2019

ANNUAL REPORT

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Pursuant to the November 26, 2019 *Process and Administration of an Energy Efficiency Utility Order of Appointment*, Appendix B(4), this report is submitted to the Vermont Public Utility Commission (Commission or PUC) and the Vermont Department of Public Service in fulfillment of Energy Efficiency Utility (EEU) annual reporting requirements.

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THERMAL ENERGY AND PROCESS FUELS

1. OVERVIEW

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About Efficiency Vermont

Efficiency Vermont operates on a three-year budget cycle with specific state-mandated performance goals linked to compensation. Efficiency Vermont was created by the Vermont Public Utility Commission and the Vermont Legislature in 2000 as a statewide, third-party, objective resource for the public good. 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 2026. In 2019, Efficiency Vermont was recognized by the U.S. Environmental Protection Agency and the American Council for an Energy Efficient Economy (ACEEE) for outstanding achievements across a number of energy efficiency services and programs.

2019 Summary

In 2019, the second year of the three-year (2018–2020) performance period, Efficiency Vermont was privileged to help more than 81,900 Vermonters with objective guidance to improve the affordability and comfort of their homes, businesses, institutions, and communities with energy efficiency. Together, these Vermonters will save more than $204 million over the lifetime of their 2019 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 a statewide network of businesses that customers turn to for efficient goods and high-performance buildings. 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.

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, 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, while helping the state achieve its clean energy and climate goals.

2019 Savings

In 2019, Efficiency Vermont achieved energy savings at lower costs to ratepayers than was budgeted. By the end of 2019, Efficiency Vermont tracked between 66% and 79% achievement of the 2018–2020 100% Quantifiable Performance Indicator (QPI) targets for

[1] 2019 investments include the following costs: a) Efficiency Vermont costs: $58,373,077 (includes Resource Acquisition, Development and Support Services, and Performance Incentive costs); b) Customer costs: $39,861,210; and 3) Department of Public Service evaluation and other costs, $1,529,639.

energy reduction, with an average achievement of 71%. These savings were realized while overall electric and thermal energy and process fuels (TEPF) spending combined in 2019 was under budget by $1,913,994, or 3.3%[2]. Efficiency Vermont committed itself to finding operational efficiencies, reducing costs for customers[3], and keeping Energy Efficiency Charge (EEC) rates flat for the second year straight by setting an internal goal of $1,045,000 in cost reductions for 2019, while meeting performance targets. Figure 1 illustrates Efficiency Vermont's progress toward its 2018–2020 QPI goals through the end of 2019.

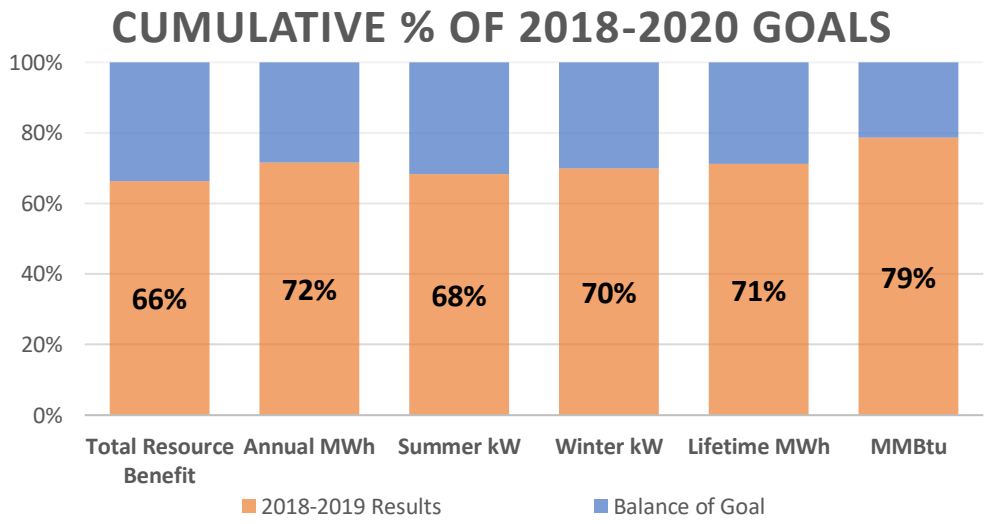

Figure 1. Progress towards 100% of the 2018-2020 QPIs for energy reduction through 2019.

Electric Efficiency

Through 2019, the second year in the 2018-2020 performance period, Efficiency Vermont generated savings of 256,157megawatt hours (MWh), or 72% of the 100% MWh target, while spending $43,499,740 or 2.7% below the electric resource acquisition (RA) budget for the year. The vast majority of 2019 MWh savings came from investments in two major markets: the business existing facilities market with 60,110 MWh, or 52% of total electric MWh savings; and the residential efficient products market with 41,034 MWh, or 35% of total electric MWh savings. Figure 2 shows 2019 electric RA spending by major market. Figure 3 shows 2019 MWh savings by major market. (See Section 2 for RA and Development and Support Services (DSS) highlights.)

[2] Electric Resource Acquisition was underspent by $1,219,529, TEPF Resource Acquisition was underspent by $283 and Development and Support Services was underspent by $694,180. All values include the operations fees. For a full description of Efficiency Vermont's 2019 budget variance, see its 2019 *Budget Variance Report* filed on February 15, 2020 in PUC Case No. 20A-0438.

[3] Customers benefitted from both reduced electric and TEPF energy costs as a result of participating in Efficiency Vermont programs and services as well as savings related to lower bills due to reduced energy efficiency charges on electric bills.

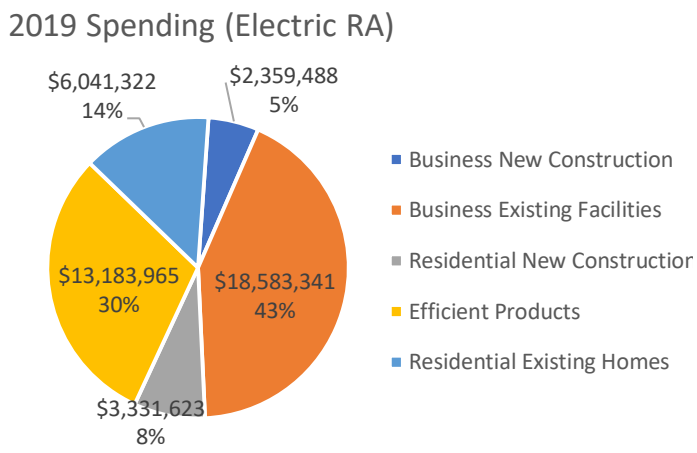

Figure 2. 2019 electric RA spending by major market

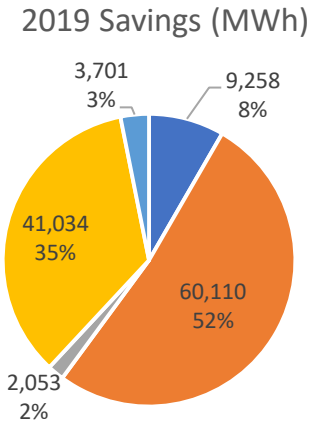

Figure 3. 2019 electric savings (MWh) by major market

Thermal Energy and Process Fuels Efficiency

Through 2019, the second year of the 2018-2020 performance period, Efficiency Vermont generated savings of 305,898 million British thermal units (MMBtu), or 79% of the MMBtu target, while spending 100% of the budget for the year. The majority of 2019 MMBtu savings came from RA investments in three major markets: the business existing facilities market with 64,076 MMBtu or 50% of total TEPF MMBtu savings, efficient products with 43,316 MMBtu or 34%, and existing homes with 20,881 MMBtu or 16%. TEPF MMBtu savings include projects funded solely by TEPF and those funded by a combination of TEPF and the State Weatherization Grant funds. Figure 4 shows 2019 TEPF major market RA spending. Figure 5 shows 2019 TEPF major market MMBtu savings. (See Section 2 for RA and DSS activity highlights.)

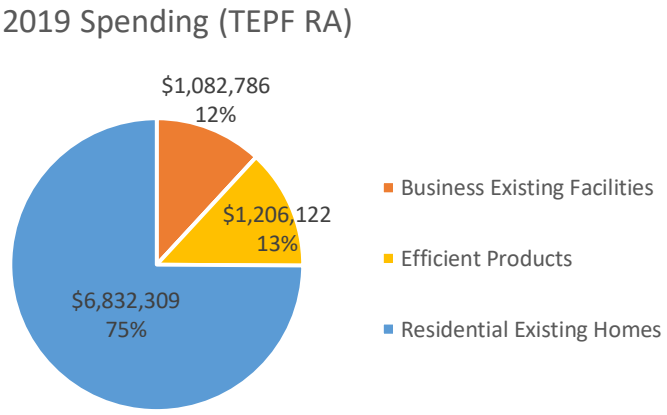

Figure 4. 2019 TEPF RA spending by major market

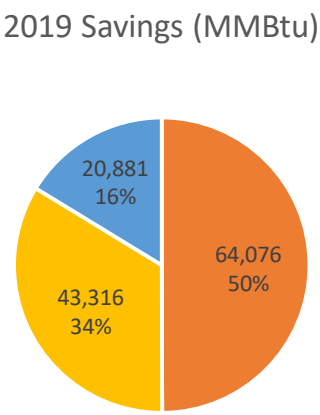

Figure 5. 2019 TEPF savings (MMBtu) by major market

2. 2019 SERVICES

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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, and municipal facilities.

2.1 SERVICES FOR BUSINESS CUSTOMERS

2.1.1. BUSINESS NEW CONSTRUCTION

Efficiency Vermont's support for the creation of efficient new buildings continued to focus primarily on the professionals engaged in architectural design and construction. These individuals included 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 recognized and publicized exceptional achievement in new construction through its annual *Best of the Best* awards.

Efficiency Vermont provided energy efficiency training and information to professionals and tradespeople involved in construction and renovation projects through the EEN and through the Energy Code Assistance Center and annual Better Buildings by Design Conference (discussed in Section 2.4.1) and through video-based training on www.efficiencyvermont.com.

Additionally, Efficiency Vermont:

- Sponsored the American Institute of Architects Vermont (AIA-VT) annual Architecture & Construction Expo in Burlington.
- Updated its lighting power density tool for calculating new construction lighting energy savings. The update enables customers completing a lighting power density calculation using either the space-by-space method or building-area method to access financial incentives from Efficiency Vermont.
- Joined the New Buildings Institute's GridOptimal initiative and launched the first GridOptimal project in Vermont. The initiative will develop metrics by which building features and operating characteristics that support more effective grid operation can be measured and quantified.
- Launched a new EEN group for building design professionals.

2.1.2 BUSINESS EXISTING FACILITIES

The following sections 2.1.3 - 2.1.6 include highlights of activities and services Efficiency Vermont provided to customers of existing business facilities in 2019, including providing

technical assistance and financial incentives for commercial and industrial customers for projects that reduce electric and/or thermal energy and industrial process fuel use, including but not limited to heat pumps, biomass systems, certain efficient oil and propane systems, and services promoting the installation of recommended efficient non-electric commercial kitchen equipment.

2.1.3 VERMONT'S LARGEST ENERGY USERS

To serve the state's largest energy users—defined by their use of more than 500 MWh of electricity per year—Efficiency Vermont continued to take a customized approach. Efforts to reduce energy use and costs in this sector are detailed below.

Partner and Customer Engagement
Designated Efficiency Vermont staff maintained long-term proactive professional relationships with individual businesses. To design and deliver effective, customized services, Partner and Customer Engagement representatives maintained a deep understanding of each company's priorities and challenges. Efficiency Vermont served approximately 274 large businesses through Partner and Customer Engagement, garnering a combined expected annual savings of 28,017 MWh for these large businesses from measures completed in 2019.

Efficiency Vermont:

- Supported a major grocery chain in completing a suite of efficiency measures in many of its Vermont sites.
- Partnered with Vermont's distribution utilities on Renewable Energy Standard Tier III (Tier III) projects at customer facilities.
- Helped recruit 10 large businesses for the flexible load management (FLM) pilot in conjunction with Green Mountain Power (GMP). (See Section 2.3.1 under GMP.)
- Facilitated the eighth annual Best Practices Exchange (BPX) at Killington, bringing together customers, strategic partners, and manufacturers' representatives to network, educate attendees, and share best practices related to energy efficiency. Coordinated with Vermont Public Power Supply Authority (VPPSA) and GMP to present at the event.
- Presented at the Vermont Ski Areas Association annual meeting in June. The presentation covered the total savings realized by the ski resort industry in working with Efficiency Vermont since its inception in 2000. (See more information under Section 2.1.5, Ski Areas.)
- Presented at the May meeting of the Vermont Hospital Engineering Society at Springfield Hospital on Efficiency Vermont programs.
- Partnered with the Addison County Economic Development Corporation on a workshop for its members to provide an overview of Efficiency Vermont services and highlight energy efficiency efforts at a local facility.
- Met with three key grocery chains to discuss their implementation of low-global warming potential (GWP) refrigerant strategies in their stores and refrigerant leak

detection programs.

- Launched a "100% LED" large business recognition program. Recognition includes a decal and a plaque the business can display, as a celebration of its accomplishment and motivation to look elsewhere for more efficiency wins.
- Continued work on continuous energy improvement (CEI):
    - Conducted employee engagement workshops for hospital cohort participants; delivered a webinar on O&M ventilation and outdoor air for the cohort.
    - Presented a Kaizen—a group search for savings sometimes termed an "energy treasure hunt"—hosted at a medical center and involving 25 participants, including three cohort hospitals and three partners. Over 30 projects with low cost and high savings were identified, many of them common to medical facilities, and the Kaizen provided a great opportunity to promote Vermont hospitals' peer interactions.
    - Supported five of the seven hospitals in the hospital cohort to leverage retro-commissioning to optimize chilled water and other mechanical systems.
    - Launched the 2019 wastewater treatment facilities cohort and completed a Kaizen event with 17 in attendance representing five facilities.
    - Continued efforts to develop standardization in the modeling for both electric and thermal models using advanced metering infrastructure (AMI) and submetering data.
    - Conducted regression modeling for hospitals to capture 2019 CEI savings.
    - Formed a CEI colleges and universities cohort.
    - Drafted a CEI Program Implementation Procedure (PIP), describing the overall CEI program and its approach to savings claims, which was implemented in 2019.

2.1.4 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 market initiatives (discussed in Section 2.1.5).

Efficiency Vermont:

- Completed the first green breweries cohort sessions. Results included the creation of a best practices document for breweries to be disseminated through Efficiency Vermont and through the Vermont Brewers Association (VBA), as well as the creation of a sustainability committee of the VBA.
- Following the success of the 2018–2019 green breweries pilot cohort, established two new sustainability cohorts: 1) a second green breweries cohort, and 2) a green dairy farmers cohort. The U.S. Environmental Protection Agency (EPA) released a video featuring the 2018–2019 green breweries cohort, highlighting the success of this pilot and participant benefits from the engagement model.

- Continued to perform walk-throughs to identify energy efficiency opportunities for businesses, and to help customers navigate Efficiency Vermont's rebates and services for businesses. In 2019, the team conducted over 400 walk-throughs around the state, reaching every county and covering ground in over 115 different towns.
- Promoted the small-medium business energy consultation through a variety of media outlets and channels, including web, social, e-newsletters, Vermont Business Magazine, and a direct mailer sent to over 22,000 businesses in the state. 2019 direct mail activities generated over 700 contacts from small-medium businesses, and the 2019 digital campaign resulted in a significant increase in web traffic and number of conversions. The goal of the energy consultation is to establish a relationship with customers, help them identify the most cost-effective energy efficiency opportunities, and offer guidance on taking action (including finding efficient equipment and accessing financial incentives).
- Provided a bonus offer for small and medium-sized businesses (SMBs) in Targeted Communities.[4] Businesses in Targeted Communities that performed a walk-through with Efficiency Vermont and completed a project could receive a 20% bonus incentive for their project.
- Continued to work with a third-party efficiency service provider to develop a pilot offering for a turn-key energy efficiency service with a savings guarantee and no up-front customer cost. Efficiency Vermont supported lead generation, refining the target list of customers, particularly those in Rutland and Chittenden counties, which have the densest population of business customers.
- Worked with the Vermont Foodbank to conduct a targeted outreach to food shelves around the state, to raise awareness of Efficiency Vermont's business energy walk-through program and offer support.

2.1.5 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. These markets were agriculture, colleges and universities, commercial real estate, hospitals and healthcare, K–12 schools, ski areas, and state buildings. Activities in selected targeted markets follow.

Agriculture

Efficiency Vermont:

- Participated in the Vermont Maple Festival to support the work of four local distributors of sugar-making equipment, highlighting services to the maple, agricultural, and residential sectors, and providing assistance to customers on efficient technologies such as reverse osmosis machines, steam-enhanced pre-heaters, and efficient lighting.

[4] Targeted Communities are areas of the state that have a high energy burden. Targeted Communities for 2019 were Bellows Falls (including Rockingham), Plainfield and Marshfield, Rutland (all cities and towns in Rutland County), St. Johnsbury (including Lyndon), and Swanton (including Highgate).

- Established a new cohort to identify energy savings opportunities and guidance for greenhouses and indoor growers.
- Coordinated with BED to present Know Your Grow, a two-day event focusing on indoor agriculture.
- Staffed a booth at the 2019 Vermont Farm Show to discuss efficiency opportunities for farmers in their businesses and homes.

Colleges and Universities

Efficiency Vermont:

- Engaged with facilities management staff at a college to develop initiatives in support of its ambitious goal of 25% total energy reduction and 100% renewable energy by 2028.
- Worked with a college to help design a new wing of one of its buildings, focusing on a net-zero, grid-optimized design.
- Supported the completion of a three-year renovation of the oldest building on a Vermont college campus; support was at the design level and post-construction commissioning.
- Supported the completion of year one of a college's preventive maintenance program, using controls, in partnership with a mechanical services company.
- Partnered with GMP to support a college through a pilot addressing energy use in a sports facility.

Commercial Real Estate

Efficiency Vermont presented to commercial real estate developers and bankers at the Vermont Development Conference on efficiency considerations when leasing space to cannabis growers.

Hospitals

Efficiency Vermont:

- As noted in discussion of Vermont's largest energy users (Section 2.1.3), supported five of the seven hospitals in the CEI cohort to leverage retro-commissioning in order to optimize chilled water and other mechanical systems.
- Worked with several hospitals to complete a comprehensive retrofit to LED lighting, including an advanced lighting controls package; to implement a boiler room upgrade and controls upgrades, to upgrade a kitchen exhaust system (adding demand control ventilation) and water source heat pump loop heat rejection; and to complete the first phase of a comprehensive controls upgrade, as well as completing a steam trap survey and repairs. One of the hospitals was motivated by a goal of being the state's first all-LED hospital.

K-12 Schools

Efficiency Vermont:

- Performed walk-throughs with facilities managers in two schools and provided them with a prioritized list of savings opportunities respectively.

- Worked with a high school to develop a retro-commissioning success story on its efforts to improve controls (including those involving heating, ventilation, air conditioning, and lighting) to be highlighted on promotional material for customers in 2020.

Ski Areas

Efficiency Vermont:

- Attended the National Ski Areas Association Eastern Winter Conference in January at a Vermont ski area, providing independent snow gun testing for various manufacturers. This objective performance data helps inform purchasing decisions, optimize snowmaking strategies, and improve snow gun design. Presented results of this analysis, as well as updated snow gun standard incentives, to Vermont ski industry partners.
- Provided support to ski areas in developing capital plans (specifically, in planning for big purchases such as high-efficiency snow guns and electric compressors).
- Sponsored the Vermont Ski Areas Association annual meeting and presented "What's Next in Energy Efficiency," discussing the impact ski areas have had in reducing energy consumption, and highlighting key energy savings opportunities for snowmaking operations and resort energy management.
- Featured two back-to-back sessions on ski areas at the eighth annual BPX conference. Topics included a Vermont ski areas impact report; updates on the snowmaking dashboard (an Efficiency Vermont-produced software tool that helps ski areas improve snowmaking efficiency); and discussions of electric demand management, snowmaking automation, and carbon reduction.

State Buildings

Efficiency Vermont continued to coordinate with the Vermont Department of Buildings and General Services (BGS) on the State Energy Management Program (SEMP).

- In coordination with the Vermont Department of Public Service (Department), Efficiency Vermont discussed how the SEMP program could be expanded to other sectors of the municipal, university, school, and hospital markets, with a focus on developing a model to present to the municipalities market.
- Efficiency Vermont invited BGS to participate in the FLM pilot in coordination with GMP.
- Through improvements to the BGS contracting process, Efficiency Vermont secured retainer contracts for the majority of contracting tradespeople hired. This process improvement reduced the time between project development and implementation.
- During the legislative session in which Vermont legislators approved a four-year extension of SEMP, the State SEMP team provided testimony demonstrating the success of the program, which regularly surpassed its savings goals.

2.1.6 Key Commercial Technologies

Efficiency Vermont continued to maintain awareness of efficient technologies that hold the

potential to provide significant benefits in commercial applications and engaged in efforts to bring these benefits to Vermont's commercial sector. Efficiency Vermont's work in 2019 included the activities highlighted below.

Combined Heat and Power (CHP)

Efficiency Vermont discussed new projects with facilities and digester plants considering CHP as an option for their waste heat, and interviewed numerous agricultural facilities across the state in partnership with the Vermont Agency of Agriculture to understand the potential for increased CHP systems on Vermont's farms. Efficiency Vermont also engaged in conversations with distribution utilities and regulators, as well as completing market research, to better understand how Efficiency Vermont can play a more effective role in these types of projects. Program design should be completed in the first half of 2020.

Commercial Lighting

Efficiency Vermont:

- Moved lighting fixtures off the rebate form and into the instant discount program (SMARTLIGHT).
- Added LED four-pin base CFL replacement lamps to the instant discount program through participating distributors; previously, these rebates were available only via custom analysis and incentive offers.
- Created a new instant discount for fixtures containing integrated sensors, to support increased promotion and adoption of integrated controls.
- Presented at the DesignLights Consortium® (DLC) stakeholder meeting on Efficiency Vermont's residential and commercial horticultural lighting work and continued engagement with DLC on the development of the next commercial lighting specification (v5.0).
- Presented at the annual BPX conference regarding integrating lighting, HVAC, and other building systems. These new integrated networked systems represent the next big advance in the lighting industry.
- In collaboration with supply chain partners, provided trainings in lighting and networked lighting control systems for EEN members.

Heating, Ventilation, Air Conditioning, and Refrigeration (HVAC-R)

Efficiency Vermont:

- Built a trade ally network within the EEN for both air-to-water and centrally ducted whole building heat pumps.
- Investigated reports of high energy use with multi-zone heat pumps, worked to identify the cause and scale of such experiences, and conducted contractor / customer education and collaboration with other utilities through Northeast Energy Efficiency Partnerships (NEEP), as well as engagement with manufacturers, to find technical solutions.
- Collaborated with distribution utilities to align equipment eligibility with the NEEP CCHP specification, which was intended to create greater regional consistency and clearer direction for supply chain partners.

- To continue building support for natural refrigerants, continued to develop a midstream offer for reach-in refrigerators and freezers that utilize propane or iso-butane refrigerants.
- Launched a free heat pump water heater (HPWH) offer for contractors in the EEN HVAC+R subgroup to generate interest in membership and increase familiarity with the technology.
- Continued developing a refrigerant leak repair program for commercial refrigeration.
- Created a series of bonus incentives for middle-income customers purchasing heat pumps.
- Coordinated with distribution utilities to develop a ground source heat pump (GSHP) program that incorporates both Energy Efficiency Utilities' (EEUs') and distribution utilities' participation.
- Assisted the statewide energy efficiency program in Massachusetts, Mass Save, in adoption of midstream commercial refrigeration measures. This work was necessary in order to change stocking of efficient equipment at centralized distribution centers. Once Mass Save launched a program parallel to that of Efficiency Vermont, distributors brought this equipment into stock.

Industrial Process Equipment

Efficiency Vermont:

- Updated industrial process equipment standard offers promotional material for industrial process customers. The promotional material provides information regarding measure incentives. Measures included LED lighting upgrades, leak remediation, and burner upgrades.
- Conducted a training on leak detection and repair technology for Efficiency Vermont staff and EEN contractors.
- Revamped its leak remediation offer to encourage customers to repair more leaks upon conducting an audit.

2.2 SERVICES FOR RESIDENTIAL CUSTOMERS

2.2.1 EXISTING MARKET-RATE HOMES

Single-Family Homes

Efficiency Vermont:

- Launched a rebate for completion of attic and basement insulation and air sealing performed by a contractor of the homeowner's choice. A $250 rebate was available for each area, and in June, it was increased to $500 per area for income-eligible customers. Customers engaging with an EEN contractor could utilize the Heat Saver Loan (which was renamed the Home Energy Loan in the fall). The Home Energy Loan is a fast, easy, and flexible way to finance home weatherization and heating improvements. Contractors outside the EEN had access to support, training

opportunities, and best practices resources. A mailer promoting the program was sent to more than 50,000 customers.

- In partnership with VGS and BED, changed the incentive levels for households completing comprehensive (Home Performance with ENERGY STAR®) weatherization projects with EEN contractors. As of July 1, income-eligible Vermonters could receive up to $4,000 and market-rate Vermonters could receive up to $2,000 off their project costs. In total, Efficiency Vermont assisted 235 customers participating in the income-eligible adder for Home Performance with ENERGY STAR projects, of which 45 customers were assisted in partnership with VGS and BED.864 Home Performance with ENERGY STAR projects were completed in 2019.
- Reactivated the do-it-yourself (DIY) weatherization program for 2019, as a seasonal incentive. Customers received a flat $100 rebate (or $150 if using the online rebate center) for completing three of 10 eligible projects. In 2019, 180 DIY projects were completed.
- Launched a Time of Sale pilot service, in partnership with real estate agents and VGS, providing a home energy visit to Vermonters purchasing homes from participating agents and offering a free smart thermostat to homeowners completing a Home Performance with ENERGY STAR project. Delivered two training sessions on this pilot service to 15 real estate agents.
- Planned and launched the 2019 Button Up campaign. Efficiency Vermont:
    - Completed 900+ home energy visits; provided technical support and recommendations to Vermont homeowners. More than 120 customers have since taken action to achieve energy savings, and Efficiency Vermont will be monitoring customers who received visits to gauge what level of additional actions are taken over the coming months.
    - Incorporated customer follow-up efforts to continue to support these customers.
- Conducted homeowner surveys, in collaboration with Building Performance Professionals Association of Vermont, to better understand homeowner satisfaction with the Zero Energy Now program. Completed related customer and contractor interviews and learned that general satisfaction was high. Compiled and analyzed home energy data to determine current energy use and post-project cost compared to pre-project modeled energy use and cost.
- In the Advanced Residential Integrated Efficiency Services (ARIES) program:
    - Gathered results from the Smart Homes Survey that indicated Vermonters were very unfamiliar with the home energy monitor concept. The ARIES program offered a midstream incentive for a Sense home energy monitor.
    - Installed a total of 148 Sense units and supported midstream incentives for 292 units. Undertook program optimizations to address the complexity of installing and connecting such devices.
- Attended three sessions of the Thermal Efficiency Working Group at the Statehouse, where legislators heard about workforce challenges (weatherization contractor shortages), development and training and certification, establishing value in the marketplace, and housing standards development.

- Completed the Healthy Homes Playbook, a document that will ensure consistency in how Healthy Homes assessments are performed and presented to healthcare entities. The playbook includes healthy home energy visits (HHEVs) offered by Efficiency Vermont.
    - Developed partnerships with five medical centers for HHEV referrals
    - Developed onboarding process for EEN Healthy Home contractors
    - Launched indoor air quality monitor loan program
    - Delivered eight workshops and presentations on Healthy Homes
- Achieved a 209% increase in traffic in Q4 over the 2018 fourth quarter (11,999 visits versus 3,878 visits) for the Home Performance with ENERGY STAR rebate page. About half of the traffic was driven by advertising.
- Conducted a survey of Vermont residents and found that weatherization is now the leading service that Vermonters associate with Efficiency Vermont. In the past, the leading service was lighting.
- Launched two weatherization commercials which generated significant lift in traffic to www.efficiencyvermont.com/rebates.
- Sent 220,000 direct mailers which resulted in more than 3,300 responses.

Act 62 Funding
Efficiency Vermont:

- Shifted Home Performance with ENERGY STAR from a savings-based incentive to an income-based incentive in order to increase participation of moderate-income families.
- Increased the attic and basement weatherization rebate for moderate-income (80–120% of area median income) Vermonters.
- Held a workforce development summit with partners including Vermont Technical College, weatherization agencies, EEN weatherization contractors, and Building Performance Professionals Association board members to evaluate gaps in the workforce and identify ways to address them.
- Provided Building Performance Institute training support to 16 contractors.
- Enrolled six new Home Performance with ENERGY STAR contractors in the EEN.
- Provided energy savings kits during Button Up Vermont home energy visits, as well as at events throughout the state. Contents of individual energy savings kits varied, but included pipe wrap, weatherstripping, acrylic caulk, faucet aerators, and LEDs.

Multifamily Homes
Efficiency Vermont:

- Completed a 60-unit energy-efficient building project.
- Performed several air sealing and insulation installation inspections.
- Conducted energy modeling for a multifamily project in St. Johnsbury.
- Evaluated natural gas consumption compared to air leakage test results for 10 multifamily new construction buildings that had identical architectural design but incorporated three different approaches to air sealing. Learned that buildings that

tape exterior sheathing joints achieve lower air leakage results than buildings that have spray-foam applied to interior wall cavities.

- Encouraged customers and plumbing contractors to improve their heating recirculation loops by educating them on the benefits of incorporating auto balancing valves or pressure-independent control valves and installing air and dirt separators to improve the long-term health of installed smart pumps. Incorporated this into the revised new construction checklist, with the goal of elevating the efficiency of the design for the domestic hot water system.
- Investigated why drain water heat recovery devices are challenging to install in multifamily buildings. As a relatively unknown technology, this approach is not yet commonly designed into projects and it requires considerable planning and forethought. Learned that for large multifamily buildings, the cold-water supply network needs to be substantially redesigned for this measure to be viable.
- Evaluated and implemented changes to the multifamily new construction checklist in time for January 1, 2020, launch, including balanced ventilation, drain water heat recovery, and whether to require automatic balancing valves on hydronic heating loops.
- On behalf of BED, performed a blower door test and inspection of a large apartment building for which Efficiency Vermont had also performed calculations. The blower door test results came in far lower than (i.e., far superior to) the Passive House standard for airtightness.
- Assessed program and energy code for healthy home integration and initiated customer value proposition design for integrating healthy home concepts into rental property programs.
- Completed the installation of air source heat pump clothes dryers in the dwelling units in a 39-unit, privately owned new construction project.
- Completed a multifamily new construction project consisting of 27 affordable housing units. This five-story, all-electric, high-performance project was set on an infill site in a downtown, and achieved impressive results.

2.2.2 Existing and New Low-Income Housing

Efficiency Vermont undertook its efforts in service to low-income households in collaboration with long-standing partners: 1) low-income housing and service providers, including agencies of Vermont's Weatherization Program and 3E-Thermal; 2) affordable housing funders, including the VHCB and the Vermont Housing Finance Agency; and 3) multifamily housing developers, including Housing Vermont. In 2019, Efficiency Vermont engaged in the activities described below.

Existing Low-Income Housing

Efficiency Vermont:

- Deployed additional incentives to lower-income households to encourage program participation and make offerings more accessible. These added incentives applied to

the purchases of HPWHs and CCHPs and participation in Home Performance with ENERGY STAR.

- Overhauled the eligibility criteria for the long-standing targeted high use (THU) program. The revised criteria screened low-income customers by percentage of electric energy burden instead of by annual kWh usage. Under the new design, the program qualified approximately four times as many low-income customers as were typically served through the program each year.
- Negotiated a contract to have Windham and Windsor Housing Trust (WWHT) deliver THU services to 30 customers in its territory who would not otherwise have been served by THU services in 2019. This marked a change from WWHT's 2018 role in helping a local weatherization agency fill a service capacity gap.
- Launched the Appliance Replacement Voucher Program. This program provided low-income customers with a voucher for the replacement of a single existing functioning or non-functioning appliance at no charge, including refrigerators, washing machines, freezers, air conditioners, dehumidifiers, and wood or pellet stoves. The program served low-income residential customers who did not qualify for the comprehensive THU program. Between August and December, a total of 1,174 vouchers were issued to qualifying customers.
- In partnership with the mayor of Montpelier and the City's energy committee, deployed Efficiency Vermont staff to provide individual engagement and walk-throughs with private multifamily property owners. (Many residents of these units were low-income Vermonters.)
- In coordination with the town of Hartford, Vital Communities, and other local partners, launched a door-to-door effort to help mobile home residents sign up for energy services including weatherization and the Low Income Home Energy Assistance Program.
- In partnership with the Clean Energy Development Fund, worked with state weatherization agencies to install 64 pellet or cordwood stoves as part of the pilot aiming to install 80 such stoves at no cost to low-income Vermonters. The service leveraged existing Low-Income Energy Efficiency Program (LEEP) contracts with state weatherization agencies and uses local retailers to provide competitively priced stoves and installation services.
- Engaged with the Department on a program implementation procedure (PIP) review of the Energy Choices program. Continued to deliver the program as an engagement strategy for low-income Vermonters living in multifamily housing. A total of 109 participants signed up. Efficiency Vermont sent biweekly "prompt mailers" with three energy-saving tips and energy-saving activities self-reporting cards over the two-month Energy Choices Challenge period. Efficiency Vermont received 144 completed pre-program surveys and 234 completed post-program surveys. Challenge participants reported, on a scale of 0 to 10, an average satisfaction of 9.56 with the Energy Choices Challenge.[5]

[5] Based on its preliminary evaluation of 2019 activities, Efficiency Vermont does not plan to claim savings from Energy Choices in 2019. It will continue to implement the lessons learned to engage with property owners, managers, and residents of low-income, multifamily buildings.

Low-Income New Construction
Efficiency Vermont:

- Engaged with several different manufactured housing facilities to explore the possibility of manufacturing a high-quality zero energy modular (ZEM) home at a lower price point than currently available.
- Supported the construction of 11 homes that received an additional income-eligible incentive.
- Continued to promote "ZEM on Tour," which brought a model home from a Vermont manufacturer of ZEM homes, to towns throughout the state. This allowed customers to experience a ZEM in person, ask questions, and receive information on additional Efficiency Vermont offerings.

2.2.3 Residential New Construction

Efficiency Vermont's support for the creation of efficient new buildings continued to focus primarily on the professionals engaged in architectural design and construction. These individuals included 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 homeowners who preferred to engage directly rather than through their builders. Efficiency Vermont recognized and publicized exceptional achievement in new construction through its annual Best of the Best awards.

Efficiency Vermont provided energy efficiency training and information to professionals and tradespeople involved in construction and renovation projects through: 1) the EEN (discussed in Section 2.3.2); 2) the Energy Code Assistance Center (discussed in Section 2.4.1); 3) the Better Buildings by Design Conference (discussed in Section 2.4.1); and 4) video-based training on www.efficiencyvermont.com. Efficiency Vermont offered technical guidance, financial assistance, and energy rating services in alignment with ENERGY STAR, Leadership in Energy and Environmental Design (LEED), the National Green Building Standard, and net-zero ready standards.

2.2.4 Retail Efficient Product Services

Efficiency Vermont's services were designed to increase availability and knowledge of quality efficient products and to reduce their purchase costs in order to motivate Vermonters to select efficient models of products for their homes and businesses. Efficiency Vermont provided support for consumer products that met or exceeded efficiency standards set by the EPA's ENERGY STAR program, including lighting, appliances, heating and cooling equipment, dehumidifiers, pool pumps, electronics, and smart thermostats. An essential element of Efficiency Vermont's efforts continued to be services to retailers and to partners in the product supply chain to ensure the availability of high-quality efficient products in Vermont stores. Support included rebates, buy-downs, and markdowns at the manufacturer

and retail level as well as services described in Section 2.3.2.

Efficiency Vermont also 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 NEEP, Consortium for Energy Efficiency, Attachments Energy Rating Council, and ENERGY STAR, and as a participant or lead on teams of the EPA's Retail Products Platform.

Efficiency Vermont:

- Transitioned processing of all downstream appliance rebates (smart thermostats, HPWHs, pool pumps, clothes washers, clothes dryers, refrigerators, dehumidifiers) from a subcontractor to the Efficiency Vermont online rebate center, operated by Efficiency Vermont staff.
- Launched a sweepstakes in the appliance marketplace to encourage participation and familiarization with the site.
- Transitioned refrigerators, clothes washers, and base ENERGY STAR qualified dryers (but not dryers classified as "most efficient" by ENERGY STAR) to the retail products platform using a midstream-only sales incentive model. This included onboarding 16 new independent retailers to the retail products platform.
- Launched a two-tiered pool pump rebate under ENERGY STAR v. 2.0 specification, allowing above-ground pumps to qualify for an incentive. Participated in an EPA ENERGY STAR webinar on pool pumps, which highlighted Efficiency Vermont as the first program in the United States to offer an incentive on efficient above-ground pool pumps.
- Launched a residential indoor agriculture rebate for LED grow lights.
- Was recognized with two awards: The U.S. EPA's ENERGY STAR Partner of the Year award for Sustained Excellence and the American Council for an Energy-Efficient Economy's (ACEEE's) Excellence in Energy Efficiency award for the HPWH service in partnership with BED.
- Launched a $200 rebate for ENERGY STAR Emerging Technology Award–winning room air conditioners.
- Launched a second refrigerator and freezer recycling program with a third-party contractor. Customers who had a second refrigerator or freezer in working order were eligible for free pickup and a $50 incentive.
- Began the transition from lighting markdown incentives to retail sales incentives only on non-connected screw-based lighting, as part of the "sunset" plan for this product category.
- Contracted with a vendor to host events providing energy savings kits, bulb turn-ins, and pop-up retail outlets at the Champlain Valley Fair, Tunbridge World's Fair, Marshfield fall foliage event, and Bristol Harvest Fest.
- Contracted with a vendor to develop a web portal that low-income organizations (e.g., food banks) could use to bulk order selected LEDs to provide to their low-income-verified customers.

2.3 ACTIVITIES IN SERVICE TO ALL MAJOR MARKETS

While serving specific markets, as described above, Efficiency Vermont also provided services that had an impact on multiple sectors. A key element of this cross-sector approach was Efficiency Vermont's ongoing coordination with the businesses that Vermonters turn to for efficient products and services. These partnerships, although not always evident to the general public, have a profound impact on all Vermonters' ability to lower energy use in their homes and places of business. Efforts made with these providers included workforce development training, coordinated planning, information exchange, quality assurance, financial incentives, and promotional activities. These partnerships enabled Vermont homes and businesses to have access to a valuable network of knowledgeable providers while strengthening these providers' businesses.

In addition to the activities outlined below, additional efforts made alongside these partners in various initiatives appear in other sections throughout this report, including BPX. This year's BPX reflected progress building partnerships and service integration with utility partners. Representatives from GMP, VEC, and VPPSA attended the event.

2.3.1 COORDINATION WITH ENERGY EFFICIENCY UTILITIES AND DISTRIBUTION UTILITIES

Entity	Activities
Burlington Electric Department	**Quarterly and activity-based collaboration—**Staff from the two organizations communicated regularly about current and future programs. These information exchanges helped inform each organization of design, development, and implementation of energy efficiency and Tier III programs. **Technology and service delivery partnerships—**The organizations continued co-developing a behavior-based demand response pilot to reduce peak load. As a BED customer, VEIC was a pilot participant. (See details under Demand Response in Section 2.4.2.)
Green Mountain Power	**Commercial and industrial project collaboration—**Efficiency Vermont and GMP collaborated to develop a strong working partnership on business customer projects. Nearly all new identified projects were jointly reviewed for comprehensive opportunities. The utilities' collaborative project approach received appreciative feedback from several customers. **Tier III service delivery collaboration—**A memorandum of understanding (MOU) between the organizations was established for several measures. On April 1, GMP began utilizing Efficiency Vermont's midstream distribution channel for CCHPs. **GMP FLM pilot—**Phase 1 was completed with 10 customers participating in the FLM pilot, undergoing conversion of a static or stranded load to

	controllable and flexible load as needed. GMP, Dynamic Organics, and Efficiency Vermont developed an effective working relationship in this important pilot. **Data and reporting**—Efficiency Vermont worked with GMP to standardize utility data transfers in line with Docket 8316.
Stowe Electric Department	**CCHP program—**Stowe launched its Tier III CCHP program in coordination with Efficiency Vermont. Efficiency Vermont provided Stowe Electric Department with a monthly summary of CCHP sales in its area. Stowe Electric Department and Efficiency Vermont maintained communication and coordination throughout the year, including technical and product support to help Stowe promote and support the technology and its program within the community. **Business and community—**Stowe Electric Department supported Button Up efforts in the community; Efficiency Vermont field staff coordinated with the department on project leads that had the potential for Tier III savings. **Data and reporting**—Efficiency Vermont worked with a billing vendor to standardize utility data transfers in line with Docket 8316.
Vermont Electric Cooperative	**Commercial and industrial comprehensive projects—**Efficiency Vermont collaborated with VEC in delivering comprehensive solutions to business customers. Project collaboration enabled the pairing of VEC's Clean Air Program and Efficiency Vermont's efficiency services on both completed and planned projects. **Tier III service delivery collaboration—**An MOU was established for joint implementation of CCHP, heat pump water heater, and pellet stove programs. Additionally, Efficiency Vermont and VEC collaborated on a potential new partnership for air-to-water heat pumps. **Controlled environment agriculture—**Efficiency Vermont and VEC partnered in market and program development for agriculture within a controlled environment. The initiative covered customer education and best practices guide development, pilot projects, measure identification and development, power analysis, and more. **Data and reporting**—Efficiency Vermont worked with a billing vendor to standardize utility data transfers in line with Docket 8316.
Vermont Electric Power Company	**Collaboration—**The two organizations exchanged information regarding data, integration, and the combining of insights from regional and local perspectives.
Vermont Gas Systems	**Coordination—**Field coordination with VGS continued to develop over 2019. An updated shared service agreement allowed VGS customers to take

	advantage of the same programs that Efficiency Vermont offers its customers outside of VGS territory. Efficiency Vermont and VGS also collaborated to better define roles and responsibilities on commercial new construction projects in order to improve customer experience, reduce redundancy, and increase savings. Customer support staff from VGS and Efficiency Vermont provided cross-training of each other's programs and provided guidance and protocol for answering customer questions and referrals in order to provide a more seamless customer experience. **Communities—**In the field, Efficiency Vermont and VGS continued their coordinated support of Targeted Communities work in Swanton, as well as home energy visit training and support of Button Up communities.
Vermont Public Power Supply Authority (VPPSA)	**Rebate program—**Efficiency Vermont worked closely with VPPSA on its prescriptive Tier III rebate program. Efficiency Vermont provided a monthly report of sales in VPPSA's territory and worked with VPPSA to help design and complete its CCHP rebate form in addition to updating information and links on the Efficiency Vermont website. **Data and reporting—**Efficiency Vermont worked with a billing vendor to standardize utility data transfers in line with Docket 8316. **Targeted Communities—**As part of its Targeted Communities work with Swanton Electric, VPPSA, and VGS, Efficiency Vermont completed 92 home and 16 business walk-throughs in the Swanton community. This campaign resulted in 386 calls to the Customer Support team. Several events were scheduled over the course of the campaign, including the ZEM model home going on exhibit in the Swanton Village green, garnering high interest from local residents. **Commercial and industrial—**VPPSA hosted its first commercial and industrial focus group session at BPX, and Efficiency Vermont helped VPPSA recruit businesses to take part. The two organizations continued to work jointly to develop Tier III projects. Active development efforts were underway in Lyndonville and Ludlow.

Washington Electric Co-op	**FLM pilot—**Efficiency Vermont, in collaboration with WEC, further developed and refined the FLM pilot, which Efficiency Vermont conducted as part of a R&D program. As WEC engaged vendors, the two organizations worked closely to define roles, responsibilities, objectives, and key results. Efficiency Vermont helped develop a landing page for customers visiting the WEC website to learn about the initiative (named "Project PowerShift") and sign up for the pilot program. Efficiency Vermont and WEC had a soft launch of Project PowerShift over the summer and undertook a multifaceted outreach and enrollment effort, including with installation contractors, through the rest of the year. (See additional information under Demand Response in Section 2.4.2.) **Data and reporting**—Efficiency Vermont worked with a billing vendor to standardize utility data transfers in line with Docket 8316.

2.3.2 Services to Contractors and Equipment Suppliers

The Efficiency Excellence Network

Efficiency Vermont:

- Provided training and promotional support for certified Building Performance Institute contractors, to deliver Home Performance with ENERGY STAR residential weatherization services and / or Building Performance weatherization services in qualifying commercial buildings.
- Hosted, cohosted, or supported 60 network trainings, some of which were offered in partnership with manufacturers, with a total attendance of 702 individuals over the course of the year. Trainings addressed heating, ventilation, and air conditioning, refrigeration, commercial and residential thermal shell improvements, heat pumps, refrigeration, electrical systems and home construction.
- Greatly expanded the network to include additional trades as well as professionals such as architects, engineers, and lighting designers. By the end of 2019 the EEN had eight groups (one distributor, two designers, and five contractor groups) and 304 members which was a 43% increase from 2018.
- Simplified EEN member agreements and implemented an overarching structure for the network. Implemented an accessibility and reading level standard for all written EEN materials.
- Provided scholarships for 138 EEN members to attend the Better Buildings by Design conference.
- Deployed an online pilot offering of customer service training for EEN contractors.
- Began testing call-in options for trainings, to ensure that EEN members in different parts of the state all have the opportunity to attend.
- Partnered with Vermont Technical College to provide free Building Performance Institute building analyst trainings and exams.

2.3.3 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. Efficiency Vermont was able to inform business customers about best practices via these trusted channels and targeted messaging resonating with each market's priorities.

2.3.4 Community-Based Activities

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

- Kicked off the 2019 Button Up Vermont campaign in September with a total of 52 communities participating, which was a new high.
- Offered free walk-through visits to property owners in Montpelier to support multifamily properties.
- Completed 900+ home energy visits (of which more than 500 were in the 2019 Targeted Communities).
- Continued customer outreach and engagement in Targeted Communities: Conducted direct mail campaigns to residential customers in Bellows Falls, St. Johnsbury, Rutland, Swanton, and Highgate, with a call to action to sign up for a home energy visit; in coordination with the Vermont Council on Rural Development, Vermont Gas, and Swanton Electric, kicked off community engagement in Swanton and Highgate, including home energy visits as well as SMB and multifamily outreach. Coordinated nearly 60 community events; completed over 20 no-cost assessments for multifamily rental properties; and delivered over 70 no-cost energy assessments for SMBs.
- Participated in community events including new technology workshops (for example, a CCHP workshop), and staffing an Efficiency Vermont table at local retailers and at farmers' markets.
- Participated in partnership development and collaboration with organizations including the Vermont Council on Rural Development, distribution utilities, and key stakeholders in Targeted Communities (for example, chambers of commerce and municipalities).
- Launched an SMB walk-through offer including a bonus for businesses in Targeted Communities that agreed to complete energy-saving actions and make referrals to other local businesses.
- Launched a nonprofit bonus in Targeted Communities for organizations supporting vulnerable populations to take energy-saving actions such as replacing lighting, installing efficient equipment, or undertaking thermal shell improvements.
- Launched a bonus for the municipalities in Targeted Communities to take energy-saving actions such as using smart thermostats, replacing lighting, or undertaking comprehensive retrofits.
- In partnership with the Vermont Council on Rural Development and the town of Swanton, continued support of the Vermont Climate Economy Model Community

initiative, designed to create and implement plans that model state-of-the-art rural development with a climate change focus. Other 2019 communities where this work was completed were Plainfield / Marshfield and Dorset.

- Coordinated with the Vermont Agency of Commerce and Community Development, Vermont Energy and Climate Action Network, Vermont Council on Rural Development, GMP, VEC, and VPPSA to select the 2020 Targeted Communities: Barre City, Johnson, Irasburg / Barton / Orleans, and Brighton / Island Pond.

2.3.5 Financial Services

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

Heat Saver Loan / Home Energy Loan
A total of 234 loans to homeowners totaling $2,124,238 in loan principal closed in 2019. The cost to Efficiency Vermont for those loans was $255,431 in interest rate buy-down and $40,521 in loan loss reserve deposits. Participation from low-income customers in 2019 increased to 31% from 21% during 2018. Of the 234 loans closed, 31% were for low-income customers (below 80% area median income) and 50% were for moderate-income customers (80–120% of area median income). Note: The name of this loan was changed during 2019 from Heat Saver Loan to Home Energy Loan, recognizing that it may be used for many different types of home energy upgrades.

Business Energy Loan
A total of 20 loans totaling $824,914 closed in 2019. Of the 20 loans closed, 85% were for SMB customers and 15% were for large business customers. Efficiency Vermont promoted the program to EEN members, helping contractors, distributors, and designers leverage financing with their customers.

2.3.6 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, both in Vermont and outside the state. 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. In Vermont, partners included the High Meadows Fund, the VHCB, the Regulatory Assistance Project, and many others. On a regional and national level, Efficiency Vermont maintained ongoing partnerships with such organizations as NEEP, the New Buildings Institute, CEE, ENERGY STAR, and ACEEE, working to share information on best practices and to establish uniform product eligibility criteria and program designs.

2.3.7 DATA ANALYTICS PLATFORM

Efficiency Vermont:

- Incorporated data into the Data Analytics Platform, which stores data, enables analysis of disparate data sets, and helps customers identify opportunities to reduce energy consumption.
- Evaluated, negotiated, and contracted replacement for a submetering platform provider. Worked with the contractor to transfer historical data to the vendor's platform and set up connections to in-the-field submeters.
- Continued communication and support activities to acquire and ingest billing data from the advanced metering infrastructure (AMI)–enabled Vermont distribution utilities. Collected AMI data from WEC and GMP. Completed acquisition of WEC, VEC, and Stowe data in the new standard billing and AMI format and upgraded the existing WEC, VEC, and Stowe billing file ingest. Efficiency Vermont received and loaded the new file format to its tracker, in compliance with Docket 8316. Worked with GMP to conform to the new standard billing format.

2.4 DEVELOPMENT AND SUPPORT SERVICES

Efficiency Vermont engaged in efforts that built customer awareness and knowledge; helped shape energy and efficiency policies; and identified approaches for optimal service development, delivery, and improvement. These efforts are essential to Efficiency Vermont's efforts to deepen energy savings and to have a lasting, positive impact on Vermont households, businesses, institutions, and communities.

2.4.1 EDUCATION AND TRAINING

Codes and Standards Support—Residential and Commercial / Industrial

Efficiency Vermont:

- Partnered with the Vermont Department of Public Service, the Energy Futures Group, and the Building Safety Association of Vermont to host four trainings on codes: two trainings on the proposed 2019 Vermont Commercial Building Energy Standards (CBES); and two trainings on the 2019 Vermont Residential Building Energy Standards (RBES). Ninety-six attendees participated in the CBES training and 103 attended the RBES trainings. Both codes were adopted in 2019 and are effective September 1, 2020. The Efficiency Vermont technical team supported the drafting and review of the RBES Handbook, to be completed in Q1 of 2020.
- Established an energy code coordinator within Efficiency Vermont to assist with communications and planning, and to serve as the primary point of contact between RBES and CBES training and technical support teams.
- Through the Energy Code Assistance Center (ECAC), supported 18 customers seeking information on the CBES, and 104 customers seeking information on the RBES. Additionally, there were 25 general inquiry questions received.

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 youngest generation. In 2019, Efficiency Vermont's contract implementer, Vermont Energy Education Program (VEEP), enrolled 50 schools in the ELP, held 250 workshops in 80 schools, and sent 150 energy kits to 65 schools with continued support on curriculum development and implementation. VEEP also held a summer institute on energy and climate education.

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, website content, and attendance at community events and energy efficiency presentations. Efforts included the following:

- Efficiency Vermont staff interacted with more than 1,000 Vermonters through presentations and tabling at community events including farmers' markets, home shows, conferences, and fairs.
- Efficiency Vermont experts made multiple appearances to share energy-related information on radio stations WDEV Waterbury and WSTJ St. Johnsbury.
- In terms of earned media, Efficiency Vermont was mentioned more than 530 times by media outlets across Vermont. Media coverage was driven in part by Efficiency Vermont press releases.
- Efficiency Vermont's blog received 6,523 unique page views.
- 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:
    - 17,725 Facebook followers
    - 4,595 Twitter followers
    - 1,268 Instagram followers
    - 630 LinkedIn followers
- Efficiency Vermont sent monthly e-mails with information about technologies, rebates, programs, events, and initiatives, and advice for homeowners and businesses. During 2019, the residential e-newsletter, "Watts New," was sent to 15,980 subscribers and opened by 5,200. The small business e-newsletter, "Business Solutions, was sent to 2,071 subscribers and opened by 517.

Better Buildings by Design Conference

Efficiency Vermont hosted its 21st Better Buildings by Design conference in South Burlington on February 6 and 7, 2019, offering trade allies access to leading experts in the energy efficiency and building performance fields. It also showcased the latest residential and commercial building products and services in addition to offering technical workshops to expand contractors' qualifications and expertise. The 2019 conference welcomed 943 total attendees and featured 42 workshops, 52 exhibitors, and 11 professional credit

designations.

Customer Support

Efficiency Vermont's contact center:

- Continued to provide Vermonters with information about electrical and thermal efficiency, conservation, resources, and referrals.
- Managed 32,554 customer contacts, which included all inbound and outbound calls, e-mails, and live chats.
- Tracked activity breakout of those contacts by market as follows: 94% residential, 6% commercial.
- Key contact topics:
    - 30% residential weatherization
    - 21% residential low-income
    - 16% residential HVAC

Public Affairs

Efficiency Vermont:

- Provided testimony in six legislative committees at the request of lawmakers seeking a general overview of Efficiency Vermont and expertise to inform policy making on energy efficiency.
- Hosted Energy Efficiency Day in the Statehouse to educate lawmakers on the industry, along with four partners and utilities that also provide efficiency services.
- At the request of Vermont legislators, provided testimony to several Vermont legislative committees regarding H.63, an energy efficiency weatherization funding bill that was passed into law and that enables Efficiency Vermont to use up to $2.25 million in electric efficiency carryover funds for moderate-income weatherization.
- Co-presented to Energy Action Network members perspectives on how EEUs and distribution utilities could partner to increase carbon emissions reductions in pursuit of Vermont's Comprehensive Energy Plan goals, and encouraged stakeholder engagement in the Public Utility Commission's (the Commission's) Act 62 workshop.
- Attended more than a dozen external meetings and small forums in order to share information about energy efficiency, better understand issues that intersect with energy efficiency, and deepen the impact of Efficiency Vermont's work.

Building Labeling and Benchmarking

Efficiency Vermont:

- Continued partnering with NEEP to develop the Vermont Home Energy Profile that will be used to create a label providing homeowners with a snapshot of their home's energy use, and conducted stakeholder conference calls to assist in development. The new label will automatically pull in energy certifications, ratings, and features from the HELIX database, which populates the MLS (multiple listing service) real estate listing with a home's green features.
- Co-chaired the Vermont Home Energy Labeling Working Group that was created from Act 62. The Department sponsored the working group, which is tasked with

recommending a labeling framework in Vermont for the Department's consideration.

2.4.2 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.

Emerging Data Services

Efficiency Vermont:

- Performed a final assessment of thermostat-measured thermal loss calculation accuracy for current and future weatherization initiatives.
- Researched extract, transform, and load (ETL) technologies for the Independent System Operator New England (ISO-NE), grid, and geographic data and metadata management to support flexible load pilots with distribution utilities.
- Researched and developed weather-dependent energy efficiency impact and flexible load response calculation methodologies in line with advanced measurement and verification (M&V) protocols to support ISO-NE forward capacity market (FCM) evaluation of Efficiency Vermont programs and other initiatives with Vermont distribution utilities.
- Researched statistical experimental design protocols for evaluating pilot and program efficacy in conjunction with the advanced M&V protocols.
- Researched and developed non-intrusive load monitoring and detection options for CCHP units from AMI data to inform residential program activities.

Technology Demonstrations

Technology demonstration funding supported applied research, development, and demonstration to optimize the creation of cost-effective solutions for meeting Efficiency Vermont's long-term resource acquisition 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 webpage at https://www.efficiencyvermont.com/news-blog/whitepapers, providing the public with access to information about technology demonstration efforts. An overview of 2019 activities follows.

Healthcare Partnership

Efficiency Vermont:

- Engaged in evaluation of delivering One Touch (an electronic referral system connecting clients to health, housing, and energy programs) to healthcare providers in partnership with the Vermont Department of Health.
- Launched a pilot involving fall prevention at time of weatherization with UVM Medical Center, Champlain Valley Office of Economic Opportunity, Vermont Department of Health, and Vermont Office of Economic Opportunity. Provided Healthy Homes training to program partners.

- Launched an asthma and COPD pilot in partnership with Springfield Medical Center, Southeastern Vermont Community Action Vermont Department of Health, and Vermont Office of Economic Opportunity. Provided Healthy Homes training to the new community health team staff of a medical center.
- Expanded participation in the Healthy Homes pilot in partnership with Northeastern Vermont Regional Hospital and Northeast Employment and Training Organization.
- Tested new indoor air quality monitoring equipment to improve the ease of data analysis and customer interaction.
- Facilitated cross-departmental discussion regarding "energy plus health" programming with the Department, Department of Health, City of Burlington, and distribution utilities and created a statewide Healthy Homes strategy with the Vermont Department of Health.
- In collaboration with BED and VGS, designed a University of Vermont Medical Center pilot targeting respiratory pediatric patients.

Demand Response

Efficiency Vermont:

- In collaboration with WEC, launched the FLM "Project PowerShift" pilot, which aimed to employ, via centralized control, 100 electric resistance water heaters (ERWH) and 100 HPWHs as "virtual batteries" to help address peak events.
    - Worked with WEC on designing a customer-friendly implementation including a website landing page for customer education and signup (www.efficiencyvermont.com/powershift) as well as program collateral documents.
    - Enrolled 15 HPWH units in the Virtual Peaker dashboard and conducted test events to fine-tune control methods.
    - Enrolled 18 ERWH units in the program with Packetized Energy Technologies controls and software, three of which were on electric water heaters at WEC's headquarters and were used as a training opportunity for the hardware installer.
- In collaboration with BED, participated in Beat the Peak, a behavior-based demand response pilot to reduce peak load. The pilot tested effective engagement and the impact of behavioral demand response activities as well as the financial benefits of the peak savings efforts of participating organizations and individuals. As a BED customer, VEIC was a pilot participant.

Low-Cost Monitoring

Efficiency Vermont continued to work with a convenience store customer on refrigeration monitoring tests to help users monitor the equipment's performance and predict breakdowns before they occur, which would save the business both energy and money. Over the course of 2019, Efficiency Vermont deployed monitoring equipment at three stores in the chain.

Greenhouse Gas Reduction

Efficiency Vermont:

- Completed an investigation of current and past methods and tools for calculating greenhouse gas (GHG) savings. The products and services to be researched and reported on fell into two main categories: 1) life-cycle analysis (i.e., GHG emissions associated with the full product life cycle of a specific material) and 2) GHG emissions while in use, including comparative analysis against a baseline or alternative.
- Worked independently on GHG projects, which include creating criteria and assumptions, consulting with technology experts, and conducting calculations.

2.4.3 Planning and Reporting

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 agreements with state agencies, to maintain accountability and to provide accurate tracking of progress for service delivery optimization, for public benefit, and for the benefit of entities outside Vermont seeking replication.

Efficiency Vermont filed required documents, including:

- Monthly invoices
- Monthly reports
- Quarterly reports for March, June, and September
- 2018 Budget Variance
- 2015, 2016, 2017, and 2018 administrative cost reports
- 2018 Savings Claim Summary
- 2018 Annual Report
- 2019 update to the 2018–2020 triennial plan

Demand Resources Plan

Efficiency Vermont filed its proposal for the 2021–2023 and 2024–2026 performance periods, including new performance metrics for greenhouse gas reduction and installed flexible load. Efficiency Vermont engaged with external stakeholders, including Vermont distribution utilities, EEUs, Vermont System Planning Committee (VSPC), and other stakeholders, on the development of its proposal.

Participation in State and Regional Integrated Planning

Efficiency Vermont attended quarterly VSPC meetings and participated in discussion and development of new ad hoc subcommittee to explore areas in Vermont where there are demonstrable or emerging generation constraints in the local transmission and distribution system.

Independent System Operator–New England FCM Administration

Efficiency Vermont:

- Qualified 8.5 megawatts (MW) of additional summer capacity and 34 MW of additional winter capacity. The new capacity cleared the annual auction along with existing capacity, resulting in an obligation of 106 MW starting in June 2023.
- Continued to participate in the Demand Resources Working Group to develop recommendations for ISO-NE on measuring and verifying efficiency performance in non-peak hours to reflect contribution to the grid during scarcity events.

External Non-Regulatory Reporting

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

- GMP—2019 Tier III MOU; year-to-date (YTD) 2019 Tier III benefits report.
- VEC—2018 and YTD 2019 Tier III benefits reports.
- Stowe Electric Department—2019 Tier III MOU and YTD benefits report.
- VPPSA—2018 fourth-quarter performance report, commercial and industrial pipeline report, 2018 and YTD 2019 Tier III benefits reports.
- WEC—2018 and YTD 2019 Tier III benefits reports, 2018 end use report, 2019 Tier III MOU.
- Regional Energy Efficiency Database (REED) for NEEP.
- Ad hoc support for regional planning commission (RPC) report questions and issues; updates to 2018 version of RPC report.
- Database, reporting warehouse, and report changes to enable new midstream distribution utility Tier III tracking and deliverables.
- VPPSA—YTD 2019 Tier III benefits report, 2019 first-quarter performance report, commercial and industrial pipeline report, quarterly distribution utility communication report.
- General support for distribution utilities and partners regarding Tier III reporting.
- Database, reporting warehouse, and report changes that enabled new midstream distribution utilities Tier III tracking and deliverables.
- Support for the Energy Burden report.
- Data to the Regional Greenhouse Gas Initiative (RGGI, Inc.) for its production of the 2017 RGGI Proceeds Report; provided cost and savings data associated with Vermont's thermal energy and process fuel programs funded by RGGI. Submitted the RGGI spending and benefits report.
- Distributed the quarterly electric distribution utility report summarizing contributions, incentives, customer annual energy and bill savings, customer call volume, and projects by service type.
- Provided reports and data support for the Energy Action Network, town energy committees, and Targeted Communities.

2.4.4 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.

2018 Annual Savings Verification

The bulk of the annual savings verification process took place in Q2 2019. Support provided by Efficiency Vermont included coordination of savings verification with the Department's third-party evaluation contractor, Cadmus. Coordination activities included transferring the 2018 program tracking database, providing sampled project data, and reviewing evaluation findings and recommendations. Realization rates for program year 2018 were 97.6% for MWh, 99.2% for Winter kW, 98.0% for Summer kW, and 99.2% for MMBtu. The realization rate findings were applied to the tracking database in Q3.

Technical Advisory Group

Activities included:

- Submittal and review of attic and basement insulation PIP (#117).
- Submittal and review of shift model PIP (#121).
- Application of Home Performance Evaluation results to 2018 database.
- Review of anaerobic digester's potential for wastewater treatment facility savings.
- Updating of the User Defined Reference Home baseline, shifting Residential New Construction savings to current market baselines, effective January 1, 2020.
- Development of a GSHP savings calculator in collaboration with BED and VGS staff.
- Review of the Home Performance with ENERGY STAR future program design and savings, which will shift to a deemed savings model for program year 2020.
- Review of the impacts of 2020 residential and commercial building code changes, including implementation schedule and baseline assumptions.
- Review of Efficiency Vermont's THU program update and an appliance voucher program targeted at income-qualified households (see Section 2.2.2).
- Collaboration with the other Vermont EEUs on commercial kitchen rebates.
- Submittal and review of CEI PIP (#122).
- Home Performance with ENERGY STAR 2.0 program discussions.

Technical Reference Manual (TRM)

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. Efficiency Vermont developed 33 new or updated characterizations for several new programs and technologies in 2019 that will impact 2020 programs.

New measures included:

- Low-Income Appliance Replacement Voucher Program—This program includes a set of five measures, which updated four existing measures (freezer early replacement, ENERGY STAR dehumidifiers, efficient clothes washers, energy-efficient refrigerators) and created one new measure (ENERGY STAR room A/C)
- Notched V-Belts

- Home Energy Kits
- High Efficiency Evaporators

Existing measures updated in 2019 included:

- 80 PLUS Servers
- Advanced Thermostat Optimization Services
- Advanced Thermostats
- Brushless Permanent Magnet Circulator Pump
- Efficient Clothes Washers
- Efficient Pool Pumps
- Energy-Efficient Refrigerators
- ENERGY STAR Ceiling Fan
- ENERGY STAR Clothes Dryer
- ENERGY STAR Commercial Ice Makers
- ENERGY STAR Computers
- ENERGY STAR Dehumidifiers
- ENERGY STAR Retail Products Platform
- ENERGY STAR Room A/C
- ENERGY STAR Room A/C Emerging Tech Award
- Freezer Early Replacement
- High-Efficiency Evaporators
- Home Energy Kit
- Insulation and Air Sealing
- Interior Agriculture LED Grow Light
- LED ENERGY STAR Fixtures
- LED ENERGY STAR Screw-Based Lamps
- LED Lighting Systems
- LED Linear Replacement Lamps
- LED Other Fixtures
- LED Other Lamps
- Lighting Controls
- Milk Vacuum Pump VFD

ISO-NE FCM Metering, Monitoring, and Evaluation

This process entailed the identification and metering of completed projects, followed by the acquisition of data to confirm projected savings. In 2019, Efficiency Vermont assessed data for 2018 projects spread over 21 sites, received evaluation reports for 2017 projects, and achieved realization rates of 93.2% for the winter and 94.6% for the summer. Efficiency Vermont filed a verification report to ISO-NE as part of its FCM bid obligations.

Quality Management

Administrative Efficiency

Efficiency Vermont filed the 2015, 2016, 2017, and 2018 administrative cost reports.

Service Quality and Reliability Plan (SQRP)

Efficiency Vermont's contact center experienced record-breaking volume in 2019 as a result of direct marketing efforts. Over 32,500 customer contacts were handled in 2019, compared to 20,500 in 2018, an increase of almost 60%. As a result, response times were longer and the contact center was unable to meet service, quality, and reliability metrics 4, 5, and 6 in the third and fourth quarters. Though these metrics were not achieved, Efficiency Vermont's contact center supported about seven times as many low-income Vermonters and handled about four times as many weatherization inquiries in 2019 as in 2018 while still achieving satisfaction metrics. Additional contact center resources and outreach strategies were developed to more effectively manage peak volume. The following are contact center metrics for 2019:

- Total contact center metrics for 2019
  - 17 seconds average speed to answer
  - 75% of calls handled by a live agent during normal business hours
  - 4% call abandonment rate
- Complaints
  - Received one complaint
  - Followed up within 24 hours—100%
  - Resolution within 12 business days—100%
- 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 will be greater than or equal to 80%)
  - Residential = 87%
  - Commercial = 92%
- Transactional customer satisfaction (as measured by: per each transaction category, annual percentage of survey respondents with average service ratings of 3, or better, equals 90%)
  - Commercial prescriptive projects = 99%
  - Residential new construction = 100%
  - Home Performance with Energy Star = 98%
  - Custom commercial and industrial = 95%

2.4.5 Administration and Regulatory Affairs

General Administration

Efficiency Vermont:

- Engaged in coordination of service implementation across different functions: budget management; participation in regular check-ins with the two other EEUs; and managing, monitoring, and conducting internal communication on overall performance and spending.
- Undertook activities centering on key organizational functions, including preparing and administering the following:
  - Quarterly general staff meetings
  - Weekly leadership team meetings

- Monthly manager exchanges
- Annual leadership strategy and goals meeting
- Change management meetings

Regulatory Affairs (Non-DRP)

Efficiency Vermont:

- Provided data and filed comments on ISO-NE's 2019 draft energy efficiency forecast.
- Provided data for an annual update to the Regional Energy Efficiency Database (REED).
- Attended Commission-led public hearings and filed comments in Case No. 19-0053-RULE expressing support of the Commission's proposed Rule 5.300 regarding the EEC.
- Developed selection criteria for ESA pilot with the Department and ACCD; filed proposed criteria in Case No. 19-0302-INV and participated in a Commission-led workshop in this case. Filed participant recommendations to admit Vermont commercial and industrial customers into the ESA program. Filed comments on the Commission's Proposal for Decision regarding evaluation, measurement and verification of the Self-Managed Energy Efficiency Program and ESA Pilot Program.
- Met with the Department's director of energy efficiency resources to coordinate productive regulatory work processes between Efficiency Vermont and the Department, and to discuss the role of Efficiency Vermont in electrification.
- Attended a Commission-led workshop in Case No. 19-0397-INV regarding updates to cost-effectiveness screening values (including avoided costs) of EEU measures. Attended a Commission-led evidentiary hearing in the case. Filed discovery on the Department's recommended updated cost-effectiveness screening values, a brief summarizing its position in support of Efficiency Vermont's proposed updated avoided costs for use in the state's energy efficiency screening tool, and a reply brief that responded to the Department's proposal in the proceeding.
- Attended two Commission-led workshops in Case No. 17-4999-INV on Rule 3.300 regarding disconnection of residential electric, gas, and water service, and filed a response. Discussed with distribution utilities how energy efficiency referrals could be further developed to help prevent arrearage and/or disconnection, including the creation of a best practices manual that would create opportunities for new cooperative approached and improved communication for coordination among service providers to deliver efficiency services for customers in need.
- In Case No. 19-2956-INV, the investigation required by Act 62 to consider the creation of an all-fuels energy efficiency program, expansion of energy efficiency utility programs and services, and funding options for those programs: filed comments detailing the current status of energy service programs and their funding sources in Vermont and other jurisdictions, attended and presented at Commission led workshops in the proceeding, provided responses to pre-workshop questions and questions raised at workshops, and recommendations for the Commission to consider as part of its preliminary report to the legislature addressing the question of how to deliver energy efficiency for all fuels.

- Filed comments in Case No. 19-3009-INV advocating that the EEC remain the sole efficiency charge associated with electric usage, and that the EEU's services address all electric efficiency opportunities.
- Filed comments proposing an alternative calculation methodology for the 2020 EEC rates in Case No. 19-3402, and a response to the Commission's information request regarding Efficiency Vermont's proposal
- Filed comments in Case No. 18-2867-INV addressing changes to the EEU process and administration document and VEIC's order of appointment. Efficiency Vermont also filed recommendations to facilitate the transfer of RGGI and fiscal agent responsibilities to the EEUs.
- Maintained a regulatory / case tracker to improve internal communications regarding the status of cases and upcoming regulatory deadlines.

Financial and Leveraged Product Development
There was very little activity in 2019 owing to the focus on implementation of existing financial services. See Section 2.3.5, Financial Services.

2.4.6 Information Technology

Core Business Software Applications
Efficiency Vermont supported existing software applications that enable program implementation activities, expanded existing application features, and developed new applications to replace current program software. Major development projects included the tracker project management application, launch of additional programs through the online rebate center, and updates to upstream rebate processing to support distribution utility Tier III partnerships, as well as maintenance releases for existing applications. A total of 139 releases were implemented this year.

Utility Data Management
Efficiency Vermont engaged in:

- Defining and documenting system requirements for utility customer and monthly usage read data work flow and integration.
- Communication, outreach, and support activities to acquire, transfer, and receive utility data securely from Vermont's distribution utilities.
- Ongoing development and maintenance of custom data integration packages to ingest billing data from Vermont's distribution utilities on a quarterly, monthly, and weekly basis to the Tracker utility database.
- Working with several Vermont municipal utilities to update billing data transfer files to conform to the new billing data standard agreement established in Docket 8316. These were Village of Jacksonville Electric Department, Village of Johnson Electric Department, Barton Village Electric Department, and Enosburg Falls Inc. Water & Light Department.
- Working with several AMI-enabled Vermont distribution utilities (such as WEC, VEC, and Stowe Electric Department) to migrate billing data transfer file format and

transfer protocols to conform to the new billing data standard agreement established in Docket 8316. WEC and VEC were completed in 2019. Work with Stowe and GMP was begun in Q4.

- Support for internal utility-specific reporting self-service tools such as the Efficiency Vermont usage data cubes.
- Interim, ad hoc billing data corrections and / or new ingest procedures for distribution utilities to support external non-regulatory reporting purposes.
- Development and maintenance of utility data resources for Efficiency Vermont staff.
- Tracker application support specific to the development and deployment of new embedded utility billing and usage analytics tools.

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 2019, so did the need to provide scaled data systems and architecture to support this growth. Efficiency Vermont's activities included the following:

- Coordination of data development to support new and evolving Efficiency Vermont programs and initiatives in 2019, ensuring consistency and providing for integration with existing warehouse structure.
- Efficiency Vermont reporting warehouse and self-service analytics tool expansions to better meet the needs of the staff and better serve the customer.
- New year updates and changes to a suite of reports used to optimize operations and better monitor program performance and forecasting.
- New report development and deployment to support new Partner and Customer Engagement team tracking needs.
- Database, warehouse, and report development in support of online rebate application project and changes to existing reports impacted by new online processing. Enhanced upstream Web application and online rebate application processing and reporting deliverables.
- Deployment of the live and interactive engagement dashboard for real-time monitoring of engagement activities with customers such as engagements by time, staff member, distribution utility, or town.
- New activity-based report development to better track engagements with customers. Examples: Efficiency Vermont external affairs communication, Efficiency Vermont emerging technology services team–created activities, and lighting distributor activity reports.
- Custom report development to meet Efficiency Vermont's changing program and data needs. Examples: Commercial and Industrial Engineering Progress dashboard, SMB engagement and conversion reports, SMARTLIGHT reporting improvements, ARIES customer tracking reporting, EEN reporting, weatherization acceleration support, and low-income appliance voucher reporting.
- New company management–focused database design changes, data scrubs, and report development in support of Tracker application release. This supports more data-driven account management and integrated report availability.

3. RESOURCE ACQUISITION AND DEVELOPMENT AND SUPPORT SERVICES RESULTS

The tables presented in this section contain information on results from both Resource Acquisition and Development and Support Services activity, as well as a summary of Service Quality and Reliability.

3.1 Resource Acquisition Summary

	Total Efficiency Vermont Resource Acquisition	Thermal Energy and Process Fuels Resource Acquisition[2]	Electric Resource Acquisition	Customer Credit Resource Acquisition
Efficiency Vermont Costs				
Year to Date Costs	$52,620,957	$9,121,217	$43,499,740	$0
Annual Budget Estimate[1]	$53,840,769	$9,121,500	$44,719,269	$0
Unspent Annual Budget Estimate	$1,219,811	$283	$1,219,529	($0)
% Annual Budget Estimate Unspent	2.3%	0.0%	2.7%	0.0%
Other Costs and Commitments				
Participant Costs Year to Date	$39,861,210	$12,408,933	$27,452,277	$0
Third Party Costs Year to Date	$286,042	$223,803	$62,239	$0
Savings Results				
MWh Year to Date	116,129	-26	116,156	0
MWh Cumulative starting 1/1/18	248,569	-7,587	256,157	0
Winter Peak Coincident kW Savings Results				
Winter Coincident Peak kW Year to Date	19,691	-5	19,695	0
Winter Coincident Peak kW Cumulative Starting 1/1/18	42,163	-1,513	43,676	0
Summer Peak Coincident kW Savings Results				
Summer Coincident Peak kW Year to Date	13,296	-59	13,354	0
Summer Coincident Peak kW Cumulative Starting 1/1/18	31,004	-357	31,361	0
TRB Savings Results				
TRB Year to Date	$128,184,220	$26,072,435	$102,111,785	$0
TRB Cumulative Starting 1/1/18	$277,944,741	$66,832,446	$211,112,295	$0
MMBtu Savings Results				
MMBtu Year to Date	150,050	128,273	21,777	0
MMBtu Cumulative Starting 1/1/18	324,382	305,898	18,485	0
MWh Lifetime Savings Results				
MWh Lifetime Year to Date	1,217,276	802	1,216,474	0
MWh Lifetime Cumulative Starting 1/1/18	2,437,833	-115,388	2,553,220	0
Participation				
Partic.w/ installs Year to Date	81,947	4,890	77,057	0
Partic.w/ installs Cumulative starting 1/1/18	186,307	10,053	176,253	1

[1] Annual budgets are estimates only and provided for informational purposes.

[2] Annual incremental net MMBtu savings include savings funded by Thermal Energy and Process Fuels and the State Weatherization Grant

3.2 Budget Summary

	Budget Current Year 2019[1]	Actual Current Year 2019	%	Budget 2018-2020	Actual 2018-2020	%
RESOURCE ACQUISITION						
Electric Efficiency Funds Activities						
Business Sector	$ 25,017,500	$ 20,663,867	83%	$ 75,181,973	$ 44,850,239	60%
Customer Credit	$ -	$ -	0%	$ 243,261	$ 243,261	100%
Residential Sector	$ 19,106,100	$ 22,256,449	116%	$ 57,311,628	$ 41,053,553	72%
Total Electric Efficiency Funds Activities	**$ 44,123,600**	**$ 42,920,315**	**97%**	**$ 132,736,862**	**$ 86,147,053**	**65%**
Thermal Energy and Process Fuels Funds Activities						
Business Sector	$ 2,050,000	$ 1,068,363	52%	$ 6,575,000	$ 3,527,439	54%
Residential Sector	$ 6,950,000	$ 7,931,358	114%	$ 19,925,000	$ 14,326,728	72%
Total Thermal Energy and Process Fuels Funds Activities	**$ 9,000,000**	**$ 8,999,721**	**100%**	**$ 26,500,000**	**$ 17,854,167**	**67%**
TOTAL RESOURCE ACQUISITION	**$ 53,123,600**	**$ 51,920,037**	**98%**	**$ 159,236,862**	**$ 104,001,221**	**65%**
DEVELOPMENT & SUPPORT SERVICES						
Education and Training	$ 930,100	$ 662,845	71%	$ 2,539,600	$ 1,360,831	54%
Applied Research and Development	$ 396,500	$ 339,077	86%	$ 1,160,800	$ 735,258	63%
Planning and Reporting	$ 619,500	$ 673,118	109%	$ 1,633,300	$ 1,033,350	63%
Evaluation, Measurement, and Verification	$ 785,000	$ 441,273	56%	$ 2,032,700	$ 918,865	45%
Administration and Regulatory Affairs	$ 533,200	$ 458,158	86%	$ 1,503,900	$ 906,320	60%
Information Technology	$ 1,360,000	$ 1,364,896	100%	$ 4,080,200	$ 2,750,153	67%
TOTAL DEVELOPMENT & SUPPORT SERVICES	**$ 4,624,300**	**$ 3,939,367**	**85%**	**$ 12,950,500**	**$ 7,704,776**	**59%**
Act 62 Weatherization	**$ 100,000**	**$89,168**	**89%**	**$ 2,250,000**	**$ 89,168**	**4%**
State Weatherization Grant	**$ 200,000**	**$262,662**	**131%**	**$ 350,000**	**$ 262,662**	**75%**
Operations Fee (1.35%)	$ 779,600	$ 754,102	97%	$ 2,324,500	$ 1,504,808	65%
Sub-Total Prior to Performance-Based Compensation	**$ 58,827,500**	**$ 56,965,336**	**97%**	**$ 177,111,862**	**$ 113,562,635**	**64%**
Performance-Based Compensation (3.15%)	$ 1,823,300	$ 1,759,571	97%	$ 5,452,200	$ 3,518,739	65%
Total Efficiency Vermont	**$ 60,650,800**	**$ 58,724,907**	**97%**	**$ 182,564,062**	**$ 117,081,374**	**64%**

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

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. 2019 FCM activities are discussed in Section 2.5.3.

3.3 Electric Performance Indicators & Minimum Requirements

QPI#	Title	Performance Indicator / Milestone	Target	Status	%
1	Total Resource Benefits	Present worth of lifetime electric, fossil, and water benefits	$318,107,900	$211,112,295	66%
2	Annual Electricity Savings	Annual incremental net MWh savings	357,400	256,157	72%
3	Statewide Summer Peak Demand Savings	Cumulative net summer peak demand (kW) savings	45,900	31,361	68%
4	Statewide Winter Peak Demand Savings	Cumulative net winter peak demand (kW) savings	62,400	43,676	70%
5	Lifetime Electricity Savings	Lifetime incremental net MWh savings	3,582,200	2,553,220	71%

MPR#	Title	Minimum Requirement	Minimum	Status	%
6	Minimum Electric Benefits	Total electric benefits divided by total costs	1.2	2.0	170%
7	Threshold (or minimum acceptable) Level of Participation by Residential Customers	Total residential sector spending	$39,956,000	$41,607,776	104%
8	Threshold (or minimum acceptable) Level of Participation by Low-Income Households	Total low-income single and multifamily services spending	$11,050,000	$9,392,870	85%
9	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	4,589	229%
10	Geographic Equity	TRB for each geographic area is greater than values shown on Geo-Equity Table	12	11	92%
11	Administrative Efficiency	To clearly define and track all administrative costs, including incentive and non-incentive costs, associated with Efficiency Vermont's delivery of services under the Order of Appointment	1	1	100%
12	Service Quality	Achieve 92 or more metric points	92	49	53%
13	Resource Acquisition- Performance Period Spending	Total spending for a three-year performance period (including applicable operations fees) is less than threshold	$135,906,528	$87,063,494	64%
14	Development and Support Services- Performance Period Spending	Total spending for a three-year performance period (including applicable operations fees) is less than threshold	$14,138,248	$7,808,791	55%

3.4 Electric Minimum TRB per Geographic Area (QPI #10)

Geographic Area[1]	Required TRB per Geographic Area[2]	Period To Date TRB per Geographic Area	% of Goal
Addison	$8,560,403	$16,178,429	189%
Bennington	$10,017,250	$13,284,651	133%
Caledonia	$6,857,686	$7,083,283	103%
Chittenden	$49,652,236	$50,447,278	102%
Essex/Orleans	$7,204,954	$9,924,105	138%
Franklin	$14,070,521	$20,160,565	143%
Grand Isle/Lamoille	$7,859,883	$11,898,860	151%
Orange	$5,109,183	$6,955,193	136%
Rutland	$17,017,418	$25,723,338	151%
Washington	$13,534,722	$22,376,684	165%
Windham	$15,170,850	$12,907,896	85%
Windsor	$14,124,738	$14,172,011	100%
Total	**$169,179,844**	**$211,112,295**	**125%**

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

[2] Required Total Resource Benefits (TRB) targets have been adjusted for Customer Credit

3.5 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[1]	388,700	305,898	79%
2	Residential Single Family Comprehensiveness	Combined performance for metrics 2.a.-2.d.[2]	100%	101%	101%
		a. Average air leakage reduction per comprehensive project	34%	32%	94%
		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%	60%	136%
		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%	16%	101%
		d. Number of comprehensive projects completed.	2,286	1,444	63%

MPR#	Title	Minimum Requirement	Minimum	Status	%
3	Threshold (or minimum acceptable) Level of Participation by Residential Customers	Residential sector spending as % of total spending	62.5%	80.2%	128%
4	Threshold (or minimum acceptable) Level of Participation by Low-Income Households	Low-income single- and multi-family spending as % of total spending	17.0%	24.9%	147%
5	Performance Period Spending	Total spending for a three-year performance period (including applicable operations fees) is less than threshold	$27,116,193	$18,095,199	67%

[1] Annual incremental net MMBtu savings include savings funded by Thermal Energy and Process Fuels and the State Weatherization Grant

[2] Performance for QPI #2 is based on a weighted average of performance for each of the components within the QPI. Components 2a, 2b, and 2c each contribute 30% toward the weighted average, and component 2d contributes 10% toward the weighted average, representing a total of 100%. Performance of individual components in the weighted average are each capped at a value of 120% compared to their 100% targets.

3.6 Service Quality and Reliability Summary Report

Metric #	Metric Description	Reporting Frequency	Performance this Period	Points Earned this Period	Cumulative 2018-20 Points Earned	Total Possible 2018-20 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	97.9%	4	8	12	67%
4	Average answer time shall be ≤ 15 seconds per call	quarterly	22	0	6	12	50%
5	Average percentage of calls answered shall be ≥ 85%	quarterly	68%	0	5	12	42%
6	Average percentage of abandoned calls shall be ≤ 3%	quarterly	5%	0	6	12	50%
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	0.001%	4	8	12	67%
	Totals			**10**	**49**	**108**	**45%**

3.7 Electric Resource Acquisition Summary

	Totals				Business Energy Services		Residential Energy Services			Other
Services	All Resource Acquisition (including CC)	Efficiency Vermont Resource Acquisition	Subtotal Business Energy Services	Subtotal Residential Energy Services	Business New Construction	Business Existing Facilities	Residential New Construction	Efficient Products	Existing Homes	Customer Credit Program
Electric Resource Acquisiton Costs										
Year to Date Costs	$43,499,739	$43,499,739	$20,942,829	$22,556,911	$2,359,488	$18,583,341	$3,331,623	$13,183,965	$6,041,322	$0
Annual Budget Estimate[1]	$44,719,269	$44,719,269	$25,355,236	$19,364,032	$2,272,064	$23,083,172	$3,077,797	$10,634,250	$5,651,985	$0
Unspent Annual Budget Estimate	$1,219,529	$1,219,529	$4,412,407	($3,192,878)	($87,423)	$4,499,831	($253,826)	($2,549,715)	($389,337)	($0)
% Annual Budget Estimate Unspent	3%	3%	17%	-16%	-4%	19%	-8%	-24%	-7%	0%
Savings Results										
MWh Year to Date	116,156	116,156	69,369	46,787	9,258	60,110	2,053	41,034	3,701	0
MWh Cumulative starting 1/1/18	256,157	256,157	155,293	100,864	14,121	141,172	4,191	91,102	5,571	0
3-Year MWh Goal	nap	357,400	212,489	144,912	22,737	189,752	5,032	118,772	21,108	N/A
% of 3-Year MWh Goal	nap	72%	73%	70%	62%	74%	83%	77%	26%	nap
Winter Coincident Peak kW Year to Date	19,695	19,695	8,441	11,254	1,107	7,334	367	10,085	802	0
Winter Coincident Peak kW Cumulative starting 1/1/18	43,676	43,676	18,802	24,874	1,769	17,033	855	22,832	1,187	0
3-Year Winter Coincident Peak kW Goal	nap	45,900	32,100	13,801	3,793	28,307	231	11,326	2,244	N/A
% of 3-Year Winter Coincident Peak kW Goal	nap	95%	59%	180%	47%	60%	370%	202%	53%	nap
Summer Coincident Peak kW Year to Date	13,354	13,354	9,695	3,659	1,381	8,314	153	3,209	297	0
Summer Coincident Peak kW Cumulative starting 1/1/18	31,361	31,361	22,547	8,814	2,133	20,414	393	7,957	465	0
3-Year Summer Coincident Peak kW Goal	nap	45,900	32,100	13,801	3,793	28,307	231	11,326	2,244	N/A
% of 3-Year Summer Coincident Peak kW Goal	nap	68%	70%	64%	56%	72%	170%	70%	21%	nap
TRB Year to Date	$102,111,785	$102,111,785	$62,747,794	$39,363,991	$13,473,545	$49,274,250	$5,027,150	$29,702,227	$4,634,614	$0
TRB Cumulative starting 1/1/18	$211,112,295	$211,112,295	$132,253,915	$78,858,380	$19,065,218	$113,188,697	$13,043,582	$59,718,048	$6,096,750	$0
3-Year TRB Goal	nap	$318,107,900	$234,818,226	$83,289,674	$37,124,858	$197,693,368	$12,291,171	$59,409,959	$11,588,544	N/A
% of 3-Year TRB Goal	nap	66%	56%	95%	51%	57%	106%	101%	53%	nap
Associated Benefits										
MMBtu Year to Date	21,777	21,777	3,763	18,014	13,457	(9,694)	9,702	3,622	4,690	0
MMBtu Cumulative starting 1/1/18	18,485	18,485	(10,070)	28,555	13,763	(23,833)	25,302	(2,027)	5,280	0
MWh Lifetime Savings Results										
MWh Lifetime to Date	1,216,474	1,216,474	762,256	454,218	134,089	628,167	37,131	380,503	36,584	0
MWh Lifetime starting 1/1/18	2,553,220	2,553,220	1,642,630	910,590	201,656	1,440,974	78,856	779,327	52,407	0
3-Year MWh Lifetime Goal	N/A	3,582,200	2,606,848	975,353	338,297	2,268,551	68,154	783,958	123,241	N/A
% of 3-Year MWh Lifetime Goal	N/A	71%	63%	93%	60%	64%	116%	99%	43%	N/A
Participation										
Partic.w/ installs Year to Date	77,057	77,057	9,240	67,817	71	9,169	627	62,700	4,490	0
Partic.w/ installs Cumulative starting 1/1/18	176,254	176,253	19,231	157,022	163	19,068	1,452	149,072	6,498	1

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

3.8 Electric Resource Acquisition including Customer Credit

	Prior Year 2018	Current Year 2019	Cumulative starting 1/1/18	Cumulative starting 1/1/12
# participants with installations	103,890	77,057	176,254	584,072
Operating Costs				
Administration	$3,250,843	$2,880,846	$6,131,689	$23,992,506
Programs and Implementation	$4,233,501	$5,153,429	$9,386,929	$38,597,329
Strategy and Planning	$1,049,401	$1,041,305	$2,090,706	$10,571,263
Subtotal Operating Costs	**$8,533,744**	**$9,075,580**	**$17,609,324**	**$73,161,098**
Technical Assistance Costs				
Services to Participants	$6,470,300	$6,898,710	$13,369,010	$44,555,607
Services to Trade Allies	$1,147,711	$1,132,897	$2,280,608	$8,512,122
Subtotal Technical Assistance Costs	**$7,618,011**	**$8,031,606**	**$15,649,617**	**$53,067,729**
Support Services				
Consulting	$297,244	$310,949	$608,193	$2,321,485
Customer Support	$104,101	$117,166	$221,266	$1,659,734
Data and Technical Services	$674,699	$695,450	$1,370,149	$2,926,758
Information Technology	$0	$0	$0	$124,663
Marketing	$2,364,297	$2,851,262	$5,215,560	$16,214,598
Policy & Public Affairs	$15,889	$2,614	$18,503	$301,698
Other	$0	$0	$0	$108,624
Subtotal Support Services Costs	**$3,456,230**	**$3,977,441**	**$7,433,671**	**$23,657,559**
Incentive Costs				
Incentives to Participants	$24,051,561	$21,572,569	$45,624,130	$176,059,359
Incentives to Trade Allies	$147,530	$842,544	$990,074	$1,258,575
Subtotal Incentive Costs	**$24,199,091**	**$22,415,112**	**$46,614,204**	**$177,317,934**
Total Efficiency Vermont Costs	**$43,807,077**	**$43,499,740**	**$87,306,816**	**$327,204,320**
Total Participant Costs	$24,528,692	$27,452,277	$51,980,969	$175,113,523
Total Third Party Costs	$91,135	$62,239	$153,374	$3,161,166
Total Resource Acquisition Costs	**$68,426,904**	**$71,014,256**	**$139,441,159**	**$505,479,009**
Annualized MWh Savings	140,001	116,156	256,157	964,008
Lifetime MWh Savings	1,336,746	1,216,474	2,553,220	10,205,611
TRB Savings (2018 $)	$109,000,509	$102,111,785	$211,116,900	$828,189,002
Winter Coincident Peak kW Savings	23,981	19,695	43,676	169,342
Summer Coincident Peak kW Savings	18,007	13,354	31,361	113,759
Annualized MWh Savings/Participant	1.348	1.507	1.453	1.650
Weighted Lifetime	9.5	10.5	10.0	10.6

Annualized MWh Savings (adjusted for measure life)	884,105
Winter Coincident Peak kW Savings (adjusted for measure life)	153,278
Summer Coincident Peak kW Savings (adjusted for measure life)	102,304

3.9 Electric Resource Acquisition excluding Customer Credit

	Prior Year 2018	Current Year 2019	Cumulative starting 1/1/18	Cumulative starting 1/1/12
# participants with installations	103,889	77,057	176,253	584,069
Operating Costs				
Administration	$3,249,904	$2,880,846	$6,130,750	$23,509,951
Programs and Implementation	$4,233,501	$5,153,429	$9,386,929	$38,515,393
Strategy and Planning	$1,049,401	$1,041,305	$2,090,706	$10,561,632
Subtotal Operating Costs	**$8,532,806**	**$9,075,580**	**$17,608,385**	**$72,586,976**
Technical Assistance Costs				
Services to Participants	$6,466,761	$6,898,710	$13,365,471	$44,431,809
Services to Trade Allies	$1,147,711	$1,132,897	$2,280,608	$8,489,097
Subtotal Technical Assistance Costs	**$7,614,472**	**$8,031,606**	**$15,646,078**	**$52,920,906**
Support Services				
Consulting	$297,244	$310,949	$608,193	$2,314,347
Customer Support	$104,101	$117,166	$221,266	$1,652,588
Data and Technical Services	$674,571	$695,450	$1,370,021	$2,919,728
Information Technology	$0	$0	$0	$124,017
Marketing	$2,364,297	$2,851,262	$5,215,560	$16,176,219
Policy & Public Affairs	$15,889	$2,614	$18,503	$293,640
Other	$0	$0	$0	$106,873
Subtotal Support Services Costs	**$3,456,102**	**$3,977,441**	**$7,433,544**	**$23,587,413**
Incentive Costs				
Incentives to Participants	$23,812,844	$21,572,569	$45,385,413	$169,808,238
Incentives to Trade Allies	$147,530	$842,544	$990,074	$1,258,563
Subtotal Incentive Costs	**$23,960,374**	**$22,415,112**	**$46,375,487**	**$171,066,801**
Total Efficiency Vermont Costs	**$43,563,755**	**$43,499,739**	**$87,063,494**	**$320,162,096**
Total Participant Costs	$24,767,409	$27,452,277	$52,219,686	$175,420,191
Total Third Party Costs	$91,135	$62,239	$153,374	$3,161,166
Total Resource Acquisition Costs	**$68,422,298**	**$71,014,256**	**$139,436,554**	**$498,743,454**

Annualized MWh Savings	140,001	116,156	256,157	933,437
Lifetime MWh Savings	1,336,746	1,216,474	2,553,220	9,997,833
TRB Savings (2018 $)	$109,000,509	$102,111,785	$211,112,295	$816,407,210
Winter Coincident Peak kW Savings	23,981	19,695	43,676	168,218
Summer Coincident Peak kW Savings	18,007	13,354	31,361	112,637
Annualized MWh Savings/Participant	1.348	1.507	1.453	1.598
Weighted Lifetime	9.5	10.5	10.0	10.7

Annualized MWh Savings (adjusted for measure life)	853,534
Winter Coincident Peak kW Savings (adjusted for measure life)	152,154
Summer Coincident Peak kW Savings (adjusted for measure life)	101,182

3.10 Electric Resource Acquisition - End Use Breakdown

End Use	# of Participants	Net MWH Saved	Gross MWH Saved	Net Lifetime MWH Saved	Net Winter KW Saved	Net Summer KW Saved	Net Other Fuel MMBTU Saved	Net TRB Saved	Participant Incentives Paid	Participant Costs
Air Conditioning Eff.	1,396	2,141	2,071	30,247	39	370	0	$2,214,174	$310,296	$503,343
Behavior Change	6	678	598	1,485	0	0	0	$63,681	$100	$0
Cooking and Laundry	2,762	1,528	1,645	19,203	213	163	1,459	$2,434,937	$527,846	$669,353
Design Assistance	164	420	388	3,313	-5	131	1,679	$579,072	$702,347	$837,227
Electronics	179	43	38	252	4	4	0	$17,479	$6,639	$4,333
Hot Water Efficiency	2,019	3,079	2,500	39,267	469	237	-2,550	$2,441,502	$834,712	$512,129
Industrial Process Eff.	56	6,246	6,588	75,668	823	625	967	$5,695,857	$883,477	$2,197,255
Lighting	61,723	77,459	72,646	707,343	13,879	9,537	-23,041	$51,296,989	$9,005,167	$16,922,058
Motors	1,648	4,079	3,824	48,131	492	814	-144	$4,183,871	$667,705	$1,199,027
Other Efficiency	4,216	4,358	3,839	52,357	990	350	10,882	$7,512,181	$1,527,996	-$354,257
Other Fuel Switch	1	83	85	1,765	15	14	-36	$145,679	$7,000	$93,589
Other Indirect Activity	227	0	0	0	0	0	0	$0	$1,034,781	-$524,051
Refrigeration	2,858	6,206	5,728	84,737	800	723	6,636	$7,453,148	$1,291,833	$1,472,940
Space Heat Efficiency	6,352	8,014	7,726	129,254	1,754	198	19,358	$12,998,456	$4,515,343	$2,945,674
Space Heat Fuel Switch	26	12	10	233	4	0	213	$268,422	$17,500	$111,412
Ventilation	1,102	1,808	1,646	23,201	219	188	6,135	$2,559,516	$220,925	$683,467
Water Conservation	244	3	2	20	1	0	218	$2,246,821	$18,899	$178,778
Totals		116,156	109,335	1,216,474	19,695	13,354	21,777	$102,111,785	$21,572,568	$27,452,277

3.11 Electric Resource Acquisition - Utility Breakdown

Utility	# of Participants	Net MWH Saved	Gross MWH Saved	Net Lifetime MWH Saved	Net Winter KW Saved	Net Summer KW Saved	Net Other Fuel MMBTU Saved	Net TRB Saved	Participant Incentives Paid	Participant Costs
Barton	186	286	257	3,456	55	13	15	$226,724	$71,674	$71,019
Burlington	2,277	1,418	1,442	6,979	321	161	-266	$538,960	$76,818	$248,099
Enosburg Falls	483	580	540	5,584	120	65	99	$489,165	$68,214	$115,582
Green Mountain	60,924	93,081	87,895	985,229	15,556	10,861	20,468	$82,968,336	$17,721,180	$23,008,069
Hardwick	680	685	632	6,836	133	68	291	$647,578	$132,160	$197,350
Hyde Park	317	276	260	2,184	56	30	48	$199,231	$37,082	$43,026
Jacksonville	35	34	32	364	8	2	14	$30,693	$6,849	$8,922
Johnson	179	193	185	1,524	38	22	128	$159,591	$29,215	$28,284
Ludlow	540	512	493	3,610	94	65	-167	$293,032	$56,023	$81,332
Lyndonville	790	1,270	1,192	9,708	271	112	-67	$762,837	$189,874	$157,092
Morrisville	981	1,274	1,220	12,849	219	185	-237	$1,066,080	$183,810	$355,317
Northfield	354	521	483	5,779	92	62	146	$485,373	$143,055	$129,387
Orleans	140	302	269	3,575	57	22	5	$259,663	$68,139	$66,641
Stowe	1,020	3,918	3,636	38,917	506	423	906	$2,934,986	$330,040	$670,158
Swanton	804	1,298	1,210	13,912	248	165	-695	$1,062,866	$168,994	$206,753
VT Electric Coop	6,017	9,042	8,259	99,754	1,644	978	741	$8,671,625	$1,853,744	$1,757,237
Washington Electric	1,330	1,465	1,329	16,215	278	121	349	$1,315,047	$435,696	$308,011
Totals	77,057	116,156	109,335	1,216,474	19,695	13,354	21,777	$102,111,785	$21,572,568	$27,452,277

3.12 Electric Resource Acquisition - County Breakdown

County	# of Participants	Net MWH Saved	Gross MWH Saved	Net Lifetime MWH Saved	Net Winter KW Saved	Net Summer KW Saved	Net Other Fuel MMBTU Saved	Net TRB Saved	Participant Incentives Paid	Participant Costs
Addison	3,631	7,595	7,164	82,895	1,226	967	587	$6,641,912	$1,351,426	$2,719,757
Bennington	6,370	8,117	7,763	73,826	1,329	944	2,100	$5,934,059	$1,168,629	$1,844,355
Caledonia	2,669	4,534	4,264	45,700	786	465	-293	$3,459,614	$782,180	$1,099,660
Chittenden	23,140	28,687	27,414	270,173	4,909	3,606	3,264	$23,004,606	$5,546,805	$5,344,875
Essex	227	325	290	4,358	63	27	-11	$303,821	$98,890	$51,008
Franklin	4,938	10,937	10,093	132,391	1,830	1,294	-274	$11,657,310	$1,355,265	$2,010,969
Grand Isle	850	890	821	9,394	179	94	515	$1,538,292	$219,591	$198,217
Lamoille	3,333	6,676	6,259	64,556	997	782	935	$5,152,387	$745,028	$1,264,383
Orange	2,159	4,220	3,835	47,013	668	407	2,753	$3,901,024	$901,485	$1,391,717
Orleans	3,505	5,225	4,781	57,411	946	528	-189	$4,338,286	$939,236	$1,044,086
Rutland	10,023	14,798	14,124	159,341	2,491	1,624	-598	$12,141,248	$2,981,653	$3,646,750
Washington	8,063	11,343	10,641	127,131	2,001	1,228	7,264	$11,764,243	$2,213,314	$3,838,279
Windham	3,539	6,407	6,011	70,205	1,116	698	3,272	$6,099,110	$1,542,412	$1,865,227
Windsor	4,610	6,402	5,874	72,080	1,154	690	2,451	$6,175,872	$1,726,655	$1,132,995
Totals	77,057	116,156	109,335	1,216,474	19,695	13,354	21,777	$102,111,785	$21,572,568	$27,452,277

3.13 Electric Resource Acquisition Total Resource Benefits

Avoided Cost Benefits	2019	Lifetime (Present Value)
Avoided Cost of Electricity	nap	$89,515,397
Fossil Fuel Savings (Costs)	$388,575	$5,773,376
Water Savings (Costs)	$304,435	$6,823,010
Total	**$693,010**	**$102,111,785**

Electric Energy & Demand Benefits	Savings at Meter		Savings at Generation
	Gross	Net	Net
Annualized Energy Savings (MWh): Total	**109,335**	**102,219**	**116,156**
Winter on peak	42,023	39,131	44,922
Winter off peak	34,300	32,181	36,139
Summer on peak	18,061	16,850	19,377
Summer off peak	14,953	14,057	15,730
Coincident Demand Savings (kW)			
Winter	18,924	17,696	19,695
Shoulder	0	0	0
Summer	12,877	12,009	13,354

Thermal & Other Benefits	Gross	Net	Lifetime Net
Annualized Water Savings (ccf)	**78,888**	**70,799**	**837,023**
Annualized fuel savings (increase) MMBtu Total	**22,260**	**21,777**	**479,947**
LP	19,997	18,536	264,467
NG	10,318	10,371	173,101
Oil/Kerosene	(12,152)	(11,118)	(46,178)
Wood	3,726	3,801	86,669
Solar	0	0	0
Other	0	0	0
Annualized savings (increase) in O&M($)	**$1,285,861**	**$1,169,124**	**$9,160,287**

Net Societal Benefits	$106,980,166

3.14 Electric Business Energy Services Summary

	Prior Year 2018	Current Year 2019	Cumulative starting 1/1/18
# participants with installations	11,465	9,240	19,231
Operating Costs			
Administration	$1,779,486	$1,243,100	$3,022,585
Programs and Implementation	$1,823,358	$2,177,446	$4,000,804
Strategy and Planning	$570,416	$591,010	$1,161,426
Subtotal Operating Costs	**$4,173,259**	**$4,011,556**	**$8,184,815**
Technical Assistance Costs			
Services to Participants	$4,494,597	$4,952,352	$9,446,949
Services to Trade Allies	$877,649	$855,006	$1,732,655
Subtotal Technical Assistance Costs	**$5,372,247**	**$5,807,358**	**$11,179,605**
Support Services			
Consulting	$126,061	$147,545	$273,607
Customer Support	$55,141	$48,997	$104,138
Data and Technical Services	$438,842	$483,838	$922,680
Information Technology	$0	$0	$0
Marketing	$1,272,463	$1,385,614	$2,658,077
Policy & Public Affairs	$9,450	$1,513	$10,963
Other	$0	$0	$0
Subtotal Support Services Costs	**$1,901,957**	**$2,067,508**	**$3,969,465**
Incentive Costs			
Incentives to Participants	$13,065,225	$8,677,109	$21,742,334
Incentives to Trade Allies	$200	$379,298	$379,498
Subtotal Incentive Costs	**$13,065,425**	**$9,056,407**	**$22,121,832**
Total Efficiency Vermont Costs	**$24,512,888**	**$20,942,829**	**$45,455,717**
Total Participant Costs	$13,760,793	$18,302,516	$32,063,309
Total Third Party Costs	$1,300	$27,672	$28,972
Total Resource Acquisition Costs	**$38,274,981**	**$39,273,017**	**$77,547,998**
Annualized MWh Savings	85,924	69,369	155,293
Lifetime MWh Savings	880,376	762,256	1,642,630
TRB Savings (2018 $)	$69,506,120	$62,747,794	$132,253,915
Winter Coincident Peak kW Savings	10,361	8,441	18,802
Summer Coincident Peak kW Savings	12,851	9,695	22,547
Annualized MWh Savings/Participant	7.494	7.507	8.075
Weighted Lifetime	10.2	11.0	10.6

3.15 Electric Business Energy Services - End Use Breakdown

End Use	# of Participants	Net MWH Saved	Gross MWH Saved	Net Lifetime MWH Saved	Net Winter KW Saved	Net Summer KW Saved	Net Other Fuel MMBTU Saved	Net TRB Saved	Participant Incentives Paid	Participant Costs
Air Conditioning Eff.	80	1,467	1,328	22,354	36	208	0	$1,535,188	$154,284	$465,666
Behavior Change	6	678	598	1,485	0	0	0	$63,681	$100	$0
Cooking and Laundry	33	182	169	2,171	27	25	638	$299,489	$21,627	$34,774
Design Assistance	102	420	388	3,313	-5	131	1,679	$579,072	$658,654	$809,405
Electronics	1	6	5	56	1	1	0	$4,229	$0	$0
Hot Water Efficiency	59	183	164	2,187	31	15	770	$298,331	$63,140	$243,021
Industrial Process Eff.	56	6,246	6,588	75,668	823	625	967	$5,695,857	$883,477	$2,197,255
Lighting	8,033	48,123	44,820	494,293	5,876	7,406	-22,896	$36,156,204	$4,526,622	$10,135,049
Motors	83	3,097	2,961	35,245	435	416	-155	$2,846,110	$377,338	$847,379
Other Efficiency	447	21	20	626	3	3	0	$46,166	$41,417	$6,463
Other Fuel Switch	1	72	71	1,439	9	9	0	$106,408	$7,000	$79,432
Other Indirect Activity	33	0	0	0	0	0	0	$0	$772,331	-$410,305
Refrigeration	244	5,546	5,041	77,932	740	648	6,636	$6,966,409	$521,199	$1,625,240
Space Heat Efficiency	540	1,701	1,578	25,148	275	38	11,042	$3,737,537	$449,455	$1,581,930
Space Heat Fuel Switch	4	0	0	2	0	0	255	$229,094	$15,500	$98,412
Ventilation	57	1,631	1,489	20,352	192	173	4,608	$2,091,955	$166,066	$554,822
Water Conservation	8	-4	-4	-15	0	-1	218	$2,092,064	$18,899	$33,974
Totals		69,369	65,216	762,256	8,441	9,695	3,763	$62,747,794	$8,677,109	$18,302,516

3.16 Electric Residential Energy Services Summary

	Prior Year 2018	Current Year 2019	Cumulative starting 1/1/18
# participants with installations	92,424	67,817	157,022
Operating Costs			
Administration	$1,470,419	$1,637,746	$3,108,165
Programs and Implementation	$2,410,143	$2,975,983	$5,386,125
Strategy and Planning	$478,985	$450,295	$929,280
Subtotal Operating Costs	**$4,359,546**	**$5,064,024**	**$9,423,570**
Technical Assistance Costs			
Services to Participants	$1,972,164	$1,946,358	$3,918,521
Services to Trade Allies	$270,061	$277,891	$547,952
Subtotal Technical Assistance Costs	**$2,242,225**	**$2,224,248**	**$4,466,474**
Support Services			
Consulting	$171,183	$163,404	$334,587
Customer Support	$48,960	$68,168	$117,128
Data and Technical Services	$235,729	$211,612	$447,341
Information Technology	$0	$0	$0
Marketing	$1,091,834	$1,465,648	$2,557,482
Policy & Public Affairs	$6,439	$1,101	$7,540
Other	$0	$0	$0
Subtotal Support Services Costs	**$1,554,145**	**$1,909,933**	**$3,464,078**
Incentive Costs			
Incentives to Participants	$10,747,620	$12,895,459	$23,643,079
Incentives to Trade Allies	$147,330	$463,246	$610,576
Subtotal Incentive Costs	**$10,894,950**	**$13,358,705**	**$24,253,655**
Total Efficiency Vermont Costs	**$19,050,866**	**$22,556,911**	**$41,607,777**
Total Participant Costs	$11,006,616	$9,149,761	$20,156,377
Total Third Party Costs	$89,835	$34,567	$124,402
Total Resource Acquisition Costs	**$30,147,317**	**$31,741,239**	**$61,888,556**

Annualized MWh Savings	54,077	46,787	100,864
Lifetime MWh Savings	456,370	454,218	910,590
TRB Savings (2018 $)	$41,734,456	$39,363,991	$78,858,380
Winter Coincident Peak kW Savings	13,620	11,254	24,874
Summer Coincident Peak kW Savings	5,155	3,659	8,814
Annualized MWh Savings/Participant	0.585	0.690	0.642
Weighted Lifetime	8.4	9.7	9.0

3.17 Electric Residential Energy Services - End Use Breakdown

End Use	# of Participants	Net MWH Saved	Gross MWH Saved	Net Lifetime MWH Saved	Net Winter KW Saved	Net Summer KW Saved	Net Other Fuel MMBTU Saved	Net TRB Saved	Participant Incentives Paid	Participant Costs
Air Conditioning Eff.	1,316	674	744	7,893	3	162	0	$678,986	$156,013	$37,677
Cooking and Laundry	2,729	1,347	1,476	17,032	186	138	821	$2,135,448	$506,219	$634,579
Design Assistance	62	0	0	0	0	0	0	$0	$43,693	$27,822
Electronics	178	37	33	196	3	4	0	$13,250	$6,639	$4,333
Hot Water Efficiency	1,960	2,896	2,336	37,080	438	223	-3,321	$2,143,171	$771,572	$269,108
Lighting	53,690	29,336	27,826	213,050	8,003	2,131	-145	$15,140,785	$4,478,546	$6,787,010
Motors	1,565	982	863	12,886	57	398	10	$1,337,761	$290,367	$351,648
Other Efficiency	3,769	4,337	3,818	51,731	987	347	10,882	$7,466,015	$1,486,579	-$360,720
Other Fuel Switch	0	11	14	325	6	5	-36	$39,270	$0	$14,157
Other Indirect Activity	194	0	0	0	0	0	0	$0	$262,450	-$113,746
Refrigeration	2,614	660	687	6,805	60	75	0	$486,739	$770,634	-$152,300
Space Heat Efficiency	5,812	6,313	6,148	104,106	1,479	161	8,316	$9,260,919	$4,065,887	$1,363,744
Space Heat Fuel Switch	22	12	10	232	4	0	-41	$39,328	$2,000	$13,000
Ventilation	1,045	177	158	2,849	27	15	1,528	$467,562	$54,859	$128,645
Water Conservation	236	7	6	34	1	0	0	$154,758	$0	$144,804
Totals		46,787	44,118	454,218	11,254	3,659	18,014	$39,363,991	$12,895,459	$9,149,761

3.18 Thermal Energy and Process Fuels Resource Acquisition Summary

				Business Energy Services		Residential Energy Services		
Services	Efficiency Vermont Services and Initiatives	Subtotal Business Energy Services	Subtotal Residential Energy Services	Business New Construction	Business Existing Facilities	Residential New Construction	Efficient Products	Existing Homes[2]
Costs								
Year to Date Costs	$9,121,218	$1,082,786	$8,038,431	$0	$1,082,786	$0	$1,206,122	$6,832,309
Annual Budget Estimate[1]	$9,121,500	$2,077,675	$7,043,825	$0	$2,077,675	$0	$830,764	$6,213,060
Unspent Annual Budget Estimate	$282	$994,889	($994,607)	($0)	$994,889	($0)	($375,358)	($619,249)
% Annual Budget Estimate Unspent	0%	48%	-14%	0%	48%	0%	-45%	-10%
Savings Results								
MMBtu Year to Date	128,273	64,076	64,197	-	64,076	-	43,316	20,881
MMBtu Cumulative starting 1/1/18	305,898	154,816	151,082	4,136	150,680	3,427	106,727	40,927
3-Year MMBtu Goal	388,700	244,050	144,650	15,650	228,400	12,700	49,200	82,750
% of 3-Year MMBtu Goal	79%	63%	104%	26%	66%	27%	217%	49%
Associated Electric Benefits								
MWh Year to Date	(26)	290	(316)	-	290	-	(280)	(36)
MWh Cumulative starting 1/1/18	(7,587)	(479)	(7,108)	(16)	(463)	22	(7,229)	98
Lifetime MWh Year to Date	802	4,454	(3,653)	-	4,454	-	(3,628)	(25)
Lifetime MWh Cumulative starting 1/1/18	(115,388)	(11,386)	(104,002)	(127)	(11,259)	325	(107,454)	3,127
Winter Coincident Peak kW Year to Date	(5)	32	(36)	0	32	0	(21)	(16)
Winter Coincident Peak kW Cumulative starting 1/1/18	(1,513)	(141)	(1,373)	5	(146)	16	(1,411)	23
Summer Coincident Peak kW Year to Date	(59)	(29)	(30)	0	(29)	0	(24)	(5)
Summer Coincident Peak kW Cumulative starting 1/1/18	(357)	(77)	(281)	6	(82)	10	(284)	(7)
Participation								
Partic.w/ installs Year to Date	4,890	194	4,696	-	194	-	2,430	2,266
Partic.w/ installs Cumulative starting 1/1/18	10,053	536	9,517	34	502	82	5,798	3,637

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

[2] Annual incremental net MMBtu savings include savings funded by Thermal Energy and Process Fuels and the State Weatherization Grant

3.19 Thermal Energy and Process Fuels Resource Acquisition

	Prior Year 2018	Current Year 2019	Cumulative starting 1/1/18
# participants with installations	5,348	4,890	10,053
Operating Costs			
Administration	$638,700	$667,902	$1,306,603
Programs and Implementation	$1,251,332	$1,454,688	$2,706,020
Strategy and Planning	$220,066	$111,714	$331,780
Subtotal Operating Costs	**$2,110,098**	**$2,234,305**	**$4,344,403**
Technical Assistance Costs			
Services to Participants	$700,703	$587,970	$1,288,673
Services to Trade Allies	$43,302	$28,630	$71,932
Subtotal Technical Assistance Costs	**$744,005**	**$616,600**	**$1,360,605**
Support Services			
Consulting	$104,651	$46,627	$151,278
Customer Support	$34,914	$28,909	$63,824
Data and Technical Services	$73,212	$87,061	$160,272
Information Technology	$0	$0	$0
Marketing	$397,789	$499,380	$897,169
Policy & Public Affairs	$184	$988	$1,172
Other	$0	$0	$0
Subtotal Support Services Costs	**$610,750**	**$662,965**	**$1,273,715**
Incentive Costs			
Incentives to Participants	$5,361,429	$5,393,247	$10,754,677
Incentives to Trade Allies	$147,698	$214,100	$361,798
Subtotal Incentive Costs	**$5,509,128**	**$5,607,347**	**$11,116,475**
Total Efficiency Vermont Costs	**$8,973,982**	**$9,121,218**	**$18,095,199**
Total Participant Costs	$18,110,662	$12,408,933	$30,519,595
Total Third Party Costs	$295,202	$223,803	$519,005
Total Resource Acquisition Costs	**$27,379,846**	**$21,753,953**	**$49,133,800**
Annualized MMBtu Savings	177,624	128,273	305,898
Lifetime MMBtu Savings	2,752,347	1,849,479	4,601,826
TRB Savings (2018 $)	$40,760,012	$26,072,435	$66,832,446
Annualized MMBtu Savings/Participant	33.213	26.232	30.428
Weighted Lifetime	15.5	14.4	15.0

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

End Use	# of Participants	Net MWH Saved	Gross MWH Saved	Net Lifetime MWH Saved	Net Winter KW Saved	Net Summer KW Saved	Net Other Fuel MMBTU Saved	Net TRB Saved	Participant Incentives Paid	Participant Costs
Air Conditioning Eff.	2	1	1	8	0	0	92	$14,189	$3,800	$20,240
Cooking and Laundry	7	4	4	47	1	0	71	$17,071	$2,400	$3,946
Design Assistance	11	0	0	-1	0	-1	157	$37,633	$42,196	$158,852
Hot Water Efficiency	1,090	-383	-307	-4,976	-60	-30	7,137	$1,350,682	$240,955	$164,690
Hot Water Fuel Switch	2	0	0	0	0	0	59	$14,475	$640	$6,733
Industrial Process Eff.	19	-7	-7	48	0	0	14,308	$1,753,882	$77,115	$349,745
Motors	5	63	62	918	5	8	795	$257,824	$12,589	$35,831
Other Efficiency	982	0	0	0	0	0	0	$0	-$650	$650
Other Fuel Switch	4	-2	-1	-45	0	-64	1,755	$426,689	$8,800	$216,672
Other Indirect Activity	89	0	0	0	0	0	0	$0	$528,041	-$29,833
Refrigeration	1	247	245	3,708	29	32	1,370	$617,678	$34,283	$447,377
Space Heat Efficiency	3,118	206	199	3,822	39	8	65,432	$10,114,020	$3,612,697	$6,588,109
Space Heat Fuel Switch	652	-157	-141	-2,672	-22	-6	35,246	$11,185,550	$811,232	$4,110,137
Ventilation	108	0	1	-54	2	-6	1,851	$282,741	$19,150	$335,784
Totals		-26	55	802	-5	-59	128,273	$26,072,435	$5,393,247	$12,408,933

3.21 Thermal Energy and Process Fuels Resource Acquisition
Total Resource Benefits

Avoided Cost Benefits	2019	Lifetime (Present Value)
Avoided Cost of Electricity	nap	($246,757)
Fossil Fuel Savings (Costs)	$2,501,413	$26,187,827
Water Savings (Costs)	$9,136	$131,365
Total	**$2,510,549**	**$26,072,435**

Electric Energy & Demand Benefits	Savings at Meter		Savings at Generation
	Gross	Net	Net
Annualized Energy Savings (MWh): Total	**55**	**(23)**	**(26)**
Winter on peak	(0)	(30)	(34)
Winter off peak	41	11	12
Summer on peak	4	(5)	(6)
Summer off peak	10	2	2
Coincident Demand Savings (kW)			
Winter	8	(4)	(5)
Shoulder	0	0	0
Summer	(54)	(53)	(59)

Thermal & Other Benefits	Gross	Net	Lifetime Net
Annualized Water Savings (ccf)	**2,371**	**2,125**	**14,940**
Annualized fuel savings (increase) MMBtu Total	**143,633**	**128,273**	**1,849,479**
LP	33,473	29,950	437,789
NG	0	0	0
Oil/Kerosene	77,915	68,325	983,111
Wood	26,976	25,311	365,131
Solar	0	0	0
Other	0	0	0
Annualized savings (increase) in O&M($)	**($87,204)**	**($71,151)**	**($1,312,625)**

Net Societal Benefits	**$20,660,098**

3.22 Thermal Energy and Process Fuels
Business Energy Services Summary

	Prior Year 2018	Current Year 2019	Cumulative starting 1/1/18
# participants with installations	361	194	536
Operating Costs			
Administration	$219,438	$91,332	$310,770
Programs and Implementation	$52,784	$34,453	$87,237
Strategy and Planning	$22,344	$17,715	$40,059
Subtotal Operating Costs	**$294,566**	**$143,500**	**$438,066**
Technical Assistance Costs			
Services to Participants	$204,014	$172,084	$376,098
Services to Trade Allies	$6,360	$6,103	$12,463
Subtotal Technical Assistance Costs	**$210,374**	**$178,187**	**$388,561**
Support Services			
Consulting	$13,342	$4,681	$18,023
Customer Support	$1,835	$244	$2,079
Data and Technical Services	$16,526	$26,766	$43,292
Information Technology	$0	$0	$0
Marketing	$15,590	$1,298	$16,888
Policy & Public Affairs	$46	($3)	$43
Other	$0	$0	$0
Subtotal Support Services Costs	**$47,340**	**$32,985**	**$80,325**
Incentive Costs			
Incentives to Participants	$1,932,993	$720,214	$2,653,207
Incentives to Trade Allies	$7,000	$7,900	$14,900
Subtotal Incentive Costs	**$1,939,993**	**$728,114**	**$2,668,107**
Total Efficiency Vermont Costs	**$2,492,273**	**$1,082,786**	**$3,575,059**
Total Participant Costs	$5,042,033	$3,537,236	$8,579,269
Total Third Party Costs	$40,000	$26,005	$66,005
Total Resource Acquisition Costs	**$7,574,306**	**$4,646,027**	**$12,220,334**
Annualized MMBtu Savings	90,739	64,076	154,816
Lifetime MMBtu Savings	1,354,911	709,791	2,064,701
TRB Savings (2018 $)	$24,582,974	$10,221,820	$34,804,794
Annualized MMBtu Savings/Participant	251.356	330.290	288.835
Weighted Lifetime	14.9	11.1	13.3

3.23 Thermal Energy and Process Fuels Business Energy Services - End Use Breakdown

End Use	# of Participants	Net MWH Saved	Gross MWH Saved	Net Lifetime MWH Saved	Net Winter KW Saved	Net Summer KW Saved	Net Other Fuel MMBTU Saved	Net TRB Saved	Participant Incentives Paid	Participant Costs
Air Conditioning Eff.	2	1	1	8	0	0	92	$14,189	$3,800	$20,240
Cooking and Laundry	5	4	4	47	1	0	71	$17,071	$2,400	$3,671
Design Assistance	11	0	0	-1	0	-1	157	$37,633	$42,196	$158,852
Hot Water Efficiency	24	-14	-13	-188	-2	-1	909	$149,201	$21,288	$42,615
Hot Water Fuel Switch	1	0	0	0	0	0	24	$6,000	$640	$1,360
Industrial Process Eff.	19	-7	-7	48	0	0	14,308	$1,753,882	$77,115	$349,745
Motors	5	63	62	918	5	8	795	$257,824	$12,589	$35,831
Other Efficiency	36	0	0	0	0	0	0	$0	-$1,000	$1,000
Other Fuel Switch	4	-2	-1	-45	0	-64	1,755	$426,689	$8,800	$216,672
Other Indirect Activity	4	0	0	0	0	0	0	$0	$55,690	-$990
Refrigeration	1	247	245	3,708	29	32	1,370	$617,678	$34,283	$447,377
Space Heat Efficiency	111	55	53	921	5	3	34,877	$3,892,506	$251,281	$1,084,863
Space Heat Fuel Switch	13	-58	-53	-906	-9	-1	8,129	$2,810,499	$191,982	$1,048,334
Ventilation	10	0	1	-54	2	-6	1,589	$238,647	$19,150	$127,666
Totals		290	292	4,454	32	-29	64,076	$10,221,820	$720,214	$3,537,236

3.24 Thermal Energy and Process Fuels
Residential Energy Services Summary

	Prior Year 2018	Current Year 2019	Cumulative starting 1/1/18
# participants with installations	4,987	4,696	9,517
Operating Costs			
Administration	$419,262	$576,570	$995,833
Programs and Implementation	$1,198,548	$1,420,235	$2,618,783
Strategy and Planning	$197,722	$93,999	$291,721
Subtotal Operating Costs	**$1,815,532**	**$2,090,805**	**$3,906,337**
Technical Assistance Costs			
Services to Participants	$496,688	$415,886	$912,575
Services to Trade Allies	$36,943	$22,527	$59,470
Subtotal Technical Assistance Costs	**$533,631**	**$438,413**	**$972,044**
Support Services			
Consulting	$91,309	$41,946	$133,255
Customer Support	$33,079	$28,666	$61,744
Data and Technical Services	$56,685	$60,295	$116,980
Information Technology	$0	$0	$0
Marketing	$382,199	$498,082	$880,280
Policy & Public Affairs	$138	$992	$1,130
Other	$0	$0	$0
Subtotal Support Services Costs	**$563,410**	**$629,980**	**$1,193,390**
Incentive Costs			
Incentives to Participants	$3,428,436	$4,673,033	$8,101,470
Incentives to Trade Allies	$140,698	$206,200	$346,898
Subtotal Incentive Costs	**$3,569,135**	**$4,879,233**	**$8,448,368**
Total Efficiency Vermont Costs	**$6,481,708**	**$8,038,431**	**$14,520,140**
Total Participant Costs	$13,068,630	$8,871,697	$21,940,326
Total Third Party Costs	$255,202	$197,798	$453,000
Total Resource Acquisition Costs	**$19,805,540**	**$17,107,926**	**$36,913,466**
Annualized MMBtu Savings	86,885	64,197	151,082
Lifetime MMBtu Savings	1,397,436	1,139,689	2,537,125
TRB Savings (2018 $)	$16,177,038	$15,850,615	$32,027,653
Annualized MMBtu Savings/Participant	17.422	13.671	15.875
Weighted Lifetime	16.1	17.8	16.8

3.25 Thermal Energy and Process Fuels Residential Energy Services - End Use Breakdown

End Use	# of Participants	Net MWH Saved	Gross MWH Saved	Net Lifetime MWH Saved	Net Winter KW Saved	Net Summer KW Saved	Net Other Fuel MMBTU Saved	Net TRB Saved	Participant Incentives Paid	Participant Costs
Cooking and Laundry	2	0	0	0	0	0	0	$0	$0	$275
Hot Water Efficiency	1,066	-368	-295	-4,788	-57	-29	6,228	$1,201,481	$219,667	$122,075
Hot Water Fuel Switch	1	0	0	0	0	0	35	$8,475	$0	$5,373
Other Efficiency	946	0	0	0	0	0	0	$0	$350	-$350
Other Indirect Activity	85	0	0	0	0	0	0	$0	$472,351	-$28,843
Space Heat Efficiency	3,007	152	146	2,901	34	5	30,555	$6,221,514	$3,361,416	$5,503,246
Space Heat Fuel Switch	639	-99	-88	-1,766	-13	-5	27,117	$8,375,051	$619,250	$3,061,802
Ventilation	98	0	0	0	0	0	261	$44,094	$0	$208,118
Totals		-316	-237	-3,653	-36	-30	64,197	$15,850,615	$4,673,033	$8,871,697

4. MAJOR MARKET RESOURCE ACQUISITION RESULTS

4.1 Electric Business New Construction Summary

	Prior Year 2018	Current Year 2019	Cumulative starting 1/1/18
# participants with installations	96	71	163
Operating Costs			
Administration	$138,790	$135,043	$273,833
Programs and Implementation	$188,555	$232,536	$421,091
Strategy and Planning	$107,713	$61,801	$169,514
Subtotal Operating Costs	**$435,058**	**$429,380**	**$864,437**
Technical Assistance Costs			
Services to Participants	$703,051	$682,790	$1,385,840
Services to Trade Allies	$110,810	$75,530	$186,341
Subtotal Technical Assistance Costs	**$813,861**	**$758,320**	**$1,572,181**
Support Services			
Consulting	$17,282	$8,806	$26,088
Customer Support	$9,119	$6,520	$15,639
Data and Technical Services	$53,652	$29,027	$82,679
Information Technology	$0	$0	$0
Marketing	$186,474	$145,637	$332,111
Policy & Public Affairs	$1,177	$159	$1,336
Other	$0	$0	$0
Subtotal Support Services Costs	**$267,704**	**$190,149**	**$457,853**
Incentive Costs			
Incentives to Participants	$784,827	$981,638	$1,766,465
Incentives to Trade Allies	$0	$0	$0
Subtotal Incentive Costs	**$784,827**	**$981,638**	**$1,766,465**
Total Efficiency Vermont Costs	**$2,301,449**	**$2,359,488**	**$4,660,937**
Total Participant Costs	$1,011,213	$3,012,003	$4,023,216
Total Third Party Costs	$0	$0	$0
Total Resource Acquisition Costs	**$3,312,663**	**$5,371,490**	**$8,684,153**
Annualized MWh Savings	4,862	9,258	14,121
Lifetime MWh Savings	67,567	134,089	201,656
TRB Savings (2018 $)	$5,591,673	$13,473,545	$19,065,218
Winter Coincident Peak kW Savings	662	1,107	1,769
Summer Coincident Peak kW Savings	752	1,381	2,133
Annualized MWh Savings/Participant	50.649	130.401	86.631
Weighted Lifetime	13.9	14.5	14.3

4.2 Electric Business New Construction - End Use Breakdown

End Use	# of Participants	Net MWH Saved	Gross MWH Saved	Net Lifetime MWH Saved	Net Winter KW Saved	Net Summer KW Saved	Net Other Fuel MMBTU Saved	Net TRB Saved	Participant Incentives Paid	Participant Costs
Air Conditioning Eff.	33	923	812	15,090	31	70	0	$918,624	$73,114	$187,043
Cooking and Laundry	10	75	69	857	11	11	189	$100,676	$8,328	$13,692
Design Assistance	7	56	49	835	-59	93	0	$236,784	$85,446	$168,840
Hot Water Efficiency	8	0	0	2	0	0	883	$162,933	$16,251	$207,529
Industrial Process Eff.	5	94	96	953	8	18	107	$116,659	$18,815	$12,549
Lighting	58	3,604	3,163	50,923	517	682	-1,410	$4,294,662	$406,857	$747,080
Motors	12	653	573	7,545	77	76	328	$647,657	$54,940	$228,132
Other Indirect Activity	1	0	0	0	0	0	0	$0	$2,444	$0
Refrigeration	18	2,685	2,367	42,209	367	299	669	$3,260,113	$137,835	$476,668
Space Heat Efficiency	26	121	106	2,151	24	9	9,994	$2,213,148	$74,358	$550,150
Space Heat Fuel Switch	4	0	0	2	0	0	255	$229,094	$15,500	$98,412
Ventilation	28	1,047	922	13,524	131	124	2,406	$1,285,659	$87,453	$318,236
Water Conservation	4	0	0	0	0	0	36	$7,535	$299	$3,671
Totals		9,258	8,158	134,089	1,107	1,381	13,457	$13,473,545	$981,638	$3,012,003

4.3 Electric Business New Construction Total Resource Benefits

Avoided Cost Benefits	2019	Lifetime (Present Value)
Avoided Cost of Electricity	nap	$10,708,127
Fossil Fuel Savings (Costs)	$230,750	$2,748,740
Water Savings (Costs)	$808	$16,677
Total	**$231,558**	**$13,473,545**

Electric Energy & Demand Benefits	Savings at Meter		Savings at Generation
	Gross	Net	Net
Annualized Energy Savings (MWh): Total	**8,158**	**8,141**	**9,258**
Winter on peak	3,124	3,114	3,575
Winter off peak	2,318	2,316	2,600
Summer on peak	1,593	1,588	1,826
Summer off peak	1,124	1,123	1,256
Coincident Demand Savings (kW)			
Winter	997	994	1,107
Shoulder	0	0	0
Summer	1,245	1,242	1,381

Thermal & Other Benefits	Gross	Net	Lifetime Net
Annualized Water Savings (ccf)	**189**	**188**	**1,916**
Annualized fuel savings (increase) MMBtu Total	**13,509**	**13,457**	**238,196**
LP	8,513	8,362	128,802
NG	215	215	3,633
Oil/Kerosene	276	234	4,697
Wood	4,505	4,646	101,064
Solar	0	0	0
Other	0	0	0
Annualized savings (increase) in O&M($)	**$6,822**	**$6,911**	**$73,134**

Net Societal Benefits	$15,135,234

4.4 Electric Business Existing Facilities Summary

	Prior Year 2018	Current Year 2019	Cumulative starting 1/1/18
# participants with installations	11,369	9,169	19,068
Operating Costs			
Administration	$1,640,696	$1,108,057	$2,748,752
Programs and Implementation	$1,634,803	$1,944,910	$3,579,713
Strategy and Planning	$462,703	$529,209	$991,913
Subtotal Operating Costs	**$3,738,202**	**$3,582,176**	**$7,320,378**
Technical Assistance Costs			
Services to Participants	$3,791,547	$4,269,562	$8,061,109
Services to Trade Allies	$766,839	$779,476	$1,546,315
Subtotal Technical Assistance Costs	**$4,558,386**	**$5,049,038**	**$9,607,424**
Support Services			
Consulting	$108,779	$138,739	$247,518
Customer Support	$46,022	$42,477	$88,499
Data and Technical Services	$385,190	$454,811	$840,001
Information Technology	$0	$0	$0
Marketing	$1,085,989	$1,239,977	$2,325,967
Policy & Public Affairs	$8,273	$1,354	$9,627
Other	$0	$0	$0
Subtotal Support Services Costs	**$1,634,254**	**$1,877,358**	**$3,511,612**
Incentive Costs			
Incentives to Participants	$12,280,398	$7,695,471	$19,975,869
Incentives to Trade Allies	$200	$379,298	$379,498
Subtotal Incentive Costs	**$12,280,598**	**$8,074,769**	**$20,355,367**
Total Efficiency Vermont Costs	**$22,211,439**	**$18,583,341**	**$40,794,780**
Total Participant Costs	$12,749,580	$15,290,514	$28,040,093
Total Third Party Costs	$1,300	$27,672	$28,972
Total Resource Acquisition Costs	**$34,962,319**	**$33,901,527**	**$68,863,845**
Annualized MWh Savings	81,062	60,110	141,172
Lifetime MWh Savings	812,809	628,167	1,440,974
TRB Savings (2015 $)	$63,914,447	$49,274,250	$113,188,697
Winter Coincident Peak kW Savings	9,699	7,334	17,033
Summer Coincident Peak kW Savings	12,099	8,314	20,414
Annualized MWh Savings/Participant	7.130	6.556	7.404
Weighted Lifetime	10.0	10.5	10.2

4.5 Electric Business Existing Facilities - End Use Breakdown

End Use	# of Participants	Net MWH Saved	Gross MWH Saved	Net Lifetime MWH Saved	Net Winter KW Saved	Net Summer KW Saved	Net Other Fuel MMBTU Saved	Net TRB Saved	Participant Incentives Paid	Participant Costs
Air Conditioning Eff.	47	544	516	7,264	6	138	0	$616,564	$81,169	$278,623
Behavior Change	6	678	598	1,485	0	0	0	$63,681	$100	$0
Cooking and Laundry	23	106	100	1,314	16	14	449	$198,813	$13,299	$21,082
Design Assistance	95	364	339	2,478	54	38	1,679	$342,288	$573,209	$640,565
Electronics	1	6	5	56	1	1	0	$4,229	$0	$0
Hot Water Efficiency	51	183	164	2,185	31	14	-113	$135,398	$46,889	$35,491
Industrial Process Eff.	51	6,152	6,492	74,715	815	607	860	$5,579,198	$864,662	$2,184,706
Lighting	7,975	44,519	41,657	443,370	5,360	6,724	-21,485	$31,861,543	$4,119,765	$9,387,968
Motors	71	2,444	2,388	27,700	358	340	-483	$2,198,453	$322,398	$619,248
Other Efficiency	447	21	20	626	3	3	0	$46,166	$41,417	$6,463
Other Fuel Switch	1	72	71	1,439	9	9	0	$106,408	$7,000	$79,432
Other Indirect Activity	32	0	0	0	0	0	0	$0	$769,888	-$410,305
Refrigeration	226	2,861	2,674	35,723	372	348	5,967	$3,706,295	$383,363	$1,148,571
Space Heat Efficiency	514	1,580	1,471	22,997	251	29	1,048	$1,524,389	$375,097	$1,031,780
Ventilation	29	584	566	6,828	60	49	2,201	$806,295	$78,613	$236,586
Water Conservation	4	-4	-4	-15	0	-1	182	$2,084,529	$18,600	$30,303
Totals		60,110	57,058	628,167	7,334	8,314	-9,694	$49,274,250	$7,695,471	$15,290,514

4.6 Electric Business Existing Facilities Total Resource Benefits

Avoided Cost Benefits	2019	Lifetime (Present Value)
Avoided Cost of Electricity	nap	$47,931,855
Fossil Fuel Savings (Costs)	($160,616)	($731,671)
Water Savings (Costs)	$82,978	$2,074,063
Total	**($77,639)**	**$49,274,248**

Electric Energy & Demand Benefits	Savings at Meter		Savings at Generation
	Gross	Net	Net
Annualized Energy Savings (MWh): Total	**57,058**	**52,839**	**60,110**
Winter on peak	23,156	21,336	24,493
Winter off peak	15,647	14,564	16,356
Summer on peak	10,832	10,003	11,503
Summer off peak	7,424	6,937	7,762
Coincident Demand Savings (kW)			
Winter	7,062	6,590	7,334
Shoulder	0	0	0
Summer	8,102	7,477	8,314

Thermal & Other Benefits	Gross	Net	Lifetime Net
Annualized Water Savings (ccf)	**21,683**	**19,297**	**260,521**
Annualized fuel savings (increase) MMBtu Total	**(10,369)**	**(9,694)**	**(52,344)**
LP	6,219	5,807	65,320
NG	(731)	(703)	(8,215)
Oil/Kerosene	(16,336)	(15,122)	(108,401)
Wood	106	137	(2,936)
Solar	0	0	0
Other	0	0	0
Annualized savings (increase) in O&M($)	**$885,093**	**$800,743**	**$6,327,308**

Net Societal Benefits	$53,305,977

4.7 Electric Residential New Construction Summary

	Prior Year 2018	Current Year 2019	Cumulative starting 1/1/18
# participants with installations	857	627	1,452
Operating Costs			
Administration	$199,765	$184,673	$384,438
Programs and Implementation	$299,457	$269,712	$569,169
Strategy and Planning	$72,605	$57,834	$130,439
Subtotal Operating Costs	**$571,827**	**$512,218**	**$1,084,045**
Technical Assistance Costs			
Services to Participants	$1,201,591	$1,177,530	$2,379,121
Services to Trade Allies	$20,121	$31,764	$51,884
Subtotal Technical Assistance Costs	**$1,221,712**	**$1,209,294**	**$2,431,005**
Support Services			
Consulting	$24,704	$18,081	$42,786
Customer Support	$8,450	$6,664	$15,114
Data and Technical Services	$21,984	$10,940	$32,924
Information Technology	$0	$0	$0
Marketing	$154,857	$130,761	$285,618
Policy & Public Affairs	$1,147	$173	$1,319
Other	$0	$0	$0
Subtotal Support Services Costs	**$211,141**	**$166,619**	**$377,760**
Incentive Costs			
Incentives to Participants	$1,364,118	$1,443,493	$2,807,611
Incentives to Trade Allies	$0	$0	$0
Subtotal Incentive Costs	**$1,364,118**	**$1,443,493**	**$2,807,611**
Total Efficiency Vermont Costs	**$3,368,799**	**$3,331,623**	**$6,700,422**
Total Participant Costs	$747,291	$432,669	$1,179,960
Total Third Party Costs	$65,000	$17,800	$82,800
Total Resource Acquisition Costs	**$4,181,089**	**$3,782,092**	**$7,963,181**
Annualized MWh Savings	2,138	2,053	4,191
Lifetime MWh Savings	41,725	37,131	78,856
TRB Savings (2018 $)	$8,016,432	$5,027,150	$13,043,582
Winter Coincident Peak kW Savings	488	367	855
Summer Coincident Peak kW Savings	239	153	393
Annualized MWh Savings/Participant	2.495	3.274	2.886
Weighted Lifetime	19.5	18.1	18.8

4.8 Electric Residential New Construction - End Use Breakdown

End Use	# of Participants	Net MWH Saved	Gross MWH Saved	Net Lifetime MWH Saved	Net Winter KW Saved	Net Summer KW Saved	Net Other Fuel MMBTU Saved	Net TRB Saved	Participant Incentives Paid	Participant Costs
Air Conditioning Eff.	0	17	15	257	0	5	0	$24,021	$5,344	$14,338
Cooking and Laundry	399	122	107	3,046	22	15	-138	$171,740	$36,392	$15,400
Design Assistance	62	0	0	0	0	0	0	$0	$40,693	$27,822
Hot Water Efficiency	323	20	17	232	3	2	1,619	$334,488	$52,884	-$23,488
Lighting	510	775	701	8,791	113	78	-98	$613,396	$579,513	-$319,973
Motors	0	9	8	129	2	1	10	$12,966	$2,970	$2,147
Other Fuel Switch	0	11	14	325	6	5	-36	$39,270	$0	$14,157
Other Indirect Activity	103	0	0	0	0	0	0	$0	$204,710	-$120,000
Refrigeration	486	30	28	498	3	4	0	$37,538	$21,382	-$14,313
Space Heat Efficiency	364	953	819	21,956	198	36	6,875	$3,398,548	$469,672	$763,205
Ventilation	575	117	104	1,897	20	8	1,469	$387,623	$29,933	$73,373
Water Conservation	104	0	0	0	0	0	0	$7,560	$0	$0
Totals		2,053	1,813	37,131	367	153	9,702	$5,027,150	$1,443,493	$432,669

4.9 Electric Residential New Construction Total Resource Benefits

Avoided Cost Benefits	2019	Lifetime (Present Value)
Avoided Cost of Electricity	nap	$2,488,183
Fossil Fuel Savings (Costs)	$154,382	$2,447,267
Water Savings (Costs)	$4,301	$91,700
Total	**$158,683**	**$5,027,150**

Electric Energy & Demand Benefits	Savings at Meter		Savings at Generation
	Gross	Net	Net
Annualized Energy Savings (MWh): Total	**1,813**	**1,809**	**2,053**
Winter on peak	669	669	768
Winter off peak	780	782	879
Summer on peak	183	180	207
Summer off peak	181	178	199
Coincident Demand Savings (kW)			
Winter	332	330	367
Shoulder	0	0	0
Summer	141	138	153

Thermal & Other Benefits	Gross	Net	Lifetime Net
Annualized Water Savings (ccf)	**1,011**	**1,000**	**10,627**
Annualized fuel savings (increase) MMBtu Total	**9,509**	**9,702**	**193,683**
LP	2,273	2,350	50,771
NG	6,703	6,821	133,684
Oil/Kerosene	340	327	4,141
Wood	194	203	5,087
Solar	0	0	0
Other	0	0	0
Annualized savings (increase) in O&M($)	**$18,371**	**$18,251**	**$153,638**

Net Societal Benefits	**$4,956,340**

4.10 Electric Efficient Products Summary

	Prior Year 2018	Current Year 2019	Cumulative starting 1/1/18
# participants with installations	89,226	62,700	149,072
Operating Costs			
Administration	$1,032,180	$1,098,353	$2,130,533
Programs and Implementation	$1,121,109	$1,289,933	$2,411,042
Strategy and Planning	$246,501	$216,243	$462,744
Subtotal Operating Costs	**$2,399,791**	**$2,604,529**	**$5,004,320**
Technical Assistance Costs			
Services to Participants	$485,346	$227,195	$712,540
Services to Trade Allies	$212,631	$155,964	$368,596
Subtotal Technical Assistance Costs	**$697,977**	**$383,159**	**$1,081,136**
Support Services			
Consulting	$42,194	$54,727	$96,920
Customer Support	$25,251	$18,035	$43,285
Data and Technical Services	$94,899	$42,648	$137,546
Information Technology	$0	$0	$0
Marketing	$571,579	$780,767	$1,352,346
Policy & Public Affairs	$3,926	$557	$4,483
Other	$0	$0	$0
Subtotal Support Services Costs	**$737,848**	**$896,733**	**$1,634,581**
Incentive Costs			
Incentives to Participants	$7,760,296	$8,842,499	$16,602,795
Incentives to Trade Allies	$141,580	$457,046	$598,626
Subtotal Incentive Costs	**$7,901,876**	**$9,299,544**	**$17,201,421**
Total Efficiency Vermont Costs	**$11,737,492**	**$13,183,965**	**$24,921,458**
Total Participant Costs	$10,483,741	$8,488,049	$18,971,790
Total Third Party Costs	$0	$0	$0
Total Resource Acquisition Costs	**$22,221,233**	**$21,672,015**	**$43,893,248**
Annualized MWh Savings	50,068	41,034	91,102
Lifetime MWh Savings	398,823	380,503	779,327
TRB Savings (2018 $)	$30,015,821	$29,702,227	$59,718,048
Winter Coincident Peak kW Savings	12,747	10,085	22,832
Summer Coincident Peak kW Savings	4,748	3,209	7,957
Annualized MWh Savings/Participant	0.561	0.654	0.611
Weighted Lifetime	8.0	9.3	8.6

4.11 Electric Efficient Products - End Use Breakdown

End Use	# of Participants	Net MWH Saved	Gross MWH Saved	Net Lifetime MWH Saved	Net Winter KW Saved	Net Summer KW Saved	Net Other Fuel MMBTU Saved	Net TRB Saved	Participant Incentives Paid	Participant Costs
Air Conditioning Eff.	1,253	631	706	7,420	3	152	0	$637,214	$133,362	$24,800
Cooking and Laundry	2,123	1,009	1,180	12,798	135	101	767	$1,765,489	$279,584	$595,243
Electronics	169	33	29	162	3	3	0	$10,757	$6,358	$1,266
Hot Water Efficiency	1,147	2,688	2,150	34,939	414	210	-4,940	$1,521,964	$707,025	$285,996
Lighting	50,429	27,235	25,939	195,295	7,543	1,933	-40	$13,822,063	$3,675,749	$6,805,755
Motors	1,540	967	850	12,657	55	395	0	$1,315,244	$287,398	$347,255
Other Efficiency	2,110	3,242	2,855	38,696	733	260	7,835	$5,477,716	$1,027,132	-$257,626
Refrigeration	1,328	267	339	4,254	25	31	0	$304,811	$168,016	-$87,900
Space Heat Efficiency	4,274	4,962	4,964	74,282	1,176	123	0	$4,846,969	$2,557,875	$773,261
Totals		41,034	39,010	380,503	10,085	3,209	3,622	$29,702,227	$8,842,499	$8,488,049

4.12 Electric Efficient Products Total Resource Benefits

Avoided Cost Benefits	2019	Lifetime (Present Value)
Avoided Cost of Electricity	nap	$26,101,946
Fossil Fuel Savings (Costs)	$63,120	$303,514
Water Savings (Costs)	$152,038	$3,296,767
Total	**$215,159**	**$29,702,227**

Electric Energy & Demand Benefits	Savings at Meter		Savings at Generation
	Gross	Net	Net
Annualized Energy Savings (MWh): Total	**39,010**	**36,169**	**41,034**
Winter on peak	13,824	12,776	14,667
Winter off peak	14,369	13,347	14,988
Summer on peak	5,031	4,659	5,358
Summer off peak	5,788	5,388	6,029
Coincident Demand Savings (kW)			
Winter	9,805	9,061	10,085
Shoulder	0	0	0
Summer	3,120	2,886	3,209

Thermal & Other Benefits	Gross	Net	Lifetime Net
Annualized Water Savings (ccf)	**41,012**	**35,358**	**394,528**
Annualized fuel savings (increase) MMBtu Total	**4,911**	**3,622**	**29,619**
LP	1,509	539	846
NG	2,976	2,883	30,905
Oil/Kerosene	1,446	1,321	12,435
Wood	(1,020)	(1,121)	(14,567)
Solar	0	0	0
Other	0	0	0
Annualized savings (increase) in O&M($)	**$351,029**	**$318,937**	**$2,415,648**

Net Societal Benefits	$31,387,470

4.13 Electric Existing Homes Summary

	Prior Year 2018	Current Year 2019	Cumulative starting 1/1/18
# participants with installations	2,341	4,490	6,498
Operating Costs			
Administration	$238,474	$354,720	$593,194
Programs and Implementation	$989,576	$1,416,338	$2,405,914
Strategy and Planning	$159,878	$176,218	$336,097
Subtotal Operating Costs	**$1,387,929**	**$1,947,277**	**$3,335,205**
Technical Assistance Costs			
Services to Participants	$285,227	$541,633	$826,860
Services to Trade Allies	$37,309	$90,163	$127,472
Subtotal Technical Assistance Costs	**$322,536**	**$631,796**	**$954,332**
Support Services			
Consulting	$104,285	$90,596	$194,881
Customer Support	$15,259	$43,470	$58,729
Data and Technical Services	$118,847	$158,024	$276,871
Information Technology	$0	$0	$0
Marketing	$365,398	$554,120	$919,518
Policy & Public Affairs	$1,367	$371	$1,738
Other	$0	$0	$0
Subtotal Support Services Costs	**$605,155**	**$846,581**	**$1,451,737**
Incentive Costs			
Incentives to Participants	$1,623,205	$2,609,468	$4,232,673
Incentives to Trade Allies	$5,750	$6,200	$11,950
Subtotal Incentive Costs	**$1,628,955**	**$2,615,668**	**$4,244,623**
Total Efficiency Vermont Costs	**$3,944,576**	**$6,041,322**	**$9,985,898**
Total Participant Costs	($224,416)	$229,043	$4,627
Total Third Party Costs	$24,835	$16,767	$41,602
Total Resource Acquisition Costs	**$3,744,995**	**$6,287,132**	**$10,032,127**
Annualized MWh Savings	1,870	3,701	5,571
Lifetime MWh Savings	15,822	36,584	52,407
TRB Savings (2018 $)	$1,462,136	$4,634,614	$6,096,750
Winter Coincident Peak kW Savings	385	802	1,187
Summer Coincident Peak kW Savings	168	297	465
Annualized MWh Savings/Participant	0.799	0.824	0.857
Weighted Lifetime	8.5	9.9	9.4

4.14 Electric Existing Homes - End Use Breakdown

End Use	# of Participants	Net MWH Saved	Gross MWH Saved	Net Lifetime MWH Saved	Net Winter KW Saved	Net Summer KW Saved	Net Other Fuel MMBTU Saved	Net TRB Saved	Participant Incentives Paid	Participant Costs
Air Conditioning Eff.	63	25	22	216	0	6	0	$17,751	$17,306	-$1,461
Cooking and Laundry	207	216	190	1,188	29	22	192	$198,219	$190,243	$23,936
Design Assistance	0	0	0	0	0	0	0	$0	$3,000	$0
Electronics	9	4	4	34	0	0	0	$2,493	$282	$3,067
Hot Water Efficiency	490	189	169	1,909	22	11	0	$286,719	$11,663	$6,600
Lighting	2,751	1,325	1,187	8,964	347	120	-7	$705,326	$223,284	$301,228
Motors	25	7	6	100	0	2	0	$9,551	$0	$2,245
Other Efficiency	1,659	1,094	964	13,035	255	87	3,048	$1,988,299	$459,447	-$103,093
Other Indirect Activity	91	0	0	0	0	0	0	$0	$57,740	$6,254
Refrigeration	800	363	320	2,053	32	40	0	$144,390	$581,236	-$50,087
Space Heat Efficiency	1,174	398	365	7,868	104	1	1,440	$1,015,402	$1,038,341	-$172,722
Space Heat Fuel Switch	22	12	10	232	4	0	-41	$39,328	$2,000	$13,000
Ventilation	470	60	53	951	7	7	58	$79,939	$24,926	$55,272
Water Conservation	132	7	6	34	1	0	0	$147,197	$0	$144,804
Totals		3,701	3,295	36,584	802	297	4,690	$4,634,614	$2,609,468	$229,043

4.15 Electric Existing Homes Total Resource Benefits

Avoided Cost Benefits	2019	Lifetime (Present Value)
Avoided Cost of Electricity	nap	$2,285,286
Fossil Fuel Savings (Costs)	$100,939	$1,005,525
Water Savings (Costs)	$64,310	$1,343,803
Total	**$165,249**	**$4,634,614**

Electric Energy & Demand Benefits	Savings at Meter		Savings at Generation
	Gross	Net	Net
Annualized Energy Savings (MWh): Total	**3,295**	**3,260**	**3,701**
Winter on peak	1,250	1,236	1,419
Winter off peak	1,187	1,172	1,316
Summer on peak	423	420	483
Summer off peak	435	432	483
Coincident Demand Savings (kW)			
Winter	729	720	802
Shoulder	0	0	0
Summer	269	267	297

Thermal & Other Benefits	Gross	Net	Lifetime Net
Annualized Water Savings (ccf)	**14,993**	**14,956**	**169,430**
Annualized fuel savings (increase) MMBtu Total	**4,700**	**4,690**	**70,793**
LP	1,482	1,477	18,728
NG	1,154	1,154	13,095
Oil/Kerosene	2,123	2,122	40,949
Wood	(59)	(63)	(1,979)
Solar	0	0	0
Other	0	0	0
Annualized savings (increase) in O&M($)	**$24,546**	**$24,283**	**$190,560**

Net Societal Benefits	$2,195,146

4.16 Thermal Energy and Process Fuels
Business New Construction Summary

	Prior Year 2018	Current Year 2019	Cumulative starting 1/1/18
# participants with installations	34	0	34
Operating Costs			
Administration	$9,855	$0	$9,855
Programs and Implementation	$2,154	$0	$2,154
Strategy and Planning	$826	$0	$826
Subtotal Operating Costs	**$12,835**	**$0**	**$12,835**
Technical Assistance Costs			
Services to Participants	$11,901	$0	$11,901
Services to Trade Allies	$242	$0	$242
Subtotal Technical Assistance Costs	**$12,143**	**$0**	**$12,143**
Support Services			
Consulting	$507	$0	$507
Customer Support	$49	$0	$49
Data and Technical Services	$627	$0	$627
Information Technology	$0	$0	$0
Marketing	$592	$0	$592
Policy & Public Affairs	$2	$0	$2
Other	$0	$0	$0
Subtotal Support Services Costs	**$1,777**	**$0**	**$1,777**
Incentive Costs			
Incentives to Participants	$87,787	$0	$87,787
Incentives to Trade Allies	$0	$0	$0
Subtotal Incentive Costs	**$87,787**	**$0**	**$87,787**
Total Efficiency Vermont Costs	**$114,542**	**$0**	**$114,542**
Total Participant Costs	$350,723	$0	$350,723
Total Third Party Costs	$0	$0	$0
Total Resource Acquisition Costs	**$465,265**	**$0**	**$465,265**

Annualized MMBtu Savings	4,136	-	4,136
Lifetime MMBtu Savings	66,785	-	66,785
TRB Savings (2018 $)	$1,035,633	$0	$1,035,633
Annualized MMBtu Savings/Participant	121.636	-	121.636
Weighted Lifetime	16.1	0.0	16.1

4.17 Thermal Energy and Process Fuels Business New Construction - End Use Breakdown

End Use	# of Participants	Net MWH Saved	Gross MWH Saved	Net Lifetime MWH Saved	Net Winter KW Saved	Net Summer KW Saved	Net Other Fuel MMBTU Saved	Net TRB Saved	Participant Incentives Paid	Participant Costs
	0	0	0	0	0	0	0	0	0	0
Totals		0	0	0	0	0	0	0	0	0

4.18 Thermal Energy and Process Fuels
Business New Construction Total Resource Benefits

Avoided Cost Benefits	2019	Lifetime (Present Value)
Avoided Cost of Electricity	nap	$0
Fossil Fuel Savings (Costs)	$0	$0
Water Savings (Costs)	$0	$0
Total	**$0**	**$0**

Electric Energy & Demand Benefits	Savings at Meter		Savings at Generation
	Gross	Net	Net
Annualized Energy Savings (MWh): Total	**0**	**0**	**0**
Winter on peak	0	0	0
Winter off peak	0	0	0
Summer on peak	0	0	0
Summer off peak	0	0	0
Coincident Demand Savings (kW)			
Winter	0	0	0
Shoulder	0	0	0
Summer	0	0	0

Thermal & Other Benefits	Gross	Net	Lifetime Net
Annualized Water Savings (ccf)	**0**	**0**	**0**
Annualized fuel savings (increase) MMBtu Total	**0**	**0**	**0**
LP	0	0	0
NG	0	0	0
Oil/Kerosene	0	0	0
Wood	0	0	0
Solar	0	0	0
Other	0	0	0
Annualized savings (increase) in O&M($)	**$0**	**$0**	**$0**

Net Societal Benefits	**($0)**

4.19 Thermal Energy and Process Fuels
Business Existing Facilities Summary

	Prior Year 2018	Current Year 2019	Cumulative starting 1/1/18
# participants with installations	327	194	502
Operating Costs			
Administration	$209,584	$91,332	$300,915
Programs and Implementation	$50,629	$34,453	$85,083
Strategy and Planning	$21,518	$17,715	$39,233
Subtotal Operating Costs	**$281,731**	**$143,500**	**$425,232**
Technical Assistance Costs			
Services to Participants	$192,113	$172,084	$364,197
Services to Trade Allies	$6,118	$6,103	$12,221
Subtotal Technical Assistance Costs	**$198,231**	**$178,187**	**$376,418**
Support Services			
Consulting	$12,835	$4,681	$17,516
Customer Support	$1,786	$244	$2,030
Data and Technical Services	$15,899	$26,766	$42,665
Information Technology	$0	$0	$0
Marketing	$14,998	$1,298	$16,296
Policy & Public Affairs	$44	($3)	$41
Other	$0	$0	$0
Subtotal Support Services Costs	**$45,563**	**$32,985**	**$78,548**
Incentive Costs			
Incentives to Participants	$1,845,206	$720,214	$2,565,420
Incentives to Trade Allies	$7,000	$7,900	$14,900
Subtotal Incentive Costs	**$1,852,206**	**$728,114**	**$2,580,320**
Total Efficiency Vermont Costs	**$2,377,731**	**$1,082,786**	**$3,460,517**
Total Participant Costs	$4,691,310	$3,537,236	$8,228,546
Total Third Party Costs	$40,000	$26,005	$66,005
Total Resource Acquisition Costs	**$7,109,041**	**$4,646,027**	**$11,755,069**
Annualized MMBtu Savings	86,604	64,076	150,680
Lifetime MMBtu Savings	1,288,125	709,791	1,997,916
TRB Savings (2018 $)	$23,547,341	$10,221,820	$33,769,161
Annualized MMBtu Savings/Participant	264.844	330.290	300.160
Weighted Lifetime	14.9	11.1	13.3

4.20 Thermal Energy and Process Fuels Business Existing Facilities - End Use Breakdown

End Use	# of Participants	Net MWH Saved	Gross MWH Saved	Net Lifetime MWH Saved	Net Winter KW Saved	Net Summer KW Saved	Net Other Fuel MMBTU Saved	Net TRB Saved	Participant Incentives Paid	Participant Costs
Air Conditioning Eff.	2	1	1	8	0	0	92	$14,189	$3,800	$20,240
Cooking and Laundry	5	4	4	47	1	0	71	$17,071	$2,400	$3,671
Design Assistance	11	0	0	-1	0	-1	157	$37,633	$42,196	$158,852
Hot Water Efficiency	24	-14	-13	-188	-2	-1	909	$149,201	$21,288	$42,615
Hot Water Fuel Switch	1	0	0	0	0	0	24	$6,000	$640	$1,360
Industrial Process Eff.	19	-7	-7	48	0	0	14,308	$1,753,882	$77,115	$349,745
Motors	5	63	62	918	5	8	795	$257,824	$12,589	$35,831
Other Efficiency	36	0	0	0	0	0	0	$0	-$1,000	$1,000
Other Fuel Switch	4	-2	-1	-45	0	-64	1,755	$426,689	$8,800	$216,672
Other Indirect Activity	4	0	0	0	0	0	0	$0	$55,690	-$990
Refrigeration	1	247	245	3,708	29	32	1,370	$617,678	$34,283	$447,377
Space Heat Efficiency	111	55	53	921	5	3	34,877	$3,892,506	$251,281	$1,084,863
Space Heat Fuel Switch	13	-58	-53	-906	-9	-1	8,129	$2,810,499	$191,982	$1,048,334
Ventilation	10	0	1	-54	2	-6	1,589	$238,647	$19,150	$127,666
Totals		290	292	4,454	32	-29	64,076	$10,221,820	$720,214	$3,537,236

4.21 Thermal Energy and Process Fuels
Business Existing Facilities Total Resource Benefits

Avoided Cost Benefits	2019	Lifetime (Present Value)
Avoided Cost of Electricity	nap	$26,706
Fossil Fuel Savings (Costs)	$1,172,939	$10,179,662
Water Savings (Costs)	$3,389	$15,453
Total	**$1,176,328**	**$10,221,820**

Electric Energy & Demand Benefits	Savings at Meter		Savings at Generation
	Gross	Net	Net
Annualized Energy Savings (MWh): Total	**292**	**255**	**290**
Winter on peak	95	82	94
Winter off peak	94	81	91
Summer on peak	52	46	53
Summer off peak	51	46	51
Coincident Demand Savings (kW)			
Winter	33	28	32
Shoulder	0	0	0
Summer	(29)	(26)	(29)

Thermal & Other Benefits	Gross	Net	Lifetime Net
Annualized Water Savings (ccf)	**886**	**788**	**1,576**
Annualized fuel savings (increase) MMBtu Total	**72,601**	**64,076**	**709,791**
LP	18,180	16,176	199,267
NG	0	0	0
Oil/Kerosene	36,839	32,228	350,357
Wood	12,316	10,985	96,719
Solar	0	0	0
Other	0	0	0
Annualized savings (increase) in O&M($)	**$3,317**	**$3,115**	**$36,587**

Net Societal Benefits	**$11,546,671**

4.22 Thermal Energy and Process Fuels
Residential New Construction Summary

	Prior Year 2018	Current Year 2019	Cumulative starting 1/1/18
# participants with installations	82	0	82
Operating Costs			
Administration	$18,000	$0	$18,000
Programs and Implementation	$145	$0	$145
Strategy and Planning	$2,225	$0	$2,225
Subtotal Operating Costs	**$20,370**	**$0**	**$20,370**
Technical Assistance Costs			
Services to Participants	$3,425	$0	$3,425
Services to Trade Allies	$560	$0	$560
Subtotal Technical Assistance Costs	**$3,985**	**$0**	**$3,985**
Support Services			
Consulting	$12,005	$0	$12,005
Customer Support	$205	$0	$205
Data and Technical Services	$947	$0	$947
Information Technology	$0	$0	$0
Marketing	$1,959	$0	$1,959
Policy & Public Affairs	$5	$0	$5
Other	$0	$0	$0
Subtotal Support Services Costs	**$15,120**	**$0**	**$15,120**
Incentive Costs			
Incentives to Participants	$157,129	$0	$157,129
Incentives to Trade Allies	$0	$0	$0
Subtotal Incentive Costs	**$157,129**	**$0**	**$157,129**
Total Efficiency Vermont Costs	**$196,604**	**$0**	**$196,604**
Total Participant Costs	$51,794	$0	$51,794
Total Third Party Costs	$0	$0	$0
Total Resource Acquisition Costs	**$248,398**	**$0**	**$248,398**

Annualized MMBtu Savings	3,427	-	3,427
Lifetime MMBtu Savings	63,771	-	63,771
TRB Savings (2018 $)	$1,092,907	$0	$1,092,907
Annualized MMBtuSavings/Participant	41.791	-	41.791
Weighted Lifetime	18.6	0.0	18.6

4.23 Thermal Energy and Process Fuels Residential New Construction - End Use Breakdown

End Use	# of Participants	Net MWH Saved	Gross MWH Saved	Net Lifetime MWH Saved	Net Winter KW Saved	Net Summer KW Saved	Net Other Fuel MMBTU Saved	Net TRB Saved	Participant Incentives Paid	Participant Costs
	0	0	0	0	0	0	0	0	0	0
Totals		0	0	0	0	0	0	0	0	0

4.24 Thermal Energy and Process Fuels
Residential New Construction Total Resource Benefits

Avoided Cost Benefits	2019	Lifetime (Present Value)
Avoided Cost of Electricity	nap	$0
Fossil Fuel Savings (Costs)	$0	$0
Water Savings (Costs)	$0	$0
Total	**$0**	**$0**

Electric Energy & Demand Benefits	Savings at Meter		Savings at Generation
	Gross	Net	Net
Annualized Energy Savings (MWh): Total	**0**	**0**	**0**
Winter on peak	0	0	0
Winter off peak	0	0	0
Summer on peak	0	0	0
Summer off peak	0	0	0
Coincident Demand Savings (kW)			
Winter	0	0	0
Shoulder	0	0	0
Summer	0	0	0

Thermal & Other Benefits	Gross	Net	Lifetime Net
Annualized Water Savings (ccf)	**0**	**0**	**0**
Annualized fuel savings (increase) MMBtu Total	**0**	**0**	**0**
LP	0	0	0
NG	0	0	0
Oil/Kerosene	0	0	0
Wood	0	0	0
Solar	0	0	0
Other	0	0	0
Annualized savings (increase) in O&M($)	**$0**	**$0**	**$0**

Net Societal Benefits	($0)

4.25 Thermal Energy and Process Fuels
Efficient Products Summary

	Prior Year 2018	Current Year 2019	Cumulative starting 1/1/18
# participants with installations	3,428	2,430	5,798
Operating Costs			
Administration	$172,868	$119,023	$291,890
Programs and Implementation	$23,134	$13,697	$36,831
Strategy and Planning	$9,284	$8,986	$18,270
Subtotal Operating Costs	**$205,286**	**$141,705**	**$346,991**
Technical Assistance Costs			
Services to Participants	$9,427	$1,548	$10,975
Services to Trade Allies	$1,814	$1,487	$3,302
Subtotal Technical Assistance Costs	**$11,242**	**$3,036**	**$14,277**
Support Services			
Consulting	$10,528	$6,635	$17,163
Customer Support	$387	$26	$413
Data and Technical Services	$5,636	$1,338	$6,974
Information Technology	$0	$0	$0
Marketing	$9,288	$10,035	$19,323
Policy & Public Affairs	$15	($2)	$14
Other	$0	$0	$0
Subtotal Support Services Costs	**$25,855**	**$18,032**	**$43,887**
Incentive Costs			
Incentives to Participants	$1,572,119	$1,043,350	$2,615,469
Incentives to Trade Allies	$0	$0	$0
Subtotal Incentive Costs	**$1,572,119**	**$1,043,350**	**$2,615,469**
Total Efficiency Vermont Costs	**$1,814,501**	**$1,206,122**	**$3,020,624**
Total Participant Costs	$6,207,261	$2,917,964	$9,125,225
Total Third Party Costs	$0	$0	$0
Total Resource Acquisition Costs	**$8,021,762**	**$4,124,087**	**$12,145,849**
Annualized MMBtu Savings	63,412	43,316	106,727
Lifetime MMBtu Savings	895,556	692,869	1,588,425
TRB Savings (2018 $)	8,087,586	$9,181,973	$17,269,559
Annualized MMBtu Savings/Participant	18.498	17.825	18.408
Weighted Lifetime	14.1	16.0	14.9

4.26 Thermal Energy and Process Fuels Efficient Products - End Use Breakdown

End Use	# of Participants	Net MWH Saved	Gross MWH Saved	Net Lifetime MWH Saved	Net Winter KW Saved	Net Summer KW Saved	Net Other Fuel MMBTU Saved	Net TRB Saved	Participant Incentives Paid	Participant Costs
Hot Water Efficiency	370	-368	-295	-4,788	-57	-29	4,891	$786,974	$209,913	$44,252
Other Efficiency	5	0	0	0	0	0	0	$0	$350	-$350
Space Heat Efficiency	1,553	25	22	25	17	5	17,177	$1,733,613	$457,686	$1,234,745
Space Heat Fuel Switch	538	63	70	1,135	20	0	21,247	$6,661,386	$375,400	$1,639,318
Totals		-280	-203	-3,628	-21	-24	43,316	$9,181,973	$1,043,350	$2,917,964

4.27 Thermal Energy and Process Fuels
Efficient Products Total Resource Benefits

Avoided Cost Benefits	2019	Lifetime (Present Value)
Avoided Cost of Electricity	nap	($243,437)
Fossil Fuel Savings (Costs)	$887,282	$9,425,410
Water Savings (Costs)	$0	$0
Total	**$887,282**	**$9,181,973**

Electric Energy & Demand Benefits	Savings at Meter		Savings at Generation
	Gross	Net	Net
Annualized Energy Savings (MWh): Total	**(203)**	**(246)**	**(280)**
Winter on peak	(83)	(100)	(115)
Winter off peak	(47)	(64)	(72)
Summer on peak	(40)	(44)	(51)
Summer off peak	(34)	(37)	(42)
Coincident Demand Savings (kW)			
Winter	(9)	(18)	(21)
Shoulder	0	0	0
Summer	(20)	(22)	(24)

Thermal & Other Benefits	Gross	Net	Lifetime Net
Annualized Water Savings (ccf)	**0**	**0**	**0**
Annualized fuel savings (increase) MMBtu Total	**48,183**	**43,316**	**692,869**
LP	10,356	9,343	135,682
NG	0	0	0
Oil/Kerosene	27,155	23,358	373,877
Wood	10,670	10,614	183,310
Solar	0	0	0
Other	0	0	0
Annualized savings (increase) in O&M($)	**($83,390)**	**($68,473)**	**($1,232,508)**

Net Societal Benefits	$9,648,816

4.28 Thermal Energy and Process Fuels
Existing Homes Summary

	Prior Year 2018	Current Year 2019	Cumulative starting 1/1/18
# participants with installations	1,477	2,266	3,637
Operating Costs			
Administration	$228,395	$457,547	$685,942
Programs and Implementation	$1,175,269	$1,406,539	$2,581,808
Strategy and Planning	$186,213	$85,013	$271,226
Subtotal Operating Costs	**$1,589,877**	**$1,949,099**	**$3,538,976**
Technical Assistance Costs			
Services to Participants	$483,836	$414,338	$898,174
Services to Trade Allies	$34,569	$21,040	$55,608
Subtotal Technical Assistance Costs	**$518,404**	**$435,378**	**$953,782**
Support Services			
Consulting	$68,776	$35,311	$104,087
Customer Support	$32,487	$28,640	$61,126
Data and Technical Services	$50,103	$58,957	$109,060
Information Technology	$0	$0	$0
Marketing	$370,951	$488,047	$858,998
Policy & Public Affairs	$118	$993	$1,111
Other	$0	$0	$0
Subtotal Support Services Costs	**$522,435**	**$611,948**	**$1,134,383**
Incentive Costs			
Incentives to Participants	$1,699,188	$3,629,684	$5,328,872
Incentives to Trade Allies	$140,698	$206,200	$346,898
Subtotal Incentive Costs	**$1,839,887**	**$3,835,884**	**$5,675,770**
Total Efficiency Vermont Costs	**$4,470,603**	**$6,832,309**	**$11,302,912**
Total Participant Costs	$6,809,574	$5,953,732	$12,763,307
Total Third Party Costs	$255,202	$197,798	$453,000
Total Resource Acquisition Costs	**$11,535,379**	**$12,983,839**	**$24,519,219**
Annualized MMBtu Savings	20,046	20,881	40,927
Lifetime MMBtu Savings	438,109	446,820	884,929
TRB Savings (2018 $)	$6,996,545	$6,668,642	$13,665,186
Annualized MMBtu Savings/Participant	13.572	9.215	11.253
Weighted Lifetime	21.9	21.4	21.6

4.29 Thermal Energy and Process Fuels Existing Homes - End Use Breakdown

End Use	# of Participants	Net MWH Saved	Gross MWH Saved	Net Lifetime MWH Saved	Net Winter KW Saved	Net Summer KW Saved	Net Other Fuel MMBTU Saved	Net TRB Saved	Participant Incentives Paid	Participant Costs
Cooking and Laundry	2	0	0	0	0	0	0	$0	$0	$275
Hot Water Efficiency	696	0	0	0	0	0	1,337	$414,507	$9,754	$77,823
Hot Water Fuel Switch	1	0	0	0	0	0	35	$8,475	$0	$5,373
Other Efficiency	941	0	0	0	0	0	0	$0	$0	$0
Other Indirect Activity	85	0	0	0	0	0	0	$0	$472,351	-$28,843
Space Heat Efficiency	1,454	126	124	2,876	17	0	13,378	$4,487,901	$2,903,729	$4,268,501
Space Heat Fuel Switch	101	-162	-158	-2,901	-33	-5	5,870	$1,713,665	$243,850	$1,422,484
Ventilation	98	0	0	0	0	0	261	$44,094	$0	$208,118
Totals		-36	-34	-25	-16	-5	20,881	$6,668,642	$3,629,684	$5,953,732

4.30 Thermal Energy and Process Fuels
Existing Homes Total Resource Benefits

Avoided Cost Benefits	2019	Lifetime (Present Value)
Avoided Cost of Electricity	nap	($30,026)
Fossil Fuel Savings (Costs)	$441,192	$6,582,756
Water Savings (Costs)	$5,747	$115,912
Total	**$446,939**	**$6,668,642**

Electric Energy & Demand Benefits	Savings at Meter		Savings at Generation
	Gross	Net	Net
Annualized Energy Savings (MWh): Total	**(34)**	**(32)**	**(36)**
Winter on peak	(13)	(12)	(13)
Winter off peak	(6)	(6)	(7)
Summer on peak	(8)	(7)	(9)
Summer off peak	(7)	(7)	(7)
Coincident Demand Savings (kW)			
Winter	(15)	(14)	(16)
Shoulder	0	0	0
Summer	(5)	(5)	(5)

Thermal & Other Benefits	Gross	Net	Lifetime Net
Annualized Water Savings (ccf)	**1,485**	**1,336**	**13,364**
Annualized fuel savings (increase) MMBtu Total	**22,849**	**20,881**	**446,820**
LP	4,937	4,431	102,839
NG	0	0	0
Oil/Kerosene	13,921	12,738	258,878
Wood	3,990	3,712	85,103
Solar	0	0	0
Other	0	0	0
Annualized savings (increase) in O&M($)	**($7,130)**	**($5,794)**	**($116,704)**

Net Societal Benefits	**($535,390)**

5. SPECIAL PROGRAMS

5.1 CUSTOMER CREDIT PROGRAM NARRATIVE

2018 was the last year of the Customer Credit Program (CCP). The program provided an alternative path for qualified large businesses showing the capability and resources to identify, analyze, and undertake efficiency projects, and to self-implement energy efficiency measures. Approved project costs were reimbursed up to a maximum of 90% of the company's electric Energy Efficiency Charge payments with time bound limitations.

CCP customers could receive reimbursement for any retrofit or market-driven project that saved electrical energy and passed the Vermont societal cost-effectiveness test. Once a qualifying customer elected to participate in the CCP, that customer was no longer eligible to participate in other Efficiency Vermont programs.

All CCP projects must have been initiated by the customer. In addition, the customer or its contractors must have completed all technical analysis. Market-driven projects were eligible for incentives equal to 100% of the incremental measure cost. For retrofit projects, customers could receive incentives that reduced the customer payback time to 12 months. If qualifying incentives exceeded the net present value of the savings when screened, the incentive was capped at the net present value amount.

Eligible Market

Commercial and industrial customers that met the following criteria were eligible for this program:

1. The customer had never accepted financial incentives from a Vermont energy efficiency utility-or distribution utility sponsored Demand Side Management (DSM) program; and

2. The customer had demonstrated a commitment to pursuing cost-effective energy efficiency on its own by:

    a. Certification under ISO (International Standards Organization) standard 14001; and
    b. Describing their energy efficiency plan, either already established and/or negotiated with the Public Service Department that showed a commitment to implementing cost-effective energy efficiency measures in the customer's facility or facilities.

5.1.1 Customer Credit Summary

	Prior Year 2018	Current Year 2019	Cumulative starting 1/1/18
# participants with installations	1	0	1
Operating Costs			
Administration	$938	$0	$938
Programs and Implementation	$0	$0	$0
Strategy and Planning	$0	$0	$0
Subtotal Operating Costs	**$938**	**$0**	**$938**
Technical Assistance Costs			
Services to Participants	$3,539	$0	$3,539
Services to Trade Allies	$0	$0	$0
Subtotal Technical Assistance Costs	**$3,539**	**$0**	**$3,539**
Support Services			
Consulting	$0	$0	$0
Customer Support	$0	$0	$0
Data and Technical Services	$127	$0	$127
Information Technology	$0	$0	$0
Marketing	$0	$0	$0
Policy & Public Affairs	$0	$0	$0
Other	$0	$0	$0
Subtotal Support Services Costs	**$127**	**$0**	**$127**
Incentive Costs			
Incentives to Participants	$238,717	$0	$238,717
Incentives to Trade Allies	$0	$0	$0
Subtotal Incentive Costs	**$238,717**	**$0**	**$238,717**
Total Efficiency Vermont Costs	**$243,322**	**$0**	**$243,322**
Total Participant Costs	($238,717)	$0	($238,717)
Total Third Party Costs	$0	$0	$0
Total Resource Acquisition Costs	**$4,605**	**$0**	**$4,605**
Annualized MWh Savings	-	-	-
Lifetime MWh Savings	-	-	-
TRB Savings (2018 $)	$0	$0	$0
Winter Coincident Peak kW Savings	0	0	0
Summer Coincident Peak kW Savings	0	0	0
Annualized MWh Savings/Participant	-	-	-
Weighted Lifetime	0.0	0.0	0.0

5.1.2 Customer Credit - End Use Breakdown

End Use	# of Participants	Net MWH Saved	Gross MWH Saved	Net Lifetime MWH Saved	Net Winter KW Saved	Net Summer KW Saved	Net Other Fuel MMBTU Saved	Net TRB Saved	Participant Incentives Paid	Participant Costs
	0	0	0	0	0	0	0	0	0	0
Totals		0	0	0	0	0	0	0	0	0

5.1.3 Customer Credit Total Resource Benefits

Avoided Cost Benefits	2019	Lifetime (Present Value)
Avoided Cost of Electricity	nap	$0
Fossil Fuel Savings (Costs)	$0	$0
Water Savings (Costs)	$0	$0
Total	**$0**	**$0**

Electric Energy & Demand Benefits	Savings at Meter		Savings at Generation
	Gross	Net	Net
Annualized Energy Savings (MWh): Total	**0**	**0**	**0**
Winter on peak	0	0	0
Winter off peak	0	0	0
Summer on peak	0	0	0
Summer off peak	0	0	0
Coincident Demand Savings (kW)			
Winter	0	0	0
Shoulder	0	0	0
Summer	0	0	0

Thermal & Other Benefits	Gross	Net	Lifetime Net
Annualized Water Savings (ccf)	**0**	**0**	**0**
Annualized fuel savings (increase) MMBtu Total	**0**	**0**	**0**
LP	0	0	0
NG	0	0	0
Oil/Kerosene	0	0	0
Wood	0	0	0
Solar	0	0	0
Other	0	0	0
Annualized savings (increase) in O&M($)	**$0**	**$0**	**$0**

5.2 DESIGNATED DOWNTOWNS INITIATIVE

The Designated Downtowns Initiative is described in Section 2.3.4 in the "Targeted Communities" description.

5.2.1 Designated Downtowns Summary

BENEFITS TO VERMONT'S DESIGNATED DOWNTOWNS, NEW TOWN CENTERS AND GROWTH CENTERS
All results are cumulative for the period March 2000 through December 2019[1]

Efficiency Vermont Service Area	Annual Net MWh Saved	Lifetime Net MWh Saved	Net Total Resource Benefits Delivered[2]
Designated Downtowns[3]			
Barre City	3,612	53,808	$5,840,917
Bellows Falls	734	9,005	$1,047,445
Bennington	1,706	22,568	$1,661,778
Brandon	1,381	17,999	$1,415,816
Brattleboro	3,418	42,124	$5,880,780
Bristol	658	8,876	$819,753
Middlebury	4,001	46,031	$3,945,943
Montpelier	8,012	105,543	$12,287,504
Newport	3,162	43,089	$3,970,256
Poultney	1,291	16,379	$2,459,718
Randolph	904	13,945	$1,305,559
Rutland	3,553	40,044	$3,473,799
Saint Albans	5,476	78,990	$5,062,153
Saint Johnsbury	3,128	43,899	$3,850,427
Springfield	883	15,230	$1,882,401
Stowe	606	6,485	$749,539
Vergennes	562	9,013	$629,403
Waterbury	1,373	15,934	$1,535,687
White River Junction	1,162	15,916	$1,408,762
Wilmington	442	6,206	$1,152,542
Windsor	992	13,917	$1,506,510
Winooski	5,069	70,043	$5,666,088
Totals:	**52,124**	**695,042**	**$67,552,783**
New Town Centers[3]			
Colchester	441	7,692	$1,134,840
South Burlington	7,740	99,346	$6,133,498
Totals:	**8,181**	**107,038**	**$7,268,338**
Growth Centers[3]			
Bennington	24,152	326,838	$38,046,540
Colchester	450	7,770	$1,144,140
Hartford	9,990	141,903	$14,660,808
Montpelier	16,427	212,911	$24,852,319
Saint Albans City	16,145	215,199	$15,913,109
Williston	12,519	165,280	$13,566,929
Totals:	**79,683**	**1,069,901**	**$108,183,844**

[1]The cumulative savings included in this table combine both Efficiency Vermont electric and thermal programs and services results. It includes all efficiency measures delivered by Efficiency Vermont for the Green Mountain Power Energy Efficiency Fund and Community Energy & Efficiency Development fund. Vermont Gas Systems energy efficiency benefits are excluded from this report.
[2]Present Value of Lifetime Reductions in Electric, Fuel, and Water Costs.
[3]Vermont Agency of Commerce & Community Development (ACCD) - Department of Housing and Community Development (http://accd.vermont.gov/community-development/designation-programs)

Designated Downtown reporting is dependent upon mapping of electric utility premises to the designated areas. Efficiency Vermont coordinated with the applicable electric distribution utilities and the ACCD to complete the mapping process for the current areas as defined by ACCD in 2018.

5.3 Administrative Cost Report

Efficiency Vermont engaged with the Department, the Commission, and other Vermont EEUs to collaboratively establish a framework on how to track and report administrative costs pursuant to the Administrative Efficiency Minimum Performance Requirement.

5.3.1. Incentive, Non-Incentive, and Administrative Cost Summary

2019 Electric and Thermal Costs	Business Energy Services		Residential Energy Services			Development & Support Services	Total	Row
	New Construction	Existing Facilities	New Construction	Efficient Products	Existing Homes			
Program Costs								
Incentive and Technical Assistance Costs								
Incentive Costs								
Incentives to Participants (RA)	$981,638	$8,415,685	$1,443,493	$9,885,848	$6,238,254	N/A	**$26,964,918**	1
Incentives to Trade Allies (RA)	$0	$387,198	$0	$457,046	$212,400	N/A	**$1,056,644**	2
Sub-Total Incentive Costs	**$981,638**	**$8,802,883**	**$1,443,493**	**$10,342,894**	**$6,450,654**	**N/A**	**$28,021,562**	3
Technical Assistance Costs								
Services to Participants (RA)	$615,517	$4,002,318	$1,061,085	$203,913	$861,355	N/A	**$6,744,187**	4
Services to Trade Allies (RA)	$67,388	$702,401	$27,919	$139,556	$98,761	N/A	**$1,036,024**	5
Energy Code and Standards Support (DSS)	N/A	N/A	N/A	N/A	N/A	$25,139	**$25,139**	6
Building Energy Labeling and Benchmarking (DSS)	N/A	N/A	N/A	N/A	N/A	$21,846	**$21,846**	7
Better Buildings by Design (DSS)	N/A	N/A	N/A	N/A	N/A	($13,220)	**($13,220)**	8
Sub-Total Technical Assistance Costs	**$682,905**	**$4,704,719**	**$1,089,003**	**$343,469**	**$960,115**	**$33,765**	**$7,813,977**	9
Sub-Total Incentive & Technical Assistance Costs	**$1,664,543**	**$13,507,602**	**$2,532,496**	**$10,686,363**	**$7,410,769**	**$33,765**	**$35,835,538**	10
Non-Incentive Program Costs								
Programs and Implementation (RA)	$182,859	$1,555,364	$212,536	$1,075,112	$2,481,491	N/A	**$5,507,363**	11
Emerging Technologies and Services (RA)	$55,739	$493,298	$52,154	$203,145	$235,704	N/A	**$1,040,040**	12
Marketing Program (RA)	$131,404	$1,119,970	$117,995	$713,646	$940,464	N/A	**$3,023,480**	13
Customer Support (DSS)	N/A	N/A	N/A	N/A	N/A	$157,996	**$157,996**	14
General Public Education (DSS)	N/A	N/A	N/A	N/A	N/A	$123,744	**$123,744**	15
Energy Literacy (DSS)	N/A	N/A	N/A	N/A	N/A	$181,324	**$181,324**	16
Applied R&D (DSS)	N/A	N/A	N/A	N/A	N/A	$309,966	**$309,966**	17
Support Services (RA)	$40,179	$603,954	$32,369	$111,905	$375,861	N/A	**$1,164,267**	18
Quality Assurance	N/A	N/A	N/A	N/A	N/A	N/A	**$0**	19
Sub-Total Non-Incentive Program Costs	**$410,182**	**$3,772,586**	**$415,054**	**$2,103,809**	**$4,033,520**	**$773,030**	**$11,508,180**	20
Total Program Costs	**$2,074,725**	**$17,280,188**	**$2,947,550**	**$12,790,171**	**$11,444,289**	**$806,795**	**$47,343,718**	21
Administrative Costs								
Sr. Management, Budget, Financial Oversight (RA)	$25,289	$216,781	$25,071	$88,889	$102,942	N/A	**$458,972**	22
Planning & Reporting (DSS)	N/A	N/A	N/A	N/A	N/A	$615,844	**$615,844**	23
Administration & Regulatory (DSS)	N/A	N/A	N/A	N/A	N/A	$418,418	**$418,418**	24
Public Affairs (DSS)	N/A	N/A	N/A	N/A	N/A	$81,207	**$81,207**	25
Information Technology (DSS)	N/A	N/A	N/A	N/A	N/A	$1,247,876	**$1,247,876**	26
Evaluation (DSS)	N/A	N/A	N/A	N/A	N/A	$401,662	**$401,662**	27
Direct and Indirect Overhead	$228,044	$1,907,203	$314,669	$1,319,349	$1,154,877	$367,566	**$5,291,708**	28
Total Administrative Costs	**$253,334**	**$2,123,983**	**$339,740**	**$1,408,238**	**$1,257,819**	**$3,132,572**	**$8,515,686**	29
Total Program and Administrative Costs	**$2,328,059**	**$19,404,171**	**$3,287,290**	**$14,198,409**	**$12,702,108**	**$3,939,367**	**$55,859,404**	30
Earned Compensation								
Base Compensation	N/A	N/A	N/A	N/A	N/A	N/A	**$754,102**	31
Performance Compensation	N/A	N/A	N/A	N/A	N/A	N/A	**$1,759,571**	32
Total Earned Compensation							**$2,513,673**	33
				Total Costs & Earned Compensation			**$58,373,077**	34

Summary Metrics			
Incentive & Technical Assistance	**Costs**	**% of Total**	**Data Row #**
Incentives	$28,021,562		3
Technical Assistance	$7,813,977		9
Total Incentive & Technical Assistance	**$35,835,538**	61%	10
Non-Incentive			
Non-Incentive Program	$11,508,180		20
Administrative	$8,515,686		29
Earned Compensation	$2,513,673		33
Total Non-Incentive	**$22,537,539**	39%	20, 29, 33
Total Costs and Earned Compensation	**$58,373,077**	**100%**	34
Incentive-to-Non-Incentive Cost Ratio	**1.6 to 1.0**		**10 / (20,29,33)**
	Costs	**% of Total**	
Program	$47,343,718	81%	21
Administrative	$8,515,686	15%	29
Earned Compensation	$2,513,673	4%	33
Total Costs and Earned Compensation	**$58,373,077**	**100%**	34

5.4 Weatherization Costs and Benefits Report

Vermont Act 62 authorized a transfer of funds from the State's General Fund ("State Weatherization Grant") and unspent EEC funds ("Act 62 Weatherization") to be used to expand weatherization services in Vermont. These activities launched on July 1, 2019 and will continue through December 31, 2020. The new funding will be incremental to existing TEPF funds for comprehensive weatherization projects and is intended to specifically support incentives for moderate-income customers. This report provides the weatherization costs and benefits of the State Weatherization Grant, Act 62 Weatherization, and existing TEPF funded weatherization services ("TEPF Weatherization").

5.4.1. Weatherization Costs and Benefits Summary

ACT 62 and STATE GRANT WEATHERIZATION SUMMARY[1]

For the Period July 1, 2019 through December 31, 2019

Funding Type	Budget 2019	Actual 2019	%	Budget 2019-2020	Actual 2019-2020	%
Act 62 Weatherization	$100,000	$89,168	89%	$2,250,000	$89,168	4%
State Weatherization Grant	$200,000	$262,662	131%	$350,000	$262,662	75%
Key Results						
Act 62 Weatherization						
Homes Served		-			-	
MMBtu Saved		-			-	
State Weatherization Grant						
Homes Served		262			262	
MMBtu Saved		2,787			2,787	

COMBINED WEATHERIZATION SUMMARY

For the Period July 1, 2019 through December 31, 2019

Funding Type	Budget 2019	Actual 2019	%	Budget 2019-2020[2]	Actual 2019-2020	%
Act 62 Weatherization	$100,000	$89,168	89%	$2,250,000	$89,168	4%
State Weatherization Grant	$200,000	$262,662	131%	$350,000	$262,662	75%
TEPF Weatherization	$2,446,040	$2,225,164	91%	$6,669,776	$2,225,164	33%
Total Weatherization Funding	**$2,746,040**	**$2,576,994**	**94%**	**$9,269,776**	**$2,576,994**	**28%**
Key Results						
Homes Served						
Act 62 Weatherization		-			-	
State Weatherization Grant		262			262	
TEPF Weatherization		282			282	
Total Homes Served		**544**			**544**	
MMBtu Saved						
Act 62 Weatherization		-			-	
State Weatherization Grant		2,787			2,787	
TEPF Weatherization		2,667			2,667	
Total MMBtu Saved		**5,454**			**5,454**	

[1] Act 62 and State Grant funds are incremental to the base TEPF funded program and do not include the same level of administrative costs as the base TEPF program. Efficiency Vermont is leveraging the base TEPF program administrative costs to reach additional customers through the deployment of Act 62 and State Grant funds in the form of enhanced incentives, targeted outreach efforts as well as workforce development.

[2] The budgets and results in this report are for services provided for the period July 1, 2019 through December 31, 2020

6. PROGRAM IMPLEMENTATION PROCEDURES

SUBMITTED IN 2019

6.1 PROGRAM IMPLEMENTATION PLANS

#	Document Name / Title	Major Market	Status	Date
121	Efficient Products Market Shift	RES	Implemented	1/23/2019
122	Continuous Energy Improvement (CEI)	C&I	Implemented	12/11/2019

Key:

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

7. DEFINITIONS AND END NOTES

7.1 DATA TABLES OVERVIEW

1 – Section **7.2** 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 of 1.35% and are reported in all applicable cost categories. 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” in Tables **3.8, 3.9, 3.14, 3.16, 3.19, 3.22 3.24, 4.1, 4.4, 4.7, 4.10, 4.13, 4.16, 4.19, 4.22, 4.25, 4.28,** and **5.1.1** are from Efficiency Vermont’s accounting system. “Participant Incentives Paid” on all other tables are from Efficiency Vermont’s project tracking and reporting system and exclude non-measure customer incentives.

7 – “Annualized MWh Savings (adjusted for measure life),” “Winter Coincident Peak kW Savings (adjusted for measure life),” and “Summer Coincident Peak kW Savings (adjusted for measure life)” on Tables **3.8** and **3.9** are provided for reference only. These data exclude savings for measures that have reached the end of their specified lifetime.

8 - 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.

7.2 DEFINITIONS AND REPORT TEMPLATE

The table templates that appear in the Efficiency Vermont Savings Claim Summary and Annual Report were developed as a collaborative effort between Efficiency Vermont and the 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	Current Year 2019	Cumulative starting 1/1/18	Cumulative starting 1/1/12
	(1)	(2)	(3)	(4)
# participants with installations	(5)			
Operating Costs				
Administration	(6)			
Programs and Implementation	(7)			
Strategy and Planning	(8)			
Subtotal Operating Costs	(9)			
Technical Assistance Costs				
Services to Participants	(10)			
Services to Trade Allies	(11)			
Subtotal Technical Assistance Costs	(12)			
Support Services				
Consulting	(13)			
Customer Support	(14)			
Data and Technical Services	(15)			
Information Technology	(16)			
Marketing	(17)			
Policy & Public Affairs	(18)			
Other	(19)			
Subtotal Support Services Costs	(20)			
Incentive Costs				
Incentives to Participants	(21)			
Incentives to Trade Allies	(22)			
Subtotal Incentive Costs	(23)			
Total Efficiency Vermont Costs	(24)			
Total Participant Costs	(25)			
Total Third Party Costs	(26)			
Total Resource Acquisition Costs	(27)			
Annualized MWh/MMBtu Savings	(28)			
Lifetime MWh/MMBtu Savings	(29)			
TRB Savings (2018 $)	(30)			
Winter Coincident Peak kW Savings	(31)			
Summer Coincident Peak kW Savings	(32)			
Annualized MWh/MMBtu Savings/Participant	(33)			
Weighted Lifetime	(34)			
Annualized MWh Savings (adjusted for measure life)			(35)	
Winter Coincident Peak kW Savings (adjusted for measure life)			(36)	
Summer Coincident Peak kW Savings (adjusted for measure life)			(37)	

DEFINITIONS FOR THE FIELDS IN THE REPORT TABLE TEMPLATES:

(1) Activity for the prior reporting year.

(2) Activity for the current reporting year.

(3) Data reported for the current performance period (2018-2020) starting January 1, 2018 through December 31, 2019.

(4) Data reported starting January 1, 2012 through December 31, 2019.

(5) Number of customers with installed measures. The "# participants with installations" is counted by summing unique physical locations (sites) where efficiency measures have been installed for the reporting period.

(6) Costs include Efficiency Vermont senior management, budgeting and financial oversight. Administration costs also include the operations fee (margin) and corporate indirect charges that were applied to (21) Incentives to Participants[1] and (22) Incentives to Trade Allies.

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

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

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

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

(11) 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.

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

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

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

[1] All costs for fields 6 through 19 include a 1.35% operations fee (or margin) paid to VEIC as administrator of Efficiency Vermont. Other than the 1.35% mark-up, VEIC is reimbursed at cost for the administration of Efficiency Vermont.

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

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

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

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

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

(20) Subtotal cost of Support Services.

(21) Direct payments to participants to defray the costs of specific efficiency measures.

(22) 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.

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

(24) Total costs incurred by Efficiency Vermont: (9) + (12) + (20) + (23).

(25) 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.

(26) 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.

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

(28) Annualized MWh savings at generation or MMBtu savings, net of all approved adjustment factors (e.g., free riders, spillover, line loss) for measures installed during the current reporting period.

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

(30) 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 2018 dollars throughout the report.

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

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

(33) Annualized MWh savings per participant, net at generation or MMBtu savings per participant: (28) ÷ (5).

(34) Average lifetime, in years, of measures weighted by savings: (29) ÷ (28).

(35) Adjusted annualized MWh savings at generation and net of all approved adjustment factors (e.g., free riders, spillover, line loss) for measures installed during the current reporting period. These data include savings for measures that have not yet expired during the reporting period and exclude savings for measures that have reached the end of their specified lifetime.

(36) Adjusted impact of measures during the winter peak period, at generation, net of adjustment factors. These data include savings for measures that have not yet expired during the reporting period and exclude savings for measures that have reached the end of their specified lifetime.

(37) Adjusted impact of measures during the summer peak period, at generation, net of adjustment factors. These data include savings for measures that have not yet expired during the reporting period and exclude savings for measures that have reached the end of their specified lifetime.

X.X.X. Breakdown Report

End Use or Utility or County	# of Participants	Net MWh Saved	Gross MWh Saved	Net Lifetime MWh Saved	Net Winter KW Saved	Net Summer KW Saved	Net Other Fuel MMBtu Saved	Net TRB Saved	Participant Incentives Paid	Participant Costs
	(38)	(39)	(039)	(41)	(42)	(43)	(44)	(45)	(46)	(47)

ITEMS 38-47 REFLECT INSTALLED MEASURES FOR THE CURRENT REPORTING PERIOD.

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

(39) 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 (28) for Electric Resource Acquisition programs.

(40) Annualized MWh savings, gross at the customer meter.

(41) 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 (29).

(42) 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 (31).

(43) 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 (32).

(44) MMBtu estimated to be saved (positive) or used (negative) for alternative fuels as a result of measures installed in the end use. This is the same number as that reported on line (28) for Thermal Energy and Process Fuels Resource Acquisition programs.

(45) 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 2018 dollars throughout the report. This is the same number as that reported on line (30).

(46) Incentives paid by Efficiency Vermont to participants for measures installed during the current reporting period. This value may not be equal to the number that is reported on line (21) due to a limited number of incentive payments to participants for efficiency measures and services with no savings claims.

(47) Costs incurred by participants and related to Efficiency Vermont or utility activities. This is the same number as that reported on line (25).

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