2020 Agency Energy Implementation Plan

Background and Statutory Requirements

The State of Vermont (SOV) is committed to supporting Vermont's transition to a healthy and prosperous clean energy future by reducing energy use and improving energy efficiency of state facilities and operations, and by increasing renewable sources.

It is the responsibility of Vermont state government to be a leader in reducing greenhouse gas emissions through energy conservation and the implementation of renewable forms of energy. As part of an ongoing energy planning process, state agencies are required by statute to adopt implementation plans biennially to assure that programs and actions are consistent with the statewide energy goals outlined in the State Agency Energy Plan (SAEP).

Relevant Statutes:

3 V.S.A. Section 2291 requires that the Secretary of Administration with the cooperation of the Commissioners of Public Service and of Buildings and General Services (BGS) develop and oversee the implementation of a SAEP for state government. The plan shall be adopted by June 30, 2005, modified as necessary, and readopted by the secretary on or before January 15, 2010 and each sixth year subsequent to 2010.

3 V.S.A. Section 2291a asks that all state agencies engage in a "continuous planning process" that is "coordinated in a manner established by the Commissioner of BGS" to assure that programs and actions are consistent with the goals established in §2291, and

3 V.S.A. Section 2291b requires that each state agency adopt an implementation plan on or before August 31, 2010 to ensure compliance with the SAEP. Each agency shall readopt and file its implementation plan biennially with the commissioner to ensure that the implementation plan remains compatible with the SAEP.

The following document serves as the BGS 2020 Agency Energy Implementation Plan (AEIP) and is intended to establish responsibilities and strategies that will help BGS meet the goals put forth in the 2016 State Agency Energy Plan.

Introduction

BGS is committed to reducing our carbon footprint through the implementation of energy efficiency, energy conservation, and renewable energy projects and practices. Over the past two years since the 2018 BGS AEIP was adopted, we have continued to work hard to accomplish our commitments.

The global pandemic caused by the coronavirus and the COVID-19 disease has necessitated significant operational changes to ensure the health and safety of state government employees. These changes include most state government employees working remotely. While many of the buildings that BGS owns and maintains are significantly less occupied, the Heating, Venting, and Air Conditioning (HVAC) systems have been modified to ensure maximum ventilation rates are occurring. These changes have had impacts on the energy consumption associated with the buildings owned and maintained by BGS and the number of miles driven by BGS Fleet vehicles.

Due to complications associated with the pandemic, BGS was unable to obtain all energy consumption data in state fiscal year (FY) 2020. For this reason, the BGS 2020 AEIP evaluates FY2016 through FY2019 energy consumption data.

Goals:

The 2016 SAEP includes clear and measurable energy goals for state government in three areas: a) reductions in total energy consumption across all facilities and operations; b) expansion of the share of state energy that comes from renewable sources such as solar, wind, high-efficiency biomass, and hydroelectric power; and c) reductions in state government emissions of greenhouse gases that cause climate pollution.

BGS adopted the goals set forth in the 2016 State Agency Energy Plan and remains committed to meeting them.

- Reduce total energy consumption by 20% by 2025 and by 25% by 2030.
- Meet 35% of the remaining energy need from renewable sources by 2025 and 45% by 2030.
- Achieve a 40% reduction of greenhouse gas emissions below current levels by 2030.

Progress Toward Goals:

- Total Energy:
  Since FY16, there has been an 8% increase in total energy use which includes buildings under BGS jurisdiction, and all Fleet vehicles directly managed by BGS Fleet Management Services. There has been a 15% increase in building energy and a 46% decrease in transportation energy from Fiscal Year 2016 to Fiscal Year 2019. (*Exhibit 1*).
- Percent Renewable:
  In FY19, roughly 39% of BGS total energy consumption was from renewable sources. Renewable solar generation made up 4% and wood biomass made up 35% of the total energy mix. (*Exhibit 1*).
- Greenhouse Gas Emissions:
  Since FY16, there has been a 21% reduction in greenhouse gas emissions associated with BGS' total energy mix. (*Exhibit 1*).

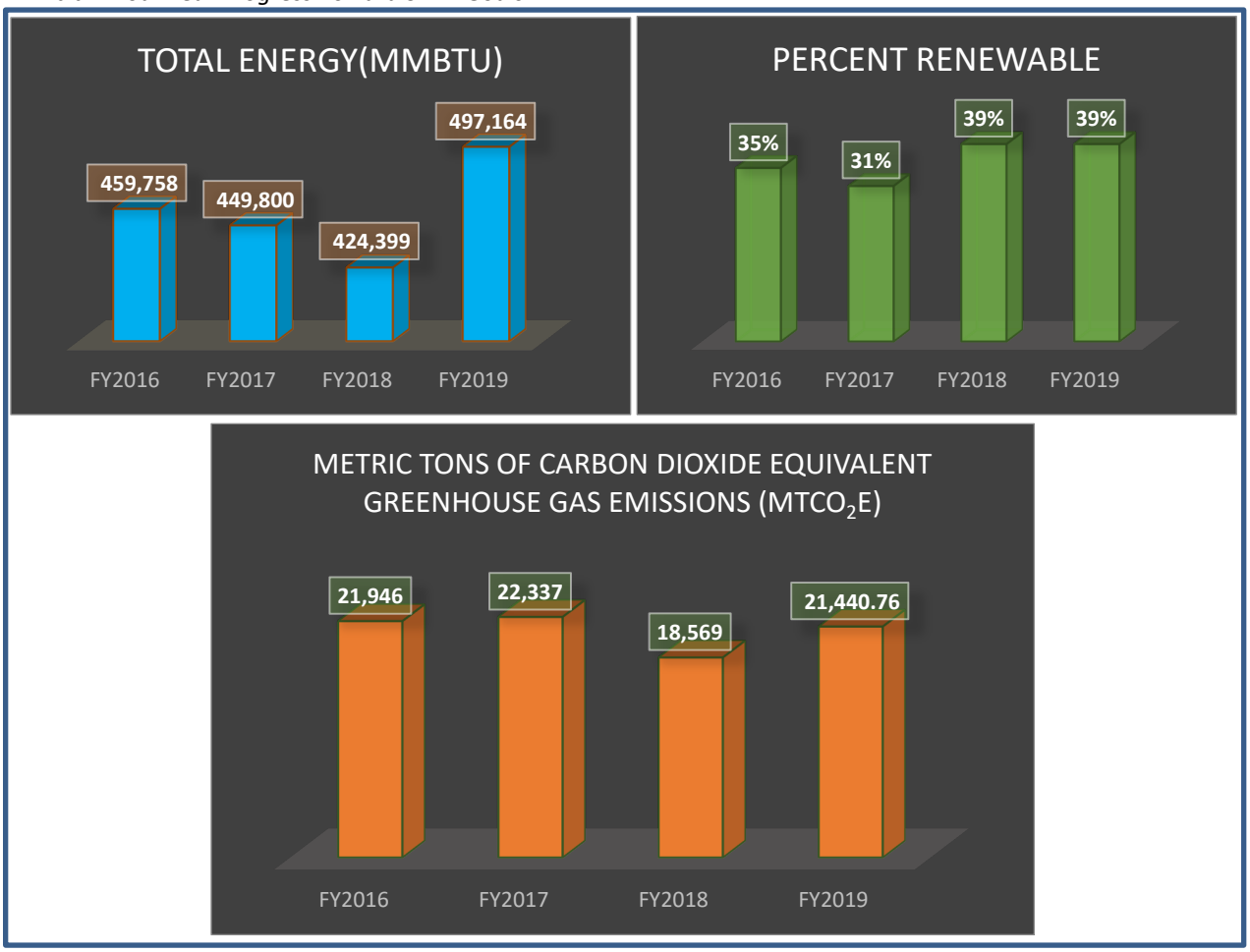
FY19 is the first year since the 2016 SAEP was published that BGS did not meet its total energy consumption reduction targets. The increase in total energy consumption is due to an increase in heating energy across all fuel sources. Weather normalization had no notable impact on the outcome.

The primary reason for this sizable increase in energy consumption is due to building automation systems that were overridden to 24/7 operation to maintain occupied heating temperature setpoints through winter cold snaps. This resulted in buildings being left in 24/7 occupied mode for several months. BGS has identified this issue and is actively developing a staff training on how HVAC building automation systems can be utilized to ensure buildings remain safe and comfortable during cold periods while still implementing unoccupied temperature setbacks. Additionally, BGS leadership is fully supportive of a systematic approach to improving the building automation systems within each building to automate schedule modifications for extreme temperatures. BGS also added the Vermont Agriculture and Environmental Lab (VAEL) to its portfolio of buildings in 2019 and the Southeast State Correctional Facility in Windsor was closed. These building portfolio changes had additional impacts on the total energy consumption.

The percentage of total energy consumption obtained from renewable sources remained steady at 39%. This is because BGS continues to convert its heating systems to advanced wood heat so the increase in heating energy still contains a significant amount of renewable energy.

BGS was on a strong trajectory to achieve its goals in reducing harmful greenhouse gas emissions and with the reinstitution of some general building automation principles this path will continue. The slight reduction from 2016 to 2019 is due to Fleet electrification, advanced wood heating, and solar power generation initiatives.

Exhibit 1: Four Year Progress Toward SAEP Goals



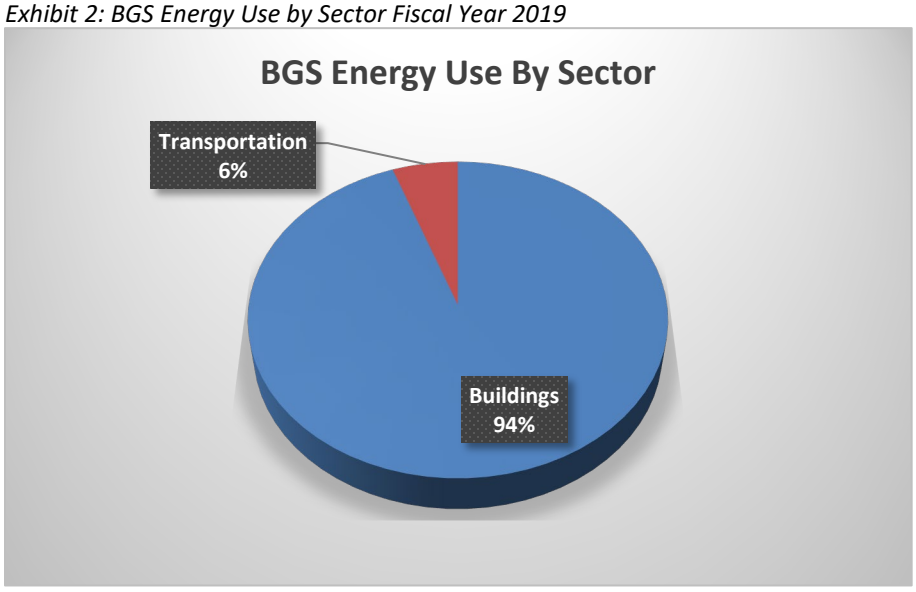
Energy Team:
The lead team member responsible for overseeing the goals of the 2020 BGS AEIP is Daniel Edson, State Energy Program Manager. Daniel oversees the BGS Energy Office comprised of Brian Sewell, State Energy Program Coordinator; Eric Sharp, Energy Project Manager; and Sean Fitch, Energy Project Manager. Additional Energy Team members whose duties more regularly align with the goals of this Plan are Mike McArdle, Buildings Engineer II, and Teigh Southworth, Buildings Engineer II. The Energy Office works closely with all BGS Offices and Divisions. Ultimate responsibility lies with the Commissioner of Buildings and General Services.

Energy and Emissions Tracking

BGS utilizes the Environmental Protection Agency's ENERGY STAR Portfolio Manager®, an online tool used to measure and track energy and water consumption, as well as greenhouse gas emissions, for building related energy use. The portfolio manager allows BGS to benchmark the performance of one building or the entire portfolio of our buildings, all in a secure online environment. Each building is assessed based on its specific energy consumption per square foot and compared nationally to buildings of similar construction, use, and climate zone. With this information, BGS strategically targets buildings that are not performing well relative to energy use and cost of energy to operate.

BGS Fleet Management Services utilizes the WEX Fleet Purchase Card tracking system to track energy consumption related to transportation. This system provides BGS with enough information to track fuel consumption and associated greenhouse gas emissions.

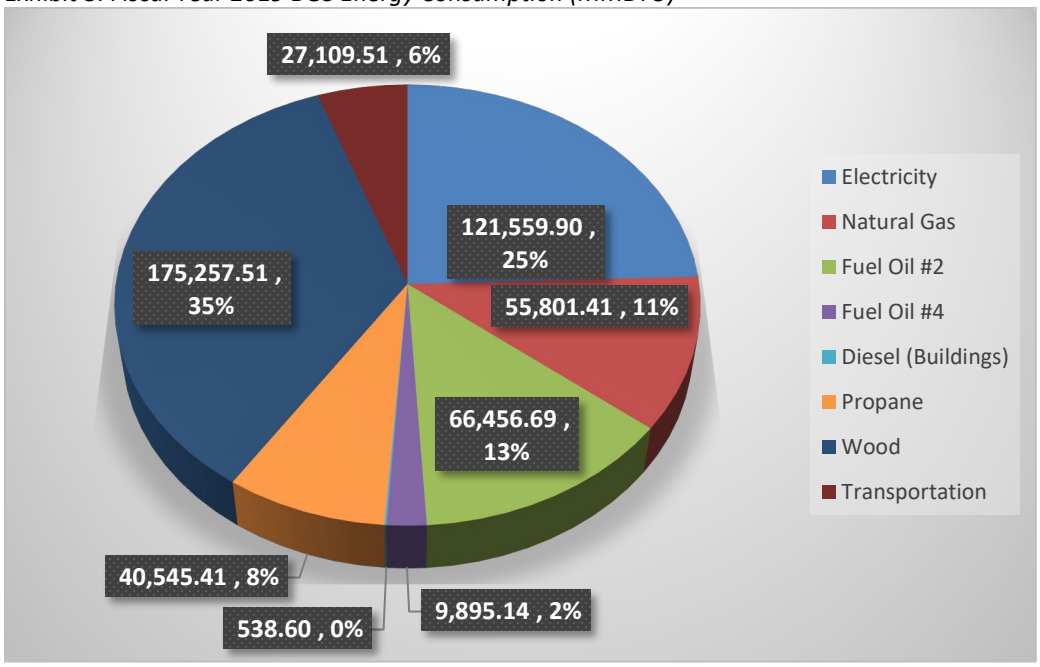
Exhibit 2: BGS Energy Use by Sector Fiscal Year 2019



In FY 2019, 94% of the total energy use under BGS' responsibility was directly associated with buildings such as lighting and HVAC while 6% was associated with transportation (Exhibit 2). This ratio has changed slightly since last reported in the 2018 AEIP due to the increase in building energy use and efforts to electrify the State's Fleet. There is some energy consumption accounted for in the buildings percentage that is associated with charging electric vehicles. Better metering and data capturing efforts are being made to account for this in the future. Even though most of the energy consumed is associated with buildings operations, roughly 10% of greenhouse gas emissions are released from transportation needs. This demonstrates that while the majority of energy consumption reduction and renewable energy usage increases will need to occur in the buildings sector, it is equally as important for BGS to continue the great work of the Fleet Management Program. A contributing factor to the higher percentage of greenhouse gas emissions

associated with transportation needs is the monumental achievements BGS has made by shifting to renewable wood biomass for heating energy in buildings. Biomass now accounts for 35% of BGS' total energy consumption (Exhibit 3).

Exhibit 3: Fiscal Year 2019 BGS Energy Consumption (MMBTU)



BGS Owned and Operated Buildings

Explanation of Goal:
BGS acknowledges the intent of ACT 40, Section 47 to reduce energy consumption in state government operations by 5% annually. The intent of this goal is in alignment with the goals set forth in the 2016 SAEP and BGS has committed to the goal established in the 2016 SAEP to reduce total energy consumption associated with transportation and buildings under its jurisdiction by 20% by the year 2025. To achieve a total energy consumption reduction of this magnitude BGS aspires to achieve a 2% reduction annually.

Progress Toward Goal:
From FY16 to FY19 BGS has increased building energy consumption by 15%.

Action Plan:
BGS will continue the implementation of improved energy efficient construction practices in BGS projects overseen by our dedicated project management staff and the efforts of the State Energy Management Program (SEMP).

BGS has developed Design Guidelines to be utilized by design teams when contracted by the state for new construction and major renovation projects. BGS strives to adopt higher standards wherever possible given project budgets. BGS works closely with local municipalities to find suitable downtown locations for state government operations when considering new construction, if appropriate. This

promotes shared resources, use of public transportation, and contributes to downtown economic growth in Vermont.

BGS works directly with Efficiency Vermont and architectural and engineering firms to assess the life cycle cost of potential energy improvements during concept and design phases.

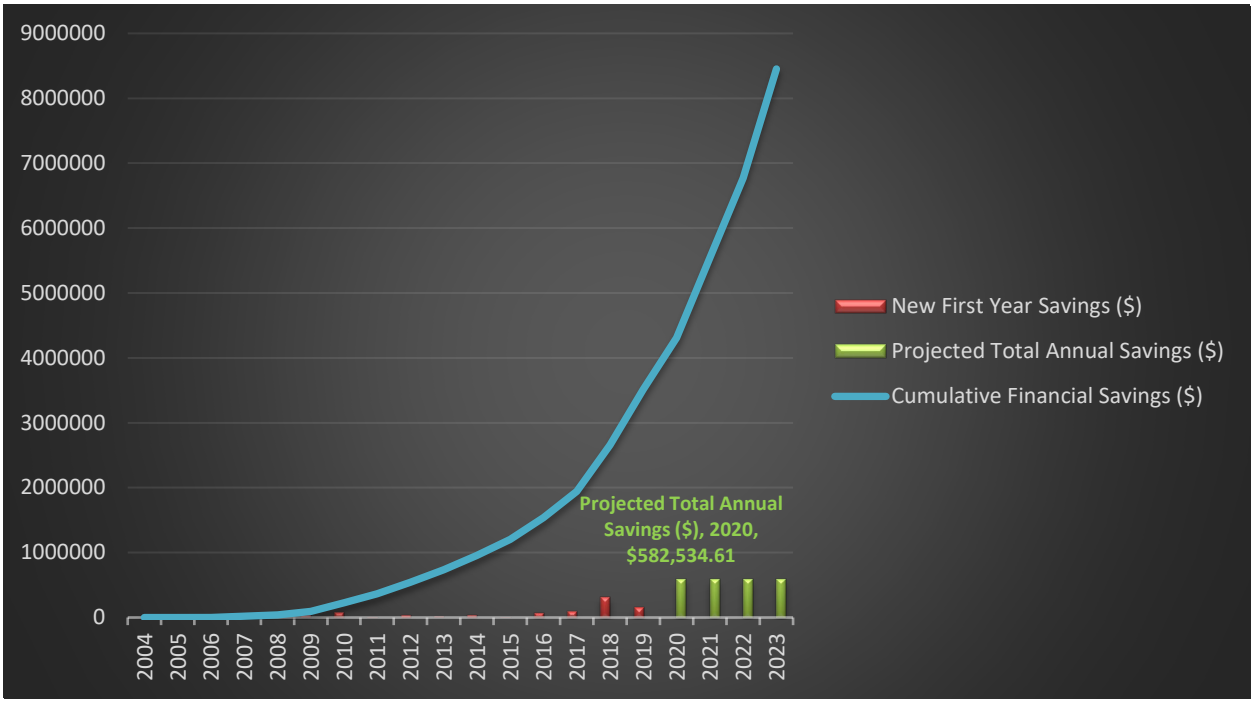
The SEMP oversees two revolving loan funds to provide low-cost financing for energy management measures in state buildings and facilities. The State Resource Management Revolving Fund (SRMRF) and the State Energy Revolving Fund (SERF) are available for resource conservation measures, energy efficiency improvements, and the use of renewable resources. These funds were created to eliminate the barrier of expensive up-front costs of efficiency improvements that yield significant cost savings once completed. The energy projects funded through SEMP revolving funds are making progress toward energy savings goals and saving Vermont taxpayer dollars.

In 2015, the Vermont Legislature passed ACT 58, Sec. E.112, Energy Efficiency; State Building and Facilities, which requires BGS (with support from Efficiency Vermont) to scale up work performed by the SEMP for a preliminary period of four years to deliver energy and dollar savings to state government. Efficiency Vermont is providing adequate funding to support the creation and maintenance of BGS's SEMP team (including three full-time positions) over the four-year preliminary period. In accordance with ACT 58 Sec. E.112, BGS and Efficiency Vermont have agreed to deliver $150,000 in energy savings annually.

Efficiency Vermont and BGS established a Memorandum of Understanding (MOU) to outline the development and implementation of the SEMP. The MOU created a roadmap and enabled both organizations to work in close partnership to leverage strengths, experience, and resources. The legislature secured funding for the program for a preliminary four-year period to ensure target goals could be met. The SEMP has exceeded the energy and dollar savings requirements from 2016 to 2019 and ACT 72 of 2019 extended program funding to 2023.

The SEMP team has delivered more than the agreed upon $150,000 in annual energy savings each year. The annual energy savings are the result of long-term energy improvements that continue to save energy and money overtime. If SEMP energy projects stopped in FY2019, BGS would continue to save $582,000 annually for years to come (Exhibit 4).

Exhibit 4: SEMP Revolving Loan Funds Financial Savings Over Time



BGS and Efficiency Vermont have committed to collaboratively supporting and managing the SEMP. By working in close partnership, BGS and Efficiency Vermont will continue to leverage each organization's strengths, experience, and resources toward meeting the established goals. The SEMP team has established a systematic approach to achieving energy efficiency and energy conservation in state buildings. The process includes five key parts:

#1 Project Identification

BGS and Efficiency Vermont developed and maintain a list of energy projects that will achieve at a minimum the annual electrical and thermal energy savings necessary to achieve the financial savings required of the SEMP in ACT 58. Project Identification shall proceed as follows:

1. Efficiency Vermont documents identified opportunities in the Efficiency Vermont database
2. BGS reviews the Energy Star Portfolio Manager® ("ESPM") list of properties, identifying and prioritizing specific buildings to address based on the Energy Utilization Intensity (kBtu/sq. ft.) and energy cost intensity ($/sq. ft.)
3. The BGS Energy Office meets weekly to discuss current projects. BGS and Efficiency Vermont meet bi-weekly regarding urgent issues, how to improve process, reporting and project collaboration.
4. BGS periodically reviews the major maintenance list to identify energy saving opportunities therein.
5. Following the procedures developed by BGS with the support of Efficiency Vermont, ASHRAE Level II energy audits are performed on set number of BGS owned building each year as the budget allows.
    a. Through the fair bid process BGS has contracted the services of experienced energy auditing firms to provide these services.
    b. BGS and Efficiency Vermont will review the energy audit reports as follows:

i. Identify questions and concerns, flagging anything unusual or potentially incorrect from an energy efficiency perspective
ii. Evaluate potential custom work scope of recommended Energy Conservation Measures. This evaluation shall be comprised of:
    1. Life-cycle cost analysis
    2. Return on investment calculations
    3. Technical review of identified projects
    4. Assessment of savings and cost estimates, and
    5. Assessment of measurement and verification needs

c. If needed, BGS shall provide feedback to the energy auditor and request a revised report. BGS and Efficiency Vermont shall repeat the review process until the energy evaluation report is approved by BGS.

#2 Project Development, Planning and Scoping

BGS will assign approved projects to the SEMP Project Managers for project management. The SEMP Project Managers will determine each project's scope, budget and timeline and select an implementation contractor(s) following BGS's standard contracting procedures. BGS and Efficiency Vermont will conduct Project Development, Planning and Scoping as follows:

1. Upon request, Efficiency Vermont will review Request for Proposals (RFP) to aid BGS in the efficient procurement of project contractors, such as electrical, mechanical, and controls professionals.
2. BGS and Efficiency Vermont will participate in Project Development Meetings, reviewing opportunities established through the project identification process described above, and agreeing on exact tasks and responsible team members for completing each task in the development of each opportunity reviewed.
3. With Technical Assistance from Efficiency as needed, BGS SEMP Project Managers shall finalize each project's scope of work.
    a. BGS and Efficiency Vermont will work together to establish estimated energy and dollar savings for each project.
    b. Efficiency Vermont will enter savings estimates in the Efficiency Vermont database.
4. BGS will post RFPs and proceed with contractor procurement according to State requirements.

#3 Project Execution and Management

Once a project is selected and approved, BGS will provide overall Project Management during project execution with support from Efficiency Vermont as follows:

1. BGS will share the expected total cost of a project with Efficiency Vermont.
2. Within two weeks of quote receipt, Efficiency Vermont will create and send an Incentive Agreement to BGS. The Incentive Agreement will show:
    a. Estimated Cost of Efficiency Improvements
    b. Efficiency Vermont Incentive, if applicable
    c. Net Cost After Incentives
    d. Estimated First-Year Energy Savings
    e. Estimated Simple Payback Period
    f. Estimated Average Lifetime of Efficiency Improvements
    g. Estimated Rate of Return on Investment
3. BGS will include the Incentive Agreement and any other necessary documentation in the project loan package when using SERF and SRMRF funding.
4. BGS will sign and return the Incentive Agreement prior to work beginning on the project.

5. Upon request, Efficiency Vermont will review invoices, equipment specifications, and other project documentation provided by project contractors to BGS during project implementation.

#4 Project Completion and Closeout

1. BGS will notify Efficiency Vermont when project work is completed.
2. Efficiency Vermont will schedule a verification inspection within two weeks of notification of project work completion, coordinating with appropriate BGS personnel to schedule inspection times.
3. Efficiency Vermont will complete necessary documentation procedures to finalize and document savings in the Efficiency Vermont database within two weeks of completed inspection.
4. Upon request, Efficiency Vermont can assist BGS in assessing need for commissioning or tuning of newly installed equipment.
5. Upon request, BGS will permit Efficiency Vermont to further meter and inspect energy efficiency projects.

#5 Program Tracking, Reporting and Evaluation

BGS and Efficiency Vermont will perform the necessary data collection and analysis to comply with the following reporting requirements of Act 156 Sec. E.112 (d):

> *(d) On or before October 1 of each year commencing in 2016 and ending in 2019, the Department and EVT shall provide a joint report on the implementation of this section.*
>
> > *(1) The report shall state, for the prior fiscal year, the energy savings targets developed, the actions taken to achieve those targets, and the energy savings achieved by each action.*
> >
> > *(2) The report shall project savings and strategies to attain those savings for the next fiscal year and for the remaining fiscal years of the Program.*
> >
> > *(3) The report shall include improvements made toward systems of measurement to achieve the goals of 2011 Acts and Resolves No. 40.*
> >
> > *(4) The report may include recommendations for accelerating the implementation of energy efficiency and conservation measures under the Program and improving the Program's tracking and documentation of savings.*
> >
> > *(5) The report to be submitted in 2019 shall contain an evaluation of the Program authorized under this section and any resulting recommendations, including recommendations related to Program continuation.*

BGS has also partnered with the Sustainable Endowment Institute (SEI) by joining the Billion Dollar Green Challenge (The Challenge) in 2014. The Challenge encourages colleges, universities, and nonprofit institutions to invest a combined total of one billion dollars in self-managed revolving funds that finance energy efficiency improvements. The Challenge is coordinated by SEI in collaboration with 15 partner organizations, including the Clean Air – Cool Planet, Clinton Climate Initiative, and Vermont Energy Investment Corporation (VEIC). The State of Vermont is the first State to join The Challenge.

By joining the Challenge, BGS has gained access to the Green Revolving Investment Tracking System (GRITS). GRITS is an online tracking tool that makes it possible to access and learn from the field-tested work of other institutions, facilitate investments in efficiency projects by enabling BGS to easily and clearly communicate with stakeholders, simplify calculations of project-specific carbon and financial

savings on both annualized and estimated life-of-project timeframes, and create customized reports that tell the story of current and anticipated financial and environmental performance associated with our revolving funds.

Employee Behavior Recommendations:

Energy Conservation

- Turn off lights whenever possible. Create an outlook task request or daily calendar event reminding employees to turn off the lights at the end of their workday. If you see an incandescent bulb replace it with an LED.
- Computers can be defaulted to allow monitors to turn off when the computer is shut down. During the workday, computers can be defaulted to hibernate after a specified period of inactivity.
- Create awareness regarding the unnecessary use of lighting. Many offices have enough ambient light from the sun to allow for indoor lighting to be turned-off.
- Identify all plug-loads in your office (computers, printers, fans, task lighting, etc.) and put up signs to remind employees to turn them off when they are not needed. **Especially at the end of the day.** Devices such as smart strips can be purchased to do this more efficiently.
- Office equipment such as copiers, printers and scanners are defaulted to transition into hibernate or energy savings mode after specified periods of inactivity.
- New office printers should be defaulted to duplex (double-sided). Circulate instructions to staff on how to set their computer printing defaults to duplex. As older printers are replaced, new printer purchases should be required to have the duplexing option.
- In collaboration with the BGS Office of Purchasing and Contracting, make sure that purchases of new office equipment (computers, printers, copiers, etc.) are as energy efficient as possible and Energy Star certified when applicable.
- Create centralized kitchenettes to serve multiple employees. Encourage employees to use shared appliances and stop the use of personal kitchen appliances.
- Close windows when you leave the office.

Natural Resource Conservation

- File electronically when permitted. When paper filings are required and/or allowed, prepare double-sided documents. Use electronic versions of documents rather than paper copies. Utilize projectors, large display monitors or interactive monitors such as Smart Boards to review documents in a group when available.
- Encouraged employees to be selective when deciding to print e-mails or other internal documents. Use double-sided printing for these types of documents whenever possible.
- Reuse office supply materials whenever possible (e.g. folders, binders). When ordering supplies, check with all supply areas to determine actual need before placing orders.
- Make sure recycling bins are accessible to all employees. Collaborate with the Agency of Natural Resources (ANR) to provide local recycling guidelines for your location.
- Start a composting system in your building. Resources are available through ANR and BGS.
- Encourage employees to bring in re-usable utensils, cups, and dishware.

Transportation Energy Use:

Explanation of Goal:
In order to reach our total energy reduction goal established in the 2016 SAEP, the miles powered by electricity in plug-in hybrid vehicles and all-electric vehicles should achieve a level sufficient to displace 10% of the state's current gasoline use by 2020, 25% in 2025, and 33% by 2032. Although achieving this goal requires all agencies to do their part, BGS Fleet Management will be leading the way.

ACT 59 of 2019 required that not less than 50 percent of vehicles purchased or leased by the Department of Buildings and General Services on or after July 1, 2019 be hybrid or plug-in electric vehicles, and not less than 75 percent beginning July 1, 2021. The State Vehicle Fleet, which is under the management of BGS, contains 734 vehicles. Presently, 54 of those vehicles are hybrid or plug-in electric vehicles.

Progress Toward Goal:
BGS Fleet Management Services (FMS) continues to promote and implement the Go Green Fleets initiative. Since FY2016 there has been a 46% reduction in BGS transportation energy consumption.

Action Plan:
The Go Green Fleets Initiative launched by FMS in 2016 is designed to help achieve these goals by adding more electric vehicles (EV), rightsizing the Fleet, and educating employees.

The availability of cost effective EVs continues to increase and technology is consistently changing with greater electric mileage range becoming available every year. BGS will add the required amount of EVs to the motor pool to meet the requirements set forth in ACT 59 of 2019. Employees whose trips can be made in EVs will be assigned those vehicles whenever possible.

Maintaining a fleet with high average fuel efficiency – including efficient heavy-duty trucks can dramatically reduce fossil fuel use. The Fleet Management Program is reducing the overall cost of employee travel and reducing greenhouse gas emissions by right sizing its fleet. *Fleet right-sizing* is a management practice that can help vehicle fleet managers build and maintain sustainable, fuel-efficient fleets. Fleet inventories can include vehicles that are highly specialized, rarely used, or unsuitable for current applications. By optimizing fleet size and composition, managers can minimize vehicle use, conserve fuel, and save money. For more information, see www.afdc.energy.gov.

BGS has participated in Ride and Drive events hosted by Drive Electric Vermont and employee training to get the state's work force comfortable with new EV models and to encourage their use. Education about eco-efficient driving practices that reduce fuel use and air emissions, such as avoiding single driver trips, reducing idling, and slowing average highway speeds, is also a top priority.

BGS has established electric vehicle charging station contracts to purchase and install charging stations at key locations. This is allowing FMS to systematically incorporate EVs into the state motor pool. The oldest sedans with greater mileage throughout the fleet are being replaced by EVs. The EVs are in target locations where a round trip on one charge, trips to destinations with a charging stations, or charging along the way is available. If older vehicles are currently in less appropriate locations for EVs they are being swapped out for newer non-EVs in the targeted locations.

Employee Behavior Recommendations:

On the Job Travel

- FMS continues to identify opportunities to add more plug-in hybrids, and new all-electric vehicles with longer ranges, to the central motor pool and to agency fleets where they are well-matched to transportation needs by communicating their transportation needs to FMS.
- Encourage trip planning and mobility practices that reduce fuel use and the associated air emissions.
- Provide and encourage the use of the current statewide webinar, interactive video conferencing and conference calling resources.

Employee Commuting

- Encourage and incentivize employees to use public transit services when available to commute to work. The state Go Vermont program, administered through VTrans, provides commuting alternatives for all employees in Vermont, among which state employees are a big part. Go Vermont connects rideshare participants, administers vanpool programs, and is a convenient portal to state transit programs.
- Staff are encouraged to commute by energy saving methods such as walking, bicycle, carpool, or bus.
- The Department of Human Resources' Wellness Division coordinates challenges throughout the year for all State employees to promote walking, biking, etc. as a healthy alternative.

Renewable Energy

Explanation of Goal:

BGS is committed to helping state government meet 35% of the remaining energy need, after efficiency improvements, from renewable sources by 2025, and 45% by 2030. This goal will be achieved primarily through the conversion of diesel-powered vehicles at the Vermont Agency of Transportation (VTrans) to alternative fuel sources. BGS doesn't control most diesel consuming vehicles in state government fleets so it is the primary goal of BGS to focus on continuing to convert heating systems to advanced wood heat, pursuing alternative solar energy programs to the net-metering program due to the 500kW of net metering capacity per customer limit established by the Public Utility Commission (PUC) in 2017, and converting fleet vehicles to electric as described in the previous section.

Progress Toward Goal:

In FY2019, 39% of the total energy consumption associated with BGS was from renewable sources. The progress seen in this area since FY2016 puts BGS on track to meet the 2030 goal.

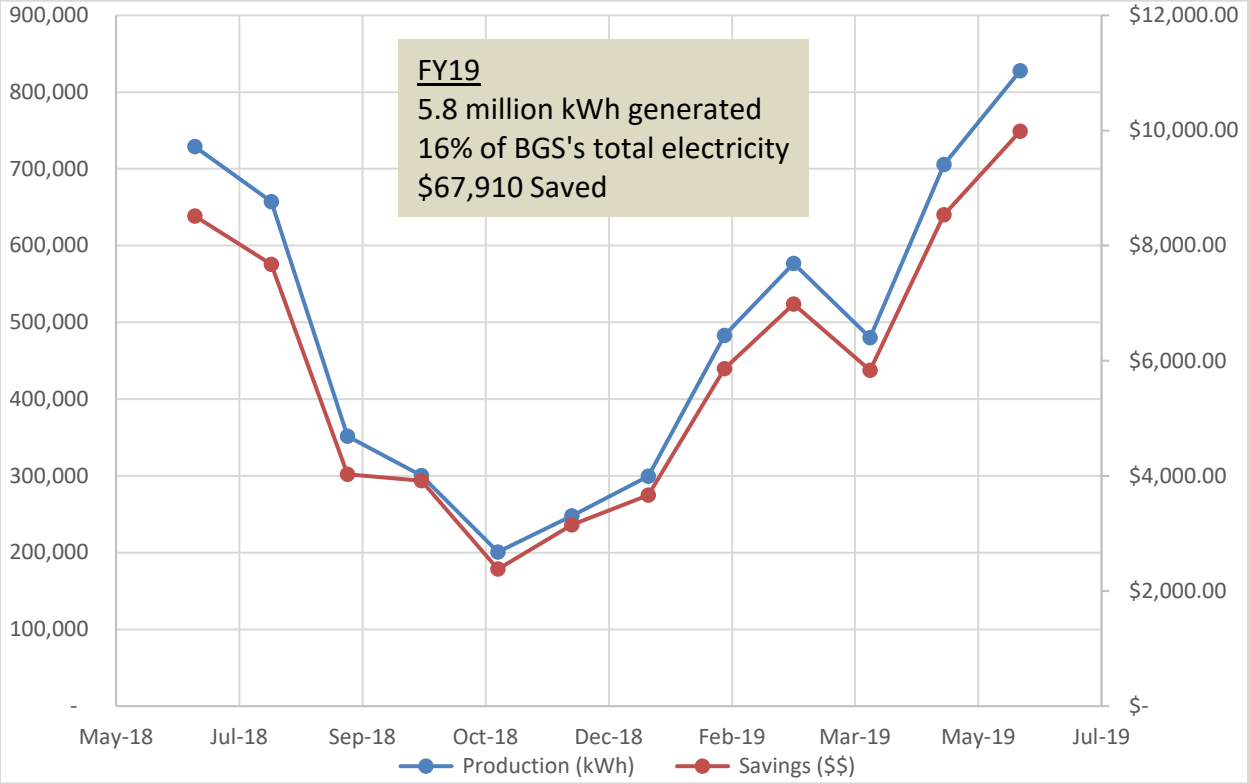
Action Plan:

Solar

BGS is no longer focused on net metering and looks forward to any future opportunities available to support Vermont's efforts to create a clean and affordable electric grid. The Net Metering Rule 5.100 established a per utility customer cap of 500kW of net metering power capacity in 2017. BGS has over 5.5 megawatts of net metering power capacity throughout Green Mountain Power (GMP) and Vermont Electric Cooperative (VEC) territory and therefore will not seek to offset additional electricity consumption with solar generation at this time.

Despite the hiatus on additional solar development, BGS offset over 16% of its total electrical consumption with renewable solar generation and saved $69,000 in electric utility bills in FY19. (Exhibit 5).

Exhibit 5: Solar Power Generation and Savings



Biomass

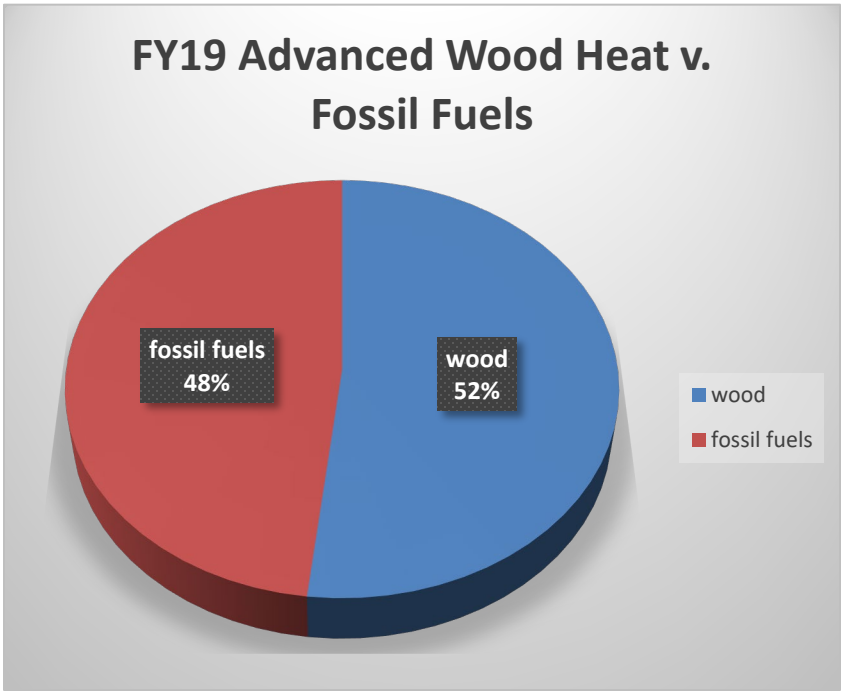
The Comprehensive Energy Plan includes goals for promoting the use of woody biomass in modern heating systems; however, the plan also emphasizes that this resource must be harvested in a sustainable way to ensure that the increased use of biomass does not harm the health of Vermont's forests.

On January 15, 2015, the commissioner of the Department of Forests, Parks and Recreation (FPR) adopted a set of voluntary harvesting guidelines for private landowners to help ensure long-term forest health and sustainability. The guidelines were developed in response to Act 24, which was passed by the Vermont Legislature in 2013.

When releasing requests for proposals (RPFs) to secure wood biomass products, BGS works with the Agency of Natural Resources (ANR) to ensure all efforts are made to receive the services of supply vendors who source locally and implement sustainable harvesting practices. These efforts are balanced with all other procurement considerations to ensure the best use of taxpayer money.

BGS will continue to convert buildings burning fuel oil to wood biomass as aging boilers require replacement and consider wood biomass in new construction wherever practical.

Exhibit 6: Heating Energy Mix Fiscal Year 2019



In FY 2019, 52% of the energy used to heat BGS owned buildings was from renewable wood biomass. The most recent biomass project was at the Middlesex Central Services building. This project was managed by the Energy Office in partnership with the Design and Construction and Operations and Maintenance Divisions and was funded with the State Resource Management Revolving Fund. The new pellet boiler system replaced an aging oil-fired steam system.

Energy in Leased Space

In Act 178 of 2014, Section 40, the legislature asked that the BGS Commissioner to develop a set of criteria and guidelines to evaluate and, where appropriate, incorporate the use of energy efficiency measures, thermal energy conservation measures, and renewable energy resources in buildings and facilities leased by the State. In response to this request, BGS has developed procedural guidelines for property management to use when considering State leases.

BGS will consider gathering utility information when available in order to maintain an inventory of energy usage data for full service lease agreements where BGS pays the utility bill, the leased space is greater than 5,000 square feet, and the total term of the lease is five years or greater.