

Energy Savings Account Partnership Pilot Program Working Group

Report to the Vermont General Assembly

Pursuant to Act 164 of 2022:

Sec. 2. ESA PARTNERSHIP PILOT WORKING GROUP

January 15, 2023

Submitted by:
Vermont Department of Public Service

Acknowledgements

The Energy Savings Account Partnership Pilot Program Working Group included representatives from the businesses and organizations listed below, as directed by Act 164 of 2022. There were also others who participated and lent their expertise. The Department appreciates the effort put forth by the members and participants.

Energy Savings Account Partnership Pilot Program Working Group

Members:

Vermont Department of Public Service
Efficiency Vermont
Agency of Commerce and Community Development

ESA Participants:

Champlain Water District
Chroma Technology Corporation
Collins Aerospace
Ethan Allen Operations
Killington Resort / Pico Mountain Resort
Mack Molding Company
Weidmann Electrical Technology, Inc.
Westrock Converting, LLC
Vail Resorts Management Company

Other participants:

Associated Industries of Vermont
MMR, LLC

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Executive Summary

Act 164 of 2022 called for the convening of an Energy Savings Account (ESA) Partnership Pilot Program Working Group (Working Group), to be comprised of existing participants in the ESA program, Efficiency Vermont (EVT), the Agency of Commerce and Community Development (ACCD), and the Department of Public Service (PSD or Department). The Working Group convened in July 2022 and met monthly starting in September 2022. The PSD drafted and presented a straw proposal for recommended changes to the Energy Savings Account Program as well as the Customer Credit Program (CCP) at the September 2022 meeting. The Working Group discussed the initial proposal, and the PSD issued a follow-up survey to obtain feedback on areas where there appeared to not be consensus based on the discussions.

This report presents the Department's straw proposal and ESA Working Group members' feedback on it. Recommendations on which consensus was reached by the Working Group are included. Where the Working Group was unable to reach consensus, the report describes the rationale for specific elements of the Department's straw proposal as well as concerns expressed by members of the Working Group. This report also highlights where proposed changes would likely require legislative action.

Introduction

This report is being submitted by the Vermont Department of Public Service (PSD) on behalf of the Energy Savings Account Partnership Pilot Program Working Group (ESA Working Group) as called for in Act 164. This report includes recommended changes to the Energy Savings Account program rules.

Act 164 Requirements for Energy Savings Account Partnership Pilot Program Working Group

Act 164 of 2022, "An act relating to extending the Energy Savings Account Partnership Pilot Program" called for the convening of an Energy Savings Account Partnership Pilot Program Working Group.

The section of Act 164 pertaining to the working group reads as follows:

Sec. 2. ESA PARTNERSHIP PILOT WORKING GROUP

(a) On or before August 1, 2022, the Department of Public Service shall convene the Energy Savings Account Partnership Pilot Program Working Group. The Working Group shall include the participants in the Energy Savings Account program created pursuant to 30 V.S.A. § 209(d)(3)(B), the participants in the Energy Savings Account Partnership Pilot Program, Efficiency Vermont, and the Secretary of Commerce and Community Development or designee.

(b) On or before January 15, 2023, the Energy Savings Account Partnership Pilot Program Working Group shall report to the General Assembly with recommended changes to the Energy Savings Account program rules.

Energy Savings Account Partnership Pilot Program Working Group Process

The PSD convened the ESA Working Group on July 29, 2022, and facilitated monthly meetings in September, October, November, and December of 2022. At the July meeting, the legislative charge for the ESA Working Group was reviewed, a summary of the existing self-managed energy efficiency programs was presented, and a list of key program considerations for the development of future programs was presented and discussed. The PSD also offered to develop a straw proposal for future programs for the group to discuss at the next meeting. Prior to the September meeting the PSD distributed a straw proposal for a future Energy Savings Account (ESA) and Customer Credit Program (CCP). At the October meeting, the PSD presented information to the working group on the cost of energy saved for the ESA pilot vs. traditional EVT programs, EVT provided a breakdown of its costs associated with the ESA and CCP programs, the report outline and process timeline were discussed, and a summary of non-consensus items was provided. The PSD also distributed a follow-up survey to ESA Working Group members to collect additional feedback on the straw proposal. The feedback was presented and discussed at the November meeting and has been summarized and included in this report for topics on which consensus was not reached. A draft of the legislative report was sent to the ESA WG members for review and feedback. The final report and suggested legislative language were discussed at the December meeting.

Existing Commercial & Industrial Self-Administered Energy Efficiency Programs

There are currently four mechanisms that allow for certain commercial and industrial (C&I) customers to self-implement energy efficiency programs per the statute and PUC order.

ESA

30 V.S.A. § 209, (d)(3)(B) states, “The Commission, by rule or order, shall establish a process by which a customer who pays an average annual energy efficiency charge under this subdivision (3) of at least \$5,000.00 may apply to the Commission to self-administer energy efficiency through the use of an energy savings account which shall contain a percentage of the customer's energy efficiency charge payments as determined by the Commission. The remaining portion of the charge shall be used for systemwide energy benefits. The Commission in its rules or order shall establish criteria for approval of these applications.”

SMEEP

30 V.S.A. § 209 also establishes “Self-managed energy efficiency programs” (SMEEP) for transmission and industrial electric ratepayers that pay a minimum of Electric Efficiency Charges (EEC) of either \$1.5 million during calendar year 2008; or \$1.5 million during calendar year 2017.

ESA Pilot

Act 150 of 2018 established a three-year ESA Partnership Pilot program for customers to self-direct the use of their EEC Funds. The total amount of customer EEC funds available in the pilot program each year was capped at \$2 million. Act 164 of 2022 established an extension to the Energy Savings Account Partnership Pilot Program through the end of 2023.

CCP

The September 30, 1999 PUC order in Docket 5980 created the "C&I Customer Credit Program," to be available to commercial and industrial customers who meet certain eligibility criteria. Eligible

customers could receive payments (drawn from EEU program funding) for cost-effective energy efficiency measures that they install in their facilities. The program was limited to customers who had not previously received payments or incentives through utility DSM programs.

Below is a table outlining the four existing programs.

Program	Status	Eligibility	Major Program Requirements/Specs
Self-Managed Energy Efficiency Program (SMEEP)	<ul style="list-style-type: none"> Modifications to statute in 2018 	<ul style="list-style-type: none"> Requirements outlined in statute Transmission or Industrial class ratepayer Energy Efficiency Charge (EEC) was minimum \$1.5M in either 2008 or 2017 	<ul style="list-style-type: none"> Comprehensive energy management program w/annual objectives Avg investment of minimum (depending on baseline year) of \$1M (2008) or \$500,000 (2017) All fuels are eligible; Productivity programs qualify Pay evaluation costs to PSD for verification; reporting required No pre-approval of projects, need to save energy and be cost-effective within the measure life
Energy Savings Accounts (ESA) Pilot	<ul style="list-style-type: none"> Pilot period: July 1, 2019 – December 31, 2023 (may apply for extension to December 31, 2026 to use funds) 	<ul style="list-style-type: none"> C&I customer in EVT territory EEC minimum of \$5,000 Single business with more than one account may combine accounts 	<ul style="list-style-type: none"> Customers selected via RFP process, capped at \$2M/year Projects may include electric, thermal and process fuel efficiency, energy productivity, demand management, and energy storage Projects are screened by EVT for cost-effectiveness Eligible costs consistent with ESA program, can be reimbursed up to 100% of EEC (minus 1.025% taxes and EEU and PSD EM&V costs) EVT TA not included
Energy Savings Accounts (ESA) Existing Program	<ul style="list-style-type: none"> Program in place since 2009 	<ul style="list-style-type: none"> C & I customer with EEC minimum of \$5,000 may apply Single business may not combine accounts 	<ul style="list-style-type: none"> EEC continues to be paid by customer Eligible investments are submitted to EVT for reimbursement up to 70% of EEC contributions. Market Driven projects are reimbursed at 100% of incremental costs (costs other than materials and installation labor can't exceed 25% of the total project costs); Retrofit projects are capped at an amount equal to the contribution to total project costs that would result in an estimated 18-month simple payback on the customer's project investment (costs other than materials and installation labor can't exceed 25% of the total project costs). Eligible investments vary depending on type of project, include planning for projects.

			<ul style="list-style-type: none"> • Projects are screened by EVT for cost-effectiveness. • Use it or lose it – after 24 months funds expire • Includes TA from EVT
Customer Credit Program	<ul style="list-style-type: none"> • Current Program – review in proceeding on ESA pilot 	<ul style="list-style-type: none"> • Customer never accepted financial incentives from a distribution or energy efficiency utility efficiency program • “Demonstrated commitment to pursuing cost effective energy efficiency on its own”. • ISO 14001 certification required • No minimum EEC or company size limitation. 	<ul style="list-style-type: none"> • Electric efficiency projects only • Continue to pay EEC, up to 90% of EEC reimbursable • After one year of successful participation, net pay option where can receive funds back prior to expenditures.

ESA Partnership Pilot Program – Participation and Results

The pilot program has attracted large commercial and industrial companies and incentivized them to develop significant projects to meet the overall goal of saving energy, improving the climate, and supporting local economies. Many participants are from the critical Vermont manufacturing industry located in some of the most rural and economically challenged parts of our state including the Northeast Kingdom, Bellows Falls, Arlington, St. Johnsbury, Vergennes, and Sheldon. In addition, the skiing and outdoor recreation industry is well represented in the ESA Pilot Program. The ability to access the entirety of participants’ EEC contributions was stated by participants as a key factor in the ability to proceed with projects.

For the three-year period of the original ESA Pilot Program, the total EEC across all nine pilot participants was approximately \$4.25 million and ranged from \$1.37 million to \$1.46 million annually with an average of approximately \$1.42 million annually. With a slow start to due to PUC process, program development, and the pandemic, participants are in different stages of project implementation.¹ A sampling of projects in process or completed include the following:

- Chroma completed four pump technology replacements which will save over 189,000 kWh of electricity per year (equivalent to 17.6 homes).

¹ For more information on program progress see “ESA Pilot Program Annual Progress Report”, filed in Case No. 19-0302-INV at: [https://urldefense.com/v3/http://epuc.vermont.gov/?q=downloadfile*618917*138120;Ly8!!KKjTGA!k4du5EQwD64NB2fxWaeXgCaK_rFvq7gJsDbT3OSm4g6KTJGy8YpssHFuNPY1jylMvXKiAhh8KETEfreg\\$](https://urldefense.com/v3/http://epuc.vermont.gov/?q=downloadfile*618917*138120;Ly8!!KKjTGA!k4du5EQwD64NB2fxWaeXgCaK_rFvq7gJsDbT3OSm4g6KTJGy8YpssHFuNPY1jylMvXKiAhh8KETEfreg$)

- Ethan Allen Inc. is currently completing an extensive lighting upgrade with 1,248 MWh of projected electric energy savings. A thermal efficiency project is also underway that will save a projected 81.2 MMBTU annually, or 580 annual gallons of oil.
- Vail Resorts is completing upgrades to more energy efficient snow guns across their Vermont resorts, which will save over 705,000 kWh of electricity annually; LED retrofits for parking lot lights and interior lighting at select Vermont resorts which will save over 146,000 kWh of electricity per year; and boiler replacements and installing programmable thermostats at select Vermont resorts which will save over 21,000 kWh and 1,400 MMBTU annually.
- Weidmann Electrical, is completing a lighting upgrade at its St. Johnsbury campus, which consists of replacing existing fluorescent fixtures in the production areas with LED fixtures and replacing fluorescent tubes with LED tubes where possible in the office areas. This upgrade will save 748,000 KWH annually or 2,552 MMBTU annually, which is the equivalent annual usage of 70 average Vermont households.

Project completion forms haven't been submitted yet for a majority of the ESA pilot projects. As such, the energy savings have yet to be verified by the Department. The descriptions above are based on preliminary estimates provided by the participants.

ESA and CCP Straw Proposal

Summary of Proposed Future ESA and CCP Programs

The table below summarizes the straw proposal developed by the PSD for the structure of the future ESA Program and CCP. The PSD developed this proposal based on review of the existing program and pilot program guidelines, statutory language, consideration of the impacts of these programs on non-participating ratepayers, and comments received from ESA participants as well as EVT and ACCD. Changes to the original straw proposal were made based on ESA Working Group comments.

Existing statutory language specifies that customers that pay at least \$5,000 in EEC may apply to self-administer through an ESA, which will contain a percentage of their EEC payments as determined by the PUC and the remaining portion shall be used for systemwide energy benefits.² The existing language doesn't anticipate that 100% of the EEC would be made available to the participants as it currently is for the ESA Pilot Program. It is important to note that ESA and CCP participants continue to benefit financially from EVT's efficiency programs through lower overall electric system costs, even when they "opt out" of EVT programs and participate instead in the ESA or CCP. The Department and Efficiency Vermont assert that retaining the value of systemwide electric benefits is important to continue to make rapid progress towards Vermont's energy goals in a manner that will provide value to both participants and non-participants in efficiency programs.

The PSD proposed two levels of self-managed programs: one where recipients could receive more technical assistance and support from EVT (proposed ESA program) and one that required more independence from participants and didn't rely on EVT technical assistance (proposed CCP). To retain some of the systemwide electric benefits that are realized from investments in electric efficiency measures that reduce costs for all ratepayers, the PSD originally proposed requiring ESA participants to complete cost-effective electric efficiency measures prior to moving forward with other non-electric

² Section 209(d)(3)(b)

measures. After further discussion with Working Group members the PSD agreed to change this recommendation to a prioritization of electric efficiency measures instead of a requirement to complete prior to moving forward with non-electric measures. The PSD also proposed a total funding cap for each program to minimize the amount of EEC that could be used for non-electric measures. The PSD straw proposal included limits on the percent of a participant’s EEC contributions each participant could receive to ensure that all EVT and PSD costs for EM&V, administration, etc. would be borne by the participants and not from other ratepayers.

Program	Proposed start	Eligibility	Major Program Requirements/Specs
Energy Savings Accounts (ESA) Proposed	<ul style="list-style-type: none"> January 1, 2024 	<ul style="list-style-type: none"> C&I customer in EVT territory Participant EEC minimum payment of \$5,000 annually Total program cap at \$2M in EEC, with prioritization of largest energy users if oversubscribed. Enrollment offered once every 3 years (even if not oversubscribed). Automatic renewal for existing participants for another 3 years if they choose. Full open enrollment every 6 years. If withdraw from the program have to wait until next enrollment period to reapply. 	<ul style="list-style-type: none"> Submit application to enter program Participants must complete an energy audit to identify cost-effective electric efficiency measures. Energy audits and costs associated with required screening are an eligible expense to be 100% reimbursed through the ESA. (Walk-through energy audits will be provided by EVT as part of their technical assistance). The goal of the program is to prioritize electric efficiency measures but non-electric energy saving measures are permissible. Non-electric efficiency projects may include thermal and process fuel efficiency, flexible load management, combined heat and power systems, demand management, energy productivity (with new definition), and energy storage. Before implementing these projects, participants must submit an Energy Management Plan (EMP) to the PUC (after review by EVT and PSD) explaining the need for these projects and, if all electric efficiency measures identified in the energy audit have not been completed, why the project is being prioritized by the participant. Customers can be reimbursed up to 75% of their EEC contributions, net of required taxes. Customers can be reimbursed up to 100% of total project costs (including materials and installation). The full cost of engineering planning, and study costs can be reimbursed up to 25% of available EEC funds. 25% of EEC contributions will be split between EVT and PSD for EM&V, program administration, technical assistance,

			<p>and other costs including customer participation in midstream and point-of-sale programs; PSD portion 2%. Includes societal cost-effectiveness screening and technical assistance from EVT. EVT collects project level information including energy savings. EMP only required for non-electric efficiency measures.</p> <ul style="list-style-type: none"> • PSD verifies project energy savings during regular annual process. • EVT claims energy savings, GHG reductions, etc. If another EEU or DU is also involved in a project the savings will be split proportional to the investments. • Customers may participate in EVT midstream, point-of-sale programs, but not in any other EVT custom or downstream incentive programs. • Customers have three years to spend accrued EEC. Any remaining EEC after three-year period goes to the EEU. Reconciliation will occur annually at the end of each calendar year (e.g., EEC collected in 2024 that is unspent by the end of 2027 reverts to the EEU). Customers may apply to the PUC to keep funds up to six years if more than three years is needed to complete a project, but funds must be obligated to receive an extension.
<p>Customer Credit Program Proposed</p>	<ul style="list-style-type: none"> • January 1, 2024 	<ul style="list-style-type: none"> • C&I customer in EVT territory • Participant EEC minimum payment of \$5,000 • Participant demonstrated commitment to pursuing cost effective energy efficiency, demand management, or energy storage on its own. • Total program cap at \$1M in EEC, with prioritization of largest energy users if oversubscribed. Enrollment offered once every 3 years 	<ul style="list-style-type: none"> • Submit application to enter program. • Projects may include electric, thermal and process fuel efficiency, combined heat and power systems, demand management, including Flexible Load Management (FLM), energy productivity (with new definition), and energy storage. • Eligible costs. Customers can be reimbursed up to 90% of their EEC contributions, net of required taxes. Customers can be reimbursed up to 100% of total project costs (including materials and installation). The full cost of engineering planning, and study costs can be reimbursed up to 25% of available EEC funds. Remaining 10% will be split between EVT and PSD for EM&V and administrative costs - PSD portion 2%.

		<p>(even if not oversubscribed). Automatic renewal for existing participants for another 3 years if they choose. Full open enrollment every 6 years.</p> <ul style="list-style-type: none"> • Have designated, dedicated contractor or staff within the corporation with responsibilities to develop, analyze, implement, and verify projects. These personnel should be a Certified Energy professional or licensed engineer and/or have an applicable degree from an ABET accredited institution or formal energy or environmental certification such as an ISO or EU standard. This will need to be certified/justified every 3 years. If withdraw from the program have to wait 3 years to reapply. 	<ul style="list-style-type: none"> • Includes societal cost-effectiveness screening by EVT. • Estimated project lifetime monetary benefits must be equal to or exceed project costs • No technical assistance provided by EVT (unless hire to provide), no savings claimed by EEU. • Can't participate in regular EVT programs, including midstream programs. • Any remaining EEC after three-year period goes to the EEU. (Obligated funds won't need to be returned.) Customers may apply to the PUC to keep funds up to six years if more than three years is needed to complete a project, but funds must be obligated to receive an extension.
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Cost of Energy Saved for Programs

The PSD completed analysis on the ESA pilot program vs. traditional EVT programs when determining what should be included in the straw proposal. Part of the analysis included looking at the EEC-funded cost of energy saved for the ESA Pilot Program and the traditional EVT C&I programs. The “cost of energy saved” refers to EEC spending to achieve a specified reduction in energy use (e.g., kWh). This metric is calculated by taking the programmatic cost of installing a measure (including incentives and administrative costs) and dividing it by the amount of energy saved. This is a common metric in the energy efficiency field for evaluating efficiency programs and can be used to evaluate which investments make the most financial sense from a programmatic and statewide perspective. In order to maximize energy savings, a program administrator traditionally would invest in the programs and measures that could be delivered at the lowest EEC-funded cost (for the state/program) of energy saved. The costs being considered are only the EEC-funded costs and do not include the portion of the cost the consumer or business would be contributing to the project.

The cost of energy saved, or EEC spending, for the ESA Pilot program is greater than the EVT cost of energy saved through the traditional efficiency utility programs, illustrating that, from a statewide program perspective, energy savings under the ESA are more expensive than those delivered by EVT. However, this is not surprising given the ESA Pilot participants can cover up to 100% of total project costs with EEC funds, whereas traditionally EVT would only provide a percentage of the cost in the form of a customer incentive. The PSD analysis only looked at EEC-funded electric energy savings impacts and did not look at other costs or benefits of the ESA program such as greenhouse gas emission reductions or economic development. One goal of the ESA program is to support projects that might not otherwise move forward with traditional EVT support in order to deliver greater economic benefits to participants and encourage energy investments.

The EEC-funded cost of energy savings is the primary factor in the PSD including program caps in the straw proposal. Caps on the self-managed programs ensure EVT can continue to run commercial and industrial efficiency programs.

Working Group Recommendations and Member Feedback on ESA and CCP Programs

ESA WG members provided initial feedback on the straw proposal during the September meeting. At the October meeting, the PSD made a presentation to provide further details on some of the analysis the PSD depended on in developing the straw proposal, including the cost of energy saved for the ESA pilot program vs. EVT traditional Commercial and Industrial Programs. Based on the feedback received at the September meeting, the PSD sent out a survey to obtain further feedback from members of the working group on the areas where there appeared not to be consensus in the group as well as to get feedback on some of the individual comments made during the meeting. Nine out of 11 ESA members (excluding the PSD) completed the survey. Below is a summary of the straw proposal items and the feedback received in the survey. Two areas where consensus was reached after further discussions is also summarized.

Prioritization of Electric Efficiency Measures

The initial straw proposal included a prioritization of electric efficiency by creating two levels to the ESA Program. Level 1 would consist of electric efficiency measures identified through an energy audit and all cost-effective measures would need to be completed prior to being eligible for Level 2, which included the non-electric measures. The PSD included this prioritization of electric efficiency measures to retain as much system-wide benefits to all electric ratepayers as possible and thereby help keep electric rates lower for all ratepayers. A second level of non-electric efficiency measures was included for those participants that may have exhausted all cost-effective electric efficiency measures, but are still paying an EEC, so they can continue to receive benefits from the program by pursuing thermal and other types of measures. Working Group members recommended that ESA Program Participants prioritize electric efficiency measures but retain the flexibility to complete non-electric efficiency measures.

Based on the comments received, the PSD changed this element in the straw proposal and now recommends an energy audit be required for all ESA participants to identify cost-effective electric efficiency measures. Also, if participants choose to implement non-electric efficiency measures, they should be required to develop an energy management plan (EMP) that describes those measures and explains why they are implementing them instead of the electric efficiency measures identified in the energy audit. The EMP should be submitted for review to EVT and the PSD and then filed with the PUC. One ESA Working Group member has suggested that Flexible Load Management measures ought to be

considered an electric efficiency measure and therefore not be required to be included in an EMP before proceeding. The PSD suggests that this detail be decided in the PUC proceeding recommended in the “Legislative Action” section starting on page 20. Except for the FLM issue, it’s the PSD’s understanding that there is ESA Working Group consensus on this recommendation.

Program Caps

ESA Working Group members also reached consensus on the proposed program caps of \$2M in EEC for the ESA and \$1M in EEC for the CCP. There was not consensus reached on prioritization of the largest energy users if the programs were oversubscribed. Commenters said that prioritizing larger energy users creates equity concerns, as they tend to be customers with more financial capital and resources further state that the program should be equitably available to multiple customers who may be in more rural locations and support socioeconomically diverse regions of the state. It was also suggested that program equity metrics be established, including geographic diversity, that must be achieved through customer enrollment. The PSD proposed a cap for both of these programs to keep the cost of energy saved reasonable as the ESA program has much higher costs of energy saved.

The PSD notes that the CCP has a smaller proposed cap given that the measures are directed by the companies without EVT technical assistance they are not eligible for EVT to claim the energy savings, nor will they be bid into the Forward Capacity Market, which provides Vermont with revenues that go into the Thermal and Process Fuel (TEPF) Programs.

Program Reimbursement percentages

ESA reimbursement limits:

In the straw proposal, the amount ESA participants can be reimbursed is limited to 75% of their EEC contributions, net of required taxes. (Note: the existing legacy program is limited to 70% and the ESA Pilot program participants can get up to 100% minus EM&V costs.) Under the proposal, the remaining 25% of ESA participants’ EEC contributions would remain with EVT to avoid shifting program and other costs onto non-participants. The 25% is intended to cover the following costs: 2-3% for EM&V (including PSD costs); 8-6% Indirect – Financial management, Fiscal Agent, incentive processing, auditing, etc.; 2-5% Midstream Incentives; 10-13% EVT Labor - Technical Assistance, Reporting, Screening, performance award, etc.

A few members agreed with the limit. Some agreed there should be some kind of limit but weren’t sure if 75% was the right amount and suggested a financial audit to confirm that was the actual costs with the ability to adjust if not.

Comments and concerns raised by some ESA Working Group members included:

- Actual costs for technical assistance could vary for participants depending on the type of project they are undertaking (including the complexity) and the number of projects they are implementing and therefore EVT should just bill the actual costs per project.
- Would like to see the amount ESA customers can be reimbursed to 85% of their EEC contributions and capping the portion of EEC contributions to 10-15% (2-3% EM&V, 2-3% Indirect, 2-3% midstream incentives, and 4-6% EVT labor).

- Reduce the costs of overhead operations by providing easy to use templates to users for reporting and allow participants to provide all data for reporting and screening, and completing the math required. If a participant needs technical assistance, they can pay for it directly. Project folders for auditing can be reviewed and participants can pay an hourly rate for the review by an engineering firm. Use a table of actual dollars, by project size for the overhead charges by the PSD and EVT, not a percentage.

The comments raised by some ESA Working Group members highlight the issue of keeping a program predictable and easily understandable for participants versus variable but more precise for exact payment of EEU services provided. The reimbursement amount was proposed to keep the program simple, predictable, to ensure other ratepayers aren't subsidizing the program, and to keep administrative costs to a minimum. Alternatively, per project tracking of time and costs would likely increase the administrative costs for the program and participants wouldn't know how much they would have available for the actual project until after they received bills for the technical assistance and other program costs. The set percentage provides a proxy for all of the EEU costs to run the program and provides certainty of how much will be available to participants.

CCP reimbursement limits:

In the straw proposal the amount CCP participants can be reimbursed is limited to 90% of their EEC contributions, net of required taxes. (Note: the existing legacy program is also limited to 90%.) The 10% is intended to cover the following costs: 2-3% for EM&V and 8-6% Indirect – Financial management, Fiscal Agent, incentive processing, auditing, etc.

A few members agreed with the limit. Some agreed there should be a limit but weren't sure if 90% was the right amount and suggested an audit to confirm that was the actual costs with the ability to adjust if not.

Comments and concerns raised by some ESA Working Group members included:

- Participants can provide the data needed for reporting and screening and actual hours should be billed versus a straight percentage.
- There should be consistency to the amount of EEC retained by EVT across the ESA and CCP programs.

Again, the comments highlight the tradeoff between the simplicity of a straight percentage designated for EEU program costs vs. specific accounting. The PSD would point out that the reason for the difference in the amount retained by CCP participants vs. ESA participants is the amount of technical and other assistance, analyses, and savings verification support provided to participants in the ESA program versus the CCP, which is mostly directed by the participant.

Other individual suggestions

In addition to the items that didn't appear to have consensus in the meeting discussions, there were individual comments made on a number of elements of the straw proposal. The PSD added those items to the member survey to elicit comments on those items. Member feedback on these items is included below.

Energy Productivity Measures

Although Energy Productivity Measures were included in the ESA Pilot Program, they were not included in the Straw Proposal as the PSD believed there should be energy savings required for productivity measures, and if there were savings, these investments would be eligible as regular electric efficiency measures.

When asked if this measure should be added a couple respondents said no, but most said yes. A couple respondents said they didn't understand what these measures were and therefore couldn't answer without further information.

Comments and concerns raised by some ESA Working Group members included:

- It's appropriate to focus eligible measures as those which include societal benefits consistent with existing EEU cost-effectiveness screening methodologies and therefore not include energy productivity measures.
- Energy productivity in an industrial environment as the concept of producing your product with less kWh per unit and stated that this is particularly important in a situation where a business is growing. It is often accompanied with a net electric energy savings, but not always. Could increase total electric usage, but not at same rate as output.
- How well energy is used should be considered and a measure of this would be through Energy Productivity. It shouldn't be limited to just electrical savings as this puts electrical saving at a higher importance than other forms of energy savings.

A Working Group member provided the following description and example of Energy Productivity as currently defined:

Industrial processing equipment uses a significant amount of energy. Equipment operations that use significant amounts of energy include pumping to achieve very high or low pressures of air or water, as well as the energy needed to create very high or low temperatures as part of the manufacturing process. Those pressure and temperature conditions are often closely correlated to the base equipment state versus being directly correlated to the product volume or output capability.

Example of an Energy Productivity project:

- A current piece of manufacturing equipment produces 100 parts per hour. Assume the specific piece of equipment might run 8 hours a day, 5 days a week. This works out to an average of 173.3 hours per month, or 17,330 parts per month produced. Assume the base electric usage of the equipment is a minimum of 10,000 kWh per month.
 - This equates to 0.58kWh / part
- Assume the capacity of the equipment is limited by the current "feed rate" of parts into the system. By developing an improved feed system of parts into the equipment, a new motor needs to be added. Assume the new motor is a 3-phase electric motor drawing 20.76 kW for 173.3 hours per month and will use 3771.7 kWh of electricity per month, making the total for the equipment 13,771.7 kWh per month. The capacity of the equipment is now 150 parts per hour, or 25,995 parts per month.
 - This equates to 0.53kWh / part

- Net Energy Impact 8.6% reduction in energy usage per part, more energy productive. Energy usage increases for this equipment

The comments raised by some ESA Working Group members highlight the issue of whether EEC funds should be used for projects that potentially don't have any energy savings but bring financial value to businesses.

The PSD recommends the following definition revision to require that there be energy savings as part of this measure.

“Energy productivity programs and measures are investments that reduce the amount of energy required to produce a unit of product below baseline energy use. Any new equipment installed to increase productivity must be a higher efficiency version of the equipment than that represented by industry standard practice equipment or minimum efficiency equipment as set by federal or state standards and codes, if such equipment is available. Baseline energy use shall be calculated as the average amount of energy required to make one unit of the same product during a two-week baseline period in the two years preceding implementation of the program or measure. The value of the lifetime energy savings generated by the lower energy consumption per unit of product compared to the baseline energy use per unit should be greater than the cost of the newly installed equipment.”

If efficient equipment isn't used in the project to reduce the amount of energy required to produce a unit of product when increasing production, then it is not an efficiency measure and is simply a production improvement that should be paid for by the business and may not be paid for by ESA funds.

Additionally, no matter the final determination regarding the eligibility of energy productivity measures, specific, consistent, reporting criteria should be required to demonstrate potential savings exist, including the following:

- Measurement by MMBtu/unit of output either at facility level or production line/equipment level (e.g. MMBtu/ton of paper) for a set duration (day/week/month/year)
- Normalize the data either for weather or production
- Convert the MMBtu/unit data into percentage of energy saved (compared to unimproved production figures) to allow for comparison across industry types.

In order to show these energy savings, documentation would need to be provided, including but not limited to, electric and gas billing rates and structure, past production figures, baseline energy use pre improvements and post for each type of product manufactured on the line and invoices showing the purchase and installation of the equipment.

At the last meeting of the ESA Working Group there appeared to be consensus with the PSD proposed definition change for energy productivity (some members voiced agreement and no members voiced disagreement).

Cap on engineering and studies

The straw proposal included a 25% cap on the amount of participants' EEC contributions that could be spent on engineering/studies. This cap was included to ensure some energy savings or benefits are

achieved with the EEC funds, versus potentially spending all the funds on engineering or studies with no projects implemented. Additionally, there was reasoning that if the company had to invest funding in the engineering and study costs for a project it would be more likely to be implemented. A few members that responded to the survey agreed with the cap.

Comments and concerns raised by some ESA Working Group members included:

- A cap could prohibit the pursuit of bigger scale and more complex projects that have larger engineering and study costs.
- Engineering costs required to prepare a project for societal cost screening should be 100% reimbursable as that is a required effort for the program.
- Having requirements related to % of EEC could create more of an administrative burden and could be cumbersome to track over time.
- Have the cap be 25% of the EEC contributions over the maximum accrual period.
- Explore other options besides a flat cap percentage, such as rolling the cost of the feasibility study into the total project cost for screening, with 25% established as a minimum.
“If the total project cost screens with X% of the feasibility study is included, then X% of the feasibility study is covered using EEC funds. If X% is less than 25%, then 25% of the feasibility study would be covered using EEC funds. For example, if a project screens with 100% of the feasibility study cost included, then 100% of the feasibility study costs should be eligible for EEC reimbursement. If a project only screens with 15% of the feasibility study cost included, then 25% of the feasibility study should be eligible for EEC reimbursement.”
- Establish a percent of planning/engineering cost that is eligible, separate from the % of EEC, such as percent of total project cost, which is a more standard approach used in any project.

The comments raised by some ESA Working Group members highlight the tradeoff of allowing more or less EEC to be used for studies and engineering. If more costs than the proposed caps are allowed that leaves less for implementation of projects and the potential for money to be spent without any projects moving forward. On the other hand, if there are high engineering and study costs and a limited amount of EEC funds can be used, the company may not pursue a project, especially if its particularly complex. Additionally, including a cap could increase administrative costs for the program.

Time period to spend accrued EEC

The straw proposal suggested that customers have three years to spend accrued EEC with the ability to request up to six years from the PUC. The purpose for setting these time periods was to ensure the funds are not obligated more than three years without explicit permission from the PUC as that aligns with the three-year performance period and budgets for Energy Efficiency Utilities (EEUs).

Of those that responded, a slight majority agreed with these time periods. One commenter who agreed said that projects should be able to continue using EEC funds to offset the capital costs over the project lifetime.

Comments and concerns raised by some ESA Working Group members included:

- Need to define the criteria for a three-year extension up to six years.

- Because funds cannot be spent until accrued an additional 12-18 months should be provided for project completion after the three-year accrual period.
- Typically spend a year studying alternatives, a year designing the improvements, a year constructing them, and another year collecting and processing data to assess the energy savings, which results in waiting up to four years before we are in a position to receive reimbursement, so participants should have at least that long to spend their funds and then be able to apply to the PUC if they need six years.
- Expensive projects require several years of EEC savings to cover the costs. One solution is to save up the EEC until there is enough to fund the project, which could be more than three years with the downside being the savings get deferred until the project is completed.
- Funds should be committed and/or expended within two years of accruing the dollars from the end of a three-year accrual period.

The comments raised by ESA Working Group members highlight the tradeoff between participant flexibility for completing projects within a larger time frame vs. aligning the time period with the EEU performance period to ensure the program savings and dollar amounts are appropriately accounted for in their program goals and plans.

Application Timing

The straw proposal included an application process every three years as that would align with the EEU three-year budget and goal setting process and provide predictability in the amount set aside for these programs and an estimate of the savings that would be achieved for a performance period. Also, this would minimize the administrative burden of continually reviewing applications. A few members agreed with this approach.

Comments and concerns raised by some ESA Working Group members included:

- What is the actual administrative burden and does that outweigh the cost/benefit analysis of letting participants join each year. Need more data to make a determination.
- Perhaps the cost of an annual process could be recaptured in the program.
- There might not be a lot of applicants on a yearly basis and it's a big deterrent for a business to join the ESA if they have to wait up to three years before they can apply.
- Three years is too long and may prevent customers who serve more socioeconomically vulnerable areas from participating.
- Customers should be able to apply on an annual basis.
- Reduce the application process to every 18 months.

The ESA Working Group comments highlight the tradeoffs between the flexibility of letting applicants into the program on a more regular basis vs. setting it for a three-year period. The PSD notes there would be additional complexity for tracking participant participation if participants started at different times but retained a three-year participation period, and the impact on EEU budget and performance goals should be considered.

Other feedback and items for consideration

In the survey, members were asked if they had any other comments or recommendations. Responses are included in Appendix B.

Consensus Items

There are a number of areas where there appears to be consensus with the straw proposal (no ESA WG members have raised issues with these items at this point, or members have specifically expressed agreement).

Proposed Future ESA Program

Eligibility:

- Must be a C&I customer in EVT territory.
- Participants must pay a minimum EEC of \$5,000 annually.
- Total program cap at \$2M in EEC

Major Program Requirements/Specs:

- An application should be submitted to enter program.
- Participants must complete an energy audit to identify cost-effective electric efficiency measures.
- Energy audits and costs associated with required screening are an eligible expense to be 100% reimbursed through the ESA. (Walk-through energy audits will be provided by EVT as part of their technical assistance).
- The goal of the program is to prioritize electric efficiency measures but recognize and allow for other non-electric energy saving measures.
- Non-electric efficiency projects may include thermal and process fuel efficiency, flexible load management, combined heat and power systems, demand management, energy productivity (with a new definition), and energy storage. Before implementing these projects, participants must submit an Energy Management Plan (EMP) to the PUC (after review by EVT and PSD) explaining the need for these projects and if all electric efficiency measures identified in the energy audit have not been completed why the project is being prioritized by the participant.
- Will include societal cost-effectiveness screening and Technical Assistance from EVT. EVT collects project level information including energy savings. No Energy Management Plan required.
- PSD will verify energy savings during regular annual process.
- EVT claims energy savings, GHG reductions, etc. If another EEU or DU is also involved in a project the savings will be split proportional to the investments.
- Customers may participate in EVT midstream, point-of-sale programs, but not in any other EVT custom or downstream incentive programs.

Proposed Future CCP

Eligibility:

- Must be a C&I customer in EVT territory.
- Participants must pay a minimum EEC of \$5,000 annually.
- Applicants have demonstrated commitment to pursuing cost effective energy efficiency, demand management, or energy storage on its own.
- Applicants have designated, dedicated contractor or staff within the corporation with responsibilities to develop, analyze, implement, and verify projects. These personnel should be a Certified Energy professional or

licensed engineer and/or have an applicable degree from an ABET accredited institution or formal energy or environmental certification such as an ISO or EU standard. This will need to be certified/justified every 3 years.

- Total program cap at \$1M in EEC

Major Program Requirements/Specs:

- An application should be submitted to enter program.
- Projects may include electric, thermal and process fuel efficiency, combined heat and power systems, demand management, including Flexible Load Management (FLM), energy productivity (with new definition), and energy storage.
- Estimated project lifetime monetary benefits must be equal to or exceed project costs
- No Technical Assistance provided by EVT (unless hire to provide), no energy savings, greenhouse gas emission reductions, etc. claimed by EEU.
- Can't participate in regular EVT programs.

Legislative Action

The ESA Working Group believes that some of the recommended changes to the ESA and CCP would require legislative action. Specifically, the ability to use ESA funds for non-electric measures such as thermal and process fuel efficiency, combined heat and power systems, demand management, energy productivity and energy storage would need to be authorized. Additionally, having caps on ESA program and CCP participation (capping the ESA program at \$2 million a year and the CCP at \$1 million a year). The Working Group further recommends that these amounts be reconsidered in the future. It is therefore recommended that these changes be made through session law instead of permanent statute changes so they can be modified by the Public Utility Commission (PUC) if needed in the future. The remaining topics should be able to be addressed by the PUC.

The PSD recommends that the General Assembly direct the PUC to conduct a proceeding to make the changes to the ESA and CCP and that the PUC be directed to consider the information provided in this legislative report in that proceeding. The PSD recommends that many of the details of the program, such as the percentage of EEC available to participants, application process, etc. be set by the PUC in those proceedings rather than having those explicitly defined in statute so they may change if needed in the future without having to change statute language.

If there is no action by the legislature, the existing energy savings account program will remain in effect, and open to all customers contributing \$5,000 or more per year in EEC contributions (see page 6 for a summary of the existing program).

Appendix A: Key Considerations/Questions for Future Self-Managed EE Programs

- Program Framework
 - Will there be a single ESA program or multiple programs beginning in 2024?
 - Should program(s) be renamed? Incorporate Grid Resiliency?
- Participant Eligibility
 - How will companies be selected? (application, RFP, size, energy engineer on staff, other?)
 - May a customer select only a portion of its sites/locations/divisions to participate, or must all company sites/locations/divisions participate?
 - Any caps on number of customers that may participate? Or total available funding?
 - Can a company opt-in and opt out over time?
- Funds available
 - What level of EEC contributions will be available to participants? Will it be based on % of total EEC contributions? or some other calculation?
 - Will there be a time limit within which participants must use accrued funds?
 - Consider amount of lead time currently needed for projects/materials, etc. (longer lead times needed)
 - Apply future ESA/EEC payments to completed project?
- Project Development
 - Are standard EVT services available to participants to assist with project development and implementation? (e.g., site visits, technical assistance, calculations, etc.)
 - Must participants pay “out-of-pocket” for any these services? Or establish an MOU or other contract with the EEU/EVT?
 - Will Energy Management Plans be required? If so, must they be filed with the PUC?
- Project Types
 - Which categories of measures will be allowable? (Current measures across existing programs include: electric efficiency, thermal and process fuel efficiency, energy productivity, demand management, and energy storage. Other measures that have been proposed include: power quality and grid resiliency.)
 - Will measures no longer supported by EVT be allowable (e.g., fossil fuel boilers)?
 - Must custom measures pass societal cost-effectiveness screening?
 - Will participants be able to access upstream, midstream, and standard rebate programs?
 - How will ESA projects coordinate with VGS, TEPF, and/or Tier III programs?
- Reimbursements
 - Will there be limits on the % or amount of project/measure costs eligible to be reimbursed?
 - Will full project cost be eligible for reimbursement if screened using incremental market opportunity measure cost?
 - Will there be a limit on how long funds remain available before a customer loses access to them?
 - Consideration of life-cycle cost

- EVT Role
 - Will EVT be responsible for project development, screening and establishing savings estimates?
 - What are expectations related to administration of the program, and reporting of costs and savings?
 - What will be expected related to savings verification activities?
- PSD Role
 - What are expectations related to oversight of the program, evaluation and verification of savings?
 - If EMP's are required, does the PSD have a role in reviewing/commenting?
- PUC Role
 - Will need to provide an order on future ESA program(s) and whether CCP should continue or be revised.
 - What is their ongoing involvement in the program, do they review and/or approve EMP's if required?

Appendix B: Other ESA Working Group Member Feedback and Items for Consideration

In the survey sent to ESA Working Group members there was a question posed on whether they had any other comments or recommendations, and responses included the following (some include further discussion and comments from the November meeting):

- Incorporating the DOE Ready program or ISO 50,001 management system elements may be a way to help participants establish sustainable programs and systems that drive efficiency measures.
- Program recommendations should be workshopped across different stakeholder groups, including electric utilities, prior to being proposed to the legislature.
 - The PSD recommends that other stakeholders be engaged during the Legislative and PUC process.
- Efficiency Vermont prefers not to be involved with measure screening for the Customer Credit Program (CCP) and requests confirmation that screening would be performed by the customer.
 - Further Discussion:
 - Previous CCP had EVT involved in screening and the PSD is proposing the same involvement.
 - EVT doesn't feel that the 10% for CCP would cover the screening, would only cover financial mgt. Might be workable if they were part of the PSD EM&V budget.
 - May create consistency issues if customers had to screen themselves.
- Flexible Load Management measures are currently being evaluated for a screening process, and Efficiency Vermont suggests that any ESA participant should be eligible to pursue FLM in a manner consistent as all other Efficiency Vermont customers.
- Efficiency Vermont would like to confirm whether the modified screening tool for the ESA Pilot, which has an economic development adder, continue to be used. Not specified in straw proposal.
 - Cost effectiveness screening is required for all projects and measure funded with the Energy Efficiency Charge. The ESA Pilot is no exception and is required to be evaluated from a societal perspective. The purpose of the societal cost test is to indicate whether the benefits of energy efficiency will exceed the cost from the perspective of society as a whole. It is important to stay true to the parameters of the societal test for efficiency, which is agnostic to where the funds are coming from or who pays.
 - A Non-Energy Benefits (NEB) adder is currently included in the screening tool to capture the intangible and difficult to quantify benefits accrued by energy efficiency measures including, from a customer's perspective, increased comfort, convenience, productivity, and health. Also, from a utility perspective, reduced utility shut-offs and bill complaints. So, the societal cost test already includes a large portion of the impact of economic development through both the NEB adder and through the accounting for the energy savings themselves. The various benefits are not only difficult to quantify, they are also not itemized and valued individually. Economic Development benefits are represented but not individually identifiable within the NEB adder currently in place. Therefore, the

PSD believes that at least some of the NEB adder would need to be reduced if you a separate standalone economic development adder was developed. This approach potentially requires all the other NEB benefits represented to be individually itemized. The NEB adder is used as a proxy so that this kind of itemization, which is challenging for many metrics (such as comfort) and could require additional tracking and evaluation costs, can be avoided.

- The PSD recommends additional analysis be provided to show if there is justification for having an additional separate economic development adder. This could be discussed and decided in a PUC process.
- This is an important time to change all of the paradigms of the historical Energy Efficiency programs in the State of Vermont. If the State wants to achieve its energy and greenhouse gas goals, it needs significant engagement by the Commercial and Industrial users. These users often have difficult and business risk projects which they should be encouraged to execute. Efficiency charges range from 10's of thousands to 100's of thousands of dollars. The goal should be to get as much back to the participants as possible to advance more projects. The original SMEEP program was highly successful and focused on getting the dollars to the projects. This should be the role model for all C & I customers going forward. All of the traditional actions and organizational roles of both the PSD and EVT should be reassessed and proposals from those teams to reduce their overhead costs and activities should be brought forward. The focus should be on the energy and the greenhouse gas reductions, not all the bureaucracy around it.
 - Further Discussion:
 - Evaluation, Measurement, and Verification (EM&V) is required for the energy efficiency programs both through statute and to allow us to bid those energy savings into the Forward Capacity Market, for which we receive millions of dollars back, which is currently used for thermal efficiency programs.
 - An Administrative Efficiency Performance Indicator was established during the last EEU goal and budget setting process which requires the tracking, reporting, and decrease of administrative costs.
 - The PSD EM&V budget is in the 2-3% range (of the total EEU budgets), which is comparably much lower than a majority of others across the country.
- One of the goals of the ESA Program was to help companies install projects that had energy savings and process savings that didn't pass a company's ROI template. This program would allow a company to focus on projects that were necessary for the business operation but would not get approved due to high cost and low ROI. The funds from the ESA Program would help smooth over these issues so projects that didn't meet a company ROI would still get funded and installed.