,033**	**59%**
Total Act 151 Spending	**$2,068,834**	**$1,764,867**	**85%**	**$5,417,000**	**$3,170,033**	**59%**

Act 151 Incentive & Non-Incentive Spending	**Budget 2022**	**Actual 2022**	**%**	**Budget 2021-2023**	**Actual 2021-2023**	**%**
Incentives	$460,000	$851,066	185%	$2,550,000	$1,138,327	45%
Non-Incentives	$1,608,834	$913,801	57%	$2,867,000	$2,031,707	71%
Total Act 151 Spending	**$2,068,834**	**$1,764,867**	**85%**	**$5,417,000**	**$3,170,033**	**59%**

Business Existing Facilities Lighting & Custom Project Variance[1]	**DRP Model 2022**	**Actual 2022**	**%**	**DRP Model 2021-2023**	**Actual 2021-2023**	**%**
Incentives						
Lighting	$4,030,648	$3,628,576	90%	$11,808,940	$5,969,145	51%
Custom C&I[2]	$4,764,117	$3,964,902	83%	$14,266,014	$9,306,912	65%
Annual Net MWh Savings						
Lighting	26,933	23,801	88%	80,704	43,984	55%
Custom C&I	23,541	12,587	53%	70,395	27,880	40%

[1] Business Existing Facilities Lighting & Custom Project Variance reporting is being provided for the duration of the 2021-2023 performance period to identify activities for a subset of major markets targeted for modification by Efficiency Vermont in its February 17, 2021 Motion to Amend, filed in Case No. 19-3272-PET.

[2] All lighting, flexible load management, refrigerant management, and single head/multi-head cold climate heat pump measures are excluded

8.6 Act 151 Transportation - Program Metrics

Efficiency Vermont launched an EV marketing and dealership program in the second half of 2021. Metrics being reported on 8.6 and 8.7 are intended to reflect the impacts of the program directly, and market trends more generally. Key metrics being tracked may change, or be altered or removed over time, as more experience in this market develops.

Program Metrics								
#	Metric Description	Measured By	Target Description	Reporting Frequency	Baseline	3-Yr Target	Cumulative Status	%
EV Dealer Program Metrics								
P1	Number of dealerships enrolled in the EEN EV Dealer network	Number of signed participation agreements	40-60 dealerships enrolled in EEN EV Dealer network by the end of 2023.	quarterly	0	60	50	83%
		% of enrolled dealerships are used car dealerships	At least 20% are used car dealerships	quarterly	0	12	5	42%
P2	Number of EEN EV Dealers that complete at least one EV investment at their facility	Number of dealers associated with at least one EV Readiness project	100% of dealers that complete at least one EV Readiness project at their facility by the end of 2023	quarterly	0	60	18	30%
P3	Number of EVs associated with the Dealership/Salesperson EV Sales Incentive	Number of EV Sales Incentives reported	2,000 EVs associated with Dealership/Salesperson EV Sales Incentive by the end of 2023	quarterly	0	2,000	532	27%
P4	Number of EEN EV Dealer staff that attend EV Sales Training	Number of training attendees	80-120 salespeople attend trainings 2021-2023	quarterly	0	120	94	78%
P5	Percent of EV Sales Training participants that pass the post-session quiz	Post-training evaluation	90% of attendees pass the posttraining evaluation (first attempt)	quarterly	0	90%	64%	71%
P6	Percent of attendees that report satisfaction with any training	Post-training evaluation	90% of attendees select "Very satisfied" or "Somewhat satisfied" with the training overall	quarterly	0	90%	85%	94%
P7	Percent of EEN EV Dealers that report being motivated and supported by the program to increase the number of EVs they stock and sell	Dealer survey (to be developed)	At least 50% of participating dealers report that the program had an impact on the number of EVs they stock and sell	performance period	0	50%	50%	100%
EV Campaign Metrics								
P8	Customer engagement with the EV campaign digital platform	Number of sessions (DriveElectricVermont.com)	20% increase in digital engagement	quarterly	118,580	142,296	214,134	150%
P9	Number of EV-related contacts	Number of incoming calls to Go Vermont/Drive Electric Vermont, and transportation calls to Efficiency Vermont	20% increase in EV-related contacts	quarterly	600	720	1269	176%
P10	Average likelihood of Vermonters to purchase an EV, as measured on scale of 1 (not likely) to 5 (very likely)	Consumer research (EVT brand awareness survey)	Vermonters report 20% more likelihood in purchasing an EV	performance period	2.5	3.0	N/A	NA

Notes

The Program Metrics are tied to specific 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 Section 8.7, 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).

"EEN" refers to the Efficiency Vermont Efficiency Excellence Network
All metrics: "EV" refers to a plug-in electric vehicle (all-electric or plug-in hybrid)
All metrics: "dealership" refers to a new or used car dealership with a physical location in the state of Vermont
P1-P10: The "%" column represents progress towards the 3-year target.
P5: The post-training quiz includes six required questions that test participants' knowledge of concepts and information presented during the training. Participants must get at least 5 out of 6 questions correct to pass.
P8 & P9: Baseline is 2-year period between 9/1/2019 - 8/31/2021
P10: Likelihood to purchase is measured on a scale from 1 (Not at all likely) to 5 (Very likely)

N/A means data is not available at this time.

8.7 Act 151 Transportation - Market Metrics

	M1: Annual number of Vermont dealerships selling at least 1 EV			M2: Annual number of EVs sold by all VT dealerships			M3: Annual number of EVs sold by EEN EV Dealers			M4: Cumulative number of EV registrations			M5: % of total Vermont light duty vehicle registrations that are EVs		
County	**2020 (Baseline)**	**2021**	**2022**	**2020 (Baseline)**	**2021**	**2022**	**2020 (Baseline)**	**2021**	**2022**	**2020 (Baseline)**	**2021**	**2022**	**2020 (Baseline)**	**2021**	**2022**
Addison	2	N/A	N/A	9	N/A	N/A	0	0	49	283	436	601	Measured on a statewide basis		
Bennington	5	N/A	N/A	16	N/A	N/A	0	0	25	189	319	422			
Caledonia	4	N/A	N/A	29	N/A	N/A	0	0	24	134	185	250			
Chittenden	22	N/A	N/A	402	N/A	N/A	0	0	136	1,616	2,404	3,181			
Essex	0	N/A	N/A	0	N/A	N/A	0	0	1	12	13	17			
Franklin	5	N/A	N/A	43	N/A	N/A	0	0	20	117	191	281			
Grand Isle	0	N/A	N/A	0	N/A	N/A	0	0	2	61	76	110			
Lamoille	1	N/A	N/A	22	N/A	N/A	0	0	29	131	205	286			
Orange	0	N/A	N/A	0	N/A	N/A	0	0	24	149	242	330			
Orleans	0	N/A	N/A	0	N/A	N/A	0	0	14	70	111	171			
Rutland	7	N/A	N/A	111	N/A	N/A	0	0	78	228	381	511			
Washington	7	N/A	N/A	53	N/A	N/A	0	0	86	573	802	1,056			
Windham	3	N/A	N/A	31	N/A	N/A	0	0	13	355	492	633			
Windsor	7	N/A	N/A	39	N/A	N/A	0	0	31	421	632	862			
Unknown	0	N/A	N/A	0	N/A	N/A	0	0	0	21	96	164			
Statewide	**63**	**84**	**102**	**755**	**1,623**	**1,543**	**0**	**0**	**532**	**4,360**	**6,585**	**8,875**	**2.8%**	**5.4%**	**6.5%**

N/A means data is not available at this time.

M1: Number of Vermont dealerships selling at least 1 EV registered in Vermont. Excludes direct-to-consumer sellers and sellers of electric motorcycles/mopeds. Data source: Vermont Dept. of Motor Vehicles vehicle registration database as of 1/5/2022. Data processed by Vermont Agency of Natural Resources Dept. of Environmental Conservation.

M2: Number of EVs sold by a Vermont dealership and registered in VT. Excludes direct-to-consumer sellers; excludes electric motorcycles/mopeds and neighborhood EVs; excludes EVs sold by a dealership outside of Vermont. Data source: Vermont Dept. of Motor Vehicles vehicle registration database as of 1/5/2022. Data processed by Vermont Agency of Natural Resources Dept. of Environmental Conservation.

M3: Dealer must be enrolled in program for at least six months out of the year for sales to count toward this metric. *Data source: Efficiency Vermont.*

M4: Data source: Vermont Dept. of Motor Vehicles vehicle registration database as of 1/5/2022. Data processed by Vermont Agency of Natural Resources Dept. of Environmental Conservation.

M5: Data source: Vermont Vehicle and Automotive Distributors Association. County data not available.

The purpose of the Market 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.

8.8 Forward Capacity Market (FCM) Current Claims and Forecasts

	Total Portfolio of FCM Participation	Efficiency Vermont Portion of FCM Participation[1]	GMP EEF Portion of FCM Participation[1]	GMP CEED Portion of FCM Participation[1]
Revenue Received				
Revenue Received for Quarter	$1,237,868	$1,218,347	$6,882	$12,639
Revenue Received Year to Date	$6,081,782	$5,959,434	$63,100	$59,247
* Annual Revenue Estimate	$6,096,195	$5,973,847	$63,100	$59,247
% Annual Revenue Estimate Received	99.8%	99.8%	100.0%	100.0%
Revenue Received during 3-Year Period (2021-2023)	$12,175,030	$11,930,670	$128,420	$115,941
Revenue Estimate for 3-Year Period (2021-2023)	$16,373,872	$16,020,936	$181,614	$171,321
% 3-Year Period Revenue Estimate Received	74.4%	74.5%	70.7%	67.7%
VEIC Costs				
Costs for Quarter	$58,145	N/A		
Year to Date Costs	$235,065			
* Annual Budget Estimate	$256,400			
Unspent Annual Budget Estimate	$21,335			
% Annual Budget Estimate Unspent	8.3%			
FCM Peak Capacity Results[2]				
FCM Summer Peak MW Performance at end of Quarter[3]	116.947	113.080	2.376	1.491
Annual Summer FCM Peak MW Forecast (FCM Obligation)	108.201	104.334	2.376	1.491
% Annual Summer FCM Peak MW Commitment Achieved	108.1%	108.4%	100.0%	100.0%
3-Year Summer FCM Peak MW Forecast (FCM Obligation)	106.207	102.727	2.138	1.342
% 3-Year Summer FCM Peak MW Commitment Achieved	110.1%	110.1%	111.1%	111.1%

[1]The GMP Energy Efficiency Fund (EEF) and Community Energy & Efficiency Development Fund (CEED) portions of FCM revenue shown here are net of allocated cost of participation - as such, costs are not broken out separately below.

[2]Reflects cumulative peak MW savings from measures installed since 6/16/2006. Full details on the ISO-NE Forward Capacity Market and requirements for participation, including calculation of capacity obligations, can be found in: "Playing with the Big Boys: Energy Efficiency as a Resource in the ISO-NE Forward Capacity Market", www.veic.org/ResourceLibrary

[3] Actual claims filed with ISO-NE are for Summer Peak Capacity (MW) for April through November, and for Winter Peak Capacity (MW) for December through March.

* Annual projections are estimates only and provided for informational purposes.

8.9 Forward Capacity Market (FCM) Future Commitments and Revenue Forecast[1,2]

		Summer Peak Capacity (MW)											Revenue		
FCM Period	Delivery Dates	Existing Portfolio	FCM #2-#10: Portfolio Expansions	FCM #11: Portfolio Expansion	FCM #12: Portfolio Expansion	FCM #13: Portfolio Expansion	FCM #14: Portfolio Expansion	FCM #15: Portfolio Expansion	FCM #16: New Resource	FCM #17: New Resource	Total Commitment	Actual FCM Peak Capacity to Date	12-Month Pmt Committed from ISO-NE	Total Actual Payments Received to Date	Revenue Rec'd Over (Under) Commitment
1	6/1/2010 - 5/31/2011	39.117									39.117		$2,607,552	$2,891,075	$283,523
2	6/1/2011 - 5/31/2012	41.377	7.037								48.414		$3,222,168	$3,415,893	$193,725
3	6/1/2012 - 5/31/2013	46.040	9.224								55.264		$3,498,804	$3,621,871	$123,067
4	6/1/2013 - 5/31/2014	54.103	17.990								72.093		$4,450,980	$4,465,395	$14,415
5	6/1/2014 - 5/31/2015	71.313	12.456								83.769		$5,107,413	$5,029,523	($77,890)
6	6/1/2015 - 5/31/2016	84.326	14.806								99.132		$4,542,300	$3,390,207	($1,152,093)
7	6/1/2016 - 5/31/2017	94.062	15.500								109.562		$4,512,993	$3,647,552	($865,440)
8	6/1/2017 - 5/31/2018	108.990	-								108.990		$8,389,492	$8,266,060	($123,432)
9	6/1/2018 - 5/31/2019	104.367	-								104.367		$12,918,648	$12,996,875	$78,227
10	6/1/2019 - 5/31/2020	99.603	-								99.603		$9,074,690	$9,346,421	$271,731
11	6/1/2020 - 5/31/2021	69.642		15.474							85.116		$5,843,057	$5,905,124	$62,067
12	6/1/2021 - 5/31/2022	77.669			25.969						103.638		$6,220,063	$6,743,780	$523,717
13	6/1/2022 - 5/31/2023	95.701				12.500					108.201	117.264	$5,328,679	$2,916,810	($2,411,869)
14	6/1/2023 - 5/31/2024	97.708					8.500				106.208		$2,754,272		
15	6/1/2024 - 5/31/2025	92.556						9.800			102.356		$3,285,810		
16	6/1/2025 - 5/31/2026	99.258							-		99.258		$3,255,848		
17	6/1/2026 - 5/31/2027	88.156								5.400	93.556		$0		
												Total:	$85,012,769	$72,636,586	-$3,080,252

	Current Financial Assurance (FA) Obligations Related to FCM Capacity Above[3]									
			FA: Non-commercial New Capacity							Total FA Obligation[4]
	FCM#1-12	FCM#13	FCM#14	FCM#15	FCM#16	FCM#17	Non-Hourly Requirements	Subtotals	Credit Test Factor	
Financial Assurance Obligation at End of This Quarter	Fully Commercial	Fully Commercial	$82,992	$184,310	$0	$10,800	$644	$278,745	80%	$348,432
Expected Upcoming Transactions:										
Additional FA on New Obligations			$0	$0	$0	$28,939		$28,939		
FA Obligation Released (Est)			$0	$0	$0	$0		$0		
Financial Assurance Obligation at End of Next Quarter (Estimate)			$82,992	$184,310	$0	$39,739	$644	$307,684	80%	$384,605
Financial Assurance Forfeited[5]	$211,623									

Proposed Commitments		New Capacity Proposed (Summer Peak MW) Not Committed or Not Yet Delivered			
	FCM#1-13	FCM#14	FCM#15	FCM#16	FCM#17
Delivery Period begins:	Delivered	6/1/23	6/1/24	6/1/25	6/1/26
Date of Auction		2/3/20	2/8/21	2/7/22	3/6/23
Date of Qualification Notification		9/27/19	10/2/20	10/1/21	11/10/22
Date of Qualification Submission		6/21/19	6/19/20	6/18/21	6/7/22
Date of Show of Interest		4/26/19	4/24/20	4/23/21	5/23/22
Additional FCM Peak Capacity Qualified to participate in upcoming auction		Committed	Committed	Committed	5.400
Additional FCM Peak Capacity currently under review for Qualification					Qualified
Additional FCM Peak Capacity submitted as a Show of Interest for future auction					Submitted

[1] As of this date, Efficiency Vermont has commitments and committed pricing through FCM Auction #16. The information in this section reflects currently committed capacity and prices for that capacity.

[2] Commitments include capacity from GMP EEF and CEED projects.

[3] Efficiency Vermont's Financial Assurance obligations are covered through cash on deposit with BlackRock.

[4] Total Market Obligations (FCM requirements plus non-hourly requirements) plus mark-up to cover 80% credit test.

[5] Financial Assurance forfeited upon termination of 11.385 MW of FCM#6 obligation in October 2016.

9 Program Implementation Procedures

#	Document Name / Title	Major Market	Status	Date
126	Retail Lighting	RES, C&I	Approved	6/11/2022

Key:

RES	Residential
LI	Low Income
LIMF	Low Income Multi-Family
BES	Business Energy Services
MF	Multi-Family
C&I	Commercial & Industrial

10 Data Tables and End Notes

10.1 Data Tables Overview

1 – Section 10.2 includes a list of definitions for items in the data tables.

2 – Data items for which data are not available are labeled "nav". Data items for which data are not applicable are labeled "nap" or "NA".

3 – Except where noted, Efficiency Vermont expenditures data in this report were incurred during the specified reporting periods. All costs are in nominal dollars.

4 - Except where noted, savings data are from measures reported during the specified reporting periods. Electric savings are reported at generation and all savings are net of all approved adjustment factors.

5 – Efficiency Vermont Resource Acquisition and Development and Support Services costs include an operations fee and are reported in all applicable cost categories. The 2021 Operations Fee was 1.35%; 2022 Operations Fee was 1.0%; and the 2023 Operations Fee is .75%. The indirect charges and operations fees for "Incentives to Participants" and "Incentives to Trade Allies" are reported with the "Administration" costs.

6 – Data for "Incentives to Participants" or "Incentives" in Tables 6.9, 6.13, 6.14, 6.16, 6.18, 6.19, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 7.10, 8.1, 8.2 8.3, 8.4 and 8.5 are from Efficiency Vermont's accounting system. "Participant Incentives Paid" on Tables 6.10, 6.11, 6.12, and 6.17 are sourced from Efficiency Vermont's project tracking and reporting system. Data for "Incentives to Participants" in Tables 6.10, 6.11, 6.12, and 6.17 exclude incentives paid to Energy Savings Account (ESA) Pilot participants.

7 - Whenever Efficiency Vermont works in collaboration with other providers of efficiency services, savings and participation may be reported by more than one organization. As a result, actual savings and participation might be less than the sum of all the organizations' reported savings. Any data that overlaps or includes data from other services provided by Efficiency Vermont that are external to the Order of Appointment is footnoted in the document.

10.2 Definitions and Report Template

The table templates that appear in the Efficiency Vermont Savings Claim Summary report and Annual Report were developed as a collaborative effort between Efficiency Vermont and the Vermont Public Service Department. Note that there are two major table formats, one for the markets and services summary and the other for breakdowns by end use, utility, and county savings. The definitions of the data reported in these tables follow. The numbers in parentheses on the template refer to the footnoted definitions that immediately follow.

	Prior Year 2021	Current Year 2022	Cumulative starting 1/1/21
	(1)	(2)	(3)
# participants with installations	(4)		
Operating Costs			
Administration	(5)		
Programs and Implementation	(6)		
Strategy and Planning	(7)		
Subtotal Operating Costs	(8)		
Technical Assistance Costs			
Services to Participants	(9)		
Services to Trade Allies	(10)		
Subtotal Technical Assistance Costs	(11)		
Support Services			
Consulting	(12)		
Customer Support	(13)		
Data and Technical Services	(14)		
Information Technology	(15)		
Marketing	(16)		
Policy & Public Affairs	(17)		
Other	(18)		
Subtotal Support Services Costs	(19)		
Incentive Costs			
Incentives to Participants	(20)		
Incentives to Trade Allies	(21)		
Subtotal Incentive Costs	(22)		
Total Efficiency Vermont Costs	(23)		
Total Participant Costs	(24)		
Total Third-Party Costs	(25)		
Total Resource Acquisition Costs	(26)		
Annualized MWh/MMBtu Savings	(27)		
Lifetime MWh/MMBtu Savings	(28)		
TRB Savings (2021 $)	(29)		
Winter Coincident Peak kW Savings	(30)		
Summer Coincident Peak kW Savings	(31)		
GHG Reductions (metric tons CO_2e)	(32)		
Annualized MWh/MMBtu Savings/Participant	(33)		
Weighted Lifetime	(34)		

Definitions for the fields in the report templates

(1) Activity for the prior reporting year.

(2) Activity for the current reporting year.

(3) Data reported for the current performance period (2021-2023) starting January 1, 2021, through the end of the current reporting year.

(4) Number of customers with installed measures. The "# participants with installations" are counted by summing unique physical locations (sites) where efficiency measures have been installed for the reporting period. Additional methodologies are applied if it is a multifamily project or residential buydown.

(5) Costs include Efficiency Vermont senior management, budgeting, and financial oversight. Administration costs also include the operations fee (margin)[1] and corporate indirect charges that were applied

(6) Costs directly associated with the programs and implementation of resource acquisition activities.

(7) Costs related to program design, planning, screening, and other similar strategy and planning functions.

(8) Subtotal of all operating costs detailed in the categories above: (5) + (6) + (7).

(9) Costs related to technical assistance, conducting technical analyses, preparing packages of efficiency measures, contract management, and project follow-up provided to customers.

(10) Costs related to technical assistance, educational or other support services provided to entities other than individual participants, such as trade allies, manufacturers, wholesalers, builders, and architects.

(11) Subtotal reflecting total technical assistance costs: (9) + (10).

(12) Costs related to support provided by the VEIC Consulting group.

(13) Costs related to support provided by the VEIC Customer Support division.

(14) Costs related to support provided by the VEIC Data and Technical Support Services division.

(15) Costs related to support provided by the VEIC Information Technology division.

[1] All costs for fields 6 through 19 include an operations fee (or margin) paid to VEIC as administrator of Efficiency Vermont. In 2021 the operations fee was 1.35%, it was 1.0% in 2022, and it was 0.75% in 2023. Other than the operations fee, VEIC is reimbursed at cost for the administration of Efficiency Vermont. The operations fee is not applied to the Energy Savings Account (ESA) Pilot spending.

(16) Costs related to support provided by the VEIC Marketing division.

(17) Costs related to support provided by the VEIC Policy & Public Affairs division.

(18) Costs related to support provided by the other VEIC divisions.

(19) Subtotal cost of Support Services.

(20) Direct payments to participants to defray the costs of specific efficiency measures. This value includes payments to Energy Savings Account Pilot Participants.

(21) Incentives paid to manufacturers, wholesalers, builders, retailers, or other non-customer stakeholders to encourage their participation. These incentives do not defray the costs of specific efficiency measures.

(22) Subtotal reflecting total incentive costs: (20) + (21).

(23) Total costs incurred by Efficiency Vermont: (8) + (11) + (19) + (22).

(24) Total costs incurred by participants and related to Efficiency Vermont or utility activities. This category includes the participant contribution to the capital costs of installed measures and to specific demand-side-management (DSM)-related services, such as technical assistance or energy ratings. It does not include Efficiency Vermont incentives or services.

(25) Total costs incurred by third parties (i.e., entities other than Efficiency Vermont and participants) and directly related to Efficiency Vermont or utility DSM activities. This category includes contributions by third parties to the capital costs of installed measures and to specific DSM-related services, such as technical assistance or energy ratings.

(26) Total cost of Resource Acquisition: (23) + (24) + (25).

(27) Annual MWh savings at generation or MMBtu savings, net of all approved adjustment factors (e.g., free ridership, spillover, line losses) for measures installed during the current reporting period.

(28) Lifetime estimated MWh or MMBtu savings for measures installed during the current reporting year, at generation and net of all approved adjustment factors.

(29) Total Resource Benefits (TRB) Present Value savings for measures installed during the current reporting period. TRB includes gross electric benefits, fossil fuel savings, and water savings. TRB is stated in 2021 dollars throughout the report.

(30) Estimated impact of measures during the winter peak period, at generation, net of adjustment factors.

(31) Estimated impact of measures during the summer peak period, at generation, net of adjustment factors.

(32) Annual greenhouse gas carbon reductions (metric tons CO_2e) for measures installed during the current reporting year, at generation and net of all approved adjustment factors. Includes all non- energy, fuel, and electric savings.

(33) Annual MWh savings per participant, net at generation or MMBtu net at generation savings per participant: (27) ÷ (4).

(34) Average lifetime MWh or MMBtu net savings, in years, of measures weighted by savings: (28) ÷ (27).

X.X.X. Breakdown Report										
End Use or Utility or County	# of Participants	MWh Saved	GHG (metric tons CO_2e) Saved	Lifetime MWh Saved	Winter KW Saved	Summer KW Saved	Fuel MMBtu Saved	TRB Saved	Participant Incentives Paid	Participant Costs
	(35)	(36)	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)

Items 35-44 reflect installed measures for the current reporting period

(35) Number of participants with installed measures for the specified End Use, Utility, or County.

(36) Annualized MWh savings at generation, net of all approved adjustment factors (e.g., free riders, spillover, line loss) for measures installed during the current reporting period. This is the same number as that reported on line (27) for Electric Resource Acquisition programs.

(37) Annual greenhouse gas carbon reductions (metric tons CO_2e) for measures installed during the current reporting period, at generation and net of all approved adjustment factors. This is the same number as that reported on line (32).

(38) Lifetime estimated MWh savings for measures installed during the current reporting period, at generation and net of all approved adjustment factors. This is the same number as that reported on line (28).

(39) Estimated impact of measures during the winter peak period, at generation, net of adjustment factors. This is the same number as that reported on line (30).

(40) Estimated impact of measures during the summer peak period, at generation, net of adjustment factors. This is the same number as that reported on line (31).

(41) MMBtu estimated to be saved (positive) or used (negative) for alternative fuels because of measures installed in the end use. This is the same number as that reported on line (27) for Thermal Energy and Process Fuels Resource Acquisition programs.

(42) Total Resource Benefits (TRB) savings for measures installed during the current reporting period. TRB includes gross electric benefits, fossil fuel savings, and water savings. TRB is stated in 2021 dollars throughout the report. This is the same number as that reported on line (29).

(43) Incentives paid by Efficiency Vermont to participants for measures installed during the current reporting period. This is the same number as that reported on line (20) except this value excludes payments to Energy Savings Account (ESA) Pilot participants.

(44) Costs incurred by participants and related to Efficiency Vermont or utility activities. This is the same number as that reported on line (24).

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