2018

ANNUAL REPORT

October 31, 2019

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Pursuant to the February 12, 2016 *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) and the Vermont Department of Public Service in fulfillment of Energy Efficiency Utility (EEU) annual reporting requirements.

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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 2018, 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.

2018 Summary

In 2018, the first year of the three-year (2018–2020) performance period, Efficiency Vermont was privileged to help more than 109,000 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 $214.3 million over the lifetime of their 2018 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 (see pages 11–12). 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, customers, 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.

2018 Savings

In 2018, Efficiency Vermont achieved energy savings at lower costs to ratepayers. By the end of 2018, Efficiency Vermont tracked between 34% and 46% achievement of the 2018–2020 100% Quantifiable Performance Indicator (QPI) targets for energy reduction, with an average achievement of 39%. These savings were realized while overall electric and thermal energy and process fuels (TEPF) spending combined in 2018 was under budget by $2,310,139, or 4%. Efficiency Vermont committed itself to finding operational efficiencies, reducing costs for customers, and keeping Energy Efficiency Charge (EEC) rates flat by setting an internal

[1] 2018 investments include the following costs: a) Efficiency Vermont costs: $58,194,227 (includes Resource Acquisition, Development and Support Services, and Performance Incentive costs); b) Customer costs: $40,113,909; and 3) Department of Public Service evaluation and other costs, $885,942.

goal of $1.5 million in cost reductions, while meeting performance targets. *Figure 1 illustrates Efficiency Vermont's progress toward its 2018–2020 QPI goals through the end of 2018.*

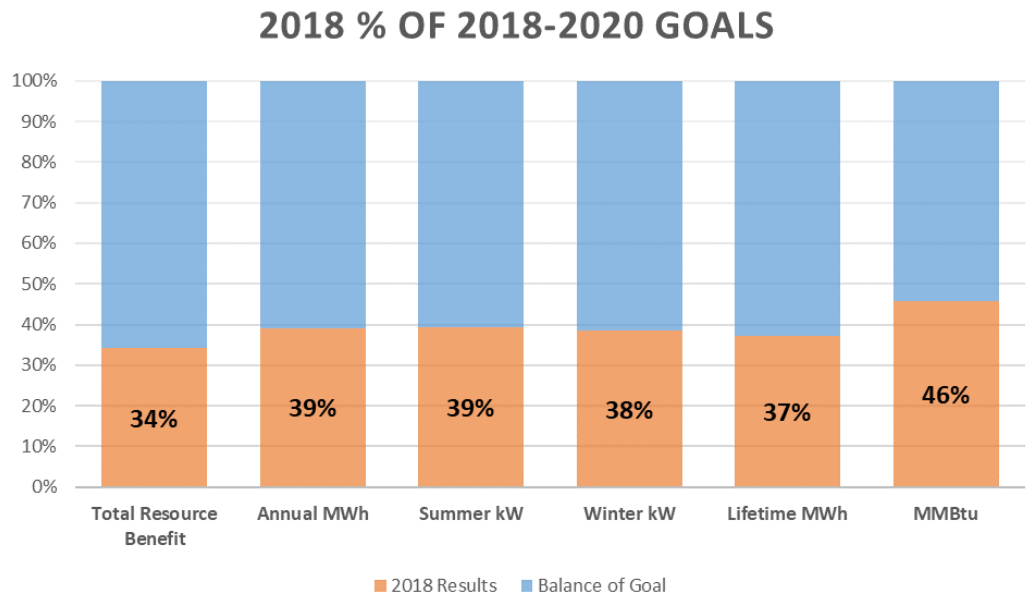

Figure 1. Progress towards 100% of the 2018-2020 QPIs for energy reduction through 2018.

Electric Efficiency

Efficiency Vermont generated savings of 140,001 megawatt hours (MWh), or 39% of the 100% MWh target, while spending $43,563,755, or 2.9% below the electric resource acquisition (RA) budget for the year, excluding Customer Credit. The vast majority of savings came from investments in two major markets: the business existing facilities market with 81,062 MWh, or 58% of total savings; and the residential efficient products market with 50,068 MWh, or 36% of total savings. *See Section 2 for RA and Development and Support Services (DSS) highlights. Figure 2 shows 2018 electric RA spending by major market. Figure 3 shows 2018 MWh savings by major market.*

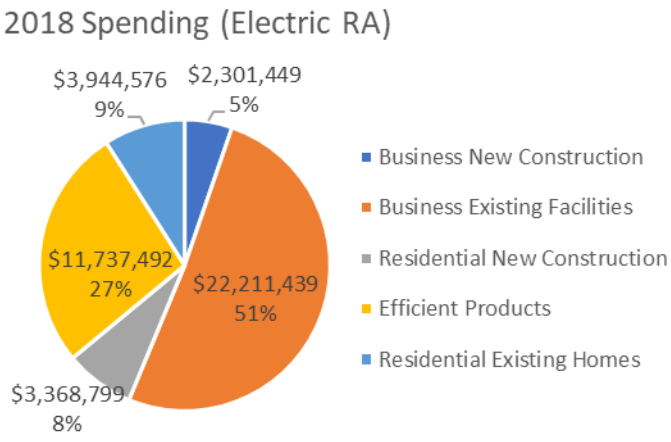

Figure 2. 2018 electric RA spending by major market

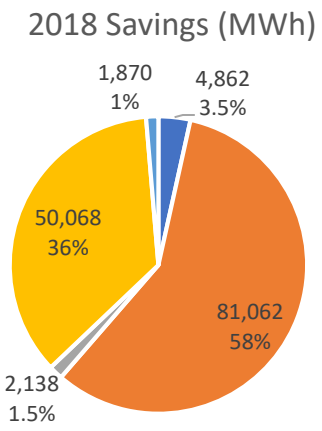

Figure 3. 2018 electric savings (MWh) by major market

Thermal Energy and Process Fuels Efficiency

Efficiency Vermont generated savings of 177,624 million British thermal units (MMBtu), or 46% of the MMBtu target, while spending 1.6% below budget for the year. The majority of energy savings came from RA investments in three major markets: the business existing facilities market, with 86,604 MMBtu, or 49% of total TEPF MMBtu savings, efficient products, with 63,412 MMBtu, or 36%, and existing homes, with 20,046 MMBtu, or 11%. *See Section 2 for RA and DSS activity highlights. Figure 4 shows 2018 TEPF major market RA spending. Figure 5 shows 2018 TEPF major market MMBtu savings.*

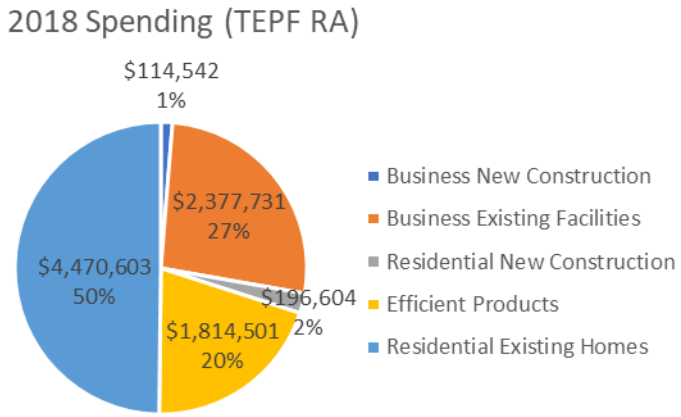

Figure 4. 2018 TEPF RA spending by major market

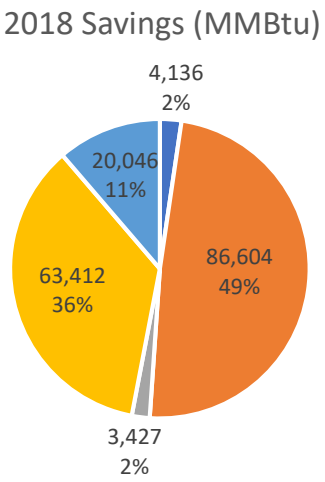

Figure 5. 2018 TEPF savings (MMBtu) by major market

2. 2018 SERVICES

2. 2018 SERVICES

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

2.1 THERMAL ENERGY AND PROCESS FUELS EFFICIENCY SERVICES

In addition to electric efficiency services, Efficiency Vermont provided TEPF efficiency services. TEPF services were provided through the following:

- 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
- Coordination with affordable housing providers, 3E Thermal, and Vermont's Weatherization Program in service to low-income households
- Technical information and financial incentives, for commercial and industrial customers, for projects that reduce thermal energy and industrial process fuel use
- Technical information and financial incentives for high-efficiency residential and commercial heating equipment—including biomass systems and certain efficient oil and propane systems—and to support the installation of smart thermostats in homes
- Efficiency Vermont's statewide Efficiency Excellence Network (EEN), providing training to contractors for these areas of focus: heating, ventilation, and air conditioning (HVAC), refrigeration, commercial and residential thermal shell improvements, heat pumps, refrigeration, electrical systems, and home construction
- Guidance and advice to customers regarding heat pump technologies
- Services promoting the installation of recommended efficient non-electric commercial kitchen equipment
- Thermal project partnerships with Burlington Electric Department (BED) and Vermont Gas Systems (VGS)
- Support of distribution utility efforts to meet specifications of Vermont Act 56.

2.2 SERVICES FOR BUSINESS CUSTOMERS

2.2.1 BUSINESS EXISTING FACILITIES

Existing Vermont businesses, institutions, and municipalities working with Efficiency Vermont in 2018 saved an approximate total of 80,309 MWh and 72,465 MMBtu, delivering Total Resource Benefits of $87.5 million to approximately 11,696 customers. The average anticipated return on investment[2] for efficiency improvements in existing commercial

[2] Participant return on investment is calculated based on the customer's investment in efficiency measures and the savings associated with those measures. 2018 customer investments totaled $17,440,890.

facilities in 2018 was 67% per year. Highlights of efforts in existing buildings follow.

2.2.2 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 (discussed in Section 2.4.2), and through the Energy Code Assistance Center and annual Better Buildings by Design Conference (discussed in Section 2.5.1) and through video-based training on www.efficiencyvermont.com.

Efficiency Vermont delivered services to encourage a comprehensive approach to efficient design, integrating energy efficiency decisions and including energy goals as part of the overall construction strategy from the earliest stages of a project. Services included:

- Technical assistance throughout the design, construction, and post-construction phases
- Tiered services for specific building performance levels, including net zero
- Designated energy consultants as single points of contact for the most active design professionals in the state.

2.2.3 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 (formerly Account Management)
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 416 businesses through Partner and Customer Engagement, garnering a combined expected annual savings of $5 million from measures completed in 2018. Efficiency Vermont:

- Provided technical and financial analysis to enable businesses to:
    - Create comprehensive portfolios of savings opportunities
    - Develop energy savings plans

    - Assess and utilize their energy usage data
    - Manage peak electricity use
    - Optimize systems
    - Engage in Continuous Energy Improvement, which helps customers look comprehensively at their facilities. In 2018, Efficiency Vermont engaged three cohorts: 1) commercial and industrial facilities, hospitals, and ski areas; 2) a group focused on industrial ammonia refrigeration [completed]; and 3) a group focused on chilled water systems.
- Offered financial incentives and supply chain price negotiations for recommended approaches and delivered assistance in identifying third-party financing options
- Organized Best Practices Exchange events delivering industry-specific energy savings information and providing customers with opportunities to learn from their peers in Vermont
- Facilitated energy Kaizen events (applying continuous quality improvement practices to energy management) and "sleeping plant" tours to find unneeded energy use during plant shutdowns
- Partnered with the Vermont Green Business Program of the Vermont Department of Environmental Conservation to launch a "Green Brewery Cohort." The cohort consisted of seven brewers that committed to reducing their energy consumption and waste by at least 5% by March 31, 2019. This cohort also included businesses categorized in the small and medium-sized business market. The effort identifies both electric and natural gas savings, the latter of which Efficiency Vermont addresses in coordination with VGS.

2.2.4 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 2.2.5). Efficiency Vermont provided:

- Direct customer engagement to help businesses identify and prioritize savings opportunities, to provide guidance through the course of energy-saving projects, and to help businesses manage energy use over time
- Engagement through the Efficiency Vermont EEN of efficiency service and product providers (discussed in Section 2.4.2), including Building Performance services providing incentives to qualifying small businesses and rental property owners completing efficiency improvements with a certified contractor in the EEN
- Services and outreach conducted through community-wide efforts, discussed in Section 2.4.4
- Education through strategic outreach via numerous avenues, including social media, direct mail, traditional media placements, Efficiency Vermont's e-newsletter, chambers of commerce, business associations, trade associations, planning commissions, economic development groups, business-focused events, and utility partners

- Collaboration with the Vermont Department of Environmental Conservation and the Vermont Brewery Association to create the Vermont Green Brewery cohort, to share best practices in energy efficiency.

2.2.5 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, hospitals, primary and secondary (K–12) schools, leased commercial real estate, lodging facilities, municipalities, restaurants, ski areas, and state buildings. Activities in selected targeted markets follow:

- Agriculture: Engaged with this market through vendors and events and partnered with the Vermont Housing & Conservation Board (VHCB) to expanding farmers' access to funding.
- Colleges and Universities: Worked with Green Mountain Power Corporation (GMP) to enable a college to save money by taking advantage of GMP's Curtailable Load Rider, which provides lowered rates for businesses agreeing to suspend certain power uses during identified peak usage events. Efficiency Vermont and GMP also worked together on a Tier III project to convert diesel air compressors to efficient electric equipment.
- Hospitals: Efficiency Vermont marked the successful completion of a four-year process culminating in ENERGY STAR recognition for a Windsor County hospital. This was the fourth Vermont hospital to achieve this distinction. Efficiency Vermont also formed a Continuous Energy Improvement cohort of 10 hospitals from around the state, focusing on chilled water systems.
- Ski Areas: Owing to the completion of major snow gun upgrades by most ski areas, Efficiency Vermont continued to increase efforts with customers on other snowmaking opportunities, including compressor optimization, air leak reduction, and pumping system upgrades. This year, Efficiency Vermont launched a standard incentive offering for efficient snow guns.
- State Buildings: Efficiency Vermont continued to coordinate with the Vermont Department of Buildings and General Services on the State Energy Management Program, which exceeded its State-mandated savings goals—for the second year in a row—by the end of the State's fiscal year.

2.2.6 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 2018 activities included the below.

Commercial Lighting
Efficiency Vermont:

- Provided technical guidance and promotions to encourage the adoption of high-quality, efficient indoor and outdoor lighting equipment and approaches, including: 1) light-emitting diode (LED) technologies; 2) integrated and non-integrated lighting controls; and 3) efficient lighting design
- Through engagement in the equipment supply chain, reduced purchase prices via supply chain incentives and worked to maintain product availability
- Partnered with lighting distributors, designers, and representatives to leverage their interactions with customers
- Provided efficient lighting technology training to lighting designers and to contractors through the EEN
- Monitored and evaluated emerging lighting technologies for possible inclusion in services
- Launched a qualified product list tool on www.efficiencyvermont.com to make it easier for customers to search for and confirm product eligibility
- Promoted quality lighting products and initiatives in collaboration with the Consortium for Energy Efficiency (CEE), Design Lights Consortium, ENERGY STAR, Northeast Energy Efficiency Partnerships (NEEP), and U.S. Department of Energy.

Building Systems

Efficiency Vermont's 2018 efforts included both direct customer and supply chain partnering activities designed to increase the installation of high-efficiency equipment and the optimization of entire systems. In 2018, Efficiency Vermont:

- Launched a new midstream service lowering purchase prices at the distributor level, in partnership with BED, in support of high-efficiency condenser units for refrigeration applications in small and medium-sized businesses.
- Rolled out the nation's first prescriptive rebate, for large (three to 30 horsepower) high-performance circulator pumps, developed in close collaboration with leading industry manufacturers.
- Met with the world's largest HVAC manufacturer. This meeting was initiated by the manufacturer, who wanted to know how Efficiency Vermont created majority adoption of cold climate heat pumps (CCHPs) in Vermont while the rest of the country continues to achieve low adoption. The meeting brought benefits to Vermont ratepayers by establishing a strong relationship with this company that is at the cutting edge of global emerging efficient technologies, providing Efficiency Vermont with the ability to maintain awareness of new technologies for use in Vermont.
- Designed and launched the nation's first service supporting both air-to-water and ducted unitary heat pumps, addressing the need for whole building heat pump solutions for homes and small businesses.
- Premiered air-to-water heat pumps for large commercial applications through the Best Practices Exchange, discussed in Section 2.2.3.
- Hosted a two-day summit that brought contractors, designers, and engineers from throughout the state to learn about air-to-water heat pumps and to interact with U.S. and Canadian manufacturers.
- Launched a custom advanced wood heating initiative developed through a collaboration among the Vermont Department of Public Service, Renewable Energy

Vermont, and the Vermont Department of Forests, Parks and Recreation. This effort was undertaken to create a smooth transition from the program formerly run by the Clean Energy Development Fund (CEDF).
- Collaboratively combined CEDF and Efficiency Vermont services for automated pellet boilers and furnaces to streamline the customer experience.
- Rolled out a midstream service for best-in-class cordwood and pellet stoves in collaboration with BED, VGS, and CEDF.

Industrial Process Equipment
Efficiency Vermont continued to work with Vermont manufacturers and other businesses to identify savings opportunities through upgrades for pumps, motor controls, variable frequency drives, compressed air systems, and process heating and cooling systems. Efforts included Partner and Customer Engagement services to large customers; support for small and medium-sized industrial businesses; supply chain partnerships designed to increase adoption of efficient technologies; coordination with qualified auditors to take a system-wide or facility-wide approach to equipment auditing; and research and service development intended to deepen market knowledge, to further develop internal processes, and to increase customer engagement and savings.

Combined Heat and Power (CHP)
Efficiency Vermont worked in partnership with VGS and in coordination with the Department to support a Vermont manufacturing business to study a CHP system. Unfortunately, the financials proved to be unfavorable for the customer, so the project was not undertaken.

2.3 Services for Residential Customers

2.3.1 Existing Market-Rate Homes

Single-Family Homes
Through its EEN, Efficiency Vermont supported a network of Home Performance with ENERGY STAR contractors who are trained and certified to perform energy efficiency home improvements. Efficiency Vermont provided:
- Financial incentives, and financing through lending institutions, for homeowners who completed projects with certified contractors
- Financial incentives to contractors for completed projects
- Coordination with VGS and BED regarding Home Performance with ENERGY STAR projects in their respective service territories
- Support by phone to help customers complete projects and to develop long-range plans for achieving comprehensive energy efficiency improvements
- Marketing and outreach campaigns promoting the benefits of working with certified contractors and informing homeowners about available incentives and financing options
- Online customer information
- Contractor services, discussed in Section 2.4.2.

In 2018, Efficiency Vermont:

- Launched a do-it-yourself insulation and air sealing pilot initiative, providing how-to guidance and financial support for project materials, to encourage effective installations by Vermonters who prefer to make their own home improvements or to work with an out-of-network contractor. The initiative required participants to review an installation standards manual and submit a completion checklist.
- Through its ARIES pilot initiative, worked with installers throughout the state installing monitors in 360 homes to display live energy usage information and to test the effectiveness of installed software in identifying electricity savings. Efficiency Vermont distributed surveys to participants, conducted outreach to distribution utilities, and engaged with Washington Electric Co-op regarding possible future collaboration. Efficiency Vermont also continued plans to determine robust and viable savings for inclusion in the 2019 portfolio and developed plans and partnerships for a behavioral savings service.

Efficiency Vermont also delivered community-based initiatives, such as the 2018 statewide Button Up Vermont campaign, designed to motivate home weatherization and adoption of energy-efficient products. This year's campaign incorporated new elements, based on successful approaches undertaken in partnership with Vital Communities in its earlier "Weatherize Upper Valley" effort. The new elements enabled residents of participating communities to meet and select area contractors from Efficiency Vermont's EEN, and to get support from local volunteers to see projects through to completion. Button Up Vermont was undertaken in partnership with BED, VGS, GMP, Vermont Electric Cooperative, Washington Electric Co-op, Building Energy, the Energy Action Network, Energy Co-Op of Vermont, Montpelier Construction, NeighborWorks of Western Vermont, South Burlington Energy Committee, SunCommon, Vermont Energy & Climate Action Network, Vermont Energy Education Program, Vermont Public Power Supply Authority, Vital Communities, and agencies of Vermont's Weatherization Program. Further discussion of community-based activities can be found in Section 2.4.4.

Multifamily Homes

In service to Vermonters living in rental housing, Efficiency Vermont engaged in efforts designed to motivate rental property owners to take energy-saving action. Efficiency Vermont provided owners with technical and financial support for the installation of efficient equipment and for thermal improvements completed by certified Building Performance Institute contractors. Efficiency Vermont engaged with nonprofit developers, housing organizations and their property managers, and private property owners. In 2018, Efficiency Vermont launched an account managed approach to serving private multifamily property owners (approximately 83% of Vermont's multifamily units, 70% of which are occupied by low-income renters) as they plan to retrofit or improve their buildings.

2.3.2 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; 2) affordable housing funders, including the VHCB and the Vermont Housing Finance Agency; and 3) multifamily housing developers, including Housing Vermont.

In 2018, Efficiency Vermont engaged in the following:

- Expansion of delivery partnerships for Low-income Electrical Efficiency Program services to include Windham and Windsor Housing Trust, in addition to ongoing delivery by NeighborWorks of Western Vermont.
- Efforts with Housing Vermont to identify the cost impact of efficient approaches used during the predevelopment and development phases of affordable multifamily housing projects.
- A new Partner and Customer Engagement strategy for private multifamily property owners to better support them as they plan their long-term capital improvements and improve their buildings.
- A pilot initiative bringing home energy visits and energy efficiency service referrals to eight households in a Waitsfield mobile home park and 25 households in Starksboro mobile home parks.
- With Vermont State Employees Credit Union, the establishment of a loan to support mobile home park owners to develop rental zero energy modular homes on their vacant lots.
- Incorporation of an "Income Eligible Adder" incentive to qualifying new construction projects.
- Assessment of the Energy Choices initiative, determining that this behavioral savings initiative would not be pursued in 2018. Activities consisted of this investigation as well as savings analysis and wrap-up of the 2017 pilot, and budgeting and resourcing to consider the addition of Energy Choices in the 2019 RA portfolio.
- Implementation of a new electronic application process for the Targeted High Use program (serving approximately 350 low-income households averaging 10,000 kilowatt-hours [kWh] in annual electricity use), reducing the time between customer application and receipt of services.
- The *Healthy Homes Vermont* study. Please reference Section 2.5.2 for information on Efficiency Vermont's activity and progress on healthcare partnerships and low-income healthy home pilots.

2.3.3 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 2.4.2); 2) the Energy Code Assistance Center; 3) the Better Buildings by Design Conference (discussed in Section 2.5.1); 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.

To assist builders in meeting and exceeding Vermont Residential Building Energy Standards, while promoting low-load and net-zero building practices, Efficiency Vermont provided services in support of the construction of homes meeting specific levels of energy performance:

- Efficiency Vermont Certified, Base Level: Homes exceeding Vermont code requirements and meeting Efficiency Vermont prescriptive requirements for energy efficiency. ENERGY STAR certification and home energy ratings were offered as options.
- Efficiency Vermont Certified High-Performance Home: Homes meeting elevated criteria for comprehensive energy efficiency and suitability to achieve net-zero energy use with the incorporation of renewables.
- Zero Energy Modular Homes: Vermont-built modular homes meeting high-performance criteria for low energy use, durability, health, and safety.

2.3.4 Efficient Products

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 a range of consumer products that met or exceeded efficiency standards set by the U.S. Environmental Protection Agency'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 2.4.2.

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, CEE, Attachments Energy Rating Council, and ENERGY STAR, and as a participant or lead on teams of the U.S. Environmental Protection Agency's Retail Products

Platform.

In 2018, Efficiency Vermont:

- Adjusted lighting incentives downward as part of the screw-based lighting exit strategy, which was undertaken as a result of successful transformation of the market.
- Launched an Appliance Marketplace to enhance the ability of consumers to identify efficient appliances.
- Piloted "Seasonal Savings" through a contract with Nest, to provide additional cooling savings for Vermonters with central air conditioning and a Nest thermostat.
- Eliminated all thermal incentives and shifted all thermal savings claims for CCHPs to distribution utilities in support of their Tier III requirements. This involved extensive supply chain partner outreach to prepare for the reduction of rebates resulting from this shift. This process went extremely smoothly, a testament to the strong partnerships and robust communications that were involved.
- Engaged in program implementation for air-to-water and ducted unitary heat pumps for residential and small commercial applications.

2.4 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' bottom line.

2.4.1 Coordination with Energy Efficiency Utilities and Distribution Utilities

Entity	Activities
Vermont Electric Cooperative	**Commercial and industrial comprehensive projects**—Continued support of Vermont Electric Cooperative's clean air projects through technical engineering and Partner and Customer Engagement services. **Tier III service delivery collaboration**—A 2018 memorandum of understanding (MOU) was in place for joint implementation of CCHP, heat pump water heater, and pellet stove programs and extended through 2019. **Sheffield-Highgate Export Interface** (SHEI)—-Early discussions were underway to explore a joint effort to accelerate Tier III load management efforts in the SHEI region.
Vermont Public Power Supply Authority (VPPSA)	**Customer benefit communication**—Reports were being built to show the benefits and services delivered in each VPPSA distribution utility region. **Targeted community**—At the request of VPPSA, the first joint targeted community initiative was launched in the town of Northfield. This was a very positive collaboration process among VPPSA, Northfield Electric, and Efficiency Vermont to promote both efficiency and Tier III measures to homes, businesses, and institutions in the Northfield community. **Customer service collaboration**—Efficiency Vermont was developing Customer Support training and collaboration to better empower distribution utility customer support staff as front-line intake specialists. The initial towns were Ludlow, Northfield, Jacksonville, and Barton. **Tier III service delivery collaboration**—The development of a 2018–2019 MOU for joint implementation of CCHP, heat pump water heater, and weatherization services was approved and in place at the end of 2018.
Washington Electric Co-op	**Peak load management collaboration** - Developing Partnership opportunities to drive load reduction and load shifting during peak demand periods. **Technology and service delivery partnerships**- Exploring partnership opportunities in the Sense pilot with the objectives of: creating accurate measure level usage data; developing behavioral based initiatives through/with Sense, and characterizing and quantifying the benefits (including savings). **Tier III service delivery collaboration** - 2018 MOU in place for joint implementation of CCHP, heat pump water heater, pellet boilers and furnaces, and weatherization.
Stowe Electric Department	**Customer service and support**— Efficiency Vermont expanded its collaboration in 2018 to prepare for joint Tier III service delivery of Stowe Electric's CCHP program that was preparing for a full launch at the beginning of 2019. **Tier III service delivery collaboration**—Engaged in development of a 2019 MOU for joint implementation of a CCHP program.

Green Mountain Power	**Leadership collaboration**—Completed collaboration agreement, with weekly check-ins among leaders of operations and commercial and industrial programs whereby teams can share, align, and assist in service delivery. Discussions focused on customer experience, tools, and service. **Commercial and industrial custom project collaboration**—The preliminary partnership framework was established with strong success to date, and multiple projects in the pipeline. The partnership process for Business New Construction projects was defined. **Regional planning commission energy plan assessment and implementation**—Continued engagement activities with regard to the joint assessment of efficiency and renewable planning activities for targeted regional planning commissions. **Load Flexibility Pilot**—– Began GMP's pilot to identify 10 customers for conversion of static or stranded load to controllable and flexible load. One customer completed. **Tier III service delivery collaboration**—A 2018 MOU was executed for joint implementation of CCHP and heat pump water heater programs. **Data leveraging collaboration**—Agreement and implementation plans were created to more effectively and cost-effectively utilize data for customer presentment and project analysis.
Burlington Electric Department	**Quarterly and activity-based collaboration**—Staff from both organizations communicated regularly about programs impacting each organization to design, develop, and implement joint Energy Efficiency Utility and Tier III programs and to explore new collaboration opportunities. **Technology and service delivery partnerships**—Co-developing behavioral based demand response pilot to reduce peak load.
Vermont Gas Systems	**Quarterly and activity-based collaboration**—Staff from both organizations communicated regularly about programs impacting each organization to design, develop, and implement joint Energy Efficiency Utility programs and to explore new collaboration opportunities.

2.4.2 Services to Contractors and Equipment Suppliers

In 2018, Efficiency Vermont continued:

- Engagement with manufacturers, distributors, and suppliers to reduce equipment purchase costs, ensure Vermont product availability to contractors and consumers, and reduce lead times for product ordering
- Collaboration with manufacturers regarding emerging and rapidly advancing efficient technologies
- Partner and Customer Engagement of Vermont stores in retail chains, targeting store owners, managers, and staff to ensure implementation of promotional agreements established at the corporate level
- Assistance to independent and chain retailers, including merchandising support, guidance on efficient product differentiation on the sales floor, point-of-purchase information, product knowledge training, advertising, and promotional and public information activities, including events
- Training and support for installers, builders, and designers, to help them increase the use of new, efficient technologies and approaches

- Promotions focusing on targeted products
- Creation of opportunities to earn education credits for HVAC system designers, equipment installers, and service technicians through Efficiency Vermont's Better Buildings by Design Conference (see Section 2.5.1)
- A designated website providing information about available services, training, and business opportunities
- Listings of contractors and homebuilders at www.efficiencyvermont.com.

The Efficiency Excellence Network

In addition to the above, Efficiency Vermont coordinated the growing, statewide EEN of electrical, lighting, HVAC, refrigeration, homebuilder, and building improvement contractors, lighting designers, and residential architects. The EEN is designed to empower members to identify and promote energy efficiency opportunities for their customers. Through the EEN, Efficiency Vermont provides members with:

- Specialized in-person and online training sessions
- Professional certifications, in affiliation with the Building Performance Institute and the American Institute of Architects, to deliver retrofit efficiency services to Vermont homes (Home Performance with ENERGY STAR contractors) and small businesses and rental properties (Building Performance contractors)
- Consumer financial incentives and third-party financing options for projects completed by EEN contractors
- A point person to provide support and information
- Specific member cooperative advertising opportunities
- Professional networking opportunities
- EEN affiliation in consumer listings on www.efficiencyvermont.com.

2.4.3 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.

2.4.4 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. Efforts included:

- Targeted communities, a community-wide, cross-market pilot initiative in two towns—Springfield and Newport—in coordination with the Vermont Agency of Commerce and Community Development's revitalization efforts.
- The Efficiency Vermont Speakers Bureau, presenting more than 30 educational workshops for the general public and for employees in work settings.
- Participation in the Vermont Council on Rural Development's Vermont Climate Economy Model Communities Program to help communities identify and implement

priority actions that increase economic vitality and affordability. The 2018 communities were Middlebury and Randolph.

- The 2018 Button Up Vermont campaign, which engaged residents in 37 communities to take at least one action to reduce heating and cooling costs. Efficiency Vermont launched the campaign in partnership with numerous distribution utilities and town energy committees, the Vermont Energy and Climate Action Network, the Building Performance Professionals Association, VGS, and GMP.
- The Vermont Climate Action Communities initiative, launched in coordination with the Vermont League of Cities and Towns, designed to engage municipalities to make and fulfill commitments to reduce 2005 greenhouse gas emission levels 26–28% by 2025.

2.4.5 Financial Services

In its ongoing commitment to help Vermonters overcome financial barriers to investing in cost-effective efficiency for their buildings and equipment, Efficiency Vermont engaged in the following efforts in 2018.

Product and Service Price Reductions

To help motivate Vermonters to make energy-efficient choices when purchasing, Efficiency Vermont targeted specific products and services for purchase price reductions. Primary mechanisms: 1) negotiated cooperative promotions that provided incentives to manufacturers, distributors, and retailers—both independent and chain stores—to lower the purchase price of products; and 2) rebates and financial incentives for:

- Efficient products and equipment purchased at the retail level and through commercial suppliers and installation contractors
- Commercial process equipment
- The incorporation of advanced, cost-effective approaches that enable the design and construction of high-performance residential and commercial buildings
- Thermal building upgrades made by Building Performance contractors in small commercial and multifamily properties
- Comprehensive home improvement projects conducted by Home Performance with ENERGY STAR contractors.

Financing for Energy Efficiency Projects

Efficiency Vermont continued to work with Vermont lending institutions to ensure the availability of cost-effective financing that includes energy savings in the repayment formula. Efficiency Vermont provided technical and financial analysis, promotions, and informational support for customers. Efficiency Vermont engaged with a range of financing vehicles, including the following, which customers acquired through lending institutions:

- Business Energy Loan: Increasing opportunities to finance efficiency projects for businesses, including agricultural facilities.
- Municipal Tax-Exempt Leasing: Opportunities for municipalities to make energy-saving upgrades, in facilities such as K–12 schools, without raising budgets or establishing bonds.

- Heat Saver Loan / EEN Partnership: Financing for heating system replacements and comprehensive thermal efficiency projects completed by members of Efficiency Vermont's EEN. In 2018, Efficiency Vermont assumed administration of the Heat Saver Loan program from the Vermont Department of Public Service.
- Zero Energy Modular (ZEM) Home Loan: Established with Vermont State Employees Credit Union to support mobile home park owners to develop rental ZEM homes on vacant lots.

Financing Education and Analysis

To enable Vermonters to be aware of, understand, and make decisions regarding financing options, Efficiency Vermont provided financing information to targeted sectors (such as rental property owners) and offered information through community workshops, by phone, on its website, and in media placements. Efficiency Vermont also continued to provide financial analysis for custom projects, to offer tools helping retrofit contractors present financing options to their customers, and to make discussion of cost-effective financing a standard part of service to customers lacking capital for beneficial upgrades.

Financial and Leveraged Product Development

Efficiency Vermont continued its efforts to: 1) increase financing opportunities for Vermonters engaged in energy efficiency projects; and 2) leverage public and private resources to draw new funding for energy efficiency efforts without additional ratepayer investment. These efforts are discussed in Section 2.5.5.

2.4.6 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.

2.4.7 Data Analytics

Using its integrated data storage and analytics platform, Efficiency Vermont engaged in the:

- Provision of technical services and analysis for Washington Electric Co-op
- Migration of its data warehouse to a new hosted platform
- Continued effort to incorporate energy usage data from Vermont distribution utilities while pursuing alternative paths to support customer and program delivery.

2.5 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 continued to be essential to Efficiency Vermont's efforts to deepen energy savings and to have a lasting, positive impact on Vermont households, businesses, institutions, and communities.

2.5.1 Education and Training

Codes and Standards Support—Residential and Commercial and Industrial
Efficiency Vermont provided technical support and information about Vermont's commercial and residential energy codes to Vermont construction tradespeople, building design professionals, property owners, municipal officials, realtors, building supply firms, and equipment suppliers. Information was provided through training sessions held throughout the state, delivery of code handbooks and materials, and conversations with callers to the Energy Code Assistance Center.

2018 was a transition year between code cycles. Thus, much of Efficiency Vermont's time was spent on analysis in preparation for 2019 code changes. No technical code trainings occurred in 2018. The Energy Code Assistance Center addressed the following:

- 20 general inquiries (average time spent with customer: four minutes)
- 27 business code inquiries (average time spent with customer: six minutes)
- 110 residential code inquiries (average time spent with customer: eight minutes).

Energy Literacy Project
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. To create greater awareness and understanding of energy and the impact of energy consumption, Efficiency Vermont conducted education activities in all 13 Vermont counties, with a focus on outreach to communities with a higher-than-average energy burden.[3] In 2018, 52 schools were enrolled, and 211 workshops were delivered. The Vermont Energy Education Program, under contract with Efficiency Vermont to implement this initiative, supported educators in enhancing school curricula and increasing student awareness of and advocacy for energy-related issues in their schools and communities. The primary goals of the Energy Literacy Project continued to be to:

- Promote energy education and literacy in Vermont's K–12 schools
- Provide professional development opportunities for teachers
- Affect energy-related behaviors of students and staff at school
- Encourage students and staff to apply their learning at home.

[3] Source: Vermont Agency of Education Child Nutrition Programs Annual Statistical Report – Percent of Students Eligible for Free and Reduced Price School Meals School Year 2018–2019.

General Public Education

To motivate and empower the general public to take energy-saving actions, Efficiency Vermont engaged in activities designed to increase public awareness of: 1) energy efficiency and its benefits; 2) actions that lower energy use; and 3) Efficiency Vermont as a resource for comprehensive energy efficiency solutions. Methods included:

- Provision of information and promotions via print, broadcast, web-based, and social media, and news coverage. In 2018, Efficiency Vermont:
    - Reached out to media on 34 occasions via press releases, op-eds, or direct story proposals, highlighting new customer services and resources, customer success stories, and other information of benefit to Vermonters
    - Was mentioned more than 225 times in Vermont media outlets
    - Had the following social media engagement:
        - more than 16,700 followers on its Facebook page
        - more than 4,420 Twitter followers
        - 1,000 Instagram followers
        - 430 LinkedIn connections
- Engagement of customers through access, at www.efficiencyvermont.com, to recommendations on efficiency actions, online rebate applications, information about efficient technologies and approaches, identification of qualified local service providers, locations of retailers selling efficient products, and information on a range of other efficiency and energy topics. In 2018, Efficiency Vermont:
    - generated approximately 63,127 views of guides, tools, and question-and-answer content on efficiencyvermont.com
    - emailed its residential newsletter, *Watts New*, to more than 12,779 subscribers
    - drew more than 10,000 views on the news and blog section of www.efficiencyvermont.com
- Dissemination of information at a variety of events, including home shows, community events, fairs, and trade shows. Efficiency Vermont staff attended 123 community events in 2018 with a combined audience of more than 100,000 Vermonters, ranging in scope from exhibiting at regional home shows to presenting at local community workshops. Through this work, Efficiency Vermont staff connected directly with tens of thousands of Vermonters.

Better Buildings by Design Conference

Efficiency Vermont presented its annual Better Buildings by Design Conference in February. This two-day design and construction conference is a key resource for construction and design professionals, and equipment installation and service contractors. The conference once again featured technical workshops presented by national experts in the energy efficiency and building performance fields. The 2018 conference welcomed 940 attendees, offered 11 professional credit designations, and featured 42 workshops and 53 exhibitors.

Customer Support and Training

Vermonters continued to have easy access to expert guidance and information through Efficiency Vermont's multichannel contact center, which utilized phone, e-mail, and live chat

for over 22,000 communications to provide:

- Help for commercial and residential customers in understanding their energy use and engaging in energy management
- Information related to efficient buildings and equipment and to Efficiency Vermont's services
- Assistance in finding knowledgeable Vermont contractors, builders, and designers, and sellers of qualified efficient products and equipment in support of customers' efficiency projects
- Referrals to resources such as Vermont's Weatherization Program, the Renewable Energy Resource Center, VGS, and distribution utilities
- Maintained an average customer satisfaction score of 90%.

Public Affairs

Efficiency Vermont provided energy, financial, and economic information and analysis to policy makers, state agencies, utilities, and other key stakeholders. These efforts were undertaken in ongoing support of Efficiency Vermont's statutory and regulatory mandates, the State's Comprehensive Energy Plan goals, and other relevant energy policy goals, and included:

- Working as a resource for policy makers, regulators, businesses, and community organizations
- Briefing the Legislature, state officials, housing agencies, low-income advocates, business associations, local leaders, economic development partners, and other stakeholders on energy efficiency issues
- Assisting legislators and state officials with review and development of policy proposals related to the Efficiency Vermont scope of work
- Providing expert testimony and input on pieces of legislation consistent with Efficiency Vermont's status as an appointed EEU
  As needed, working collaboratively with distribution utilities on public affairs efforts related to energy efficiency issues
- At the request of community partners and customers, presenting information about Efficiency Vermont services at public forums and meetings. In 2019, Efficiency Vermont held 50 community forums and workshops to provide information about energy, efficiency, and Efficiency Vermont.
- Drafting papers on major Efficiency Vermont initiatives. In 2019, Efficiency Vermont published 2 white papers and 2 blog posts focused on public affairs topics.

Building Labeling and Benchmarking

Following evaluation of the Vermont Home Energy Profile (VHEP), Efficiency Vermont:

- Discontinued support of the U.S. Department of Energy Home Energy Score
- Continued to support VHEP and assessors wishing to remain active until a replacement became available that would provide energy information to homeowners, contractors, lenders, appraisers, and real estate professionals
- Began development of a completion certificate, to be issued for homes where a Home Performance with ENERGY STAR project was completed.

2.5.2 Applied Research and Development

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

Emerging Data Services

To strategically plan for the optimal use of data in service to customers, planners, and policy makers, Efficiency Vermont explored new strategies, techniques, and technologies that showed promise for increasing energy savings, facilitating targeted segmentation, decreasing delivery costs, or increasing customer engagement and satisfaction. In 2018, Efficiency Vermont:

- Conducted a calibration study for a 30-unit smart thermostat pilot initiative to support remote weatherization opportunity classification
- Verified thermostat measured thermal loss calculation accuracy against building envelope model estimates to support future program accuracy
- Released an initial weather modeling and normalization service and further enhanced the service
- Continued investigation of efficiency measure performance and impact on the grid
- Researched time-of-day load shape prediction from monthly billing data, parcel, land use, and other predictors for residential and commercial uses
- Researched time-of-week and other weather modeling techniques and development of functionality for pay-for-performance and other uses
- Engaged in the development, refinement, and exploration of multiple applications, methods, and tools for diverse groups of Efficiency Vermont customers and users. This included curated weather, submetering application, a smart thermostat analytics toolkit, Bullseye, and a time-of-use load shape analysis tool.

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 RA goals. Efficiency Vermont engaged in these activities to advance the goals of sound product and program design over time through field testing, technology demonstrations, and research of emerging technologies and implementation strategies. Efficiency Vermont maintained a webpage at www.efficiencyvermont.com/news-blog/whitepapers, providing the public with access to information about technology demonstration efforts. An overview of 2018 activities follows.

Healthcare Partnership

In coordination with the Vermont Office of Economic Opportunity's Weatherization Program and partners within the healthcare industry, Efficiency Vermont undertook this study to assess the impact of efficiency measures on residential health in Vermont. The effort was undertaken to identify which healthcare measures could be implemented at the time of energy efficiency upgrades, and how these combined efforts might achieve better occupant health and reduce health and energy costs. In 2018, the following was achieved:

- Training of 65 staff at five hospitals on healthy homes and in-home intervention

- Initial identification and vetting of 10 patients for referral into the study
- Training of 76 consumers and 24 contractors on healthy homes
- Interactions with over 170 healthcare professionals through booths at three health industry conferences in Vermont
- Identification and testing of air quality monitoring equipment
- Patient education and home visits undertaken by two hospitals
- Coordination with the Vermont Department of Health and Lawrence Berkeley National Laboratory, both of which have agreed to provide technical assistance to the pilot as needed
- Coordination with the VHCB health and lead-safe homes program
- Initial in-home education, assessments, air quality monitoring, scopes of work, and retrofits for two homes, and additional assessments and education at four additional homes
- Conclusion that a longer-than-expected timeline will be required to complete the study and commitment from partners to continue the study through 2019.

Advanced Metering Infrastructure (AMI)-Based Efficiency Analysis

Using AMI data, and in partnership with distribution utilities, Efficiency Vermont launched this effort to determine which efficiency resources may be most valuable in addressing the grid operator's need to absorb excess supply in times of renewable energy generation and, conversely, to reduce demand when renewable energy is not being supplied. In 2018, Efficiency Vermont:

- Refined the focus of this study's efforts to address the post-sundown peak usage period because the peak usage period is a significant cost driver for some distribution utilities.
- In lieu of AMI data that temporarily were not provided to Efficiency Vermont by distribution utilities, used *RES 1 Baseline Loadshape Study* (Navigant, 2018), which provides load profiles for over 25 residential measures. Using those load profiles, a calculator was created to assess the impact of demand side management measures on the utilities' load profiles and peak-related costs.
- Completed preliminary analysis for the locational marginal prices at different nodes in Vermont to better understand how the value of the avoided cost of energy efficiency varies across the state, throughout the day, and across seasons.

Low-Cost Monitoring

Efficiency Vermont established this effort to test the ability of low-cost monitoring equipment to alert commercial and industrial facility managers to energy efficiency opportunities and maintenance issues in advance of refrigeration equipment failure. Efficiency Vermont:

- In one customer facility, installed monitors providing power, pressure, and sensor data on freezers and coolers
- Conducted analysis of data
- Engaged in an effort to confirm pathways to determining head pressures remotely

- Built models that allow prediction of system power and head pressures using temperature sensors, or a combination of temperature and pressure sensors
- Interviewed customers to determine the portal interface visualizations
- Engaged a vendor to retrieve, store, transform, and display processed sensor data via the customer, maintenance contractor, and Efficiency Vermont dashboards with specified fault detection alerts generating valuable results.

Initial findings revealed:

- A savings opportunity involving the frequency of defrost cycles
- Energy efficiency opportunities when a head pressure restricting valve is installed
- Complications on systems that pump down at the end of the cooling cycle and systems that utilize electric defrost.

Demand Response Capability and Effectiveness Assessment

Efficiency Vermont, in coordination with the Department and distribution utilities, engaged in this project to finalize a catalog of demand response measures commissioned by the Department as part of its energy efficiency potential study. This was undertaken to enable Efficiency Vermont, the Department, and distribution utilities to assess the potential value—for ratepayers, distribution utilities, and the grid—in combining energy-efficient approaches with demand response capable equipment. Following the creation of a draft *Demand Response Catalog*, Efficiency Vermont began preliminary work toward the next phase of this project: planning for a 2019 flexible load management project focusing on the storage capabilities of heat pump water heaters. Efficiency Vermont also supported exploration of the BED Beat the Peak behavioral demand response program confirming program viability and bringing lessons back to other distribution utilities in the state.

2.5.3 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.

- 2019 update to the Triennial Plan 2018–2020
- 2017 savings claim summary and annual report
- 2017 budget overview document
- Eight monthly and three quarterly reports
- Three quarterly program change notices
- Three quarterly and one annual budget variance reports
- Four quarterly Voice of the Customer complaint and feedback reports
- 12 Department monthly invoice reviews
- Numerous ad hoc reporting requests

- Three quarterly and one annual Designated Downtowns reports for the Vermont Agency of Commerce and Community Development.

Demand Resources Plan
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 (MPR).

Participation in State and Regional Integrated Planning
Efficiency Vermont continued its active participation in the Vermont System Planning Committee (VSPC), a collaborative body bringing together Vermont's utilities, Vermont Electric Power Company, the Department, and individuals representing the interests of ratepayers to address approaches to electric transmission system planning and management. In 2018, Efficiency Vermont participated in three VSPC subcommittees: Coordinating, Forecasting, and Geographic Targeting.

Independent System Operator–New England (ISO-NE) Forward Capacity Market (FCM) Administration
VEIC, as the implementer of Efficiency Vermont, continued to represent the interests of Vermont ratepayers by participating in the ISO-NE FCM, in which energy efficiency savings are bid as a resource for the regional grid. In 2018, VEIC added 12.7 megawatts (MW) of new capacity savings, resulting in a net cumulative portfolio of 108 MW of peak capacity savings from Efficiency Vermont activity in the FCM. This led to approximately $11.1 million in revenues that provided more than half of the funds for investment in thermal efficiency services. Efficiency Vermont's 2018 FCM commitments represented Vermont's single largest peak capacity provider, increasing grid capacity by lowering demand.

External Non-Regulatory Reporting
Efficiency Vermont provided information in coordination with state, regional, and national entities regarding the following:

- Energy Action Network (EAN): Maintaining and populating the EAN's online Community Energy Dashboard
- Tier III reporting and tracking
- Renewable Energy Standard Tier III shared savings agreements with distribution utilities
- Annual Form EIA-861, Annual Electric Power Industry Report
- Regional Greenhouse Gas Initiative spending and benefits report
- Regional Planning Commissions report, expanded to better meet the needs of all Vermont Regional Planning Commissions
- ACEEE 2018 State Energy Efficiency Scorecard
- Information and review for reports and documents, on request from ACEEE
- NEEP's Measure Cost Study and Regional Energy Efficiency Database
- ISO 2019 Energy Efficiency Forecast
- Vermont Low Income Benchmarking Study

- Quarterly distribution utility reports summarizing activities and participation related to specific VPPSA utilities

2.5.4 EVALUATION

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

- Annual Savings Verification: Coordinating with the Department and its evaluation contractor, Cadmus, to conduct the annual savings verification process. This included portfolio and project data submittal, review of individual project findings, and weekly status meetings. Realization rates for 2017 savings claims were:
  - Electric gross MWh: 98.5%
  - Electric gross winter kilowatts (kW): 97.6%
  - Electric gross summer kW: 98.2%
  - Electric gross TRB: 97.5%
  - TEPF gross MMBtu: 98.1%
- ISO-NE FCM Metering, Monitoring, and Evaluation: Performing metering, measurement, and evaluation activities related to ISO-NE FCM participation. This process entailed the identification and metering of completed projects, followed by the acquisition of data to confirm projected savings. In 2018, Efficiency Vermont assessed data for 2017 projects spread over 20 sites, received evaluation reports for 2016 projects, and achieved realization rates of 91.6% for the winter and 91.7% for the summer. Efficiency Vermont completed 2017 metering, with initial results indicating realization rates similar to 2016 results. Efficiency Vermont filed a verification report to ISO-NE as part of its FCM bid obligations.
- Quality Management: Following rigorous protocols in alignment with QPIs (see Section 3) and with the following areas:
  - Administrative Efficiency: See the discussion on the Demand Resources Plan in Section 2.5.3.
  - Service Quality and Reliability Plan (SQRP) (see Section 3.6), which defines customer service performance standards. In 2018, Efficiency Vermont was required to report on three service categories:
    1. Transactional Customer Satisfaction: Efficiency Vermont surveyed customers upon completion of the following project types. Respondents rated services on a scale of one to five, with five being excellent. The below results exceeded SQRP performance standards.
       a. Prescriptive projects—Average rating of 4.65
       b. Custom business projects—Average rating of 4.70
       c. Home Performance with ENERGY STAR projects—Average rating of 4.70
       d. Residential New Construction projects—Average rating of 4.72
    2. Incoming Call Responsiveness:
       - Average speed to answer: 10 seconds
       - Average percentage of calls answered by a live agent during normal business hours: 89%

- Average percentage of abandoned calls: 3%[4]

3. Complaint Rate and Resolution: Efficiency Vermont conducted tracking of all customer concerns or comments requiring internal referral and subsequent follow-up for resolution. Results:
   - Percentage of complaint follow-up calls attempted by end of next business day: 100%
   - Proportion of complaints to participants: One complaint per 54,598 participants
   - Percentage of complaints closed within 12 business days of initial complaint: 100%

- Technical Advisory Group: Working with the Department, BED, and other stakeholders to resolve any issues arising from the annual savings verification process, to track the implementation of any recommendations or continuous improvement activities identified via those evaluation activities, and to provide a proactive mechanism for developing energy characterization and savings calculations. In 2018, the Technical Advisory Group reviewed four program implementation procedures, Technical Reference Manual characterization updates, and new measures.
- Technical Reference Manual (TRM): Maintaining, updating, and ensuring 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 31 new or updated characterizations for several new programs and technologies for 2019. Several measures also underwent a standard reliability review process to ensure all assumptions had been reviewed and updated within the last three years.

2.5.5 Administration and Regulatory Affairs

General Administration

In support of the efforts discussed in this report, Efficiency Vermont undertook activities centering on key organizational functions, including preparing and administering general staff meetings and management meetings; coordinating service implementation across different functions; budget management; participation in regular check-ins with the two other EEUs; reviewing and providing feedback on the Department 2019 EEC rate calculations; and managing, monitoring, and conducting internal communication of overall performance and spending.

[4] An abandoned call is defined as a call disconnected by a customer who has been waiting in a calling queue for more than 15 seconds.

Regulatory Affairs (Non-Demand Resources Plan)
In 2018, Efficiency Vermont:

- Participated and filed recommendations/documentation in regulatory proceedings before the Commission, including but not limited to the following cases: The regulation of Vermont's EEUs; EEU 2018–2020 triennial plans; Rule 5.300, which establishes the methodology for determining the EEC rate for each calendar year; and guidance to the EEU fiscal agent.
- Participated in regional energy planning activities including the annual New England Conference of Public Utility Commissioners; 2018 Avoided Cost Study working group, and 2018 ISO-NE Energy Efficiency Forecast working group.
- Established a memorandum of understanding with the CEDF for the custom advanced wood heating initiative (discussed in Section 1.3 of Efficiency Vermont's 2018 second-quarter report).
- Fulfilled data requests by: 1) independent evaluators in support of EEU evaluation activities, and 2) regional/national entities assembling state-specific energy efficiency program results and forecasts.
- Researched regulatory policies to support best practices for efficiency programs.
- Ensured regulatory compliance of Efficiency Vermont internal policies.

Financial and Leveraged Product Development
As part of its efforts to bring efficiency within reach of more Vermonters, Efficiency Vermont continued to:

- Manage relationships with financial institutions, utilities, and government leaders to reduce barriers to implementing financing mechanisms for energy efficiency projects.
- Engage in activities designed to acquire public and private resources for Vermonters undertaking efficiency projects in their homes and businesses. This approach multiplies the impact of ratepayer dollars by using a modest amount of funds to draw greater levels of new resources without additional ratepayer investment.

In 2018, Efficiency Vermont:

- Continued to offer technical assistance to institutions of higher education utilizing the Green Revolving Fund for Colleges and Universities, leveraging funds through the deployment of private capital as a financing mechanism for efficiency projects.
- Coordinated with Vermont credit unions that provide capital for the following:
  - Business Energy Loan—Efficiency Vermont provides a guarantee
  - Heat Saver Loan—Efficiency Vermont buys down the interest rate and provides loan loss reserve.
- Participated in Clean Energy Finance Collaborative meetings hosted by the Department and provided review and comment on a Department report on the state of the energy financing landscape in Vermont.

2.5.6 Information Technology

Core Business Software Applications
Core business software applications activities concerned the development, maintenance,

and integration of software applications and associated database systems critical to Efficiency Vermont service delivery. These activities focused on Efficiency Vermont's primary tracking database application, as well as the software necessary to develop energy savings estimates, to track measure, project, and customer information, and to upload those data into the tracking system. Efficiency Vermont also addressed a broad range of functionality enabling Efficiency Vermont to plan, analyze, and manage portfolio, program, customer, measure, and energy data as well as to improve process efficiency and the customer experience by modernizing Efficiency Vermont's line of business software applications. In 2018, Efficiency Vermont implemented more than 55 software version releases to support new development efforts and maintenance of existing projects. Major project efforts included the following.

- Rebuild of online rebate processing site in partnership with BED and VGS to:
  - Support better statewide delivery of services
  - Improve customers' ease of use
  - Enable contractors and suppliers to submit rebate requests for their customers
  - Reduce printing of paper forms
- Tracker core rebuild to:
  - Modernize business software application
  - Improve user interface
  - Remove obsolete functionality and data fields
  - Improve user functionality to drive operational efficiency
  - Focus on continuous improvement
  - Focus on high value features that benefit the largest user base and core EEU functions
- System of record improvements focused on improved data consistency and quality in Efficiency Vermont's data tracking systems.

Utility Data Management

Efficiency Vermont focused on the integration of accurate and up-to-date distribution utility data into its database and business processes to fulfill its responsibilities as an EEU, including: 1) performing mandated tracking of efficiency measure installations and evaluations; 2) monitoring progress toward achievement of Efficiency Vermont's QPIs and MPRs; 3) meeting reporting objectives; and 4) optimizing services to ratepayers, including providing customers with accurate estimates of the savings they could achieve through energy efficiency actions. Efficiency Vermont's efforts included the following:

- Development and maintenance of utility data documentation such as EEU data transfer standards, data definitions, and data models
- Technical guidance and support for Docket 8316
- Regular coordination and communication with 16 Vermont distribution utilities to ensure iterative transfer of weekly, monthly, and quarterly data files
- Implementation of cybersecurity measures, privacy practices, and secure transfer protocols
- Management of customer data, monthly usage data, and 15-minute AMI usage data transfers from Vermont distribution utilities

- Development and maintenance of custom integrations designed to standardize, clean, and ingest data into Efficiency Vermont's database and reporting warehouse.

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 2018, so did the need to provide scaled data systems and architecture to support this growth. Efficiency Vermont's activities included the following:

- Data life-cycle management and database infrastructure and services
- Critical support for regulatory and operational reporting
- Business intelligence—analyzing, designing, and implementing solutions to meet Efficiency Vermont's business needs
- Budget analysis.

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	Electric Resource Acquisition	Customer Credit Resource Acquisition
Efficiency Vermont Costs				
Year to Date Costs	$52,781,058	$8,973,981	$43,563,754	$243,323
Annual Budget Estimate[1]	$55,153,957	$9,121,500	$44,852,138	$1,180,319
Unspent Annual Budget Estimate	$2,372,899	$147,519	$1,288,384	$936,996
% Annual Budget Estimate Unspent	4.3%	1.6%	2.9%	79.4%
Other Costs and Commitments				
Participant Costs Year to Date	$42,639,354	$18,110,662	$24,767,409	($238,717)
Third Party Costs Year to Date	$386,337	$295,202	$91,135	$0
Savings Results				
MWh Year to Date	132,440	-7,561	140,001	0
MWh Cumulative starting 1/1/18	132,440	-7,561	140,001	0
Winter Peak Coincident kW Savings Results				
Winter Coincident Peak kW Year to Date	22,473	-1,508	23,981	0
Winter Coincident Peak kW Cumulative Starting 1/1/18	22,473	-1,508	23,981	0
Summer Peak Coincident kW Savings Results				
Summer Coincident Peak kW Year to Date	17,708	-299	18,007	0
Summer Coincident Peak kW Cumulative Starting 1/1/18	17,708	-299	18,007	0
TRB Savings Results				
TRB Year to Date	$149,760,521	$40,760,012	$109,000,509	$0
TRB Cumulative Starting 1/1/18	$149,760,521	$40,760,012	$109,000,509	$0
MMBtu Savings Results				
MMBtu Year to Date	174,333	177,624	-3,292	0
MMBtu Cumulative Starting 1/1/18	174,333	177,624	-3,292	0
MWh Lifetime Savings Results				
MWh Lifetime Year to Date	1,220,557	-116,189	1,336,746	0
MWh Lifetime Cumulative Starting 1/1/18	1,220,557	-116,189	1,336,746	0
Participation				
Partic.w/ installs Year to Date	109,238	5,348	103,889	1
Partic.w/ installs Cumulative starting 1/1/18	109,238	5,348	103,889	1

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

3.2 Budget Summary

	Budget Current Year 2018[1]	Actual Current Year 2018	%	Budget 2018-2020	Actual 2018-2020	%
RESOURCE ACQUISITION						
Electric Efficiency Funds Activities						
Business Sector	$ 24,568,600	$ 24,186,372	98%	$ 76,833,100	$ 24,186,372	31%
Customer Credit	$ 1,180,000	$ 243,261	21%	$ 3,614,400	$ 243,261	7%
Residential Sector	$ 19,686,100	$ 18,797,105	95%	$ 55,939,400	$ 18,797,105	34%
Total Electric Efficiency Funds Activities	**$ 45,434,700**	**$ 43,226,738**	**95%**	**$ 136,386,900**	**$ 43,226,738**	**32%**
Thermal Energy and Process Fuels Funds Activities						
Business Sector	$ 2,250,000	$ 2,459,076	109%	$ 6,625,000	$ 2,459,076	37%
Residential Sector	$ 6,750,000	$ 6,395,370	95%	$ 19,875,000	$ 6,395,370	32%
Total Thermal Energy and Process Fuels Funds Activities	**$ 9,000,000**	**$ 8,854,446**	**98%**	**$ 26,500,000**	**$ 8,854,446**	**33%**
TOTAL RESOURCE ACQUISITION	**$ 54,434,700**	**$ 52,081,184**	**96%**	**$ 162,886,900**	**$ 52,081,184**	**32%**
DEVELOPMENT & SUPPORT SERVICES						
Education and Training	$ 970,000	$ 697,985	72%	$ 2,811,600	$ 697,985	25%
Applied Research and Development	$ 425,000	$ 396,180	93%	$ 1,189,600	$ 396,180	33%
Planning and Reporting	$ 428,000	$ 360,232	84%	$ 1,701,100	$ 360,232	21%
Evaluation, Measurement, and Verification	$ 830,000	$ 477,591	58%	$ 2,385,100	$ 477,591	20%
Administration and Regulatory Affairs	$ 580,000	$ 448,162	77%	$ 1,635,700	$ 448,162	27%
Information Technology	$ 1,395,000	$ 1,385,257	99%	$ 4,090,000	$ 1,385,257	34%
TOTAL DEVELOPMENT & SUPPORT SERVICES	**$ 4,628,000**	**$ 3,765,409**	**81%**	**$ 13,813,100**	**$ 3,765,409**	**27%**
Operations Fee (1.35%)	$ 781,700	$ 750,706	96%	$ 2,337,600	$ 750,706	32%
Sub-Total Prior to Performance-Based Compensation	**$ 59,844,400**	**$ 56,597,299**	**95%**	**$ 179,037,600**	**$ 56,597,299**	**32%**
Performance-Based Compensation (3.15%)	$ 1,823,300	$ -	0%	$ 5,452,200	$ -	0%
Total Efficiency Vermont and Customer Credit	**$ 61,667,700**	**$ 56,597,299**	**92%**	**$ 184,489,800**	**$ 56,597,299**	**31%**

[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. 2018 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	$109,000,509	34%
2	Annual Electricity Savings	Annual incremental net MWh savings	357,400	140,001	39%
3	Statewide Summer Peak Demand Savings	Cumulative net summer peak demand (kW) savings	45,900	18,007	39%
4	Statewide Winter Peak Demand Savings	Cumulative net winter peak demand (kW) savings	62,400	23,981	38%
5	Lifetime Electricity Savings	Lifetime incremental net MWh savings	3,582,200	1,336,746	37%

MPR#	Title	Minimum Requirement	Minimum	Status	%
6	Minimum Electric Benefits	Total electric benefits divided by total costs	1.2	2.1	179%
7	Threshold (or minimum acceptable) Level of Participation by Residential Customers	Total residential sector spending	$39,956,000	$19,050,866	48%
8	Threshold (or minimum acceptable) Level of Participation by Low-Income Households	Total low-income single and multifamily services spending	$11,050,000	$4,029,426	36%
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	2,733	137%
10	Geographic Equity	TRB for each geographic area is greater than values shown on Geo-Equity Table	12	1	8%
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	28	30%
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	$43,563,754	32%
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	$3,816,242	27%

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	$9,536,517	111%
Bennington	$10,017,250	$7,350,592	73%
Caledonia	$6,857,686	$3,623,669	53%
Chittenden	$49,652,236	$27,442,673	55%
Essex/Orleans	$7,204,954	$5,281,997	73%
Franklin	$14,070,521	$8,503,256	60%
Grand Isle/Lamoille	$7,859,883	$5,208,180	66%
Orange	$5,109,183	$3,054,169	60%
Rutland	$17,017,418	$13,582,091	80%
Washington	$13,534,722	$10,612,442	78%
Windham	$15,170,850	$6,808,786	45%
Windsor	$14,124,738	$7,996,139	57%
Total	**$169,179,844**	**$109,000,509**	**64%**

[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	388,700	177,624	46%
2	Residential Single Family Comprehensiveness	Combined performance for metrics 2.a.-2.d.[1]	100%	100%	100%
		a. Average air leakage reduction per comprehensive project	34%	34%	100%
		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%	61%	139%
		c. Percent of households (premises) that implement shell measures, and also have a heating system measures installed within three years of the shell measure.	16%	17%	104%
		d. Number of comprehensive projects completed.	2,286	625	27%

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%	72.2%	116%
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%	17.7%	104%
5	Performance Period Spending	Total spending for a three-year performance period (including applicable operations fees) is less than threshold	$27,116,193	$8,973,981	33%

[1] 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	98.7%	4	4	12	33%
4	Average answer time shall be ≤ 15 seconds per call	quarterly	10.0	1	4	12	33%
5	Average percentage of calls answered shall be ≥ 85%	quarterly	89.0%	1	4	12	33%
6	Average percentage of abandoned calls shall be ≤ 3%	quarterly	3.0%	1	4	12	33%
7	Percentage of complaint follow-up call attempted by end of next business day shall be ≥ 95%	quarterly	100.0%	1	4	12	33%
8	Percentage of complaints closed within 12 business days of initial complaint call shall be ≥ 95%	quarterly	100.0%	1	4	12	33%
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	0.002%	4	4	12	33%
	Totals			**13**	**28**	**108**	**26%**

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	$43,807,077	$43,563,755	$24,512,888	$19,050,866	$2,301,449	$22,211,439	$3,368,799	$11,737,492	$3,944,576	$243,322
Annual Budget Estimate[1]	$46,032,500	$44,852,200	$24,900,300	$19,951,900	$3,647,300	$21,253,000	$2,842,700	$11,945,300	$5,163,900	$1,180,300
Unspent Annual Budget Estimate	$2,225,423	$1,288,445	$387,412	$901,034	$1,345,851	($958,439)	($526,099)	$207,808	$1,219,324	$936,978
% Annual Budget Estimate Unspent	5%	3%	2%	5%	37%	-5%	-19%	2%	24%	79%
Savings Results										
MWh Year to Date	140,001	140,001	85,924	54,077	4,862	81,062	2,138	50,068	1,870	0
MWh Cumulative starting 1/1/18	140,001	140,001	85,924	54,077	4,862	81,062	2,138	50,068	1,870	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	39%	40%	37%	21%	43%	42%	42%	9%	nap
Winter Coincident Peak kW Year to Date	23,981	23,981	10,361	13,620	662	9,699	488	12,747	385	0
Winter Coincident Peak kW Cumulative starting 1/1/18	23,981	23,981	10,361	13,620	662	9,699	488	12,747	385	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	52%	32%	99%	17%	34%	211%	113%	17%	nap
Summer Coincident Peak kW Year to Date	18,007	18,007	12,851	5,155	752	12,099	239	4,748	168	0
Summer Coincident Peak kW Cumulative starting 1/1/18	18,007	18,007	12,851	5,155	752	12,099	239	4,748	168	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	39%	40%	37%	20%	43%	104%	42%	7%	nap
TRB Year to Date	$109,000,509	$109,000,509	$69,506,120	$39,494,389	$5,591,673	$63,914,447	$8,016,432	$30,015,821	$1,462,136	$0
TRB Cumulative starting 1/1/18	$109,000,509	$109,000,509	$69,506,120	$39,494,389	$5,591,673	$63,914,447	$8,016,432	$30,015,821	$1,462,136	$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	34%	30%	47%	15%	32%	65%	51%	13%	nap
Associated Benefits										
MMBtu Year to Date	(3,292)	(3,292)	(13,833)	10,541	306	(14,139)	15,600	(5,649)	590	0
MMBtu Cumulative starting 1/1/18	(3,292)	(3,292)	(13,833)	10,541	306	(14,139)	15,600	(5,649)	590	0
MWh Lifetime Savings Results										
MWh Lifetime to Date	1,336,746	1,336,746	880,376	456,370	67,567	812,809	41,725	398,823	15,822	0
MWh Lifetime starting 1/1/18	1,336,746	1,336,746	880,376	456,370	67,567	812,809	41,725	398,823	15,822	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	37%	34%	47%	20%	36%	61%	51%	13%	N/A
Participation										
Partic.w/ installs Year to Date	103,890	103,889	11,465	92,424	96	11,369	857	89,226	2,341	1
Partic.w/ installs Cumulative starting 1/1/18	103,890	103,889	11,465	92,424	96	11,369	857	89,226	2,341	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 2017	Current Year 2018	Cumulative starting 1/1/18	Cumulative starting 1/1/12
# participants with installations	116,262	103,890	103,890	511,708
Operating Costs				
Administration	$3,893,497	$3,250,843	$3,250,843	$21,111,660
Programs and Implementation	$4,723,648	$4,233,501	$4,233,501	$33,443,900
Strategy and Planning	$853,957	$1,049,401	$1,049,401	$9,529,958
Subtotal Operating Costs	**$9,471,102**	**$8,533,744**	**$8,533,744**	**$64,085,518**
Technical Assistance Costs				
Services to Participants	$6,016,836	$6,470,300	$6,470,300	$37,656,897
Services to Trade Allies	$1,463,150	$1,147,711	$1,147,711	$7,379,226
Subtotal Technical Assistance Costs	**$7,479,986**	**$7,618,011**	**$7,618,011**	**$45,036,123**
Support Services				
Consulting	$353,234	$297,244	$297,244	$2,010,535
Customer Support	$312,021	$104,101	$104,101	$1,542,568
Data and Technical Services	$507,335	$674,699	$674,699	$2,231,308
Information Technology	$28,445	$0	$0	$124,663
Marketing	$2,355,015	$2,364,297	$2,364,297	$13,363,336
Policy & Public Affairs	$16,652	$15,889	$15,889	$299,084
Other	$0	$0	$0	$108,624
Subtotal Support Services Costs	**$3,572,702**	**$3,456,230**	**$3,456,230**	**$19,680,118**
Incentive Costs				
Incentives to Participants	$27,018,668	$24,051,561	$24,051,561	$154,486,790
Incentives to Trade Allies	$45,827	$147,530	$147,530	$416,032
Subtotal Incentive Costs	**$27,064,495**	**$24,199,091**	**$24,199,091**	**$154,902,822**
Total Efficiency Vermont Costs	**$47,588,285**	**$43,807,077**	**$43,807,077**	**$283,704,581**
Total Participant Costs	$23,706,384	$24,528,692	$24,528,692	$147,661,246
Total Third Party Costs	$93,583	$91,135	$91,135	$3,098,927
Total Resource Acquisition Costs	**$71,388,252**	**$68,426,904**	**$68,426,903**	**$434,464,753**
Annualized MWh Savings	174,339	140,001	140,001	847,852
Lifetime MWh Savings	1,477,212	1,336,746	1,336,746	8,989,137
TRB Savings (2018 $)	$99,667,865	$109,000,509	$109,005,114	$726,077,216
Winter Coincident Peak kW Savings	29,252	23,981	23,981	149,647
Summer Coincident Peak kW Savings	18,523	18,007	18,007	100,405
Annualized MWh Savings/Participant	1.500	1.348	1.348	1.657
Weighted Lifetime	8.5	9.5	9.5	10.6

Annualized MWh Savings (adjusted for measure life)	789,333
Winter Coincident Peak kW Savings (adjusted for measure life)	138,297
Summer Coincident Peak kW Savings (adjusted for measure life)	91,849

3.9 Electric Resource Acquisition excluding Customer Credit

	Prior Year 2017	Current Year 2018	Cumulative starting 1/1/18	Cumulative starting 1/1/12
# participants with installations	116,261	103,889	103,889	511,705
Operating Costs				
Administration	$3,656,200	$3,249,904	$3,249,904	$20,629,105
Programs and Implementation	$4,723,648	$4,233,501	$4,233,501	$33,361,965
Strategy and Planning	$853,957	$1,049,401	$1,049,401	$9,520,327
Subtotal Operating Costs	**$9,233,804**	**$8,532,806**	**$8,532,806**	**$63,511,397**
Technical Assistance Costs				
Services to Participants	$6,010,234	$6,466,761	$6,466,761	$37,533,100
Services to Trade Allies	$1,463,150	$1,147,711	$1,147,711	$7,356,200
Subtotal Technical Assistance Costs	**$7,473,384**	**$7,614,472**	**$7,614,472**	**$44,889,300**
Support Services				
Consulting	$353,234	$297,244	$297,244	$2,003,398
Customer Support	$312,021	$104,101	$104,101	$1,535,422
Data and Technical Services	$505,964	$674,571	$674,571	$2,224,278
Information Technology	$28,445	$0	$0	$124,017
Marketing	$2,355,015	$2,364,297	$2,364,297	$13,324,957
Policy & Public Affairs	$16,652	$15,889	$15,889	$291,026
Other	$0	$0	$0	$106,873
Subtotal Support Services Costs	**$3,571,331**	**$3,456,102**	**$3,456,102**	**$19,609,972**
Incentive Costs				
Incentives to Participants	$24,512,198	$23,812,844	$23,812,844	$148,235,669
Incentives to Trade Allies	$45,827	$147,530	$147,530	$416,020
Subtotal Incentive Costs	**$24,558,025**	**$23,960,374**	**$23,960,374**	**$148,651,688**
Total Efficiency Vermont Costs	**$44,836,544**	**$43,563,755**	**$43,563,755**	**$276,662,357**
Total Participant Costs	$23,383,380	$24,767,409	$24,767,409	$147,967,914
Total Third Party Costs	$93,583	$91,135	$91,135	$3,098,927
Total Resource Acquisition Costs	**$68,313,507**	**$68,422,298**	**$68,422,298**	**$427,729,198**
Annualized MWh Savings	157,942	140,001	140,001	817,281
Lifetime MWh Savings	1,374,538	1,336,746	1,336,746	8,781,359
TRB Savings (2018 $)	$95,617,532	$109,000,509	$109,000,509	$714,295,424
Winter Coincident Peak kW Savings	29,252	23,981	23,981	148,523
Summer Coincident Peak kW Savings	18,523	18,007	18,007	99,283
Annualized MWh Savings/Participant	1.359	1.348	1.348	1.597
Weighted Lifetime	8.7	9.5	9.5	10.7

Annualized MWh Savings (adjusted for measure life)	758,762
Winter Coincident Peak kW Savings (adjusted for measure life)	137,173
Summer Coincident Peak kW Savings (adjusted for measure life)	90,727

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.	1,621	3,028	2,927	47,262	160	442	3,661	$4,407,270	$847,863	$1,742,641
Behavior Change	8	27	24	81	2	8	576	$16,788	$0	$0
Cooking and Laundry	2,889	1,115	1,187	13,665	160	117	1,191	$2,074,246	$362,582	$699,660
Design Assistance	289	587	556	1,690	14	12	1,996	$276,192	$748,208	$145,242
Electronics	549	296	257	2,164	30	27	0	$147,532	$39,725	$64,786
Hot Water Efficiency	2,305	3,974	3,209	51,145	547	307	-4,609	$2,983,008	$938,903	$636,720
Hot Water Fuel Switch	9	1	1	38	0	0	284	$61,204	$11	$12,389
Industrial Process Eff.	65	5,059	5,167	67,346	648	573	2,413	$5,546,365	$1,140,227	$1,669,713
Lighting	89,170	106,956	99,005	889,842	19,852	14,017	-33,708	$68,011,535	$13,408,684	$15,581,899
Motors	2,547	5,808	5,359	71,861	659	1,540	472	$6,896,497	$1,080,074	$942,521
Other Efficiency	3,533	127	125	3,816	14	15	0	$274,507	$293,834	-$280,273
Other Fuel Switch	8	3	3	72	1	0	6	$8,165	$3,329	$8,400
Other Indirect Activity	873	0	0	0	0	0	0	$0	$1,207,004	-$831,627
Refrigeration	2,520	5,068	4,788	62,593	583	541	3,450	$5,266,657	$1,063,223	$725,890
Space Heat Efficiency	4,545	6,833	6,523	111,530	1,179	213	16,771	$11,268,207	$2,495,357	$3,093,458
Space Heat Fuel Switch	12	27	24	800	14	0	143	$162,083	$5,013	$50,230
Ventilation	1,103	1,091	1,002	12,839	115	193	4,021	$1,578,118	$176,574	$504,103
Water Conservation	105	0	0	1	0	0	41	$22,135	$24	$1,659
Totals		140,001	130,156	1,336,746	23,981	18,007	-3,292	$109,000,509	$23,810,632	$24,767,409

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	330	401	368	3,744	73	50	-46	$307,492	$73,828	$50,434
Burlington	3,421	2,335	2,240	12,692	518	268	-477	$977,512	$379,611	$147,930
Enosburg Falls	458	481	444	4,078	93	55	235	$345,742	$67,496	$103,093
Green Mountain	81,986	113,528	105,564	1,098,797	19,131	14,682	-992	$90,048,449	$19,029,036	$20,688,730
Hardwick	1,349	1,158	1,080	9,973	234	140	-282	$757,715	$199,548	$230,025
Hyde Park	420	485	445	4,582	95	77	-57	$422,727	$89,165	$64,937
Jacksonville	39	19	18	213	5	1	-1	$14,042	$4,901	$6,809
Johnson	244	404	373	3,958	71	44	-76	$281,264	$55,728	$47,917
Ludlow	771	1,181	1,084	12,078	196	154	-458	$867,062	$147,546	$307,779
Lyndonville	1,333	1,323	1,213	11,788	253	163	-444	$900,572	$273,777	$169,513
Morrisville	1,260	1,540	1,418	14,289	276	227	912	$1,184,790	$291,330	$226,023
Northfield	442	525	481	5,152	91	78	-204	$421,482	$99,226	$94,031
Orleans	169	196	181	1,760	35	24	-52	$130,601	$31,797	$41,202
Stowe	1,280	2,327	2,206	15,349	406	283	627	$1,262,219	$208,272	$297,643
Swanton	1,180	1,651	1,529	16,693	278	199	-432	$1,239,978	$218,321	$344,101
VT Electric Coop	7,605	10,759	9,974	103,806	1,893	1,367	-1,266	$8,425,806	$2,336,867	$1,737,265
Washington Electric	1,602	1,687	1,539	17,794	335	195	-278	$1,413,056	$304,182	$209,980
Totals	103,889	140,001	130,156	1,336,746	23,981	18,007	-3,292	$109,000,509	$23,810,632	$24,767,409

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	4,387	10,395	9,476	120,264	1,733	1,166	575	$9,536,517	$1,882,964	$1,046,067
Bennington	9,859	10,952	10,211	91,024	2,034	1,412	-762	$7,350,592	$1,365,193	$1,881,841
Caledonia	4,185	5,137	4,724	47,749	864	720	-1,746	$3,623,669	$977,962	$704,959
Chittenden	28,680	35,489	33,126	319,451	5,947	4,738	2,029	$27,442,673	$5,960,303	$6,468,883
Essex	385	449	413	4,141	81	57	-111	$325,490	$92,380	$73,085
Franklin	6,268	9,951	9,131	109,157	1,650	1,226	217	$8,503,256	$1,927,199	$1,535,947
Grand Isle	939	1,103	1,007	11,062	220	119	-33	$895,126	$224,240	$190,965
Lamoille	4,094	6,297	5,931	53,659	1,095	788	1,362	$4,313,055	$983,698	$896,711
Orange	3,125	3,900	3,632	39,181	697	500	-909	$3,054,169	$699,130	$921,613
Orleans	5,049	6,572	6,107	59,410	1,144	903	-949	$4,956,507	$1,121,188	$1,173,442
Rutland	13,245	17,239	16,151	166,541	2,928	2,274	-5	$13,582,091	$2,904,152	$4,280,107
Washington	11,001	13,644	12,802	122,892	2,385	1,717	1,302	$10,612,442	$2,401,978	$2,190,157
Windham	5,535	8,834	8,220	88,911	1,465	1,082	-2,285	$6,808,786	$1,565,398	$1,378,602
Windsor	7,137	10,039	9,224	103,304	1,737	1,308	-1,976	$7,996,139	$1,704,849	$2,025,029
Totals	103,889	140,001	130,156	1,336,746	23,981	18,007	-3,292	$109,000,509	$23,810,632	$24,767,409

3.13 Electric Resource Acquisition Total Resource Benefits

Avoided Cost Benefits	2018	Lifetime (Present Value)
Avoided Cost of Electricity	nap	$104,876,483
Fossil Fuel Savings (Costs)	($12,589)	$2,890,592
Water Savings (Costs)	$50,873	$1,233,434
Total	**$38,285**	**$109,000,509**

Electric Energy & Demand Benefits	Savings at Meter		Savings at Generation
	Gross	Net	Net
Annualized Energy Savings (MWh): Total	**130,156**	**123,089**	**140,001**
Winter on peak	52,406	49,497	56,823
Winter off peak	36,786	34,802	39,083
Summer on peak	23,983	22,698	26,103
Summer off peak	16,981	16,092	18,007
Coincident Demand Savings (kW)			
Winter	22,721	21,546	23,981
Shoulder	0	0	0
Summer	17,078	16,193	18,007

Thermal & Other Benefits	Gross	Net	Lifetime Net
Annualized Water Savings (ccf)	**15,506**	**11,831**	**142,120**
Annualized fuel savings (increase) MMBtu Total	**(2,516)**	**(3,292)**	**262,657**
LP	8,124	6,932	150,766
NG	11,600	11,430	218,298
Oil/Kerosene	(25,381)	(24,260)	(166,756)
Wood	(632)	(794)	(8,102)
Solar	0	0	0
Other	0	0	0
Annualized savings (increase) in O&M($)	**$2,046,207**	**$1,889,234**	**$13,188,041**

Net Societal Benefits	$129,643,746

3.14 Electric Business Energy Services Summary

	Prior Year 2017	Current Year 2018	Cumulative starting 1/1/18
# participants with installations	15,309	11,465	11,465
Operating Costs			
Administration	$1,815,061	$1,779,486	$1,779,486
Programs and Implementation	$1,929,148	$1,823,358	$1,823,358
Strategy and Planning	$519,760	$570,416	$570,416
Subtotal Operating Costs	**$4,263,968**	**$4,173,259**	**$4,173,259**
Technical Assistance Costs			
Services to Participants	$4,230,536	$4,494,597	$4,494,597
Services to Trade Allies	$877,773	$877,649	$877,649
Subtotal Technical Assistance Costs	**$5,108,309**	**$5,372,247**	**$5,372,247**
Support Services			
Consulting	$142,605	$126,061	$126,061
Customer Support	$147,514	$55,141	$55,141
Data and Technical Services	$284,728	$438,842	$438,842
Information Technology	$10,226	$0	$0
Marketing	$1,089,153	$1,272,463	$1,272,463
Policy & Public Affairs	$9,869	$9,450	$9,450
Other	$0	$0	$0
Subtotal Support Services Costs	**$1,684,095**	**$1,901,957**	**$1,901,957**
Incentive Costs			
Incentives to Participants	$11,540,880	$13,065,225	$13,065,225
Incentives to Trade Allies	$1,473	$200	$200
Subtotal Incentive Costs	**$11,542,353**	**$13,065,425**	**$13,065,425**
Total Efficiency Vermont Costs	**$22,598,726**	**$24,512,888**	**$24,512,888**
Total Participant Costs	$14,026,204	$13,760,793	$13,760,793
Total Third Party Costs	$0	$1,300	$1,300
Total Resource Acquisition Costs	**$36,624,930**	**$38,274,981**	**$38,274,981**
Annualized MWh Savings	69,516	85,924	85,924
Lifetime MWh Savings	819,891	880,376	880,376
TRB Savings (2018 $)	$53,883,076	$69,506,120	$69,506,120
Winter Coincident Peak kW Savings	9,956	10,361	10,361
Summer Coincident Peak kW Savings	9,208	12,851	12,851
Annualized MWh Savings/Participant	4.541	7.494	7.494
Weighted Lifetime	11.8	10.2	10.2

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.	74	2,380	2,219	39,384	152	247	3,661	$3,649,996	$630,340	$1,687,747
Behavior Change	1	25	22	42	1	8	584	$15,563	$0	$0
Cooking and Laundry	12	32	30	368	5	5	77	$53,565	$5,037	$17,711
Design Assistance	126	587	556	1,690	14	12	1,996	$276,192	$734,371	$141,741
Electronics	4	102	90	1,098	10	9	0	$73,791	$17,851	$71,245
Hot Water Efficiency	40	132	118	1,632	20	11	589	$277,821	$33,514	$27,912
Industrial Process Eff.	65	5,059	5,167	67,346	648	573	2,413	$5,546,365	$1,140,227	$1,669,713
Lighting	10,394	66,425	61,059	625,213	8,036	10,737	-33,470	$47,746,526	$7,950,566	$8,028,439
Motors	83	3,696	3,503	46,542	518	554	472	$3,858,060	$467,316	$549,614
Other Efficiency	245	127	125	3,816	14	15	0	$274,507	$26,442	-$17,404
Other Fuel Switch	1	0	0	0	0	0	15	$4,841	$2,120	$8,399
Other Indirect Activity	737	0	0	0	0	0	0	$0	$924,105	-$612,870
Refrigeration	238	4,603	4,322	57,183	540	487	3,450	$4,878,935	$627,698	$716,202
Space Heat Efficiency	568	1,831	1,712	25,952	324	19	3,849	$1,755,014	$352,445	$1,168,620
Ventilation	55	925	855	10,110	79	176	2,531	$1,084,647	$151,720	$302,345
Water Conservation	3	0	0	0	0	0	0	$10,298	$24	$1,380
Totals		85,924	79,777	880,376	10,361	12,851	-13,833	$69,506,120	$13,063,777	$13,760,793

3.16 Electric Residential Energy Services Summary

	Prior Year 2017	Current Year 2018	Cumulative starting 1/1/18
# participants with installations	100,952	92,424	92,424
Operating Costs			
Administration	$1,841,139	$1,470,419	$1,470,419
Programs and Implementation	$2,794,500	$2,410,143	$2,410,143
Strategy and Planning	$334,197	$478,985	$478,985
Subtotal Operating Costs	**$4,969,836**	**$4,359,546**	**$4,359,546**
Technical Assistance Costs			
Services to Participants	$1,779,698	$1,972,164	$1,972,164
Services to Trade Allies	$585,377	$270,061	$270,061
Subtotal Technical Assistance Costs	**$2,365,075**	**$2,242,225**	**$2,242,225**
Support Services			
Consulting	$210,629	$171,183	$171,183
Customer Support	$164,508	$48,960	$48,960
Data and Technical Services	$221,236	$235,729	$235,729
Information Technology	$18,219	$0	$0
Marketing	$1,265,861	$1,091,834	$1,091,834
Policy & Public Affairs	$6,783	$6,439	$6,439
Other	$0	$0	$0
Subtotal Support Services Costs	**$1,887,236**	**$1,554,145**	**$1,554,145**
Incentive Costs			
Incentives to Participants	$12,971,317	$10,747,620	$10,747,620
Incentives to Trade Allies	$44,354	$147,330	$147,330
Subtotal Incentive Costs	**$13,015,672**	**$10,894,950**	**$10,894,950**
Total Efficiency Vermont Costs	**$22,237,818**	**$19,050,866**	**$19,050,866**
Total Participant Costs	$9,357,176	$11,006,616	$11,006,616
Total Third Party Costs	$93,583	$89,835	$89,835
Total Resource Acquisition Costs	**$31,688,578**	**$30,147,317**	**$30,147,317**

Annualized MWh Savings	88,426	54,077	54,077
Lifetime MWh Savings	554,647	456,370	456,370
TRB Savings (2018 $)	$41,734,456	$39,494,389	$39,494,389
Winter Coincident Peak kW Savings	19,296	13,620	13,620
Summer Coincident Peak kW Savings	9,315	5,155	5,155
Annualized MWh Savings/Participant	0.876	0.585	0.585
Weighted Lifetime	6.3	8.4	8.4

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.	1,547	648	707	7,878	7	195	0	$757,274	$217,523	$54,895
Behavior Change	7	3	2	40	1	0	-8	$1,225	$0	$0
Cooking and Laundry	2,877	1,083	1,158	13,297	155	112	1,114	$2,020,682	$357,544	$681,949
Design Assistance	163	0	0	0	0	0	0	$0	$13,837	$3,501
Electronics	545	194	167	1,066	21	19	0	$73,742	$21,873	-$6,459
Hot Water Efficiency	2,265	3,842	3,091	49,513	527	296	-5,198	$2,705,187	$905,389	$608,809
Hot Water Fuel Switch	9	1	1	38	0	0	284	$61,204	$11	$12,389
Lighting	78,776	40,531	37,946	264,629	11,816	3,280	-238	$20,265,009	$5,458,118	$7,553,460
Motors	2,464	2,112	1,856	25,319	142	987	0	$3,038,437	$612,757	$392,907
Other Efficiency	3,289	0	0	0	0	0	0	$0	$267,392	-$262,870
Other Fuel Switch	7	3	3	72	1	0	-9	$3,323	$1,209	$1
Other Indirect Activity	136	0	0	0	0	0	0	$0	$282,899	-$218,757
Refrigeration	2,282	465	466	5,410	43	54	0	$387,722	$435,525	$9,687
Space Heat Efficiency	3,977	5,002	4,810	85,579	856	194	12,921	$9,513,193	$2,142,912	$1,924,838
Space Heat Fuel Switch	12	27	24	800	14	0	143	$162,083	$5,013	$50,230
Ventilation	1,048	166	147	2,729	36	18	1,491	$493,471	$24,853	$201,758
Water Conservation	102	0	0	1	0	0	41	$11,837	$0	$279
Totals		54,077	50,379	456,370	13,620	5,155	10,541	$39,494,389	$10,746,856	$11,006,616

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
Costs								
Year to Date Costs	$8,973,982	$2,492,273	$6,481,708	$114,542	$2,377,731	$196,604	$1,814,501	$4,470,603
Annual Budget Estimate[1]	$9,121,500	$2,280,375	$6,841,125	$86,503	$2,193,872	$158,941	$759,821	$5,922,363
Unspent Annual Budget Estimate	$147,519	($211,898)	$359,417	($28,039)	($183,859)	($37,663)	($1,054,680)	$1,451,760
% Annual Budget Estimate Unspent	2%	-9%	5%	-32%	-8%	-24%	-139%	25%
Savings Results								
MMBtu Year to Date	177,624	90,739	86,885	4,136	86,604	3,427	63,412	20,046
MMBtu Cumulative starting 1/1/18	177,624	90,739	86,885	4,136	86,604	3,427	63,412	20,046
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	46%	37%	60%	26%	38%	27%	129%	24%
Associated Electric Benefits								
MWh Year to Date	(7,561)	(768)	(6,793)	(16)	(753)	22	(6,949)	134
MWh Cumulative starting 1/1/18	(7,561)	(768)	(6,793)	(16)	(753)	22	(6,949)	134
Lifetime MWh Year to Date	(116,189)	(15,840)	(100,349)	(127)	(15,713)	325	(103,826)	3,152
Lifetime MWh Cumulative starting 1/1/18	(116,189)	(15,840)	(100,349)	(127)	(15,713)	325	(103,826)	3,152
Winter Coincident Peak kW Year to Date	(1,508)	(172)	(1,336)	5	(177)	16	(1,391)	39
Winter Coincident Peak kW Cumulative starting 1/1/18	(1,508)	(172)	(1,336)	5	(177)	16	(1,391)	39
Summer Coincident Peak kW Year to Date	(299)	(48)	(251)	6	(53)	10	(259)	(1)
Summer Coincident Peak kW Cumulative starting 1/1/18	(299)	(48)	(251)	6	(53)	10	(259)	(1)
Participation								
Partic.w/ installs Year to Date	5,348	361	4,987	34	327	82	3,428	1,477
Partic.w/ installs Cumulative starting 1/1/18	5,348	361	4,987	34	327	82	3,428	1,477

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

3.19 Thermal Energy and Process Fuels Resource Acquisition

	Prior Year 2017	Current Year 2018	Cumulative starting 1/1/18
# participants with installations	5,695	5,348	5,348
Operating Costs			
Administration	$637,734	$638,700	$638,700
Programs and Implementation	$961,227	$1,251,332	$1,251,332
Strategy and Planning	$111,388	$220,066	$220,066
Subtotal Operating Costs	**$1,710,349**	**$2,110,098**	**$2,110,098**
Technical Assistance Costs			
Services to Participants	$317,591	$700,703	$700,703
Services to Trade Allies	$0	$43,302	$43,302
Subtotal Technical Assistance Costs	**$317,591**	**$744,005**	**$744,005**
Support Services			
Consulting	$38,659	$104,651	$104,651
Customer Support	$105,733	$34,914	$34,914
Data and Technical Services	$47,911	$73,212	$73,212
Information Technology	$8,337	$0	$0
Marketing	$279,408	$397,789	$397,789
Policy & Public Affairs	($363)	$184	$184
Other	$0	$0	$0
Subtotal Support Services Costs	**$479,684**	**$610,750**	**$610,750**
Incentive Costs			
Incentives to Participants	$4,754,426	$5,361,429	$5,361,429
Incentives to Trade Allies	$140,450	$147,698	$147,698
Subtotal Incentive Costs	**$4,894,876**	**$5,509,128**	**$5,509,128**
Total Efficiency Vermont Costs	**$7,402,500**	**$8,973,982**	**$8,973,982**
Total Participant Costs	$19,518,721	$18,110,662	$18,110,662
Total Third Party Costs	$291,243	$295,202	$295,202
Total Resource Acquisition Costs	**$27,212,463**	**$27,379,846**	**$27,379,846**
Annualized MMBtu Savings	213,103	177,624	177,624
Lifetime MMBtu Savings	3,177,480	2,752,347	2,752,347
TRB Savings (2018 $)	$25,483,247	$40,760,012	$40,760,012
Annualized MMBtu Savings/Participant	37.419	33.213	33.213
Weighted Lifetime	14.9	15.5	15.5

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.	3	83	82	1,245	0	3	990	$321,647	$22,588	$35,545
Cooking and Laundry	102	0	0	12	0	0	677	$138,714	$27,961	$61,713
Design Assistance	26	102	101	-412	0	18	2,633	$177,972	$334,580	$484,331
Hot Water Efficiency	676	-497	-400	-6,505	-68	-39	10,123	$1,791,406	$289,036	$420,793
Hot Water Fuel Switch	5	6	6	137	0	0	-3	$5,901	$0	$6,001
Industrial Process Eff.	28	-30	-27	-311	0	0	11,794	$1,956,245	$225,305	$326,969
Motors	5	14	13	197	0	5	1,231	$244,180	$14,167	$40,029
Other Efficiency	721	0	0	0	0	0	0	$0	$0	$0
Other Fuel Switch	6	-146	-143	-4,377	0	-54	2,626	$667,390	$14,970	$41,777
Other Indirect Activity	140	0	0	0	0	0	0	$0	$628,193	-$146,702
Space Heat Efficiency	4,588	-7,122	-7,054	-106,604	-1,463	-250	123,387	$21,503,759	$3,441,340	$15,001,948
Space Heat Fuel Switch	74	13	15	280	6	0	17,316	$12,819,536	$242,835	$1,255,248
Ventilation	144	16	15	149	15	18	6,850	$1,131,409	$110,945	$583,010
Water Conservation	1	0	0	0	0	0	1	$1,853	$0	$0
Totals		-7,561	-7,391	-116,189	-1,508	-299	177,624	$40,760,012	$5,351,919	$18,110,662

3.21 Thermal Energy and Process Fuels Resource Acquisition
Total Resource Benefits

Avoided Cost Benefits	2018	Lifetime (Present Value)
Avoided Cost of Electricity	nap	($7,728,204)
Fossil Fuel Savings (Costs)	$3,061,111	$48,365,243
Water Savings (Costs)	$6,192	$122,973
Total	**$3,067,303**	**$40,760,012**

Electric Energy & Demand Benefits	Savings at Meter		Savings at Generation
	Gross	Net	Net
Annualized Energy Savings (MWh): Total	**(7,391)**	**(6,661)**	**(7,561)**
Winter on peak	(3,139)	(2,828)	(3,247)
Winter off peak	(3,458)	(3,103)	(3,485)
Summer on peak	(441)	(405)	(466)
Summer off peak	(353)	(325)	(363)
Coincident Demand Savings (kW)			
Winter	(1,514)	(1,355)	(1,508)
Shoulder	0	0	0
Summer	(296)	(269)	(299)

Thermal & Other Benefits	Gross	Net	Lifetime Net
Annualized Water Savings (ccf)	**1,580**	**1,440**	**13,539**
Annualized fuel savings (increase) MMBtu Total	**195,256**	**177,624**	**2,752,347**
LP	56,810	52,683	820,309
NG	(665)	(585)	(8,775)
Oil/Kerosene	162,607	143,676	3,016,556
Wood	12,962	11,562	167,242
Solar	0	0	0
Other	0	0	0
Annualized savings (increase) in O&M($)	**$2,600**	**$3,061**	**$119,067**

Net Societal Benefits	**$37,949,686**

3.22 Thermal Energy and Process Fuels
Business Energy Services Summary

	Prior Year 2017	Current Year 2018	Cumulative starting 1/1/18
# participants with installations	224	361	361
Operating Costs			
Administration	$119,066	$219,438	$219,438
Programs and Implementation	$11,666	$52,784	$52,784
Strategy and Planning	$23,413	$22,344	$22,344
Subtotal Operating Costs	**$154,145**	**$294,566**	**$294,566**
Technical Assistance Costs			
Services to Participants	$95,601	$204,014	$204,014
Services to Trade Allies	$0	$6,360	$6,360
Subtotal Technical Assistance Costs	**$95,601**	**$210,374**	**$210,374**
Support Services			
Consulting	$2,737	$13,342	$13,342
Customer Support	$6,807	$1,835	$1,835
Data and Technical Services	$9,019	$16,526	$16,526
Information Technology	$2,168	$0	$0
Marketing	$13,535	$15,590	$15,590
Policy & Public Affairs	($94)	$46	$46
Other	$0	$0	$0
Subtotal Support Services Costs	**$34,171**	**$47,340**	**$47,340**
Incentive Costs			
Incentives to Participants	$857,226	$1,932,993	$1,932,993
Incentives to Trade Allies	$5,600	$7,000	$7,000
Subtotal Incentive Costs	**$862,826**	**$1,939,993**	**$1,939,993**
Total Efficiency Vermont Costs	**$1,146,743**	**$2,492,273**	**$2,492,273**
Total Participant Costs	$2,884,415	$5,042,033	$5,042,033
Total Third Party Costs	$75,000	$40,000	$40,000
Total Resource Acquisition Costs	**$4,106,158**	**$7,574,306**	**$7,574,306**

Annualized MMBtu Savings	42,594	90,739	90,739
Lifetime MMBtu Savings	586,809	1,354,911	1,354,911
TRB Savings (2018 $)	$7,466,206	$24,582,974	$24,582,974
Annualized MMBtu Savings/Participant	190.151	251.356	251.356
Weighted Lifetime	13.8	14.9	14.9

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.	3	83	82	1,245	0	3	990	$321,647	$22,588	$35,545
Cooking and Laundry	27	-3	-3	-31	0	0	667	$125,929	$23,195	$60,727
Design Assistance	26	102	101	-412	0	18	2,633	$177,972	$334,580	$484,331
Hot Water Efficiency	28	-9	-8	-118	-1	-1	2,908	$552,895	$33,531	$164,535
Industrial Process Eff.	28	-30	-27	-311	0	0	11,794	$1,956,245	$225,305	$326,969
Motors	5	14	13	197	0	5	1,231	$244,180	$14,167	$40,029
Other Efficiency	35	0	0	0	0	0	0	$0	$0	$0
Other Fuel Switch	6	-146	-143	-4,377	0	-54	2,626	$667,390	$14,970	$41,777
Other Indirect Activity	11	0	0	0	0	0	0	$0	$388,794	$53,852
Space Heat Efficiency	244	-788	-692	-12,138	-176	-27	48,920	$8,159,735	$660,965	$3,183,247
Space Heat Fuel Switch	8	1	1	20	1	0	13,950	$11,712,295	$114,735	$403,293
Ventilation	18	7	8	84	5	9	5,020	$662,833	$100,162	$247,727
Water Conservation	1	0	0	0	0	0	1	$1,853	$0	$0
Totals		-768	-667	-15,840	-172	-48	90,739	$24,582,974	$1,932,993	$5,042,033

3.24 Thermal Energy and Process Fuels
Residential Energy Services Summary

	Prior Year 2017	Current Year 2018	Cumulative starting 1/1/18
# participants with installations	5,471	4,987	4,987
Operating Costs			
Administration	$518,668	$419,262	$419,262
Programs and Implementation	$949,560	$1,198,548	$1,198,548
Strategy and Planning	$87,975	$197,722	$197,722
Subtotal Operating Costs	**$1,556,204**	**$1,815,532**	**$1,815,532**
Technical Assistance Costs			
Services to Participants	$221,989	$496,688	$496,688
Services to Trade Allies	$0	$36,943	$36,943
Subtotal Technical Assistance Costs	**$221,989**	**$533,631**	**$533,631**
Support Services			
Consulting	$35,922	$91,309	$91,309
Customer Support	$98,926	$33,079	$33,079
Data and Technical Services	$38,892	$56,685	$56,685
Information Technology	$6,169	$0	$0
Marketing	$265,873	$382,199	$382,199
Policy & Public Affairs	($268)	$138	$138
Other	$0	$0	$0
Subtotal Support Services Costs	**$445,514**	**$563,410**	**$563,410**
Incentive Costs			
Incentives to Participants	$3,897,200	$3,428,436	$3,428,436
Incentives to Trade Allies	$134,850	$140,698	$140,698
Subtotal Incentive Costs	**$4,032,050**	**$3,569,135**	**$3,569,135**
Total Efficiency Vermont Costs	**$6,255,757**	**$6,481,708**	**$6,481,708**
Total Participant Costs	$16,634,306	$13,068,630	$13,068,630
Total Third Party Costs	$216,243	$255,202	$255,202
Total Resource Acquisition Costs	**$23,106,306**	**$19,805,540**	**$19,805,540**

Annualized MMBtu Savings	170,509	86,885	86,885
Lifetime MMBtu Savings	2,590,671	1,397,436	1,397,436
TRB Savings (2018 $)	$18,017,041	$16,177,038	$16,177,038
Annualized MMBtu Savings/Participant	31.166	17.422	17.422
Weighted Lifetime	15.2	16.1	16.1

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	75	3	3	44	0	0	10	$12,785	$4,766	$986
Hot Water Efficiency	648	-488	-392	-6,388	-66	-39	7,215	$1,238,511	$255,505	$256,258
Hot Water Fuel Switch	5	6	6	137	0	0	-3	$5,901	$0	$6,001
Other Efficiency	686	0	0	0	0	0	0	$0	$0	$0
Other Indirect Activity	129	0	0	0	0	0	0	$0	$239,399	-$200,555
Space Heat Efficiency	4,344	-6,334	-6,362	-94,467	-1,286	-223	74,467	$13,344,024	$2,780,374	$11,818,701
Space Heat Fuel Switch	66	12	14	261	6	0	3,367	$1,107,241	$128,100	$851,955
Ventilation	126	9	7	65	10	9	1,830	$468,576	$10,783	$335,283
Totals		-6,793	-6,724	-100,349	-1,336	-251	86,885	$16,177,038	$3,418,926	$13,068,630

4. MAJOR MARKET RESOURCE ACQUISITION RESULTS

4.1 Electric Business New Construction Summary

	Prior Year 2017	Current Year 2018	Cumulative starting 1/1/18
# participants with installations	176	96	96
Operating Costs			
Administration	$199,999	$138,790	$138,790
Programs and Implementation	$194,393	$188,555	$188,555
Strategy and Planning	$84,485	$107,713	$107,713
Subtotal Operating Costs	**$478,877**	**$435,058**	**$435,058**
Technical Assistance Costs			
Services to Participants	$654,562	$703,051	$703,051
Services to Trade Allies	$112,284	$110,810	$110,810
Subtotal Technical Assistance Costs	**$766,846**	**$813,861**	**$813,861**
Support Services			
Consulting	$26,751	$17,282	$17,282
Customer Support	$26,193	$9,119	$9,119
Data and Technical Services	$45,848	$53,652	$53,652
Information Technology	$1,483	$0	$0
Marketing	$157,944	$186,474	$186,474
Policy & Public Affairs	$1,212	$1,177	$1,177
Other	$0	$0	$0
Subtotal Support Services Costs	**$259,431**	**$267,704**	**$267,704**
Incentive Costs			
Incentives to Participants	$1,171,521	$784,827	$784,827
Incentives to Trade Allies	$0	$0	$0
Subtotal Incentive Costs	**$1,171,521**	**$784,827**	**$784,827**
Total Efficiency Vermont Costs	**$2,676,675**	**$2,301,449**	**$2,301,449**
Total Participant Costs	$2,343,802	$1,011,213	$1,011,213
Total Third Party Costs	$0	$0	$0
Total Resource Acquisition Costs	**$5,020,477**	**$3,312,663**	**$3,312,663**
Annualized MWh Savings	7,817	4,862	4,862
Lifetime MWh Savings	101,794	67,567	67,567
TRB Savings (2018 $)	$7,213,628	$5,591,673	$5,591,673
Winter Coincident Peak kW Savings	1,137	662	662
Summer Coincident Peak kW Savings	977	752	752
Annualized MWh Savings/Participant	44.417	50.649	50.649
Weighted Lifetime	13.0	13.9	13.9

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.	35	305	268	4,314	10	31	0	$295,065	$77,251	$140,266
Cooking and Laundry	4	7	7	85	1	1	13	$14,768	$367	$1,598
Design Assistance	6	0	0	0	0	0	0	$550	$17,764	$22,806
Electronics	1	66	58	795	7	6	0	$54,874	$13,275	$58,725
Hot Water Efficiency	4	0	0	0	0	0	139	$28,556	$138	$1,850
Industrial Process Eff.	6	280	266	4,116	10	72	0	$396,083	$50,972	$31,264
Lighting	86	2,764	2,432	40,811	439	414	-724	$3,183,724	$426,361	$483,730
Motors	12	724	635	8,523	103	92	117	$695,112	$47,390	$68,857
Other Indirect Activity	4	0	0	0	0	0	0	$0	$0	$0
Refrigeration	11	251	221	3,093	42	37	0	$250,138	$47,720	$24,818
Space Heat Efficiency	17	45	40	688	17	3	386	$148,297	$12,595	$66,835
Ventilation	28	419	369	5,142	33	96	376	$514,208	$90,740	$109,084
Water Conservation	3	0	0	0	0	0	0	$10,298	$24	$1,380
Totals		4,862	4,297	67,567	662	752	306	$5,591,673	$784,598	$1,011,213

4.3 Electric Business New Construction Total Resource Benefits

Avoided Cost Benefits	2018	Lifetime (Present Value)
Avoided Cost of Electricity	nap	$5,510,596
Fossil Fuel Savings (Costs)	$2,519	$46,033
Water Savings (Costs)	$1,623	$35,045
Total	**$4,141**	**$5,591,673**

Electric Energy & Demand Benefits	Savings at Meter		Savings at Generation
	Gross	Net	Net
Annualized Energy Savings (MWh): Total	**4,297**	**4,276**	**4,862**
Winter on peak	1,558	1,545	1,774
Winter off peak	1,156	1,155	1,297
Summer on peak	907	901	1,036
Summer off peak	676	675	756
Coincident Demand Savings (kW)			
Winter	597	595	662
Shoulder	0	0	0
Summer	679	676	752

Thermal & Other Benefits	Gross	Net	Lifetime Net
Annualized Water Savings (ccf)	**379**	**377**	**3,928**
Annualized fuel savings (increase) MMBtu Total	**307**	**306**	**5,483**
LP	(14)	(14)	(742)
NG	375	375	7,108
Oil/Kerosene	(27)	(27)	(402)
Wood	(24)	(24)	(432)
Solar	0	0	0
Other	0	0	0
Annualized savings (increase) in O&M($)	**$12,022**	**$12,022**	**$172,465**

Net Societal Benefits	$5,747,692

4.4 Electric Business Existing Facilities Summary

	Prior Year 2017	Current Year 2018	Cumulative starting 1/1/18
# participants with installations	15,133	11,369	11,369
Operating Costs			
Administration	$1,615,062	$1,640,696	$1,640,696
Programs and Implementation	$1,734,755	$1,634,803	$1,634,803
Strategy and Planning	$435,275	$462,703	$462,703
Subtotal Operating Costs	**$3,785,092**	**$3,738,202**	**$3,738,202**
Technical Assistance Costs			
Services to Participants	$3,575,974	$3,791,547	$3,791,547
Services to Trade Allies	$765,489	$766,839	$766,839
Subtotal Technical Assistance Costs	**$4,341,463**	**$4,558,386**	**$4,558,386**
Support Services			
Consulting	$115,854	$108,779	$108,779
Customer Support	$121,321	$46,022	$46,022
Data and Technical Services	$238,880	$385,190	$385,190
Information Technology	$8,743	$0	$0
Marketing	$931,209	$1,085,989	$1,085,989
Policy & Public Affairs	$8,656	$8,273	$8,273
Other	$0	$0	$0
Subtotal Support Services Costs	**$1,424,664**	**$1,634,254**	**$1,634,254**
Incentive Costs			
Incentives to Participants	$10,369,359	$12,280,398	$12,280,398
Incentives to Trade Allies	$1,473	$200	$200
Subtotal Incentive Costs	**$10,370,832**	**$12,280,598**	**$12,280,598**
Total Efficiency Vermont Costs	**$19,922,051**	**$22,211,439**	**$22,211,439**
Total Participant Costs	$11,682,402	$12,749,580	$12,749,580
Total Third Party Costs	$0	$1,300	$1,300
Total Resource Acquisition Costs	**$31,604,453**	**$34,962,319**	**$34,962,319**
Annualized MWh Savings	61,699	81,062	81,062
Lifetime MWh Savings	718,096	812,809	812,809
TRB Savings (2015 $)	$46,669,448	$63,914,447	$63,914,447
Winter Coincident Peak kW Savings	8,820	9,699	9,699
Summer Coincident Peak kW Savings	8,231	12,099	12,099
Annualized MWh Savings/Participant	4.077	7.130	7.130
Weighted Lifetime	11.6	10.0	10.0

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.	39	2,075	1,951	35,070	142	216	3,661	$3,354,930	$553,089	$1,547,480
Behavior Change	1	25	22	42	1	8	584	$15,563	$0	$0
Cooking and Laundry	8	24	23	283	4	4	64	$38,796	$4,670	$16,113
Design Assistance	120	587	556	1,690	14	12	1,996	$275,641	$716,607	$118,935
Electronics	3	36	32	302	3	2	0	$18,916	$4,576	$12,520
Hot Water Efficiency	36	132	118	1,632	20	11	451	$249,265	$33,376	$26,061
Industrial Process Eff.	59	4,779	4,900	63,231	639	502	2,413	$5,150,282	$1,089,255	$1,638,449
Lighting	10,308	63,661	58,627	584,402	7,597	10,324	-32,746	$44,562,802	$7,524,206	$7,544,709
Motors	71	2,972	2,868	38,019	415	461	354	$3,162,948	$419,926	$480,757
Other Efficiency	245	127	125	3,816	14	15	0	$274,507	$26,442	-$17,404
Other Fuel Switch	1	0	0	0	0	0	15	$4,841	$2,120	$8,399
Other Indirect Activity	733	0	0	0	0	0	0	$0	$924,105	-$612,870
Refrigeration	227	4,352	4,100	54,090	498	450	3,450	$4,628,798	$579,977	$691,385
Space Heat Efficiency	551	1,786	1,672	25,263	306	16	3,463	$1,606,717	$339,850	$1,101,785
Ventilation	27	506	486	4,968	46	80	2,155	$570,439	$60,980	$193,260
Totals		81,062	75,480	812,809	9,699	12,099	-14,139	$63,914,447	$12,279,179	$12,749,580

4.6 Electric Business Existing Facilities Total Resource Benefits

Avoided Cost Benefits	2018	Lifetime (Present Value)
Avoided Cost of Electricity	nap	$64,644,360
Fossil Fuel Savings (Costs)	($186,034)	($805,234)
Water Savings (Costs)	$3,601	$75,321
Total	**($182,433)**	**$63,914,447**

Electric Energy & Demand Benefits	Savings at Meter		Savings at Generation
	Gross	Net	Net
Annualized Energy Savings (MWh): Total	**75,480**	**71,172**	**81,062**
Winter on peak	32,620	30,717	35,263
Winter off peak	18,041	17,037	19,132
Summer on peak	15,930	15,012	17,264
Summer off peak	8,890	8,406	9,407
Coincident Demand Savings (kW)			
Winter	9,175	8,714	9,699
Shoulder	0	0	0
Summer	11,542	10,881	12,099

Thermal & Other Benefits	Gross	Net	Lifetime Net
Annualized Water Savings (ccf)	**940**	**837**	**8,367**
Annualized fuel savings (increase) MMBtu Total	**(14,200)**	**(14,139)**	**(34,772)**
LP	4,930	4,370	58,655
NG	2,176	1,894	4,514
Oil/Kerosene	(25,426)	(24,114)	(169,614)
Wood	342	308	3,174
Solar	0	0	0
Other	0	0	0
Annualized savings (increase) in O&M($)	**$1,445,041**	**$1,331,857**	**$9,661,998**

Net Societal Benefits	**$79,404,267**

4.7 Electric Residential New Construction Summary

	Prior Year 2017	Current Year 2018	Cumulative starting 1/1/18
# participants with installations	1,477	857	857
Operating Costs			
Administration	$187,505	$199,765	$199,765
Programs and Implementation	$413,425	$299,457	$299,457
Strategy and Planning	$34,402	$72,605	$72,605
Subtotal Operating Costs	**$635,332**	**$571,827**	**$571,827**
Technical Assistance Costs			
Services to Participants	$1,249,971	$1,201,591	$1,201,591
Services to Trade Allies	$25,098	$20,121	$20,121
Subtotal Technical Assistance Costs	**$1,275,069**	**$1,221,712**	**$1,221,712**
Support Services			
Consulting	$52,930	$24,704	$24,704
Customer Support	$22,225	$8,450	$8,450
Data and Technical Services	$26,174	$21,984	$21,984
Information Technology	$1,463	$0	$0
Marketing	$141,758	$154,857	$154,857
Policy & Public Affairs	$1,196	$1,147	$1,147
Other	$0	$0	$0
Subtotal Support Services Costs	**$245,745**	**$211,141**	**$211,141**
Incentive Costs			
Incentives to Participants	$1,077,472	$1,364,118	$1,364,118
Incentives to Trade Allies	$500	$0	$0
Subtotal Incentive Costs	**$1,077,972**	**$1,364,118**	**$1,364,118**
Total Efficiency Vermont Costs	**$3,234,118**	**$3,368,799**	**$3,368,799**
Total Participant Costs	$792,295	$747,291	$747,291
Total Third Party Costs	$75,400	$65,000	$65,000
Total Resource Acquisition Costs	**$4,101,813**	**$4,181,089**	**$4,181,089**
Annualized MWh Savings	2,001	2,138	2,138
Lifetime MWh Savings	33,163	41,725	41,725
TRB Savings (2018 $)	$5,573,339	$8,016,432	$8,016,432
Winter Coincident Peak kW Savings	485	488	488
Summer Coincident Peak kW Savings	226	239	239
Annualized MWh Savings/Participant	1.355	2.495	2.495
Weighted Lifetime	16.6	19.5	19.5

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.	121	57	50	990	3	19	0	$109,490	$152,654	-$52,962
Cooking and Laundry	600	83	73	1,407	23	14	47	$213,012	$63,256	$28,835
Design Assistance	30	0	0	0	0	0	0	$0	$6,640	$2,641
Hot Water Efficiency	416	34	31	418	4	3	1,257	$375,284	$48,472	$114,470
Hot Water Fuel Switch	8	0	0	0	0	0	288	$60,974	$11	$11,989
Lighting	491	688	621	9,102	116	73	-129	$655,810	$658,300	-$364,674
Motors	1	0	0	7	0	0	0	$661	$55	$1,121
Other Efficiency	126	0	0	0	0	0	0	$0	$71,280	-$71,280
Refrigeration	414	36	35	594	4	4	0	$43,088	$10,586	$1,100
Space Heat Efficiency	531	1,131	955	27,422	305	117	12,824	$6,072,213	$329,785	$899,974
Space Heat Fuel Switch	9	0	0	0	0	0	238	$150,785	$5,013	$26,987
Ventilation	695	108	96	1,784	32	10	1,033	$323,357	$18,018	$149,091
Water Conservation	101	0	0	0	0	0	41	$11,760	$0	$0
Totals		2,138	1,861	41,725	488	239	15,600	$8,016,432	$1,364,071	$747,291

4.9 Electric Residential New Construction Total Resource Benefits

Avoided Cost Benefits	2018	Lifetime (Present Value)
Avoided Cost of Electricity	nap	$3,218,063
Fossil Fuel Savings (Costs)	$294,769	$4,552,341
Water Savings (Costs)	$10,773	$246,029
Total	**$305,542**	**$8,016,432**

Electric Energy & Demand Benefits	Savings at Meter		Savings at Generation
	Gross	Net	Net
Annualized Energy Savings (MWh): Total	**1,861**	**1,885**	**2,138**
Winter on peak	705	717	823
Winter off peak	791	806	905
Summer on peak	180	178	205
Summer off peak	186	184	206
Coincident Demand Savings (kW)			
Winter	430	438	488
Shoulder	0	0	0
Summer	214	215	239

Thermal & Other Benefits	Gross	Net	Lifetime Net
Annualized Water Savings (ccf)	**2,578**	**2,505**	**27,889**
Annualized fuel savings (increase) MMBtu Total	**15,157**	**15,600**	**356,943**
LP	5,708	5,912	137,269
NG	8,772	8,995	204,480
Oil/Kerosene	258	266	6,482
Wood	419	427	8,711
Solar	0	0	0
Other	0	0	0
Annualized savings (increase) in O&M($)	**$21,196**	**$20,978**	**$225,736**

Net Societal Benefits	**$8,516,296**

4.10 Electric Efficient Products Summary

	Prior Year 2017	Current Year 2018	Cumulative starting 1/1/18
# participants with installations	97,428	89,226	89,226
Operating Costs			
Administration	$1,302,199	$1,032,180	$1,032,180
Programs and Implementation	$1,234,335	$1,121,109	$1,121,109
Strategy and Planning	$176,191	$246,501	$246,501
Subtotal Operating Costs	**$2,712,726**	**$2,399,791**	**$2,399,791**
Technical Assistance Costs			
Services to Participants	$272,821	$485,346	$485,346
Services to Trade Allies	$534,189	$212,631	$212,631
Subtotal Technical Assistance Costs	**$807,010**	**$697,977**	**$697,977**
Support Services			
Consulting	$54,019	$42,194	$42,194
Customer Support	$77,388	$25,251	$25,251
Data and Technical Services	$125,236	$94,899	$94,899
Information Technology	$5,296	$0	$0
Marketing	$778,643	$571,579	$571,579
Policy & Public Affairs	$4,329	$3,926	$3,926
Other	$0	$0	$0
Subtotal Support Services Costs	**$1,044,912**	**$737,848**	**$737,848**
Incentive Costs			
Incentives to Participants	$9,399,610	$7,760,296	$7,760,296
Incentives to Trade Allies	$43,854	$141,580	$141,580
Subtotal Incentive Costs	**$9,443,464**	**$7,901,876**	**$7,901,876**
Total Efficiency Vermont Costs	**$14,008,113**	**$11,737,492**	**$11,737,492**
Total Participant Costs	$8,587,883	$10,483,741	$10,483,741
Total Third Party Costs	$0	$0	$0
Total Resource Acquisition Costs	**$22,595,996**	**$22,221,233**	**$22,221,233**
Annualized MWh Savings	75,791	50,068	50,068
Lifetime MWh Savings	491,323	398,823	398,823
TRB Savings (2018 $)	$34,104,654	$30,015,821	$30,015,821
Winter Coincident Peak kW Savings	16,318	12,747	12,747
Summer Coincident Peak kW Savings	8,341	4,748	4,748
Annualized MWh Savings/Participant	0.778	0.561	0.561
Weighted Lifetime	6.5	8.0	8.0

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.	1,281	584	651	6,806	4	172	0	$635,390	$56,959	$101,884
Cooking and Laundry	2,152	874	974	11,223	116	86	1,049	$1,725,126	$199,697	$649,838
Electronics	489	187	160	1,027	20	18	0	$71,023	$19,850	-$6,435
Hot Water Efficiency	1,470	3,622	2,897	47,088	503	283	-6,667	$2,003,898	$849,915	$480,552
Lighting	76,656	38,834	36,430	248,651	11,436	3,118	-32	$19,092,344	$4,603,725	$7,749,112
Motors	2,461	1,978	1,738	23,978	125	975	0	$2,944,261	$597,702	$373,206
Other Efficiency	2,265	0	0	0	0	0	0	$0	$190,858	-$190,858
Other Indirect Activity	2	0	0	0	0	0	0	$0	$163,463	-$163,463
Refrigeration	1,304	159	194	2,710	15	18	0	$194,273	$69,986	-$28,495
Space Heat Efficiency	3,023	3,830	3,819	57,339	529	77	0	$3,349,507	$1,008,143	$1,518,399
Totals		50,068	46,865	398,823	12,747	4,748	-5,649	$30,015,821	$7,760,297	$10,483,741

4.12 Electric Efficient Products Total Resource Benefits

Avoided Cost Benefits	2018	Lifetime (Present Value)
Avoided Cost of Electricity	nap	$30,343,380
Fossil Fuel Savings (Costs)	($134,397)	($1,018,979)
Water Savings (Costs)	$24,935	$691,420
Total	**($109,462)**	**$30,015,821**

Electric Energy & Demand Benefits	Savings at Meter		Savings at Generation
	Gross	Net	Net
Annualized Energy Savings (MWh): Total	**46,865**	**44,110**	**50,068**
Winter on peak	16,905	15,902	18,256
Winter off peak	16,252	15,259	17,136
Summer on peak	6,720	6,362	7,316
Summer off peak	6,988	6,587	7,371
Coincident Demand Savings (kW)			
Winter	12,171	11,452	12,747
Shoulder	0	0	0
Summer	4,492	4,270	4,748

Thermal & Other Benefits	Gross	Net	Lifetime Net
Annualized Water Savings (ccf)	**9,288**	**5,799**	**81,183**
Annualized fuel savings (increase) MMBtu Total	**(4,406)**	**(5,649)**	**(72,151)**
LP	(2,425)	(3,260)	(41,590)
NG	263	153	2,161
Oil/Kerosene	(876)	(1,040)	(13,198)
Wood	(1,365)	(1,502)	(19,523)
Solar	0	0	0
Other	0	0	0
Annualized savings (increase) in O&M($)	**$550,946**	**$507,471**	**$3,013,686**

Net Societal Benefits	$36,428,241

4.13 Electric Existing Homes Summary

	Prior Year 2017	Current Year 2018	Cumulative starting 1/1/18
# participants with installations	2,047	2,341	2,341
Operating Costs			
Administration	$351,435	$238,474	$238,474
Programs and Implementation	$1,146,740	$989,576	$989,576
Strategy and Planning	$123,603	$159,878	$159,878
Subtotal Operating Costs	**$1,621,778**	**$1,387,929**	**$1,387,929**
Technical Assistance Costs			
Services to Participants	$256,906	$285,227	$285,227
Services to Trade Allies	$26,090	$37,309	$37,309
Subtotal Technical Assistance Costs	**$282,996**	**$322,536**	**$322,536**
Support Services			
Consulting	$103,679	$104,285	$104,285
Customer Support	$64,895	$15,259	$15,259
Data and Technical Services	$69,826	$118,847	$118,847
Information Technology	$11,460	$0	$0
Marketing	$345,460	$365,398	$365,398
Policy & Public Affairs	$1,259	$1,367	$1,367
Other	$0	$0	$0
Subtotal Support Services Costs	**$596,578**	**$605,155**	**$605,155**
Incentive Costs			
Incentives to Participants	$2,494,236	$1,623,205	$1,623,205
Incentives to Trade Allies	$0	$5,750	$5,750
Subtotal Incentive Costs	**$2,494,236**	**$1,628,955**	**$1,628,955**
Total Efficiency Vermont Costs	**$4,995,587**	**$3,944,576**	**$3,944,576**
Total Participant Costs	($23,001)	($224,416)	($224,416)
Total Third Party Costs	$18,183	$24,835	$24,835
Total Resource Acquisition Costs	**$4,990,769**	**$3,744,995**	**$3,744,995**
Annualized MWh Savings	10,634	1,870	1,870
Lifetime MWh Savings	30,162	15,822	15,822
TRB Savings (2018 $)	$2,056,463	$1,462,136	$1,462,136
Winter Coincident Peak kW Savings	2,493	385	385
Summer Coincident Peak kW Savings	747	168	168
Annualized MWh Savings/Participant	5.195	0.799	0.799
Weighted Lifetime	2.8	8.5	8.5

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.	145	7	6	81	0	5	0	$12,394	$7,910	$5,973
Behavior Change	7	3	2	40	1	0	-8	$1,225	$0	$0
Cooking and Laundry	125	126	110	668	17	13	18	$82,544	$94,592	$3,276
Design Assistance	133	0	0	0	0	0	0	$0	$7,197	$860
Electronics	56	8	7	39	1	1	0	$2,719	$2,024	-$25
Hot Water Efficiency	379	185	164	2,007	20	10	212	$326,005	$7,001	$13,787
Hot Water Fuel Switch	1	1	1	38	0	0	-5	$230	$0	$400
Lighting	1,629	1,009	894	6,876	264	89	-77	$516,855	$196,093	$169,022
Motors	2	133	117	1,334	16	12	0	$93,515	$15,000	$18,580
Other Efficiency	897	0	0	0	0	0	0	$0	$5,255	-$732
Other Fuel Switch	7	3	3	72	1	0	-9	$3,323	$1,209	$1
Other Indirect Activity	134	0	0	0	0	0	0	$0	$119,436	-$55,294
Refrigeration	564	269	237	2,105	25	31	0	$150,362	$354,953	$37,082
Space Heat Efficiency	423	41	36	817	21	0	97	$91,473	$804,985	-$493,535
Space Heat Fuel Switch	3	27	24	800	14	0	-96	$11,297	$0	$23,243
Ventilation	353	58	51	945	4	7	458	$170,115	$6,835	$52,667
Water Conservation	1	0	0	1	0	0	0	$77	$0	$279
Totals		1,870	1,653	15,822	385	168	590	$1,462,136	$1,622,488	-$224,416

4.15 Electric Existing Homes Total Resource Benefits

Avoided Cost Benefits	2018	Lifetime (Present Value)
Avoided Cost of Electricity	nap	$1,160,084
Fossil Fuel Savings (Costs)	$10,555	$116,431
Water Savings (Costs)	$9,943	$185,620
Total	**$20,497**	**$1,462,136**

Electric Energy & Demand Benefits	Savings at Meter		Savings at Generation
	Gross	Net	Net
Annualized Energy Savings (MWh): Total	**1,653**	**1,647**	**1,870**
Winter on peak	619	616	707
Winter off peak	547	545	611
Summer on peak	247	246	283
Summer off peak	241	240	269
Coincident Demand Savings (kW)			
Winter	348	346	385
Shoulder	0	0	0
Summer	152	151	168

Thermal & Other Benefits	Gross	Net	Lifetime Net
Annualized Water Savings (ccf)	**2,321**	**2,312**	**20,754**
Annualized fuel savings (increase) MMBtu Total	**625**	**590**	**7,154**
LP	(75)	(75)	(2,825)
NG	13	13	35
Oil/Kerosene	690	656	9,976
Wood	(4)	(4)	(32)
Solar	0	0	0
Other	0	0	0
Annualized savings (increase) in O&M($)	**$17,002**	**$16,906**	**$114,156**

Net Societal Benefits	($452,751)

4.16 Thermal Energy and Process Fuels
Business New Construction Summary

	Prior Year 2017	Current Year 2018	Cumulative starting 1/1/18
# participants with installations	24	34	34
Operating Costs			
Administration	$6,610	$9,855	$9,855
Programs and Implementation	$226	$2,154	$2,154
Strategy and Planning	$1,222	$826	$826
Subtotal Operating Costs	**$8,058**	**$12,835**	**$12,835**
Technical Assistance Costs			
Services to Participants	$4,051	$11,901	$11,901
Services to Trade Allies	$0	$242	$242
Subtotal Technical Assistance Costs	**$4,051**	**$12,143**	**$12,143**
Support Services			
Consulting	$268	$507	$507
Customer Support	$524	$49	$49
Data and Technical Services	$885	$627	$627
Information Technology	$213	$0	$0
Marketing	$1,327	$592	$592
Policy & Public Affairs	($9)	$2	$2
Other	$0	$0	$0
Subtotal Support Services Costs	**$3,207**	**$1,777**	**$1,777**
Incentive Costs			
Incentives to Participants	$39,645	$87,787	$87,787
Incentives to Trade Allies	$0	$0	$0
Subtotal Incentive Costs	**$39,645**	**$87,787**	**$87,787**
Total Efficiency Vermont Costs	**$54,962**	**$114,542**	**$114,542**
Total Participant Costs	$216,182	$350,723	$350,723
Total Third Party Costs	$0	$0	$0
Total Resource Acquisition Costs	**$271,144**	**$465,265**	**$465,265**
Annualized MMBtu Savings	3,416	4,136	4,136
Lifetime MMBtu Savings	56,896	66,785	66,785
TRB Savings (2018 $)	$868,497	$1,035,633	$1,035,633
Annualized MMBtu Savings/Participant	142.319	121.636	121.636
Weighted Lifetime	16.7	16.1	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
Cooking and Laundry	1	0	0	0	0	0	22	$4,381	$750	$1,375
Design Assistance	3	0	0	0	0	0	0	$0	$21,192	$24,957
Hot Water Efficiency	5	0	0	0	0	0	483	$84,240	$6,669	$17,820
Industrial Process Eff.	1	-22	-19	-215	0	0	501	$68,579	$10,000	$66,301
Motors	1	2	2	37	0	0	28	$9,553	$500	$1,750
Other Indirect Activity	1	0	0	0	0	0	0	$0	$10,560	$32,440
Space Heat Efficiency	26	1	1	13	0	0	2,419	$704,662	$31,830	$137,762
Ventilation	9	2	2	37	5	5	680	$162,363	$7,186	$68,318
Water Conservation	1	0	0	0	0	0	1	$1,853	$0	$0
Totals		-16	-14	-127	5	6	4,136	$1,035,633	$88,687	$350,723

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

Avoided Cost Benefits	2018	Lifetime (Present Value)
Avoided Cost of Electricity	nap	$12,261
Fossil Fuel Savings (Costs)	$69,380	$1,018,912
Water Savings (Costs)	$202	$4,460
Total	**$69,582**	**$1,035,633**

Electric Energy & Demand Benefits	Savings at Meter		Savings at Generation
	Gross	Net	Net
Annualized Energy Savings (MWh): Total	**(14)**	**(14)**	**(16)**
Winter on peak	(8)	(8)	(9)
Winter off peak	(8)	(8)	(8)
Summer on peak	1	1	1
Summer off peak	1	1	1
Coincident Demand Savings (kW)			
Winter	5	5	5
Shoulder	0	0	0
Summer	5	5	6

Thermal & Other Benefits	Gross	Net	Lifetime Net
Annualized Water Savings (ccf)	**47**	**47**	**499**
Annualized fuel savings (increase) MMBtu Total	**4,136**	**4,136**	**66,785**
LP	3,228	3,228	55,278
NG	0	0	0
Oil/Kerosene	694	694	7,230
Wood	214	214	4,277
Solar	0	0	0
Other	0	0	0
Annualized savings (increase) in O&M($)	**$0**	**$0**	**$0**

Net Societal Benefits	**$1,107,886**

4.19 Thermal Energy and Process Fuels
Business Existing Facilities Summary

	Prior Year 2017	Current Year 2018	Cumulative starting 1/1/18
# participants with installations	200	327	327
Operating Costs			
Administration	$112,456	$209,584	$209,584
Programs and Implementation	$11,441	$50,629	$50,629
Strategy and Planning	$22,190	$21,518	$21,518
Subtotal Operating Costs	**$146,087**	**$281,731**	**$281,731**
Technical Assistance Costs			
Services to Participants	$91,550	$192,113	$192,113
Services to Trade Allies	$0	$6,118	$6,118
Subtotal Technical Assistance Costs	**$91,550**	**$198,231**	**$198,231**
Support Services			
Consulting	$2,469	$12,835	$12,835
Customer Support	$6,283	$1,786	$1,786
Data and Technical Services	$8,134	$15,899	$15,899
Information Technology	$1,955	$0	$0
Marketing	$12,207	$14,998	$14,998
Policy & Public Affairs	($85)	$44	$44
Other	$0	$0	$0
Subtotal Support Services Costs	**$30,963**	**$45,563**	**$45,563**
Incentive Costs			
Incentives to Participants	$817,581	$1,845,206	$1,845,206
Incentives to Trade Allies	$5,600	$7,000	$7,000
Subtotal Incentive Costs	**$823,181**	**$1,852,206**	**$1,852,206**
Total Efficiency Vermont Costs	**$1,091,781**	**$2,377,731**	**$2,377,731**
Total Participant Costs	$2,668,233	$4,691,310	$4,691,310
Total Third Party Costs	$75,000	$40,000	$40,000
Total Resource Acquisition Costs	**$3,835,014**	**$7,109,041**	**$7,109,041**

Annualized MMBtu Savings	39,178	86,604	86,604
Lifetime MMBtu Savings	529,913	1,288,125	1,288,125
TRB Savings (2018 $)	$6,597,709	$23,547,341	$23,547,341
Annualized MMBtu Savings/Participant	195.891	264.844	264.844
Weighted Lifetime	13.5	14.9	14.9

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.	3	83	82	1,245	0	3	990	$321,647	$22,588	$35,545
Cooking and Laundry	26	-3	-3	-31	0	0	644	$121,548	$22,445	$59,352
Design Assistance	23	102	101	-412	0	18	2,633	$177,972	$313,388	$459,374
Hot Water Efficiency	23	-9	-8	-118	-1	-1	2,425	$468,654	$26,862	$146,715
Industrial Process Eff.	27	-8	-8	-96	0	0	11,292	$1,887,666	$215,305	$260,668
Motors	4	11	11	160	0	5	1,203	$234,627	$13,667	$38,279
Other Efficiency	35	0	0	0	0	0	0	$0	$0	$0
Other Fuel Switch	6	-146	-143	-4,377	0	-54	2,626	$667,390	$14,970	$41,777
Other Indirect Activity	10	0	0	0	0	0	0	$0	$378,234	$21,412
Space Heat Efficiency	218	-789	-693	-12,151	-177	-27	46,500	$7,455,073	$629,135	$3,045,486
Space Heat Fuel Switch	8	1	1	20	1	0	13,950	$11,712,295	$114,735	$403,293
Ventilation	9	5	6	47	0	4	4,340	$500,469	$92,976	$179,409
Totals		-753	-654	-15,713	-177	-53	86,604	$23,547,341	$1,844,306	$4,691,310

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

Avoided Cost Benefits	2018	Lifetime (Present Value)
Avoided Cost of Electricity	nap	($1,165,680)
Fossil Fuel Savings (Costs)	$1,031,213	$24,633,598
Water Savings (Costs)	$4,145	$79,422
Total	**$1,035,358**	**$23,547,341**

Electric Energy & Demand Benefits	Savings at Meter		Savings at Generation
	Gross	Net	Net
Annualized Energy Savings (MWh): Total	**(654)**	**(662)**	**(753)**
Winter on peak	(343)	(338)	(388)
Winter off peak	(249)	(260)	(292)
Summer on peak	(50)	(49)	(57)
Summer off peak	(11)	(14)	(16)
Coincident Demand Savings (kW)			
Winter	(159)	(159)	(177)
Shoulder	0	0	0
Summer	(50)	(48)	(53)

Thermal & Other Benefits	Gross	Net	Lifetime Net
Annualized Water Savings (ccf)	**1,083**	**964**	**8,704**
Annualized fuel savings (increase) MMBtu Total	**96,807**	**86,604**	**1,288,125**
LP	23,936	21,955	349,167
NG	0	0	0
Oil/Kerosene	101,561	87,412	2,099,433
Wood	7,763	6,948	82,511
Solar	0	0	0
Other	0	0	0
Annualized savings (increase) in O&M($)	**$9,006**	**$8,252**	**$229,430**

Net Societal Benefits	**$30,668,941**

4.22 Thermal Energy and Process Fuels
Residential New Construction Summary

	Prior Year 2017	Current Year 2018	Cumulative starting 1/1/18
# participants with installations	42	82	82
Operating Costs			
Administration	$442	$18,000	$18,000
Programs and Implementation	$5	$145	$145
Strategy and Planning	$39	$2,225	$2,225
Subtotal Operating Costs	**$486**	**$20,370**	**$20,370**
Technical Assistance Costs			
Services to Participants	$61	$3,425	$3,425
Services to Trade Allies	$0	$560	$560
Subtotal Technical Assistance Costs	**$61**	**$3,985**	**$3,985**
Support Services			
Consulting	$12	$12,005	$12,005
Customer Support	$1,023	$205	$205
Data and Technical Services	$38	$947	$947
Information Technology	$9	$0	$0
Marketing	$2,274	$1,959	$1,959
Policy & Public Affairs	($0)	$5	$5
Other	$0	$0	$0
Subtotal Support Services Costs	**$3,355**	**$15,120**	**$15,120**
Incentive Costs			
Incentives to Participants	$3,100	$157,129	$157,129
Incentives to Trade Allies	$0	$0	$0
Subtotal Incentive Costs	**$3,100**	**$157,129**	**$157,129**
Total Efficiency Vermont Costs	**$7,002**	**$196,604**	**$196,604**
Total Participant Costs	$27,685	$51,794	$51,794
Total Third Party Costs	$0	$0	$0
Total Resource Acquisition Costs	**$34,686**	**$248,398**	**$248,398**
Annualized MMBtu Savings	347	3,427	3,427
Lifetime MMBtu Savings	7,471	63,771	63,771
TRB Savings (2018 $)	$89,632	$1,092,907	$1,092,907
Annualized MMBtuSavings/Participant	8.261	41.791	41.791
Weighted Lifetime	21.5	18.6	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
Cooking and Laundry	68	3	3	44	0	0	10	$12,785	$4,766	-$39
Hot Water Efficiency	69	0	0	0	0	0	144	$47,360	$20,004	-$13,005
Space Heat Efficiency	82	10	9	216	5	0	1,186	$451,840	$118,576	$39,471
Space Heat Fuel Switch	0	0	0	0	0	0	674	$215,482	$3,000	$9,000
Ventilation	50	9	7	65	10	9	1,413	$365,441	$10,783	$16,367
Totals		22	19	325	16	10	3,427	$1,092,907	$157,129	$51,794

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

Avoided Cost Benefits	2018	Lifetime (Present Value)
Avoided Cost of Electricity	nap	$53,644
Fossil Fuel Savings (Costs)	$103,906	$1,015,036
Water Savings (Costs)	$1,120	$24,227
Total	**$105,026**	**$1,092,907**

Electric Energy & Demand Benefits	Savings at Meter		Savings at Generation
	Gross	Net	Net
Annualized Energy Savings (MWh): Total	**19**	**19**	**22**
Winter on peak	8	8	9
Winter off peak	8	8	9
Summer on peak	2	2	2
Summer off peak	1	1	2
Coincident Demand Savings (kW)			
Winter	14	14	16
Shoulder	0	0	0
Summer	8	9	10

Thermal & Other Benefits	Gross	Net	Lifetime Net
Annualized Water Savings (ccf)	**262**	**261**	**2,652**
Annualized fuel savings (increase) MMBtu Total	**3,351**	**3,427**	**63,771**
LP	3,289	3,365	63,096
NG	0	0	0
Oil/Kerosene	51	51	506
Wood	11	11	170
Solar	0	0	0
Other	0	0	0
Annualized savings (increase) in O&M($)	**($151)**	**($151)**	**($3,017)**

Net Societal Benefits	**$1,415,226**

4.25 Thermal Energy and Process Fuels
Efficient Products Summary

	Prior Year 2017	Current Year 2018	Cumulative starting 1/1/18
# participants with installations	4,053	3,428	3,428
Operating Costs			
Administration	$258,559	$172,868	$172,868
Programs and Implementation	$26,387	$23,134	$23,134
Strategy and Planning	$3,609	$9,284	$9,284
Subtotal Operating Costs	**$288,555**	**$205,286**	**$205,286**
Technical Assistance Costs			
Services to Participants	$5,693	$9,427	$9,427
Services to Trade Allies	$0	$1,814	$1,814
Subtotal Technical Assistance Costs	**$5,693**	**$11,242**	**$11,242**
Support Services			
Consulting	$7,433	$10,528	$10,528
Customer Support	$1,893	$387	$387
Data and Technical Services	$5,328	$5,636	$5,636
Information Technology	$859	$0	$0
Marketing	$13,672	$9,288	$9,288
Policy & Public Affairs	($37)	$15	$15
Other	$0	$0	$0
Subtotal Support Services Costs	**$29,147**	**$25,855**	**$25,855**
Incentive Costs			
Incentives to Participants	$2,217,935	$1,572,119	$1,572,119
Incentives to Trade Allies	$0	$0	$0
Subtotal Incentive Costs	**$2,217,935**	**$1,572,119**	**$1,572,119**
Total Efficiency Vermont Costs	**$2,541,330**	**$1,814,501**	**$1,814,501**
Total Participant Costs	$6,044,779	$6,207,261	$6,207,261
Total Third Party Costs	$0	$0	$0
Total Resource Acquisition Costs	**$8,586,109**	**$8,021,762**	**$8,021,762**
Annualized MMBtu Savings	150,547	63,412	63,412
Lifetime MMBtu Savings	2,212,812	895,556	895,556
TRB Savings (2018 $)	11,453,046	$8,087,586	$8,087,586
Annualized MMBtu Savings/Participant	37.145	18.498	18.498
Weighted Lifetime	14.7	14.1	14.1

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	439	-467	-373	-6,068	-66	-37	6,205	$982,929	$235,350	$135,952
Other Efficiency	1	0	0	0	0	0	0	$0	$0	$0
Other Indirect Activity	2	0	0	0	0	0	0	$0	-$163,463	$163,463
Space Heat Efficiency	3,009	-6,482	-6,505	-97,764	-1,325	-223	57,067	$7,061,398	$1,498,132	$5,898,908
Space Heat Fuel Switch	3	0	0	6	0	0	140	$43,259	$2,100	$8,938
Totals		-6,949	-6,878	-103,826	-1,391	-259	63,412	$8,087,586	$1,572,119	$6,207,261

4.27 Thermal Energy and Process Fuels
Efficient Products Total Resource Benefits

Avoided Cost Benefits	2018	Lifetime (Present Value)
Avoided Cost of Electricity	nap	($6,818,328)
Fossil Fuel Savings (Costs)	$1,454,234	$14,905,913
Water Savings (Costs)	$0	$0
Total	**$1,454,234**	**$8,087,586**

Electric Energy & Demand Benefits	Savings at Meter		Savings at Generation
	Gross	Net	Net
Annualized Energy Savings (MWh): Total	**(6,878)**	**(6,124)**	**(6,949)**
Winter on peak	(2,857)	(2,543)	(2,919)
Winter off peak	(3,284)	(2,911)	(3,269)
Summer on peak	(393)	(357)	(411)
Summer off peak	(345)	(313)	(350)
Coincident Demand Savings (kW)			
Winter	(1,412)	(1,250)	(1,391)
Shoulder	0	0	0
Summer	(258)	(233)	(259)

Thermal & Other Benefits	Gross	Net	Lifetime Net
Annualized Water Savings (ccf)	**0**	**0**	**0**
Annualized fuel savings (increase) MMBtu Total	**69,475**	**63,412**	**895,556**
LP	23,498	21,546	299,761
NG	(665)	(585)	(8,775)
Oil/Kerosene	43,715	39,912	566,083
Wood	2,931	2,539	38,487
Solar	0	0	0
Other	0	0	0
Annualized savings (increase) in O&M($)	**($413)**	**($331)**	**($5,949)**

Net Societal Benefits	**$3,217,449**

4.28 Thermal Energy and Process Fuels
Existing Homes Summary

	Prior Year 2017	Current Year 2018	Cumulative starting 1/1/18
# participants with installations	1,376	1,477	1,477
Operating Costs			
Administration	$259,668	$228,395	$228,395
Programs and Implementation	$923,167	$1,175,269	$1,175,269
Strategy and Planning	$84,327	$186,213	$186,213
Subtotal Operating Costs	**$1,267,163**	**$1,589,877**	**$1,589,877**
Technical Assistance Costs			
Services to Participants	$216,236	$483,836	$483,836
Services to Trade Allies	$0	$34,569	$34,569
Subtotal Technical Assistance Costs	**$216,236**	**$518,404**	**$518,404**
Support Services			
Consulting	$28,478	$68,776	$68,776
Customer Support	$96,010	$32,487	$32,487
Data and Technical Services	$33,526	$50,103	$50,103
Information Technology	$5,302	$0	$0
Marketing	$249,927	$370,951	$370,951
Policy & Public Affairs	($231)	$118	$118
Other	$0	$0	$0
Subtotal Support Services Costs	**$413,012**	**$522,435**	**$522,435**
Incentive Costs			
Incentives to Participants	$1,676,165	$1,699,188	$1,699,188
Incentives to Trade Allies	$134,850	$140,698	$140,698
Subtotal Incentive Costs	**$1,811,015**	**$1,839,887**	**$1,839,887**
Total Efficiency Vermont Costs	**$3,707,425**	**$4,470,603**	**$4,470,603**
Total Participant Costs	$10,561,842	$6,809,574	$6,809,574
Total Third Party Costs	$216,243	$255,202	$255,202
Total Resource Acquisition Costs	**$14,485,511**	**$11,535,379**	**$11,535,379**
Annualized MMBtu Savings	19,616	20,046	20,046
Lifetime MMBtu Savings	370,388	438,109	438,109
TRB Savings (2018 $)	$6,474,363	$6,996,545	$6,996,545
Annualized MMBtu Savings/Participant	14.256	13.572	13.572
Weighted Lifetime	18.9	21.9	21.9

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	7	0	0	0	0	0	0	$0	$0	$1,025
Hot Water Efficiency	140	-21	-19	-319	0	-2	866	$208,222	$150	$133,312
Hot Water Fuel Switch	5	6	6	137	0	0	-3	$5,901	$0	$6,001
Other Efficiency	685	0	0	0	0	0	0	$0	$0	$0
Other Indirect Activity	127	0	0	0	0	0	0	$0	$402,861	-$364,017
Space Heat Efficiency	1,253	138	135	3,081	33	0	16,213	$5,830,786	$1,163,667	$5,880,321
Space Heat Fuel Switch	63	12	13	254	6	0	2,553	$848,500	$123,000	$834,017
Ventilation	76	0	0	0	0	0	417	$103,135	$0	$318,916
Totals		134	136	3,152	39	-1	20,046	$6,996,545	$1,689,678	$6,809,574

4.30 Thermal Energy and Process Fuels
Existing Homes Total Resource Benefits

Avoided Cost Benefits	2018	Lifetime (Present Value)
Avoided Cost of Electricity	nap	$189,898
Fossil Fuel Savings (Costs)	$402,377	$6,791,783
Water Savings (Costs)	$725	$14,865
Total	**$403,103**	**$6,996,545**

Electric Energy & Demand Benefits	Savings at Meter		Savings at Generation
	Gross	Net	Net
Annualized Energy Savings (MWh): Total	**136**	**119**	**134**
Winter on peak	61	53	61
Winter off peak	75	66	74
Summer on peak	(1)	(1)	(1)
Summer off peak	1	0	0
Coincident Demand Savings (kW)			
Winter	40	35	39
Shoulder	0	0	0
Summer	(1)	(1)	(1)

Thermal & Other Benefits	Gross	Net	Lifetime Net
Annualized Water Savings (ccf)	**187**	**169**	**1,684**
Annualized fuel savings (increase) MMBtu Total	**21,487**	**20,046**	**438,109**
LP	2,858	2,589	53,007
NG	0	0	0
Oil/Kerosene	16,587	15,608	343,306
Wood	2,043	1,850	41,796
Solar	0	0	0
Other	0	0	0
Annualized savings (increase) in O&M($)	**($5,842)**	**($4,710)**	**($101,397)**

Net Societal Benefits	**$1,540,183**

5. Special Programs

5.1 Customer Credit Program

5.2 Designated Downtowns Initiative

5.3 Administrative Cost Report

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 2017	Current Year 2018	Cumulative starting 1/1/18
# participants with installations	1	1	1
Operating Costs			
Administration	$237,298	$938	$938
Programs and Implementation	$0	$0	$0
Strategy and Planning	$0	$0	$0
Subtotal Operating Costs	**$237,298**	**$938**	**$938**
Technical Assistance Costs			
Services to Participants	$6,602	$3,539	$3,539
Services to Trade Allies	$0	$0	$0
Subtotal Technical Assistance Costs	**$6,602**	**$3,539**	**$3,539**
Support Services			
Consulting	$0	$0	$0
Customer Support	$0	$0	$0
Data and Technical Services	$1,371	$127	$127
Information Technology	$0	$0	$0
Marketing	$0	$0	$0
Policy & Public Affairs	$0	$0	$0
Other	$0	$0	$0
Subtotal Support Services Costs	**$1,371**	**$127**	**$127**
Incentive Costs			
Incentives to Participants	$2,506,470	$238,717	$238,717
Incentives to Trade Allies	$0	$0	$0
Subtotal Incentive Costs	**$2,506,470**	**$238,717**	**$238,717**
Total Efficiency Vermont Costs	**$2,751,740**	**$243,322**	**$243,322**
Total Participant Costs	$323,004	($238,717)	($238,717)
Total Third Party Costs	$0	$0	$0
Total Resource Acquisition Costs	**$3,074,744**	**$4,605**	**$4,605**
Annualized MWh Savings	16,397	-	-
Lifetime MWh Savings	102,675	-	-
TRB Savings (2018 $)	$4,050,333	$0	$0
Winter Coincident Peak kW Savings	0	0	0
Summer Coincident Peak kW Savings	0	0	0
Annualized MWh Savings/Participant	16,396.572	-	-
Weighted Lifetime	6.3	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
Other Indirect Activity	1	0	0	0	0	0	0	$0	$238,717	-$238,717
Totals		0	0	0	0	0	0	$0	$238,717	-$238,717

5.1.3 Customer Credit Total Resource Benefits

Avoided Cost Benefits	2018	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 2.4.4 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 2018[1]

Efficiency Vermont Service Area	Annual Net MWh Saved	Lifetime Net MWh Saved	Net Total Resource Benefits Delivered[2]
Designated Downtowns[3]			
Barre City	3,432	51,768	$4,645,290
Bellows Falls	727	8,907	$1,041,118
Bennington	1,612	21,234	$1,481,714
Brandon	1,352	17,611	$1,381,626
Brattleboro	3,141	38,327	$5,572,140
Bristol	625	8,579	$775,050
Middlebury	3,295	38,835	$3,175,405
Montpelier	7,285	96,688	$10,948,467
Newport	2,903	40,104	$3,070,772
Poultney	1,270	16,093	$2,442,176
Randolph	886	13,779	$1,077,304
Rutland	2,807	33,178	$2,782,359
Saint Albans	5,370	77,112	$4,945,180
Saint Johnsbury	2,958	42,134	$3,515,907
Springfield	870	15,047	$1,715,500
Stowe	546	5,957	$707,169
Vergennes	547	8,880	$608,537
Waterbury	1,329	15,375	$1,473,361
White River Junction	1,076	14,081	$1,301,160
Wilmington	430	6,029	$1,139,723
Windsor	906	12,129	$1,398,527
Winooski	4,960	69,375	$5,618,988
Totals:	**48,328**	**651,218**	**$60,817,475**
New Town Centers[3]			
Colchester	400	7,261	$1,106,810
South Burlington	6,861	88,657	$5,320,746
Totals:	**7,261**	**95,918**	**$6,427,556**
Growth Centers[3]			
Bennington	23,144	314,462	$36,901,999
Colchester	408	7,339	$1,116,073
Hartford	9,532	135,435	$13,999,169
Montpelier	15,244	198,070	$22,790,152
Saint Albans City	15,455	205,600	$13,824,668
Williston	10,876	145,115	$11,659,165
Totals:	**74,660**	**1,006,021**	**$100,291,225**

[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)

5.3 ADMINISTRATIVE COST REPORT

5.3.1 Incentive, Non-Incentive and Administrative Cost Summary

2018 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)	$872,614	$14,125,604	$1,521,247	$9,332,416	$3,322,393	$0	**$29,174,274**	1
Incentives to Trade Allies (RA)	$0	$7,200	$0	$141,580	$146,448	$0	**$295,228**	2
Sub-Total Incentive Costs	**$872,614**	**$14,132,804**	**$1,521,247**	**$9,473,996**	**$3,468,841**	**$0**	**$29,469,502**	3
Technical Assistance Costs								
Services to Participants (RA)	$644,568	$3,591,230	$1,085,294	$444,335	$693,430	N/A	**$6,458,857**	4
Services to Trade Allies (RA)	$99,486	$693,318	$17,997	$191,276	$64,085	N/A	**$1,066,163**	5
Energy Code and Standards Support (DSS)	N/A	N/A	N/A	N/A	N/A	$40,758	**$40,758**	6
Building Energy Labeling and Benchmarking (DSS)	N/A	N/A	N/A	N/A	N/A	$8,179	**$8,179**	7
Better Buildings by Design (DSS)	N/A	N/A	N/A	N/A	N/A	($7,131)	**($7,131)**	8
Sub-Total Technical Assistance Costs	**$744,054**	**$4,284,549**	**$1,103,292**	**$635,610**	**$757,515**	**$41,806**	**$7,566,826**	9
Sub-Total Incentive & Technical Assistance Costs	**$1,616,668**	**$18,417,353**	**$2,624,539**	**$10,109,606**	**$4,226,357**	**$41,806**	**$37,036,328**	10
Non-Incentive Program Costs								
Programs and Implementation (RA)	$135,262	$1,304,182	$228,215	$899,791	$1,908,475	N/A	**$4,475,924**	11
Strategy and Planning (RA)	$97,915	$436,734	$67,487	$230,678	$312,349	N/A	**$1,145,162**	12
Marketing Program (RA)	$168,560	$992,087	$141,484	$524,097	$662,878	N/A	**$2,489,104**	13
Customer Support (DSS)	N/A	N/A	N/A	N/A	N/A	$190,350	**$190,350**	14
General Public Education (DSS)	N/A	N/A	N/A	N/A	N/A	$76,463	**$76,463**	15
Energy Literacy (DSS)	N/A	N/A	N/A	N/A	N/A	$205,826	**$205,826**	16
Applied R&D (DSS)	N/A	N/A	N/A	N/A	N/A	$362,205	**$362,205**	17
Support Services (RA)	$61,368	$435,322	$59,524	$156,770	$338,520	N/A	**$1,051,505**	18
Quality Assurance	$13,023	$87,157	$3,166	$8,279	$14,334	N/A	**$125,959**	19
Sub-Total Non-Incentive Program Costs	**$476,127**	**$3,255,482**	**$499,876**	**$1,819,614**	**$3,236,555**	**$834,844**	**$10,122,498**	20
Total Program Costs	**$2,092,795**	**$21,672,834**	**$3,124,415**	**$11,929,220**	**$7,462,912**	**$876,650**	**$47,158,826**	21
Administrative Costs								
Sr. Management, Budget, Financial Oversight (RA)	$45,487	$273,242	$44,884	$153,519	$79,487	N/A	**$596,619**	22
Planning & Reporting (DSS)	N/A	N/A	N/A	N/A	N/A	$329,581	**$329,581**	23
Administration & Regulatory (DSS)	N/A	N/A	N/A	N/A	N/A	$409,780	**$409,780**	24
Public Affairs (DSS)	N/A	N/A	N/A	N/A	N/A	$83,807	**$83,807**	25
Information Technology (DSS)	N/A	N/A	N/A	N/A	N/A	$1,266,471	**$1,266,471**	26
Evaluation (DSS)	N/A	N/A	N/A	N/A	N/A	$433,097	**$433,097**	27
Direct and Indirect Overhead	$245,528	$2,315,562	$348,612	$1,288,738	$760,688	$356,716	**$5,315,844**	28
Total Administrative Costs	**$291,015**	**$2,588,804**	**$393,496**	**$1,442,257**	**$840,175**	**$2,879,453**	**$8,435,199**	29
Total Program and Administrative Costs	**$2,383,810**	**$24,261,638**	**$3,517,911**	**$13,371,478**	**$8,303,087**	**$3,756,103**	**$55,594,026**	30
Earned Compensation								
Base Compensation	N/A	N/A	N/A	N/A	N/A	N/A	**$750,519**	31
Performance Compensation	N/A	N/A	N/A	N/A	N/A	N/A	**$1,615,969**	32
Total Earned Compensation							**$2,366,488**	33
					Overall Total Costs		**$57,960,514**	34

Summary Metrics			
Incentive & Technical Assistance	**Costs**	**% of Total**	**Row #**
Incentives	$29,469,502		3
Technical Assistance	$7,566,826		9
Total Incentive & Technical Assistance	**$37,036,328**	64%	10
Non-Incentive			
Non-Incentive Program	$10,122,498		20
Administrative	$8,435,199		29
Earned Compensation	$2,366,488		33
Total Non-Incentive	**$20,924,186**	36%	20, 29, 33
Overall Total	**$57,960,514**	**100%**	34
Incentive-to-Non-Incentive Cost Ratio	**1.8 to 1.0**		**10/(20,29,33)**
	Costs	**% of Total**	
Program	$47,158,826	81%	21
Administrative	$8,435,199	15%	29
Earned Compensation	$2,366,488	4%	33
Overall Total	**$57,960,514**	**100%**	34

6. Program Implementation Procedures

Submitted in 2018

6.1 Documents, Corresponding Markets, and 2018 Status

#	Document Name / Title	Major Market	Status	Date
116	Upstream Lighting product quantity limits	RES and C&I	Implemented	3/26/2018
117	DIY Home Performance	RES	Implemented	2/1/2018
118	Heat Saver Loan	RES	Implemented	8/10/2018
119	ARIES - Sense	RES	Under Review	12/20/2018
120	Energy Choices	RES	Under Review	12/20/2018

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 Vermont Public Service Department. Note that there are two major table formats, one for the markets and services summary and the other for breakdowns by end use, utility and county savings. The definitions of the data reported in these tables follow. The numbers in parentheses on the template refer to the footnoted definitions that immediately follow.

	Prior Year	Current Year 2018	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, 2018.

(4) Data reported starting January 1, 2012 through December 31, 2018.

(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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