Agency of Administration Department of Buildings and General Services

State Energy Management Program Annual Report

2015 Acts and Resolves No. 58, Sec. E.112, as amended by 2019 Acts and Resolves No. 72, Sec. E.112 (d), and as further amended by 2022 Acts and Resolves No.172 Sec. E.112 (d) On or before October 1 of each year commencing in 2016 and ending in 2027, the Department (of Buildings and General Services) and EVT (Efficiency Vermont) shall provide a joint report on the implementation of this section.

July 1, 2024 – June 30, 2025

Published:10.1.25

VERMONT
AGENCY OF ADMINISTRATION
DEPARTMENT OF BUILDINGS AND GENERAL SERVICES

Contact Information

From:

Wanda L. Minoli, Commissioner
Agency of Administration, Department of Buildings and General Services
Wanda.Minoli@vermont.gov, 802-828-3519

To receive this information in an alternative format or for other accessibility requests, please contact:

Cole Barney, Communications and Legislative Affairs Manager
Agency of Administration, Department of Buildings and General Services
Cole.Barney@vermont.gov, 802-480-1243

Table of Contents

Executive Summary

In accordance with 2015 Acts and Resolves No. 58, Sec. E.112, the Vermont Department of Buildings and General Services ("BGS") and Efficiency Vermont ("EVT") collaboratively developed and launched the State Energy Management Program ("Program") to accelerate energy management measures, implementation of energy efficiency and conservation, and the use of renewable energy resources for State buildings and facilities.

In June of 2022, the Legislature passed 2022 Acts and Resolves No.172 that amended Sec. E.112 of 2019 Acts and Resolves No. 72 to increase the Program period from eight to eleven years and establish an expansion of services to include "Covered Municipalities" under a new Municipal Energy Resiliency Grant Program (MERP). In accordance with the Act, a covered municipality is defined as a city, town, fire district or incorporated village, and all other governmental incorporated units except for school districts.

In June of 2023, the Energy Office began using the BGS Workplace Integrated Management System (WIMS) for entering projects to be reviewed, assigned, and tracked across BGS Design & Construction (DCD) and Operations & Maintenance (O&M) divisions. The intended outcome is to continue to remove silos of operations across the divisions and streamline the project identification and development process while capturing additional savings from the ongoing Major Maintenance program and smaller maintenance projects.

FY2025, over $138,118 of initial year savings and over $1,354,717 in lifetime savings. Project development in the second half of FY2025 was limited due to renewed vacancy of the Energy Project Manager positions. Staff continued to work with the Design and Construction Division to reassign projects where possible, which has resulted in delays for most projects. Several projects focused on reprogramming HVAC controls at a number of facilities have progressed and are moving towards completion in the year ahead. Staff began working with the leasing team members under planning and property management during the second half of the fiscal year on energy data collection and benchmarking for state leased office space.

In FY2026, the eleventh year of the Program, our efforts will continue to prioritize the least energy-efficient buildings while also making use of project efficiencies such as predictive equipment lifecycle replacement through WIMS and integration with the Major Maintenance program. Additionally, the expanded funding access through the loan repayment period under the Office of the Treasurer has allowed BGS to build out the construction project pipeline and receive approval for new State Energy Revolving Fund loans.

The Program team is systematically conducting energy audits on prioritized state-owned buildings in accordance with Section 24 Title 29: 157 VSA (a) (3), as amended by 2020 Acts and Resolves No. 139, Sec. 17. The audits identify energy efficiency opportunities including but not limited to upgrading lighting, weatherizing, installing building automation systems, and fuel switching. Items are prioritized by estimated payback period and greenhouse gas (GHG) emissions over the life of the asset.

With continued Program funding through FY2027 under the passage of 2022 Acts and Resolves No. 172, the Program team remains dedicated to the mission and excited to both continue to help Vermont state government lead by example and complete the Program service expansion to municipalities across Vermont.

The program is finding energy savings in HVAC controls optimization projects at an increasing rate. By partnering with controls contractors and efficiency utilities, program staff have conducted controls treasure hunts, where the HVAC schedules and programming are investigated to uncover efficiency opportunities. These efforts have also identified failed sensors and malfunctioning equipment while also providing valuable insights for Facility Managers and HVAC Technicians.

The potential elimination of the Energy Star program could have significant implications for the state, particularly as a user of the Energy Star Portfolio Manager. This tool has been instrumental in helping the state track and manage energy consumption across various facilities, providing valuable insights into energy efficiency metrics. Without Energy Star, the state may face challenges in maintaining its energy efficiency goals and could incur additional costs in finding alternative solutions to monitor and improve energy performance. The absence of this program would also hinder the state's ability to benchmark its energy usage against national standards, potentially leading to less informed decision-making regarding energy management. Program staff are pursuing strategies for enhanced data collection and analysis through alternative third party service providers to ensure that energy benchmarking for BGS facilities will be able to continue if Energy Star is sunset.

Many of the state's solar power purchase agreements are reaching 10 years of service, making them ineligible for the solar incentive bill credit. The loss of the credits is expected to result in increased energy costs in the following years . Program staff are investigating opportunities to increase deployment of renewable energy resources at state facilities in FY2026. Additionally, changes in federal policy are anticipated to increase retail energy prices as a result of reduced subsidies for cost-competitive renewable energy and increased tariffs on imported energy resources.

FY2025: Targets, Actions, Results

Targets:

In accordance with 2015 Acts and Resolves No. 58, Sec. E.112, as amended by 2019 Acts and Resolves No. 72, Sec. E.112, and as further amended by 2022 Acts and Resolves No. 172 Sec. E.112, BGS and EVT aimed to reduce the State’s total energy usage and related costs by an amount not less than $150,000 annually through measures implemented as part of the Program.

Actions:

BGS and EVT are implementing the Program process, including:

- Project identification, development, management, and completion procedures,
- Hand-off points during the execution of projects,
- Documentation, tracking and reporting, and
- Embarking on building controls and automation testing and review known as “controls treasure hunts” to uncover potential savings from system adjusted setpoints.

Program representatives from each organization continue to meet virtually via Microsoft Teams and in person during annual conferences. The regular program staff meetings have included updates to project data tracking and documentation to streamline the reporting process. Meeting goals include collaborative project identification, development, and management. Team meetings occur monthly to communicate specific Program and project needs and to evaluate Program success.

Energy Star Portfolio Manager® (ESPM) is serving as the building energy accounting system that includes baseline and annual energy data. The Program team uses ESPM to analyze building energy consumption data and develop prioritized building lists based on building performance metrics. Staff have been utilizing the new data entry procedure adopted in December 2022 using a data upload template curated by Program staff to then be uploaded to ESPM monthly. In FY2025, the Energy Office staff conducted market research on energy management system providers and fault detection and diagnostics solutions. This research involved evaluating various vendors to identify systems that could integrate seamlessly with existing infrastructure and provide advanced analytics for energy consumption and fault detection. These solutions not only streamline data management but also enhance the ability to detect inefficiencies and faults with HVAC control systems in real-time, thereby improving overall energy efficiency by catching deficiencies when they occur. The insights gained from this research will inform procurement decisions starting in FY2026 and ensure that the program adopts cost-effective technologies that support energy management objectives. During FY2025, staff research indicated that increased variability in temperatures and weather events are causing uncertainty in projected energy expenditures. This effect is largely a result of warmer summers requiring more electricity for cooling.

The Program is funded by two revolving funds, the State Energy Revolving Fund (SERF) managed by the Treasurer in the amount of $8M, and the State Resource Management Revolving Fund (SRMRF) managed by the BGS Commissioner in the amount of $1.5M. Two new projects received approval for funding in FY2025, SRMRF84which funds building controls optimization work at the Caledonia Courthouse, and SERF29 which included funding for insulation upgrades at the Kengar Facility in Hyde Park.

One facility audit was conducted in FY2025 at the Springfield state office building, while significant planning and preparations were made for audits at two additional correctional facilities to be completed in FY2026. Audits at correctional facilities require significantly more work to prepare for and conduct and selection of contractors includes a site and safety review and approval by the Department of Corrections. However, these are some of the largest facilities in the state and therefore may yield significant potential energy savings.

BGS and the SEMP have been instrumental in the state's reduction of transportation emissions through the transition to electric vehicles, including the procurement of electrified fleet vehicles and the construction of workplace charging infrastructure. Currently, the SEMP oversees 30 networked charging stations with an additional 11 non-networked stations totaling 57 networked and 15 non-networked charging ports across the state serving the Legislature, state fleet vehicles, employees, as well as the general public. In FY2025, SEMP staff began working with the Office of Purchasing and Contracting to include electric vehicle equipment suppliers within the new VTBuys procurement system. The Waterbury State Office Complex is set to significantly enhance its charging capacity with the installation of eight new electric vehicle charging stations. The new charging stations will not only accommodate more vehicles but also encourage the adoption of electric vehicles among employees and visitors, contributing to the state's environmental goals.

In June 2022,Governor Scott signed Acts and Resolves No.172 as passed by the Legislature, thereby creating MERP as an extension of the SEMP to extend services and support to municipalities across Vermont. This legislation assigned $45M in American Rescue Plan Act (ARPA) State Fiscal Recovery (SFR) funds to the Program to provide $5M in investment grade building assessments, $1M for the creation of four limited-service staff positions, $2.4M for Regional Planning Commissions' (RPCs) support for Program operations, and $36.6M in project implementation funds capped at $500K per municipality. The legislation further assigned $2.8M in Infrastructure Investment and Jobs Act (IIJA) funds to establish a revolving loan fund for use by municipalities beyond the scope of the one-time funding directed in Act 172. FY2025 saw the completion of the energy assessment phase in September with 531 buildings assessments across 237 communities and the execution of the application scoring and grant awards for the total $35.9M in project grant funding under the Implementation Grants of up to $500k with 126 grants awarded. Grant awards were signed in December 2024 and project planning/historic reviews with the Vermont Department of Historic Preservation (VDHP) began in January 2025.

In the past year, BGS has marked the beginning of a collaborative effort between the Energy Office and DCD to vet viable energy conservation measures at state facilities. This collaboration led to the execution of nine new SERF loan applications and the drafting of energy project design and construction statements of work. A current initiative involves aligning SEMP and BGS Major Maintenance program efforts and funding, utilizing six-month rotational funding allocations where needed, and available to finance design and construction costs. Additionally, DCD project management services, in collaboration with the Energy Program, are advancing new EV charger installations at State-owned facilities, focusing on identifying the most efficient and effective strategies for EV charger unit procurement, installation, maintenance, and operation. Staffing turnover for a dedicated Energy Project Manager and other constraints has resulted in delays on some projects. Despite these setbacks, smaller components of the projects have continued to progress under the joint oversight of DCD and Energy Office staff and we are working to move them forward.

Results:

Table 1. FY2025 Results

	Project Focus	Cost	KWH*	MMBTU**	First-year $ Savings	Lifetime $ Savings	Payback Period
Numerous Locations	Efficiency VT Prescriptive Projects		20,956	-4.14	$1,833.52	$27,502.80	
Numerous Locations	Solar Net Metering***				$69,151		
133 State Street	Lighting and Controls	499,000	241,068	704	$40,109	$802,174	12.4
Totals		499,000	262,024	699.86	$111,093.52	$829,676.80	

*Annual Kilowatt-hours of electricity saved.
**Annual million British thermal units (MMBTUs) representing thermal project savings.
***Solar net metering savings are annual savings, not first-year savings. These projects were not funded by SEMP funds

FY2026: Projected Savings, Strategies

As a result of recent hires and continued recruitment efforts, the launch of WIMS leading to better project tracking between and across BGS divisions, and funding discussions with the Office of the State Treasurer, BGS and EVT anticipate an increase in projects for FY2026.

Projected Savings:

Table 2. Projected Savings

Energy type	KWH	MMBTU	$ Savings
Electricity	833,910		$175,222
Thermal Fuels		6,217	
Solar Photovoltaic Net-Metering	6,394,609		$68,000
Totals	7,228,519	6,217	$243,222

A detailed list of planned FY2026 activities can be found in the appendices.

Strategies:

Collaborative and systematic project identification, development, and management is vital to the success of the Program. To ensure this process continues to be efficient and effective, BGS and EVT will evaluate the success of the following strategies and modify them as necessary

Consistent, Collaborative Communication

- The Program team shall continue to adhere to existing project identification, development, and management procedures as defined in the previous MOU.
- The Program team, with representatives from each organization, shall continue to participate in virtual meetings monthly.

Adequate Staffing

- EVT shall dedicate staff resources totaling a minimum of one Full Time Employee (FTE) to support collaboration and project completion with BGS for the duration of the Program.

- BGS shall maintain a staff team, supported by EVT, dedicated to Program implementation for project management and Program support. These positions shall be in addition to BGS' State Energy Program Manager.

Collaborative Project Identification, Development, Management, and Completion:

- In accordance with 2022 Acts and Resolves No. 172, BGS and EVT will continue to collaborate on the administration of the Municipal Energy Resilience Program, also referenced as the SEMP Expansion.

- The Program team will be reviewing outdated building audits across the state and shall reassess the start of energy audits on state-owned buildings after flood recovery efforts have been completed and following the procedures developed by BGS with the support of EVT. Audits should incorporate design guidelines for construction projects aimed at tying building performance to state emissions targets.

- With technical assistance from EVT as needed, BGS's Energy Project Managers shall finalize each project's scope of work and procure resources for implementation.

- Upon request, EVT assists BGS in assessing the need for commissioning or tuning of newly installed equipment.

- Testing of the new energy conservation tile in WIMS will also lead to more savings from projects that are implemented by the Operations and Maintenance and Design and Construction divisions. With the help of EVT, financial savings are calculated for specific energy efficiency measures where an audit report has not been conducted. This will increase the use of the SEMP revolving loan funds to cover the incremental cost of more efficient options when replacing equipment in a building.

Independent Energy Efficiency Projects

- The completion of projected SERF projects for FY2026 is currently contingent on securing supplementary funding for design costs. With the departure of the Program Chief under DCD in FY2025, EVT and BGS are in discussions regarding best practices support for remaining project management and operations and maintenance staff.

The estimated costs for the SERF projects, as outlined in Table 4, are funded by SERF loans that are estimated based on audit findings, with an added 15-30% contingency to account for rising costs. Multiple Energy Conservation Measures (ECMs) are scoped out of the project due to the payback period requirement. The contingency costs are included in the estimate for the payback period calculation. The estimates exclude A/E design costs. Including these costs in SERF loan estimates would further reduce the scope of ECMs due to the need to meet acceptable payback periods.

- To mitigate this, SERF projects are paused until they align with major maintenance requests filed by District Facilities Managers (DFMs) on a six-month rotational cycle.

Once approved, major maintenance funds may be leveraged to cover the design costs for energy initiatives if the major maintenance scope aligns with SERF project requirements.

- To support independent energy projects, the Energy Office and DCD are jointly requesting a separate funding allocation for soft costs (A/E costs, Clerking, Consultant Services etc.), independent of SERF loan. This approach aims to reduce reliance on major maintenance projects and facilitate broader and faster implementation of ECMs. This strategy is a critical step towards enhancing Vermont's energy efficiency and resilience efforts and leading by example in public sector energy initiatives.

Energy Tracking

In accordance with 2015 Acts and Resolves No. 58, Sec. E.112, as amended by 2019 Acts and Resolves No. 72, Sec. E.112, and as further amended by 2022 Acts and Resolves No.172, BGS will continue to make improvements toward systems of measurement to achieve the goals of 2011 Acts and Resolves No. 40.

- Using ESPM, BGS will maintain an energy accounting system that includes baseline and annual data on energy consumption at properties owned or managed by BGS. BGS will continue to support partner agencies in adopting the new energy tracking data transfer practices adopted in FY2023 and FY2024.

- With respect to transportation, Administrative Bulletin 2.3 Appendix B: Fuel Card Use – State Owned Vehicles, effective February 2, 2016, established the requirements of the statewide universal fuel card program to provide State agencies and departments with a vehicle and/or equipment fuel card that allows State employees to purchase fuel and other vehicle-related supplies and services for State vehicles and/or State-owned fuel-powered equipment to conduct governmental business. BGS can capture state employee fuel purchases through the WEX Fleet Purchase Card reporting system. SEMP staff negotiated with Electric Vehicle Supply Equipment (EVSE) vendor ChargePoint to enable fuel tracking capabilities for EV fleet vehicles as well as internal combustion engine vehicles in FY2025. SEMP staff plan to pursue the installation of over 30 new charging stations at state facilities, funded by $1M in funding from the Capital Bill, with locations determined by responses to the latest employee survey. Additionally, the $500k in Agency of Commerce and Community Development (ACCD) funding received will be used to install public-use charging stations. All new stations will be network-enabled, ensuring that BGS will be able to recover costs. In response to 2023 flooding impacts on existing stations in Montpelier, staff have been pursuing equipment that offers flood protection compliant with the 100-year flood plus 2 feet requirement. One option is pole-mounted charging stations, which will be installed 2 feet above Base Flood Elevation (BFE) in flood-prone areas identified in the flood map by Agency of Natural Resources (ANR). These are being considered for installation at the Waterbury State Office Complex.

- BGS continues to investigate procurement options for a centralized energy data tracking and reporting system in FY2026. Procuring a new central data system for building utility billing data has become more critical for program success given the uncertainty with continued federal funding for the Energy Star Program.

FY2027: Projected Savings, Strategies

Projected Savings

Table 3. Projected Savings

Energy type	KWH	MMBTU	$ Savings
Additional Projects Resulting from Energy Audits	387,834	9,140	$219,299
Solar Photovoltaic Net-Metering	6,000,000		$68,000
Totals	6,387,834	9,140	$287,299

Strategies:

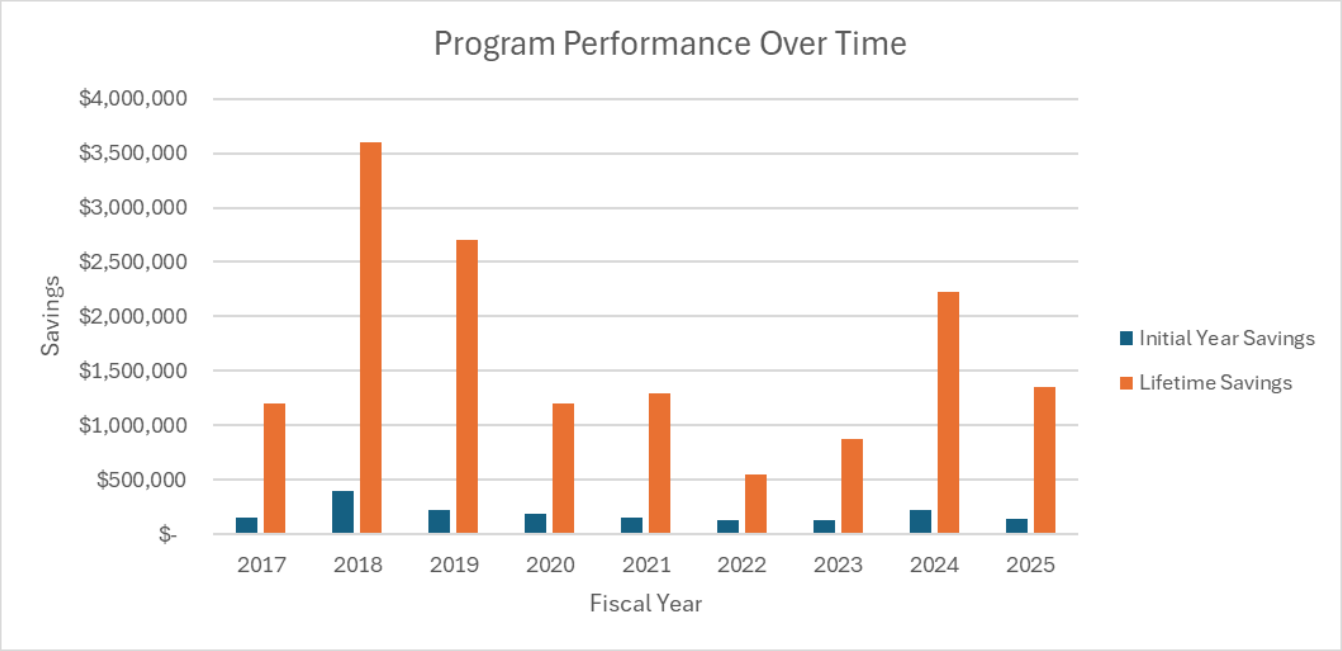
Ongoing, collaborative, and systematic project identification, development, and management will remain critical to the long-term success of the Program.

In accordance with 2015 Acts and Resolves No. 58, Sec. E.112, as amended by 2019 Acts and Resolves No. 72, Sec. E.112, and as further amended by 2022 Acts and Resolves No.172 BGS will continue to make improvements toward systems of measurement to achieve the goals of 2011 Acts and Resolves No. 40.

Observations & Recommendations

While the increased payback period allowances for SERF loans under the Office of State Treasurer has provided more project approvals, the growth of design costs and loss of key staff under the Design and Construction Division reduced the number of completed projects in FY2025. Staff will continue to work with Design and Construction to support recruitment for the two vacant Project Manager positions and incorporate the existing pipeline of approved energy projects into major maintenance work in FY2026.

Graph 1. Program Performance Over Time



SEMP staff will continue coordination efforts with partner agencies to generate opportunities for program alignment with Vermont's emissions reduction strategies outlined in the GWSA and CAP.

In December 2024, the Energy Office completed the application selection process for MERP Implementation Grants awarding $35.9M across 126 municipalities. With project planning, design and construction beginning in the first half of 2025, BGS and its Program partner organizations expect to see a significant investment in energy conservation and resilience measures across Vermont over the next year and half. The implementation phase of the program has supported awarded municipalities with planning, design, historic review, and construction processes for implementation projects. To date staff have conducted 35 site visits to building project locations. We are excited to leverage these opportunities to support GWSA and CAP to reduce GHG emissions throughout Vermont.

Efficiency Vermont

By: _____
Name: Peter Walke
Title: Director

Department of Buildings and General Services
State of Vermont

By: _____
Name: Wanda Minoli
Title: Commissioner

Appendices

Table 4. FY2026 Detailed Project List:

Site	Project Focus	kWh	MMBTU	Project Cost	$ Savings
Hyde Park Ken-Gar Building	Weatherization	3,400	288	$50,000	$6,741
Bennington Courthouse	LED Lighting	58,167		$119,100	$10,470
Rutland Courthouse	Envelope, HVAC, Lighting	186,901	2,833	$465,600	$42,029
Bennington Bennco	LED Lighting, Controls	17,221	41	$38,500	$3,473
St. Albans Courthouse	LED Lighting, Equipment, Weatherization	22,690	367	$69,800	$5,904
New Haven Public Safety Campus	LED Lighting, HVAC Equipment, Weatherization	22,250	61	$60,300	$4,349
1 Baldwin Street Montpelier	LED Lighting, Insulation	891	134.5	$23,000	$2,390
Berlin Psychiatric Care Hospital	HVAC, Weatherization	117,150	950	$256,800	$22,383
Middlesex Central Services	Lighting	75,063	256	$112,069	$17,316
St Albans State Police Barracks	Lighting, HVAC, Weatherization	31,860	134	$58,200	$4,927
6 Baldwin Montpelier	LED, HVAC Controls	22,339	153	$58,045	$3,942
Caledonia Courthouse	HVAC Controls	33,886	1,665	$10,000	$46,176
Bennington Welcome Center	LED	28,458	0	$58,500	$5,122
Totals		**620,276**	**6,883**	**$1,379,914**	**$175,222**

Table 5. Future Projects Under Development from Completed Energy Audits

Site	kWh	MMBTU	$ Savings
Fair Haven Welcome Center (9250)	9,977	33	$1,985
Guilford Southeast Welcome Center (9734)	12,980	30	$2,346
Pittsford Admin Building (6288)	6,441	1	$1,290
Pittsford Firehouse (6272)	5,565	271	$4,906
Pittsford Warehouse (Behind Firehouse) (6284)	396	48	$859
Rutland McKinley Ave - COMPLEX	14,213	17	$2,452
Rutland Motor Vehicles (6307)	6,374	36	$1,380
St. Johnsbury State Office Building (6340)	12,925	58	$2,727
Burlington Costello Courthouse (6173)	229,800	2,420	$54,350
Montpelier 126 State St (6022)	2,492	217	$4,082
Montpelier 122 State St Boiler Plant (6021)	52,510		$6,166
Montpelier 10 Taylor St Shop and Storage (6013)		117	$1,347
Marble Valley Regional Correctional Facility	139	4609	$109,075
Montpelier 110 State St (6015)	24,988	741.6	$15,430
Montpelier 128 State St (6023)	4,572	199.8	$4,202
Montpelier 132 State St (6024)	1,693	154.9	$3,009
Montpelier 136 State St (6026)	2,769	186.9	$3,693
Springfield State Office Building (6510)	-33,607	1,649	$27,986
Totals	**354,227**	**10,789**	**$247,285**

Table 6. Future Scheduled Energy Audits:

Property Name	Property GFA - Self-Reported (ft²)
Colchester New Health Lab (6204)	61,600
Montpelier 111 State St (6016)	46,672
Bradford Rest Area (9707)	6,861
Colchester Bldg.1705 (6200)	12,789
Colchester Bldg. 1710 (6201)	12,798
St. Johnsbury CCWC - CAMPUS	28,437
St. Albans NWSCF - CAMPUS	94,185
Totals	**263,342**

BGS, with support from EVT, developed this prioritized-buildings list using two primary criteria; Energy Cost Intensity (ECI, measured in $/ft^2) and Site Energy Use Intensity (EUI, measured in kBtu/ft^2). ECI shows how much BGS spends on electricity and fuel per building per ft^2. Site EUI measures how much electricity and fuel a building consumes per ft^2.

The Program team ranks buildings by each primary criterion independently, from best to worst performing building. The team then averages the two criteria-based lists for each year. The final step in creating the prioritized list above is to average the years together to determine the best- and worst-performing buildings over the past four years.