



VGS 2021 Annual Report

Triennial Plan Years 2021-2023

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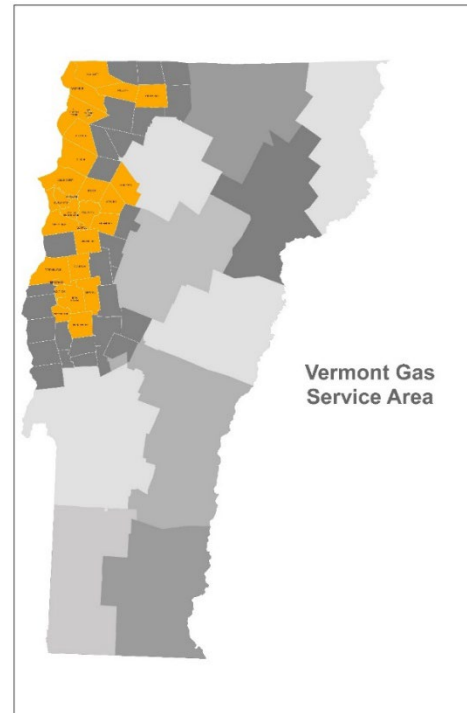
Background

Vermont Gas Systems, Inc (“VGS”) submits this Annual 2021 Savings Report (“Report”) covering year one (2021) of the three-year period from 2021-2023 to the Vermont Public Utility Commission (“Commission”) pursuant to the responsibilities of VGS to deliver EEU services. This begins the third performance period¹ for VGS since its order of appointment to act as an Energy Efficiency Utility² (“EEU”).

Introduction

In calendar year 2021, VGS provided natural gas and energy services to just over 54,000 residential, commercial, and industrial customers in Northwestern Vermont. While most of VGS’s customers are residential, the VGS load profile is roughly one third residential and two thirds commercial.

Strong relationships continued to be the foundation of VGS’s interactions with homeowners, tenants, builders & developers, large and small commercial customers, and many institutional customers, such as hospitals, colleges, and universities. VGS provided clean and affordable energy solutions to heat homes and help businesses run in Franklin, Chittenden, and Addison counties.



Vermonters have plenty of choices when it comes to choosing thermal fuels, ranging from oil, propane and kerosene, to electricity, wood heating, and of course, natural gas. With exemplary customer service, a laser focus on safety and a commitment to clean energy and conservation, natural gas provides a low-cost, clean, convenient option in this competitive landscape.

VGS offered a suite of programs to enhance the customer experience including budget plans, a discount for income-qualified customers, lease and service of natural gas equipment, and many

¹ VGS has been offering a suite of Demand Side Management programs since 1992

² Pursuant to 30 V.S.A. § 209(d)(5), the Public Utility Commission issued an Order of Appointment for VGS to serve as a Vermont Energy Efficiency Utility effective January 1, 2016.

efficiency programs that help customers understand, manage, and decrease their energy usage and reduce their carbon footprint.

With the completion of the Addison Natural Gas Project (“ANGP”) in April 2017, natural gas service was expanded beyond Franklin and Chittenden Counties to Addison County. Customers who signed a sales application for natural gas service in Addison County met the definition of an “eligible customer³” as outlined in the Commission Order⁴, allowing participation in VGS energy efficiency programs. As outlined in the Addison Aggressive Energy Efficiency Plan⁵ filed by VGS, it offered the same comprehensive suite of program as the existing footprint but included a more aggressive marketing to achieve a greater than 30 percent participation rate in VGS’s efficiency programs. VGS’s comprehensive thermal energy efficiency services were available to the Addison County market⁶ and, because of its aggressive energy efficiency offerings, VGS has served approximately 34 percent⁷ of its Addison County customers with energy efficiency offerings by the end of 2021. VGS’s increased focus on education, outreach, and general marketing in Addison County encouraged these customers to implement energy efficiency. VGS Sales and Marketing representatives were the first line of contact with potential customers, aggressively marketed our programs and shared information about Efficiency Vermont’s energy efficiency program offerings as well. Having one suite of programs across the entire VGS service territory enabled consistent and more direct marketing and program delivery with less confusion, particularly for those using the VGS website for fixed rebates and program offerings. Changes and updates to the website allowed customers more engagement with their energy usage history and trends and provided easy access to information related to accessing weatherization services and equipment rebates.



³ The Vermont Gas Order of Appointment specifies that homes and businesses that sign a sales application for natural gas service will be eligible to participate in the energy efficiency programs.

⁴ Investigation Into The Appointment of An Entity to Provide Natural Gas Efficiency Services, Docket 7676, Order of 4/17/15 ("April 17 th Order").

⁵ Condition 11 of Docket 7970 CPG required Vermont Gas to develop "an aggressive energy efficiency program for its new customers in Addison County and present it to the Commission for review and approval." Vermont Gas submitted its Addison County Aggressive Energy Plan on April 22, 2016 with later updates for clarification.

⁶ The Addison market is currently served by Efficiency Vermont for electric efficiency measures. Efficiency Vermont also provides a degree of thermal efficiency programs for unregulated fuels, however funding, and therefore availability, is limited in comparison.

⁷ From 2018 to 2021 VGS has been able to increase the penetration of participants in Addison County year over year from 24% in 2018 to 31.5% in 2019 to 34.1% in 2021. Customers may participate in more than one EEU program (for example retrofit and equipment replacement) but are only counted once in terms of penetration.

In addition to the EEU energy efficiency services, VGS continued offering a voluntary Renewable Natural Gas (“RNG”) option to our customers. While the RNG initiative is not a component of EEU expenditures, it complements our efficiency programs and provided customers with a unique opportunity to further reduce their greenhouse gas (“GHG”) emissions and was offered as part of our full suite of energy services



Broadly speaking, VGS offered six energy efficiency programs in two distinct market sectors: residential customers and commercial/industrial (“C&I”) customers. The three residential programs were offered to rental and owner-occupied properties while the three C&I programs provided energy efficiency services to C&I customers across all rate class sizes, including interruptible customers.⁸ Both the residential and commercial programs had an equipment replacement program, a new construction program, and a retrofit program. More detailed program descriptions are provided below. All six programs endeavored to cost effectively improve a home or building’s performance by saving energy, but also frequently increased comfort, lowered carbon emissions, and saved Vermonters money.

Calendar Year 2021 Overall Accomplishments

In total, the six programs saved approximately 47,500 annual Mcf or the equivalent of approximately 2,600 metric tonnes of greenhouse gas emissions. The residential retrofit program exceeded its calendar year savings goals by approximately 10 percent while the new construction program fell short at only 50% of projected annual savings goals. The commercial equipment replacement program is tracking closer to budget than either the new construction or retrofit programs within the commercial sector. In calendar year 2020 alone, VGS exceeded its 2020 commercial savings portfolio savings levels by 17 percent which helped land the 2018-2020 Triennial Plan at 99% of its savings levels but also exhausted many projects that may have moved forward in 2021. The overall portfolio savings for 2021 is approximately 68% of budget with the spending at 85%. VGS dedicated a large part of 2021 to repopulating its list of potential commercial projects, staffing, training, partnerships and collaborations. VGS continued discussions with one of its larger customers that has spanned



⁸ Wholesale CNG customers served under one of the Vermont Gas CNG tariffs and customers participating in self-managed energy efficiency programs are currently ineligible for Vermont Gas programs. Interruptible customers were managed the same as projects for firm customers, with the exception that no peak day savings were reflected in the cost-effectiveness screening.

multiple years to move a project forward. This project is expected to install measures that will include calendar year 2022 with the bulk of the installations occurring in 2023. VGS staff worked diligently to move projects forward and fully intends to hit its three-year savings goals. The following Table III.1 reflects the overall program accomplishments by sector.

III.1 2021 Overall program accomplishments ⁹

Category	Verified 2021	Budget			(2021-2023)	% Progress	% Progress
		2021	2022	2023	3 Yr Budget	2021	3 Yr Total
Natural Gas RA Acquisition							
VGS EE Delivery	\$3,446,149	\$4,047,753	\$4,731,870	\$5,332,596	\$14,112,219	85%	24%
Mcf Savings	47,542	70,087	80,909	88,655	239,650	68%	20%
Summary of Costs							
Commercial	\$649,771	\$1,234,565	\$1,443,220	\$1,626,442	\$4,304,227	53%	15%
Residential	\$2,796,378	\$2,813,188	\$3,288,650	\$3,706,154	\$9,807,992	99%	29%
Total	\$3,446,149	\$4,047,753	\$4,731,870	\$5,332,596	\$14,112,219	85%	24%
Summary of Mcf Savings							
Commercial	19,808	39,950	45,309	49,818	135,077	50%	15%
Residential	27,734	30,138	35,600	38,837	104,574	92%	27%
Total	47,542	70,087	80,909	88,655	239,650	68%	20%
Summary of Peak Mcf Savings							
Commercial	133	134	155	170	459	99%	29%
Residential	251	262	303	332	897	96%	28%
Total	384	397	458	502	1,356	97%	28%
Yield Rate (\$/Mcf)							
Commercial	\$33	\$31	\$32	\$33	\$32	106%	103%
Residential	\$101	\$93	\$92	\$95	\$94	108%	108%
Total	\$72	\$58	\$58	\$60	\$59	126%	123%
Total Resource Benefits (TRB)	\$10,557,727	\$12,201,198	\$14,085,016	\$15,433,476	\$41,719,689	87%	25%

Key energy efficiency activities that contributed to 2021 accomplishments included:

- Continuing to navigate the Covid-19 pandemic, which required working with employees, customers, and contractors to ensure safety standards were in place. Evolving standards required monitoring State of Vermont guidelines. This resulted in rescheduling and postponing dozens of audits and projects, eliminating blower door tests, wearing masks, taking temperatures, socially distancing and sanitizing surfaces. In general, the EEU department was able to adjust the way services were offered to ensure customers, contractors and VGS staff were safe;
- Aggressively marketed VGS and EVT efficiency programs in Addison County, including training of new Sales & Marketing representatives to promote our efficiency programs;
- Coordinated partnership with Burlington Electric Department and further their Net Zero Home Energy program and collaborate on the City of Burlington’s weatherization ordinance that targeted high-use multifamily buildings;

⁹ Case 22-1558-PET order dated 10/27/2022, PUC approved verified savings and performance.

- Collaborated with stakeholders in both Middlebury and Burlington to explore district energy opportunities;
- Remote and “in person” attendance at conferences and training opportunities;
- Continued the partnership with Champlain Valley Office of Economic Opportunity to serve income-eligible households;
- Continued collaboration with Champlain Housing Trust on multi-family projects;
- Continued the close relationship with Sales & Marketing staff to market and promote the energy programs to existing and new customers;
- Continued the partnership with Vermont Energy Education Program (“VEEP”) to educate Vermont’s youth about energy opportunities as they moved to remote offerings;
- Closely monitored program participation, spending, and savings levels;
- Continued to promote Renewable Natural Gas with efficiency offerings;
- Continued the partnership with Green Mountain Credit Union and enabled customers to include cold climate heat pumps and health and safety upgrades, such as the removal of knob and tube wiring and vermiculite, in low- interest weatherization and equipment financing;
- Continued partnership with Efficiency Vermont to fund smart thermostats, mid-stream wood stove incentives, and residential high-performance new construction participants;
- Engaged new FastTrack contractors;
- Expanded the contractor network into Addison County through partnership with NeighborWorks/Heat Squad to focus on VGS customers for comprehensive audits to weatherize homes and promote efficiency upgrades;
- Continued engagement with local weatherization contractors via the Efficiency Excellence Network (“EEN”) to ensure all VGS customers were eligible for program incentives when utilizing a participating contractor;
- Offered two separate weatherization training opportunities for contractors;
- Continued partnership with Energy Action Network;
- Rolled out an enhanced incentive for weatherization improvements targeted at income-qualified households;
- Continued partnership with the federally funded Burlington Sound Mitigation project; and
- Worked closely with Vermont Housing Authority to work towards offering tariff on-bill financing

Resource Acquisition Program Descriptions

The following section offers program descriptions and more detail regarding incentives, initiatives, and program offerings for the six resource acquisition programs.

1. Residential Equipment Replacement

The point at which consumers either add or replace natural gas-fired equipment is a critical opportunity to influence choices around energy usage. VGS’s Residential Equipment

Replacement (“RER”) program offered rebates on qualifying high-efficiency space and water heating equipment to capitalize on this opportunity.

The RER program leveraged incentives for customers to make the more efficient choice of water and space heating equipment that exceeded the baseline annual fuel efficiency standard. These replacements typically occurred when the equipment had failed and could no longer be repaired, had reached the end of its useful life, or when the fuel source for heating the home was being switched to natural gas. The objective of the RER program is to incentivize customers and educate on higher efficiency options when faced with choosing new equipment to make the more efficient, often more expensive choice, by helping offset the additional cost with the rebate.



VGS’s first line of contact with new customers is generally through our Sales & Marketing representatives. These representatives are knowledgeable about heating and domestic hot water equipment as well as the energy programs and associated incentives for installing high-efficient equipment. Potential new customers were informed about the benefits of becoming a VGS customer, the efficiency savings that could be realized along with the environmental benefits, and increased

comfort levels. VGS continued its strong relationships with trade allies that include local plumbing and heating contractors who also functioned as ambassadors of VGS’s energy programs. When equipment fails or is soon to fail, the equipment that these contractors recommend is critical in helping homeowners decide on new equipment as well as making this program a success. These incentives are also available to both current and potential customers that purchase high-efficiency equipment with the most recent offerings available at <https://vgsvt.com/savings/residential-energy-services/> on the VGS website.

VGS offered customers reduced or no interest loans for high-efficiency equipment through its partnership with Green Mountain Credit Union. On a case-by-case basis, VGS evaluated custom residential equipment and offered technical guidance and rebates specifically for multi-family units with greater than six units.

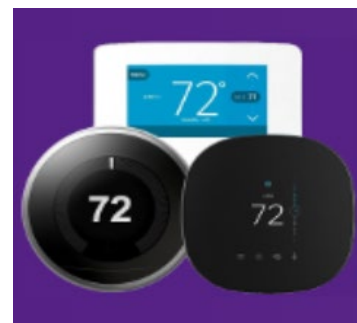
High-efficiency boilers and furnaces saw a slight decrease in 2021 from 2020. Specifically, on-demand water heaters continued to scale up and VGS saw a tripling of wood stoves being installed in 2021 compared to 2020 but more indicative of “pre-Covid” numbers.



Measure Type	2018	2019	2020	2021
Boilers	590	632	711	662
Furnaces	293	378	380	314
Water Heaters	533	569	644	699
Wood Stoves		12	4	13

VGS and Efficiency Vermont continued its partnership that began in 2019 offering upstream incentive rebates for new wood/pellet stoves displacing gas and continued this through 2021. For this offering, the customer purchased the wood/pellet stove at a stove retail shop that discounted the stove price by the incentive amount. The wood retail shop then submitted an application for reimbursement. The pellet and wood stoves were not designed to claim full replacement savings but rather replace 40-60% of the primary heated living space.

VGS also continued its partnership with Efficiency Vermont to incentivize “Smart Thermostats” to all VGS customers. Efficiency Vermont and VGS continued the co-branding to eliminate customer confusion regarding where and how to apply for the incentive. In 2021 VGS issued rebates for 398 Smart Thermostats and during 2020, VGS issued 443 Smart Thermostat rebates which again was approximately 100 units less than 2019. VGS will continue to monitor this offering to determine if this is indicative of saturating the footprint, a result of the incentive level or customers having a deeper knowledge of the actual unit.

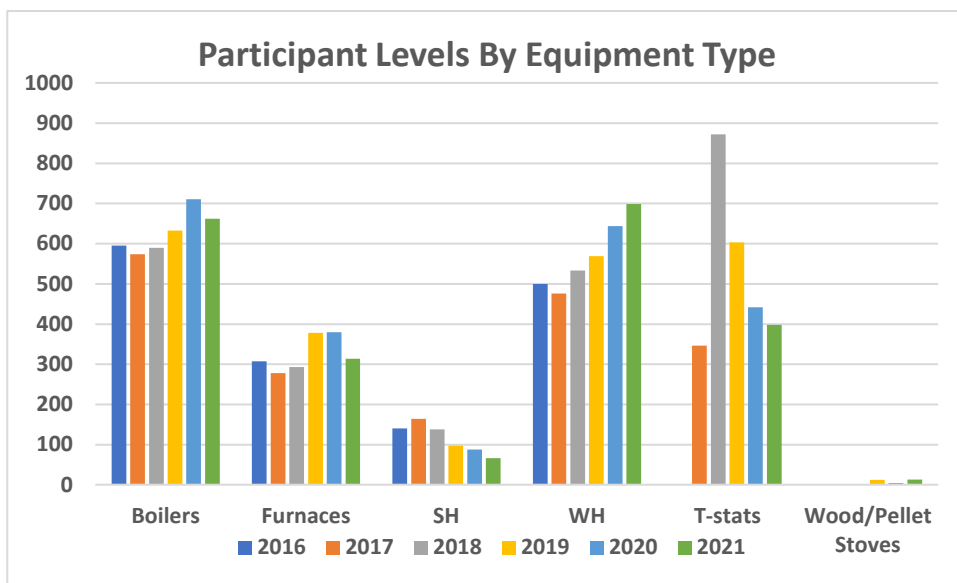


VGS continued to offer energy efficient choices for rental water heaters through VGS The residential equipment replacement program applied the same rebate to rental high-efficiency water heaters as a customer purchasing a high-efficiency water heater was eligible to receive. This effectively reduced the rental rate for the higher-efficiency equipment to enable current and potential customers to lease the equipment at more affordable rates while reducing their energy usage. These incentives were available to both current and potential customers that purchased high-efficiency equipment from VGS. VGS continued its push to inform all potential customers located in Addison County of this rebate and financing offering for new high-efficiency equipment to help save energy and reduce GHG emissions.

The following contributed to the success of the Residential Equipment Replacement Program:

- Sales & Marketing Staff aggressively marketed high-efficiency equipment to new customers, specifically in-lieu-of installing conversion burners on older, less efficient equipment;
- Ensuring literature sent to VGS customers contained information promoting VGS Energy Efficiency programs;
- Continuation of Smart Thermostat rebates;
- Continued alliances with Plumbing & Heating Contractors as well as VGS Service Technicians to promote higher-efficiency equipment with VGS incentives;
- Collaboration with Efficiency Vermont to implement midstream wood stove incentives; and
- Custom projects on multi-family buildings with greater than six units requiring more analytical analysis and offering technical advice.

The following Table Summarizes the participant levels by end use by year for the RER program:



2. Residential Retrofit Program

The VGS Retrofit Program reduces natural gas/thermal consumption and peak day demand in residential buildings that used natural gas, or were converting to natural gas, for space and water heating. In buildings that consumed in excess of 45,000 Btus per square foot¹⁰, which is considered higher than typical residential usage, a free comprehensive energy audit was performed by a VGS auditor to identify cost-effective energy saving measures. The building's

¹⁰ The minimum use criteria was waived in Addison County where all customers were offered the VGS free comprehensive energy audit as part of VGS's commitment to aggressively pursue energy efficiency in this new market.

previous consumption patterns and potential improvements were modeled by using a computer audit tool developed by VGS. Building owners were provided a written report summarizing the audit results and detailing the financial incentives available. VGS auditors identified electric saving measures when applicable and directed the customer to Efficiency Vermont and Burlington Electric Department (“BED”) for possible additional incentives.

In addition to financial incentives, building owners were provided with technical assistance and project management services at no additional cost to encourage the installation of the efficiency measures identified in the audit report. Customers had the choice of obtaining competitive bids or having VGS assign a pre-screened contractor through our "FastTrack" option. To encourage participation levels during the Covid pandemic, VGS greatly increased incentive levels for single family homeowners and landlords and continued this trend in 2021. VGS also offered reduced or no interest financing for the balance of the project cost through Green Mountain Credit Union, while also allowing customers to include cold climate heat pumps or address health and safety related issues that may be required to help a home become weatherized and more efficient.

For Addison County, VGS waived the minimum usage criteria for the remainder of this Plan. All residential “eligible” customers were offered a free comprehensive energy audit regardless of usage levels. This helped encourage word-of-mouth marketing as well as promote additional education and participation in the weatherization program.



VGS conducted just over 350 comprehensive residential audits in 2021 and were able to successfully complete approximately 110 buildings of which 15 were multi-family buildings representing 44 units.

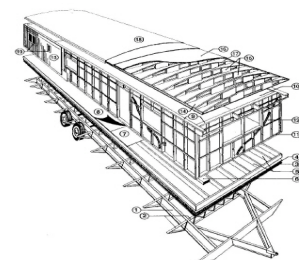
VGS’s “Energy Snapshot” program offered residential customers with lower than typical usage in homes the ability to have a one-on-one consultation with an energy coach. This assessment focused on suggesting behavioral changes that could reduce the customer’s usage, recommending electrical savings (savings on smart strips, LED lightbulbs, etc.), using smart thermostats, checking for temperature settings, and checking the age and efficiency of equipment. In addition, the insulation in ceilings and below-grade walls was reviewed. Energy kits containing low-flow aerators, packets to air seal around electric outlets, foam door and window strips as well as pipe wrap was left for homeowners/tenants where appropriate. If buildings lacked appropriate insulation levels, the coach was able to recommend the building for a comprehensive audit. VGS had approximately 130 customers receive services under this initiative during 2021 and found that approximately 20 had problem spots such as requiring attic

insulation that were identified and resolved. For renters, the Energy Snapshot served as an alternative way to become engaged with their electric and fuel usage as well as learn about options to decrease consumption and increase comfort.

In 2021, VGS continued to offer its “Condo Initiative” by promoting air-sealing and attic insulation and was able to complete six condominium weatherization jobs under this initiative. Historically, the condominium sector had been hard to cost-effectively serve with VGS’s comprehensive audit program due to lower-than-typical usage levels, precluding them from participation. During 2021 VGS successfully completed approximately 100 prescriptive condominiums and townhouses that included walls, ceilings, attic, shell and air sealing measure installations. VGS continued to offer the following initiative:

- Visited the condominium to conduct a “walkthrough” audit to look for additional efficiency upgrades;
- Reviewed both natural gas and electric usage to compare to other units in the building;
- Offered a \$750 rebate for work completed;
- Inspected the installation at no additional cost to the homeowner; and
- Offered more customized incentives for condominium/townhouse developments based on owner/tenant paying gas bill and the entire complex participating.

In 2021, VGS promoted and marketed its “Mobile Home Prescriptive Weatherization Program.” Customers who owned a mobile home were offered cost-effective solutions to upgrade the energy efficiency and comfort of their home. VGS rebated 75% of the total implementation costs for income-eligible customers¹¹ who were unable to participate in the Champlain Valley Office of Economic Opportunity Weatherization program where 100% of the project costs are covered. VGS approved the project with the homeowner, executed an agreement, submitted the rebate and inspected the final job at no extra cost. VGS completed two mobile homes under this prescriptive program during 2021, and covered 100% of the project costs for an additional two mobile homes where occupants were found to be income-eligible customers. The program was prescriptive, and VGS offered financing under three scenarios:



Typical components of a mobile home: 1-Steel chassis. 2-Steel outriggers and cross members. 3-Underbelly. 4-Fiberglass insulation. 5-Floor joists. 6-Heating/air conditioning duct. 7-Decking. 8-Floor covering. 9-Top plate. 10-Interior paneling. 11-Bottom plate. 12-Fiberglass insulation. 13-Metal siding. 14-Ceiling board. 15-Bowstring trusses. 16-Fiberglass insulation. 17-Vapor barrier. 18-Galvanized steel one-piece roof. 19-Metal windows.

- The comprehensive scenario required the customer to have ductwork sealing, air sealing, roof insulation, and belly insulation. Typical pricing for this process was \$4,800 and VGS rebated 75% of the cost up to \$3,600.
- The second scenario required the customer to have ductwork sealing, air sealing, and roof insulation. Typical pricing for this process was \$2,850 and VGS rebated 75% of the

¹¹ An income eligible customer is defined as a Vermont Gas Customer who is on the low-income assistance program (LIAP) rate classification or receives another form of heating assistance

- cost up to \$2,000.
- The third scenario required the customer to have ductwork sealing, air sealing, and belly insulation. The typical pricing for this process was \$2,800 and VGS rebated 75% of the cost up to \$2,000.

To achieve these results, the auditors coordinated the completion of the recommendations and acted as a liaison to ensure the income-eligible customers understood their options. While the condominiums and mobile homes are more prescriptive in nature, the auditors help customers understand the benefits, recommend weatherization contractors, and move the projects to completion. Similar to 2020, VGS was successful in 2021 with motivating the owner of an entire townhouse development to participate rather than doing one unit at a time. A VGS auditor worked closely with the contractor to ensure all the buildings met or exceeded the insulation and air sealing requirements. In addition to the comprehensive audits, mobile home, and condominium initiatives, VGS also performed custom residential screenings for buildings that were commercial in size, but residentially occupied. In 2021 VGS conducted audits for six custom-screened buildings: two multi-unit building with 32 units and 14 units in each building and two more buildings in Addison County with 25 and 40 units in each building.



Buildings that were not condominiums, mobile homes, or met the minimum usage requirement for the comprehensive energy audit were referred directly to participating BPI contractors. The contractors would submit weatherization proposals to customers with VGS offering both incentives and financing that could cover up to 100% of all project costs including health and safety issues via low interest loans. This program design change that was rolled out and implemented in early 2021 involved significant planning and implementation with Efficiency Vermont, BPI contractors, and VGS staff and realized 55 completions during calendar year 2021.

“Income eligible” customers were served primarily through a partnership with Champlain Valley Office of Economic Opportunity Weatherization (“CVOEO-Wx”). CVOEO-Wx verified income status and eligibility, performed the energy audit, and coordinated the installation of the recommended measures. VGS contributed to a portion of the income verification, auditing, project management, and measure costs. Approximately 30 buildings participated in 2021 that included two mobile homes, 13 multi-family units that presented 31 units and 15 single family homes. VGS spent just over \$97,000 in low-income incentives as a result of the coordinated efforts with CVOEO.

VGS and Burlington Electric continued their partnership to promote efficiency programs. VGS and BED collaborated on the previously successful Energy Champ Challenge¹² and to assess how the promotion could help serve landlords and tenants in response to the weatherization ordinance for high-use multi-family buildings that was passed by the City of Burlington. VGS also supported BED in its Net Zero Energy initiatives.

With the residential retrofit program in place for more than two decades, many of the simple and low-cost measures had already been realized. Greater efforts were needed to realize savings for customers. The following efforts all contributed to the 2021 success of the Residential Retrofit Program:

- Aggressively marketed free energy audits to new customers in Addison County;
- Ensured literature sent to customers contained information about the VGS Energy Efficiency programs;
- Continued the coordination with CVOEO-Wx to serve the low-income sector, and furthering partnerships with Efficiency Vermont and Burlington Electric Department (BED);
- Coordinated with BED to ensure landlords whose buildings exceed BTUs/square foot set forth in the city of Burlington weatherization ordinance are able to participate and trained staff on procedures to get the in the audit queue;
- Continued partnership with Burlington Sound Mitigation project to coordinate a pilot program to determine costs, savings and sound levels;
- Rolled out and implemented referring VGS customers direct to BPI-certified contractors to offer customer choice for weatherization needs;
- Rolled out additional incentive promotion to serve moderate-income households;
- Offered two weatherization contractor trainings offered to all VGS FastTrack contractors;
- Continued the condominium initiative, the mobile home initiative, and the Energy Snapshot initiative;
- Continued the partnership with Green Mountain Credit Union to offer low to no-interest loans, which included adding cold climate heat pumps and health and safety issues into loans at negotiated low interest rates; and
- Coordinated efforts of its “FastTrack” contractors to move retrofit projects along with minimal coordination required of the homeowner.



¹² The Multi-family Energy Champ Challenge in Burlington in 2016-2017 allowed owners that installed all recommended weatherization measures to check the “time of sale” box required by the City. VGS and BED collaborated in 2021 on strategies to get participation and inquiries from landlords exceeding the Burlington Wx ordinance based on BTUs/square foot.

3. Residential New Construction Program

VGS continued the joint implementation of the statewide Residential New Construction program offered by Efficiency Vermont to help builders take advantage of high efficiency options. All residential new construction projects in Vermont were eligible for technical assistance and incentives from Efficiency Vermont, but projects that used natural gas were also eligible for enhanced services and rebates from VGS. Efficiency Vermont provided services in support of the construction of homes meeting specific levels of energy performance:

- Efficiency Vermont Certified: 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.

There were 62 buildings that participated in the joint delivery by VGS and Efficiency Vermont. In addition to these projects VGS also did eight custom-screened multi-unit new construction projects that represented almost 435 units

The custom multi-unit technical analysis offered by VGS was geared toward multi-family buildings, centrally or individually heated, that were new construction or expanding, renovating, or remodeling of an existing building. Leads were generated “in-house” from feasibility studies performed on all new construction developments, the Act 250 process, and coordinated efforts with the VGS sales and marketing staff. All participants, whether single or multi-family, were encouraged to go above and beyond the Act 250 requirements. For multi-family buildings heated by natural gas, VGS performed an analysis of mechanical, thermal, and domestic hot water energy efficiency measures and partnered with either Efficiency Vermont or BED, when appropriate, to maximize the savings opportunities in these projects. Multi-family projects designated for occupancy by low-income populations typically are co-administered with CVOEO-Wx as described above.

In 2021, the residential new construction program included the following efforts:

- Sales & Marketing Staff aggressively marketing the energy programs in Addison County;
- Coordinating efforts between VGS, Efficiency Vermont, and BED on both single family and more custom multi-family dwellings;
- Education and targeted marketing of programs to builders; and
- Custom analysis and technical advice.

4. Commercial Equipment Replacement Program

The Commercial Equipment Replacement Program reduced natural-gas consumption and peak-day demand by encouraging the installation of high-efficiency natural-gas equipment through incentives. The goal of this program was to encourage commercial and industrial customers to

install appropriate equipment that exceeded minimum energy efficiency standards established by federal, state, and local codes where it was cost-effective to do so.

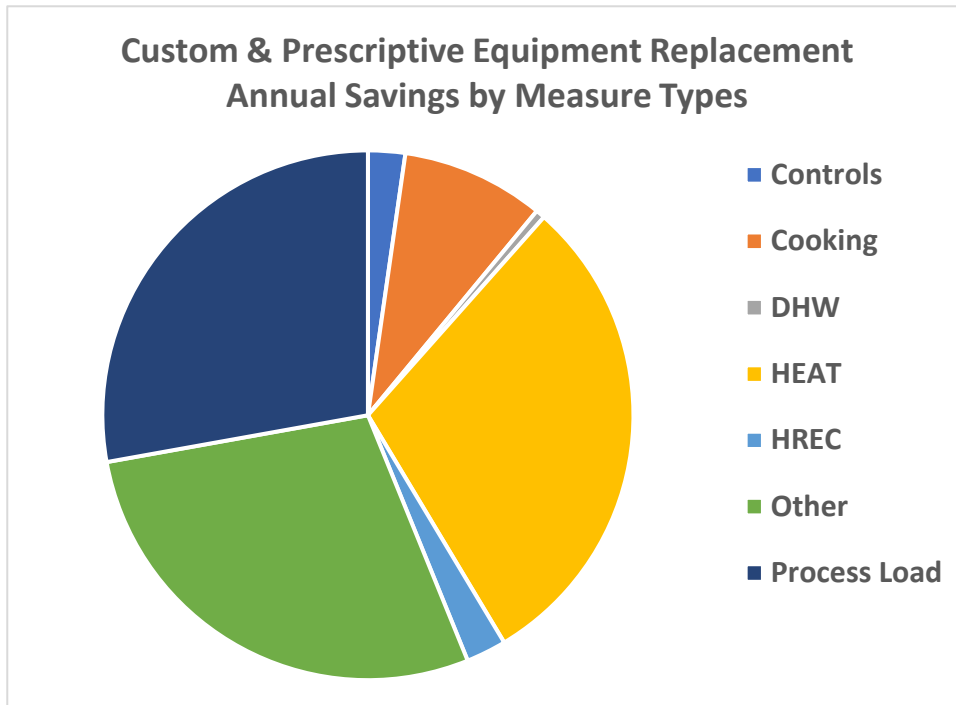
This program was available to all current and potential commercial and industrial customers that were replacing failed or end-of-life natural gas space, water, or process heating and cooling equipment or C&I customers that were fuel switching to natural gas or purchasing new equipment.

Customers wanting to participate in VGS' equipment replacement program had to ensure their proposed equipment met eligibility criteria. Large manufacturing or other types of process equipment to be installed must either be listed on VGS' fixed rebate schedule or be custom screened via the VGS custom screening tool. Smaller, residential-sized equipment must meet minimum standards set by the National Appliance Energy Conservation Act (NAECA). These energy efficiency standards apply to furnaces, hot water and steam boilers, and tank-type water heaters. VGS technical staff use the *2020 Vermont Commercial Building Energy Standard* and ASHRAE 90.1-2016¹³ to compare energy use baselines against the minimum efficiency levels of a project's proposed piece of replacement equipment

C&I customers received cash rebates to reduce the incremental cost of purchasing and installing cost-effective high-efficiency natural gas equipment. VGS periodically reviews and updates incentive offerings with the most recent rebates available at <https://vgsvt.com/savings/commercial-energy-services/> on the VGS website. On a case-by-case basis, VGS evaluated custom equipment and offered appropriate rebates. Rebates did not exceed the incremental cost of the high-efficiency equipment.

In addition to rebates, VGS provided engineering and analytic support at no additional charge to customers. For projects where specialized engineering assistance was required, VGS provided financial assistance to customers in locating and selecting qualified consulting engineers to help offset the cost of the engineering analyses.

In 2021, there were 47 projects that installed 57 measures over a wide range of building types that served manufacturing, mercantile, multi-use facilities, office buildings, religious buildings, retail and warehouses. The following pie chart reflects the comprehensiveness of the measure types that were installed during 2021.



Energy efficiency projects for interruptible customers were managed the same as projects for firm customers, with the exception that no peak day savings were reflected in the cost-effectiveness screening.

The following strategies were instrumental in the success of the commercial equipment replacement program during 2021:

- Sales & Marketing Staff aggressively marketing energy programs in Addison County to the commercial sector;
- Coordinating efforts between VGS, Efficiency Vermont, and BED;
- Proactive engagement and relationship development with many of VGS' key accounts;
- Ensuring the small business sector and non-profit organizations were adequately served; and
- Offering custom analysis and technical assistance.

5. Commercial Retrofit Program

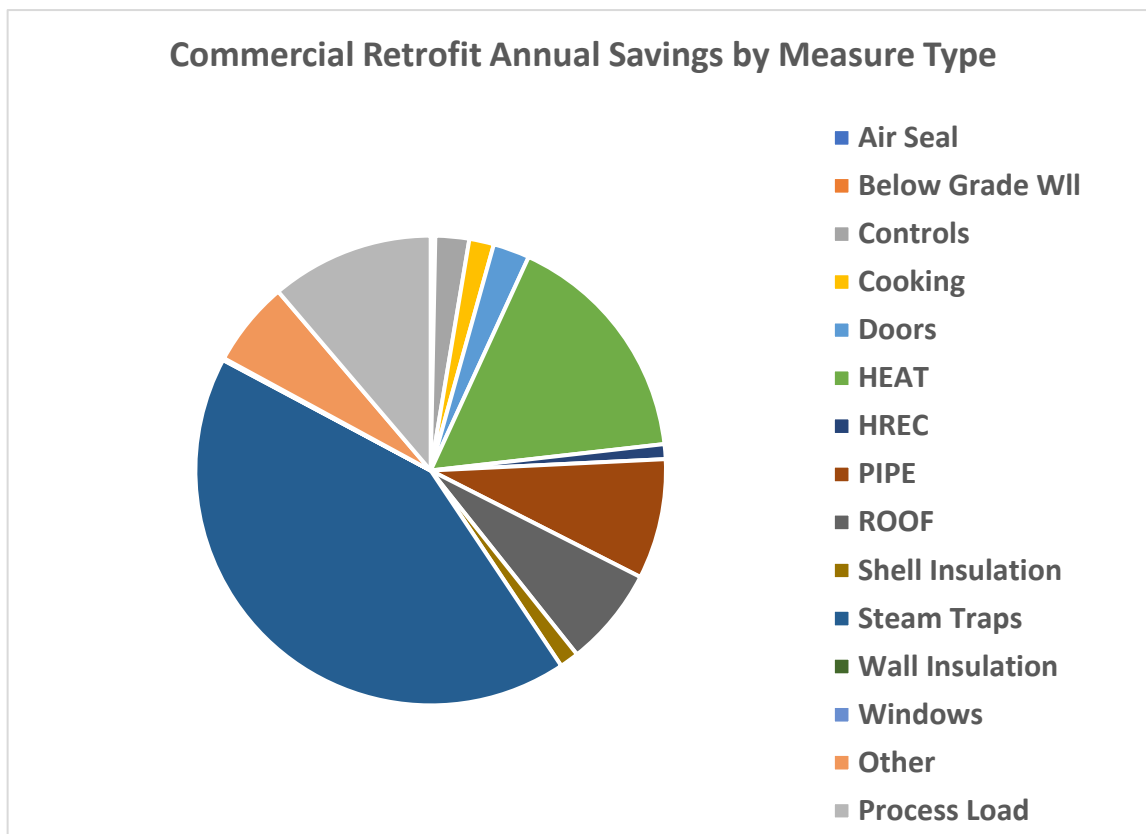
The Commercial Retrofit Program reduced natural gas consumption and peak day demand by encouraging VGS's commercial and industrial customers (building owners or occupants) to install cost-effective natural gas, saving space, water, and process heating measures. Both existing and prospective commercial and industrial customers considering the use of natural gas for space, water, process, or heating were all eligible for this program.

VGS provided customers with a free walkthrough analysis of their facility to identify potential cost-effective energy efficiency measures.

VGS offered financial incentive rebates for the installation of energy efficiency measures. These rebate incentive amounts were project-specific and based on the customer’s savings and payback and the value of the avoided cost savings to VGS ratepayers.

Retrofit projects for interruptible customers were managed the same as projects for firm customers, with the exception that no peak day savings were reflected for interruptible customers nor used in the cost-effective screening analysis.

Overall, in 2021 there were 57 measure installations installed in 26 building that covered a wide range of use types such as educational facilities, food service/sales, government buildings, lodging, manufacturing, multi-use buildings, office spaces, retail buildings and warehouses. The broad array of the comprehensive types of measures installed is reflected in the following pie chart.



The following strategies were instrumental in the success of the commercial retrofit program during 2021:

- Sales & Marketing Staff aggressively marketing energy programs in Addison County to the commercial sector;
- Coordinated efforts between VGS, Efficiency Vermont and BED;
- Proactive engagement and relationship development with many of VGS' key accounts;
- Ensured the small business sector and non-profit organizations were adequately served;
- Coordinated efforts between Efficiency Vermont, the Department, and large customers regarding pilot Energy Savings Account; and
- Offered custom analysis and technical assistance.

6. Commercial New Construction Program

The Commercial New Construction ("CNC") Program was designed to reduce natural gas consumption and peak-day demand by encouraging commercial and industrial building owners to incorporate cost-effective natural gas saving measures in both the design and construction. All commercial and industrial customers who were building new facilities or who were substantially expanding, renovating, or remodeling existing buildings using natural gas for space, water and/or process energy needs were eligible to participate in the CNC program.

VGS provided customers with a review of the building plans and an analysis of potentially cost-effective natural gas saving measures, as needed. In addition, VGS supplied the customer and/or their design team with energy-efficient equipment information, technical assistance, lists of manufacturers and information about improved construction techniques, and building materials.

VGS also provided technical assistance to both Act 250 permit applicants and projects not under Act 250 provisions that chose natural gas as a fuel source. This technical assistance included a plan review and life cycle cost analysis for interested customers. VGS actively assisted customers in their efforts to comply with Act 250 permit criteria and strongly encouraged them to exceed minimum requirements. For measures that exceed the energy code baseline, VGS provided financial incentives. The baseline efficiency and cost, proposed efficiency and cost, and fuel savings were reviewed and analyzed on a case-by-case basis.

VGS reviewed commercial building plans and conduct energy analysis of cost-effective natural gas saving measures. In addition, VGS supplied the customer and/or their design team with energy efficient equipment information, technical assistance, and manufacturer referrals. For measures that exceeded the energy code baseline, VGS offered financial incentives to offset the incremental cost of the measure. Local, state and/or federal energy and building construction codes establish the baseline for comparing the cost-effectiveness of the proposed natural gas

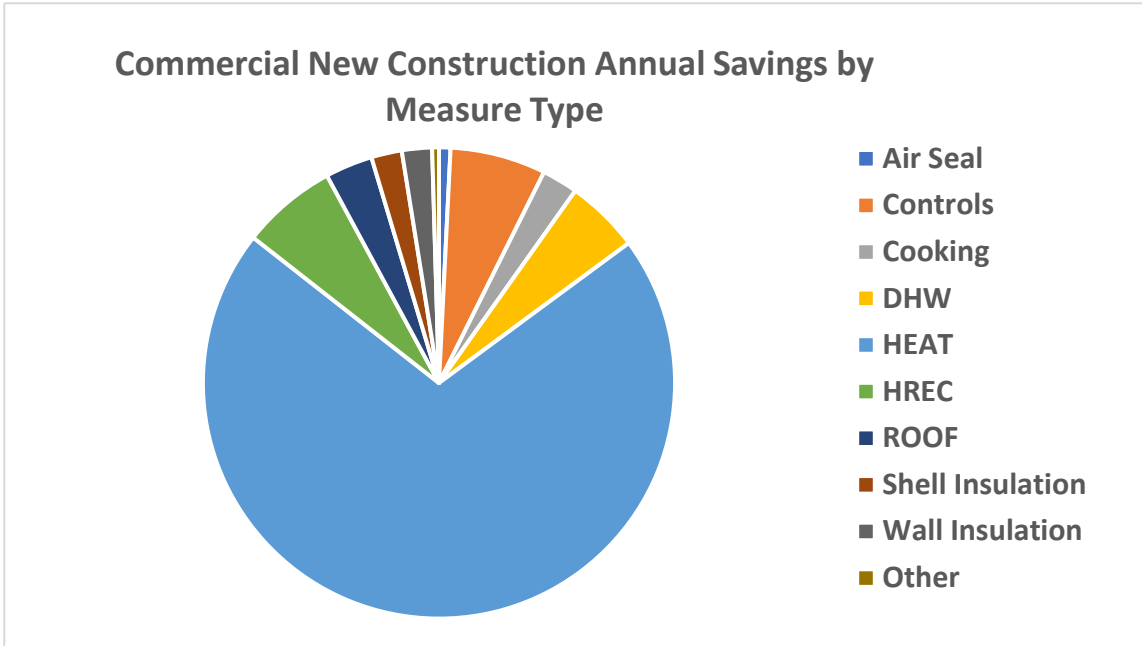
saving measure(s). The *2020 Vermont Commercial Building Energy Standard*¹⁴ as well as ASHRAE 90.1 -2016 establish the baseline.

VGS collaborated with its DU partners to ensure seamless service to customers. VGS and partners provided the customer with a holistic approach to energy efficiency savings throughout the design and construction process.

New construction projects for interruptible customers were managed the same as projects for firm customers, with the exception that no peak day savings were reflected in the cost-effectiveness screening.

For projects located within the City of Burlington, VGS and BED worked together, sharing information and meeting jointly with customers. VGS also worked closely with Efficiency Vermont to provide customers with energy efficiency assistance for projects located outside of the City of Burlington.

In 2021 there were 15 projects that encompassed 30 comprehensive measures installed, as shown in the following pie chart. Installations were in buildings such as food services establishments, government buildings, warehouses, retail shops, office related, multi-use buildings and manufacturing buildings.



The following strategies were utilized in the commercial new construction program during 2021:

- Sales & Marketing Staff aggressively marketing the energy programs in Addison County to the commercial sector;
- Coordinating efforts between VGS, Efficiency Vermont, and BED;
- Offering custom analysis and technical advice; and
- Providing guidance on the Act 250 permit process.

Details involving spending, incentives, and annual and peak-day savings are broken down by program on the tables in the next section.

IV.1 Annual Mcf savings by program

VGS EEU RA Mcf Savings	Actual 2021	Budget			(2021-2023) 3 Yr Budget	% Progress 2021	% Progress 3 Yr Total
		2021	2022	2023			
Residential Sector							
Retrofit	5,098	4,624	5,142	5,724	15,490	110%	33%
New Construction	6,017	11,952	14,240	15,559	41,751	50%	14%
Equipment Replacement	16,619	13,562	16,218	17,554	47,333	123%	35%
Commercial Sector							
Retrofit	9,918	19,975	22,654	24,380	67,009	50%	15%
New Construction	3,150	11,985	13,593	14,628	40,206	26%	8%
Equipment Replacement	6,740	7,990	9,062	10,810	27,862	84%	24%
Subtotal Residential	27,734	30,138	35,600	38,837	104,574	92%	27%
Subtotal Commercial	19,808	39,950	45,309	49,818	135,077	50%	15%
Total Annual Savings (Mcf)	47,542	70,087	80,909	88,655	239,650	68%	20%

IV.2 Annual Peak Day Mcf savings by program

VGS EEU RA Peak Mcf Savings	Actual 2021	Budget			(2021-2023) 3 Yr Budget	% Progress 2021	% Progress 3 Yr Total
		2021	2022	2023			
Residential Sector							
Retrofit	59	39	45	49	134	150%	44%
New Construction	72	114	132	144	390	63%	18%
Equipment Replacement	120	109	126	138	372	110%	32%
Commercial Sector							
Retrofit	55	38	44	48	130	146%	43%
New Construction	35	65	75	83	224	54%	16%
Equipment Replacement	43	31	36	39	106	137%	40%
Subtotal Residential	251	262	303	332	897	96%	28%
Subtotal Commercial	133	134	155	170	459	99%	29%
Total Annual Peak Savings (Mcf)	384	397	458	502	1,356	97%	28%

IV.3 Incentive spending by program

VGS EEU RA Incentive	Actual 2021	Budget			(2021-2023) 3 Yr Budget	% Progress 2021	% Progress 3 Yr Total
		2021	2022	2023			
Residential Sector							
Retrofit	\$1,062,795	\$905,837	\$1,054,721	\$1,229,023	\$3,189,582	117%	33%
New Construction	\$131,588	\$280,000	\$282,800	\$333,603	\$896,403	47%	15%
Equipment Replacement	\$929,457	\$1,025,202	\$1,124,647	\$1,339,447	\$3,489,296	91%	27%
Commercial Sector							
Retrofit	\$144,847	\$208,831	\$250,597	\$325,776	\$785,204	69%	18%
New Construction	\$49,640	\$216,410	\$259,692	\$337,599	\$813,700	23%	6%
Equipment Replacement	\$98,163	\$136,154	\$163,385	\$212,400	\$511,938	72%	19%
Subtotal Residential	\$2,123,839	\$2,211,039	\$2,462,168	\$2,902,073	\$7,575,280	96%	28%
Subtotal Commercial	\$292,650	\$561,394	\$673,673	\$875,775	\$2,110,842	52%	14%
Total	\$2,416,489	\$2,772,433	\$3,135,841	\$3,777,848	\$9,686,122	87%	25%

IV.4 Total utility spending by program

Resource Acquisition (RA)	Actual 2021	Budget			(2021-2023) 3 Yr Budget	% Progress 2021	% Progress 3 Yr Total
		2021	2022	2023			
Residential Sector							
Retrofit	\$1,530,615	\$1,355,997	\$1,585,176	\$1,786,420	\$4,727,593	113%	32%
New Construction	\$245,199	\$323,820	\$378,550	\$426,608	\$1,128,978	76%	22%
Equipment Replacement	\$1,020,564	\$1,133,371	\$1,324,924	\$1,493,127	\$3,951,421	90%	26%
Commercial Sector							
Retrofit	\$315,352	\$485,730	\$567,824	\$639,912	\$1,693,466	65%	19%
New Construction	\$147,563	\$404,775	\$473,187	\$533,260	\$1,411,222	36%	10%
Equipment Replacement	\$186,856	\$344,059	\$402,209	\$453,271	\$1,199,539	54%	16%
Subtotal Residential	\$2,796,378	\$2,813,188	\$3,288,650	\$3,706,154	\$9,807,992	99%	29%
Subtotal Commercial	\$649,771	\$1,234,565	\$1,443,220	\$1,626,442	\$4,304,227	53%	15%
Total	\$3,446,149	\$4,047,753	\$4,731,870	\$5,332,596	\$14,112,219	85%	24%

Development and Support Service Program Descriptions

The Development and Support Service¹⁵ activities (“DSS”) included the subcategories: Education & Training, Applied Research & Development, Planning & Reporting, Evaluation, Policy & Public Affairs, Information Technology and General Administration. These activities were not directly

¹⁵ Development and Support Services were previously referred to as Non-Resource Acquisition Costs.

associated with energy savings but were essential in supporting and improving the programs as a whole. Descriptions of the DSS activities and their subcategories are below along with 2021 actual spending during year one of the three-year plan.

Table V.1 reflects the overall DSS spending to budget.

V.1 DSS overall spending to budget

Total EEU Natural Gas EEC funded budgets 2021-2023							
VGS DSS	Actual	Budget			% of Budget		
	2021	2021	2022	2023	Total	2021	Three Year
1. Education & Training	\$32,758	\$70,030	\$70,731	\$71,438	\$212,199	47%	15%
2. Applied Research & Demonstration	\$5,993	\$10,621	\$10,727	\$10,834	\$32,182	56%	19%
3. Planning and Reporting	\$52,278	\$56,787	\$57,355	\$57,928	\$172,070	92%	30%
4. Evaluation	\$25,226	\$36,404	\$36,768	\$37,136	\$110,308	69%	23%
5. Policy and Public Affairs	\$19,148	\$15,610	\$15,766	\$15,924	\$47,300	123%	40%
6. Information Technology	\$30,650	\$36,880	\$37,249	\$37,621	\$111,750	83%	27%
7. General Administration	\$33,173	\$33,668	\$34,005	\$34,345	\$102,017	99%	33%
Subtotal DSS VGS Funded	\$199,226	\$260,000	\$262,600	\$265,226	\$787,827	77%	25%

1. Education and Training

Staff members attended information and training seminars to ensure a full understanding of codes covering both the commercial and residential programs and services. The training included Better Buildings by Design, Affordable Comfort, CEE, ACEEE, and other training options that promoted training or education pertaining to energy conservation. Similar to 2020, there were conferences or seminars that were remote due to concerns related to Covid-19.

2. Applied Research & Demonstration

This work included VGS efforts that pertained to emerging new technologies, analytics or data services geared around new concepts and technologies included as part of Efficiency Vermont’s cost and part of the monthly costs in the bilateral agreement. VGS’s agreement with Efficiency Vermont includes VGS’s share of costs related to research and development for technology and demonstrations where programs overlap in the VGS territory.

3. Planning and Reporting

This subcategory included VGS’s responsibility to provide monthly, quarterly, Annual Reports, Annual Plans, Integrated Resource Plans, and Demand Resource Plan processes for reporting to the Commission pursuant to the “Process and Administration of an Order of an Appointment” document associated with VGS’s appointment as an EEU. This includes collaboration with the Department of Public Service, Efficiency Vermont, and BED.

4. Evaluation

The Department verified VGS savings claims and performance for 2021 with the assistance of its contractor, West Hill Energy and Computing, Inc. (“WHEC”). The process required the delivery of VGS’s annual savings claim to the Department along with a sample of individual project files for review. Throughout the process there were regular exchanges of information and discussion regarding savings quantification methods and documentation. This process included evaluating calculation methods and characterizations around basis for savings claims whether customized or prescriptive for forecasting to continuously improve savings estimates. The Department determined that VGS is behind schedule toward meetings its three-year savings QPI’s after the first year of the performance period. The Department concluded that VGS had shown satisfactory performance for the 2021 performance year. The evaluation discovered errors related to an algorithm¹⁶ used for gas consumption instead of thermal loads in calculating energy savings for heat and hot water measures and failure to account for the interactive effects of heating system, thermal shell and thermostat measures. VGS, the Department and the third-party evaluator(s) will work together to implement the recommendations in the evaluation report and take into consideration possible adjustments pertaining to savings for the 2021-2023 performance years. VGS will work towards improving documentation, project overview, clear references related to TRMs, source its inputs, apply the efficiency of the existing heating system to its disaggregated usage data to calculate heating load vs consumption and work with the Department to update its TRMs. Implementing these changes are expected to help VGS improve its performance over the remainder of the current performance period. The following table reflects the realization rates by program for 2021 performance year.

Program Name	Annual Mcf	Peak Mcf
	2021	2021
Residential Retrofit	96.7%	86.9%
Residential New Construction	106.2%	112.8%
Residential Equipment Replacement	102.8%	103.0%
Commercial Retrofit	76.4%	94.2%
Commercial New Construction	99.5%	99.8%
Commercial Equipment Replacement	86.7%	72.1%
Subtotal Residential	102.4%	101.1%
Subtotal Commercial	82.8%	86.9%
Total Portfolio Annual Savings RR	93.2%	95.7%

¹⁶ VGS and the Department will work together to determine possible savings adjustments for the 2022-2023 performance years related to the savings change due to the faulty algorithm.

5. Policy and Public Affairs

Work that supported VGS's participation in broad energy efficiency related discussions were in this category. Participation in energy forums, working with the media to explain the role of energy efficiency as well as responses to media requests for information, including briefing the Vermont Legislature on efficiency-related matters. During 2021, VGS participated in activities related to Act 62 (efficiency of unregulated fuels) and EEU planning around eligible Energy Savings accounts.

6. Information Technology

VGS updated its energy services database several years ago and refers to it as "DSMPro." DSMPro is a Windows application that provides a structured interface for the collection of building envelope data and savings calculations in support of DSM programs. The DSMPro database was constantly improved to help in the collection and reporting of measure, project, and program reporting. This is critical for planning, reporting, forecasting, and overall tracking. There is a regular need to modify existing tools, add new tools, and improve the functionality of the system, which leads to better understanding and response to changes. This includes streamlining the processes to lower administrative costs while improving overall program performance.

7. General Administration

VGS's costs for the overall management of its EEU programs that were not specific to individual programs fall under General Administration. This included general staff meetings, coordination of program implementation across all program functions, managing and monitoring overall performance as well as collaboration with other EEU's that did not result in direct savings.

Quantifiable Performance Indicators (QPI) & Minimum Performance Requirements (MPR)

The following sections describes the QPI's and MPR's as approved by the PUC for 2021-2023. These QPI's and MPR's are critical metrics to gauge the on-going performance of VGS' efficiency programs. These QPI's and MPR's are intended to provide a well-balanced portfolio to ensure all markets are served while providing customer benefits that contribute to policy and performance objectives.

For ease of reference, the general descriptions are detailed below and followed by the populated QPI's and MPR's in table format.

- QPI #1: The annual incremental savings QPI requires VGS to design and implement efficiency initiatives that will maximize energy savings. This QPI target includes two components: the total of the incremental annual Mcf savings achieved each year of a performance period and the greenhouse gas emissions covered over the same time period. Each of the two parts of this QPI are weighted at 1a) 15% and 1b) 10%.

- QPI #2: The lifetime natural gas savings QPI requires VGS to design and implement efficiency initiatives that will maximize the lifetime natural gas benefits. This QPI target includes two components: present worth of lifetime natural gas avoided costs and lifetime Mcf savings. Each of the two parts of this QPI are weighted at 15% each.

- QPI #3: The peak day savings QPI requires VGS to design and implement efficiency initiatives that will maximize the capacity reduction coincident with peak day demand. The metric will measure incremental peak-day savings each year of the performance period. This QPI target is weighted at 15%.

- QPI #4: The residential single-family comprehensiveness QPI ensures that energy efficiency initiatives are designed and implemented to acquire comprehensive savings. This QPI target contains two components: the percentage of home energy audits that have cost-effective measures that are converted to measures installations within one calendar year and the percentage of installations of audit-identified, cost-effective measures within one calendar year. Each of the two parts of this QPI are weighted at 5% each (3% Existing footprint and 2% Addison Only¹⁷).

- QPI #5: VGS is focused on increasing the number of homes that are weatherized. This QPI identifies the number of buildings receiving an audit which is the first step towards a weatherization project. This QPI is weighted at 5%. This QPI is based on an annual number and will help ensure VGS is on track to helping the State of Vermont achieve its Weatherization goals. Through our staff and BPI contractors, audits will be available to

¹⁷ VGS tracks results for this QPI for Existing and Addison County separately and made separate compliance filings in case 19-3272-PET on 11/23/2020 requesting Commission approval. PUC approved the weighted percents on 2/4/2021

income-eligible, moderate income, single family, multifamily, condominiums, and mobile homes.

- QPI #6: The long-term market transformation QPI encourages VGS to design and implement efficiency initiatives that lead to market transformation. The metric will measure the number of energy efficiency trainings offered to contractors to advance market transformation. This QPI target is weighted at 5%.

- QPI #7: The business comprehensiveness¹⁸ QPI requires that energy efficiency initiatives designed and implemented for commercial retrofit projects include a diverse range of installed measures. The QPI assumes the measures installed during the prior 12-months will be a minimum of 5% control-related, 20% heating systems, heat recovery or domestic hot water systems, 5% process-related and 15% shell/other. VGS tracks this QPI separately in Existing weighted at 4% and Addison County weighted at 1% to reflect the much smaller business presence in Addison.

- QPI #8: The administrative efficiency¹⁹ QPI is designed to encourage administrative cost reductions as a percent of total budget. This indicator is designed to measure the administrative efficiency of program delivery. This metric offers definitions of administrative costs and requires annual reporting. The ratio of incentive costs to non-incentive costs and total administrative costs as a percent of total budget will be reflected for each reporting year. VGS is making a separate filing requesting Commission approval of the target. VGS set targets at \$87,165 over the three-year plan with the intent that any administrative savings could be returned to the rate payer in future Energy Efficiency Charge (“EEC”) rate setting processes.

The following descriptions pertain to minimum performance requirements (MPR) and as such do not contain percent weighting.

- MPR #9: This indicator encourages equity for all Vermont natural gas ratepayers by ensuring that the overall natural gas benefits are greater than the costs incurred to

¹⁸ PER PUC order dated October 22, 2020 in case 19-3272-PET VGS made a separate compliance filing requesting PUC approval on the weighted target allocation of 5% be split between the Existing Footprint and Addison Footprint be set at 4% and 1% respectively for business comprehensiveness. VGS received PUC approval on compliance filing on 2/4/2021

¹⁹ PER PUC order dated October 22, 2020 in case 19-3272-PET VGS made a separate compliance filing requesting PUC approval on the proposed administrative efficiency target and received approval on 2/4/2021.

implement and evaluate the VGS efficiency programs. This metric requires that the total verified gas benefits divided by total costs be greater than 1.2.

- MPR #10: This indicator encourages equity for residential customers by ensuring that a minimum level of overall efficiency effort, as reflected by spending, is dedicated to residential customers.
- MPR #11: This indicator is to encourage efforts to ensure that spending for low-income customers is equitably dedicated.
- MPR #12: This indicator encourages equity for smaller non-residential customers by ensuring that a minimum level of overall efficiency effort will be dedicated to small commercial accounts. This metric requires a minimum level of participation by customers whose annual natural gas usage is 600 Mcf per year or less. This metric aligns with commercial customers that are classified as Rate G1 or G2 on the VGS rate classification.
- MPR #13: This indicator encourages VGS to design and implement efficiency initiatives that will maximize the lifetime natural gas, other fossil fuels, and water benefits. VGS periodically updates its cost-effective screening tool with Commission approved avoided natural gas, electric and water benefits to include in TRM development for measure level and custom level screening to ensure customers optimize energy savings by calculating and tracking components of total resource benefits (“TRB”).
- MPR #14: This Addison County²⁰ indicator encourages VGS to maximize the percentage of Addison County customers that benefit from VGS energy efficiency programs. This metric requires VGS to meet minimum program participation rates for customers in Addison County through aggressively marketing and promoting its energy efficiency programs.

It should also be noted that for QPI’s that require reporting percentages by calendar year, it is VGS’ understanding that it will sum up the numerators and denominators by calendar year in order to report the final QPI for the performance period over the three-year performance period. Please see the following tables for the VGS QPIs and MPRs described above along with the corresponding Commission approved targets and weighting.

Please see Tables VI.1 and VI.2 for the QPIs and MPRs respectively²¹.

²⁰ PER PUC order dated October 22, 2020 in case 19-3272-PET VGS made a separate compliance filing in response to the PUC explaining the appropriateness of this MPR and received approval on 2/4/2021.

²¹ Performance and savings approved in PUC order dated October 27, 2022 in Case 22-1558-PET VGS 2021 EEU savings verification and 2021-2023 performance. Figures for QPI 2, lifetime mcf savings were corrected based on PUC

VI.1 CY 2021 QPI performance

QPI #	Title	Performance Indicator	Verified 2021	Progress Towards Three Year	Three Year Target (2021-2023)	Weight
Quantifiable Performance Indicators (QPI's)						
1	Savings	a. Annual incremental net Mcf expected savings	47,542	20%	239,650	15%
		b Green house Gas emissions (carbon savings metric tons)	2,587	20%	13,214	10%
2	Lifetime Natural Gas Savings	a. Present worth of lifetime natural gas avoided costs	\$10,557,727	25%	\$41,719,689	15%
		b. Lifetime Mcf Savings	931,243	22%	4,193,260	15%
3	Peak Day Natural Gas Savings	Peak day incremental expected savings	384	28%	1,356	15%
4	Residential Single Family Comprehensiveness	a. Percent of home energy audits converted to a measure installation within 12 months <i>(Existing)</i>	53%		30%	3%
		a. Percent of home energy audits converted to a measure installation within 12 months <i>(Addison)</i>	50%		30%	2%
		b. Percent of all cost effective measures as well as those measures recommended by the audit and installed by the customer within 12 months. <i>(Existing)</i>	96%		70%	3%
		b. Percent of all cost effective measures as well as those measures recommended by the audit and installed by the customer within 12 months. <i>(Addison)</i>	100%		70%	2%
5	Residential Audits	Energy audits completed; including comprehensive, home performance, customer, energy snap shots, low income, condominiums and mobile homes	706		600 Annually	5%
6	Long-term Market Transformation	Offer energy efficiency training for contractors	Two		Two Per Year	5%
7	Business Comprehensiveness of Savings	Diversity of measures implemented in commercial retrofit projects <i>(Existing)</i>	12% control-related, 21% heating systems, heat recovery or domestic hot water systems, 12% process-related and 55% shell or other-related		A minimum of measures installed during the prior 12 months will be: 5% control-related, 20% heating systems, heat recovery or domestic hot water systems, 5% process-related and 15% shell or other-related	4%
		Diversity of measures implemented in commercial retrofit projects <i>(Addison)</i>	0% control-related, 14% heating systems, heat recovery or domestic hot water systems, 0% process-related and 86% shell or other-related			1%
8	Administrative Efficiency	Administrative Cost reductions as a percent of total budget - proposal reflects 5% reduction goal	\$21,325	24%	\$87,165	5%

request in case 22-2558 from 4,196,753 to 4,193,260 and found in Department Verification report filed on 10/11/2022.

VI.2 CY 2021 MPR performance results

MPR #	Title	Performance Requirement	Verified 2021	Progress Towards Three Year	Three Year Target (2021-2023)	Weight
Minimum Performance Requirements ("MPR")						
9	Minimum Natural Gas Benefits (Equity for all Natural Gas Ratepayers)	Total natural gas energy efficiency benefits divided by total utility costs	2.98		Equal or greater than 1.2 cost benefit ratio	0% (Minimum Requirement)
10	Equity for Residential Ratepayers	A minimum level of overall efficiency efforts, as reflected in spending, will be dedicated to residential customers	\$2,676,141	45%	\$5,927,915	0% (Minimum Requirement)
11	Equity for Low-income Customers	A minimum level of overall efficiency efforts, as reflected in spending, will be dedicated to Low-income customers	\$97,439	36%	\$267,354	0% (Minimum Requirement)
12	Equity for Small Business Customers	Percent of commercial (non-residential) installed end uses that are classified as Rate G1 or G2 (use 600 Mcf/yr. or less)	64%		30%	0% (Minimum Requirement)
13	Total Resource Benefits	Track and report non natural gas TRB	\$46,157		Annually	0% (Minimum Requirement)
14	Addison County Aggressive DSM	Meet minimum energy efficiency program participation rate for customers in Addison County	34.1%		Achieve 30% energy efficiency participation in Addison County by Year 3	0% (Minimum Requirement)

Conclusion

The VGS EEU calendar year 2021 savings claims represent the first year of a Triennial Plan. Based upon the first year, the portfolio is tracking at 68 percent of savings and 85 percent of spending compared to 2021 approved budgets. VGS continued to aggressively promote energy efficiency in Addison County, keeping efficiency participation penetration to just over 34% even as Sales and Marketing add new customers. During 2021 the new construction programs in both the residential and commercial sectors were significantly behind budget. VGS proactively engaged potential customers, sought out new partnerships and collaborations and market partners in efforts to drive energy efficient improvements for the remainder of this triennial performance period and beyond. In 2021 VGS found challenges posed by the ongoing pandemic, rising prices and workforce shortages in meeting its targeted goals along with a reluctance of its commercial customers to move forward on recommendations post pandemic. VGS worked collaboratively with stakeholders and promoted energy efficiency to both residential and commercial customers. In 2021 over 2,000 customers participated that helped avert almost 2,600 metric tons of carbon

dioxide into the atmosphere which translates into approximately 50,000 tons of carbon dioxide metric tons over the lifetime of the measures.

Appendix A: Administrative Efficiency results for CY2021

CY2021	Business Energy Services			Residential Energy Services			DSS	Total
	New Construction	Equipment Replacement	Retrofit	New Construction	Equipment Replacement	Retrofit		
Program Costs								
Incentive and Technical Assistance								
<u>Incentive</u>								
Incentives to Participants (RA)	\$49,640	\$98,163	\$144,847	\$131,588	\$929,457	\$1,062,795	N/A	\$2,416,489
Incentives to Trade Allies (RA)								
Sub total Incentives	\$49,640	\$98,163	\$144,847	\$131,588	\$929,457	\$1,062,795	\$0	\$2,416,489
<u>Technical Assistance</u>								
Services to Participants (RA)	\$21,262	\$23,669	\$66,131	\$35,477	\$24,435	\$184,846	N/A	\$355,820
Services to Trade Allies (RA)								
Energy Code and Standards Support (DSS)	N/A	N/A	N/A	N/A	N/A	N/A	\$1,268	\$1,268
Building Energy Labeling and Benchmarking (DSS)	N/A	N/A	N/A	N/A	N/A	N/A		\$0
Better Buildings by Design (DSS)	N/A	N/A	N/A	N/A	N/A	N/A	\$5,300	\$5,300
Tech Asst Sub-Total	\$21,262	\$23,669	\$66,131	\$35,477	\$24,435	\$184,846	\$6,568	\$362,388
Incentive & Tech Asst Sub-Total	\$70,902	\$121,832	\$210,978	\$167,064	\$953,891	\$1,247,641	\$6,568	\$2,778,877
Non-Incentive Program Costs								
Programs and Implementation (RA)	\$19,724	\$15,526	\$22,701	\$19,939	\$12,787	\$57,974	N/A	\$148,651
Strategy and Planning (RA)	\$16,006	\$12,585	\$18,230	\$12,539	\$11,944	\$43,099	N/A	\$114,404
General Marketing(RA)	\$0	\$0	\$0	\$0	\$0	\$0	N/A	\$0
Customer Support (DSS)	N/A	N/A	N/A	N/A	N/A	N/A	\$16,586	\$16,586
General Marketing & Public Education (DSS)	N/A	N/A	N/A	N/A	N/A	N/A	\$25,315	\$25,315
Energy Literacy (DSS)	N/A	N/A	N/A	N/A	N/A	N/A	\$875	\$875
Applied R&D (DSS)	N/A	N/A	N/A	N/A	N/A	N/A	\$5,993	\$5,993
Support Services (RA)	\$10,631	\$9,853	\$24,404	\$13,718	\$12,217	\$66,122	N/A	\$136,945
Quality Assurance (RA)	\$3,544	\$3,725	\$10,059	\$5,068	\$3,054	\$42,377	N/A	\$67,827
Non-Incentive Program Sub-Total	\$49,905	\$41,689	\$75,394	\$51,264	\$40,003	\$209,572	\$48,770	\$516,596
Total Program Costs	\$120,807	\$163,521	\$286,372	\$218,328	\$993,894	\$1,457,213	\$55,338	\$3,295,473
Administrative								
Sr. Management, Budget, Financial Oversight (RA)	\$5,375	\$5,375	\$5,375	\$5,375	\$5,835	\$5,835	N/A	\$33,171
Planning & Reporting (DSS)	N/A	N/A	N/A	N/A	N/A	N/A	\$52,278	\$52,278
Administration & Regulatory (DSS)	N/A	N/A	N/A	N/A	N/A	N/A	\$16,586	\$16,586
Policy & Public Affairs (DSS)	N/A	N/A	N/A	N/A	N/A	N/A	\$19,148	\$19,148
IT (DSS)	N/A	N/A	N/A	N/A	N/A	N/A	\$30,650	\$30,650
Evaluation (DSS)	N/A	N/A	N/A	N/A	N/A	N/A	\$25,226	\$25,226
<u>Direct and Indirect Overhead</u>	\$21,381	\$17,960	\$23,605	\$21,496	\$20,834	\$67,567	N/A	\$172,843
Total Administrative	\$26,756	\$23,335	\$28,980	\$26,871	\$26,669	\$73,402	\$143,888	\$349,902
Total Program & Administrative	\$147,563	\$186,856	\$315,352	\$245,199	\$1,020,564	\$1,530,615	\$199,226	\$3,645,375
Earned Compensation								
Base Compensation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Performance Award (Allocation Based)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Earned Compensation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Overall Total	\$147,563	\$186,856	\$315,352	\$245,199	\$1,020,564	\$1,530,615	\$199,226	\$3,645,375

	Cost	% of Total	Notes
Incentive	\$2,416,489		Row 3
<u>Technical Assistance</u>	\$362,088		Row 9
Total Incentives & Technical Assistance	\$2,778,577	76%	Row 10, Percent is Row 10/Row 34
Non-Incentive			
Non-Incentive Program Costs	\$516,896		Row 20
Administrative Costs	\$349,902		Row 29
<u>Earned Compensation</u>	<u>\$0</u>		<u>Row 33</u>
Total Non-Incentive	\$866,798	24%	Sum of rows 20,29,33
Overall Total	\$3,645,375		
Incentive-to-Non-Incentive Cost Ratio	3.21	to 1.0	
Program	\$3,295,473	90.4%	Row 21
<u>Administrative</u>	<u>\$349,902</u>	<u>9.6%</u>	<u>Row 29</u>
Overall Total	\$3,645,375	100.0%	Row 34