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January 16, 2018

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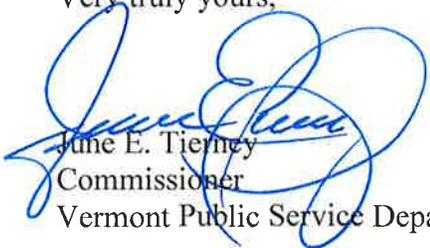
Re: Recommendations Regarding the Establishment of a Pilot Self-Administered, Total Energy Program, Pursuant to Act 77

Dear Senators and Representatives:

I am pleased to submit this report detailing the recommendations of the Public Service Department related to improvements to self-administered energy efficiency programs and the potential establishment of a Total Energy Pilot Program. This report was prepared pursuant to Act 77, passed during the 2017 session.

If you have any questions or concerns upon reading this report please do not hesitate to contact myself or Ed McNamara, Director of Energy Policy and Planning.

Very truly yours,



June E. Tierney
Commissioner
Vermont Public Service Department





RECOMMENDATIONS REGARDING THE ESTABLISHMENT OF A PILOT SELF-ADMINISTERED, TOTAL ENERGY PROGRAM

Public Service Department

January 15, 2018

Submitted to the Senate Committees on Finance, on Natural Resources and Energy, and on Agriculture and the House Committees on Ways and Means, on Energy and Technology, on Commerce and Economic Development, and on Agriculture and Forestry.

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OVERVIEW OF DPS RECOMMENDATIONS

As required by Act 77 of 2017, in this report the Public Service Department (PSD or Department) provides recommendations regarding how to increase the use of self-administered energy efficiency programs and whether to establish a total energy pilot program utilizing efficiency funds derived from the Energy Efficiency Charge (EEC) that applies to all electric utility customers. In Part One of this report, the Department recommends the establishment of a pilot **Self-Administered Energy Efficiency Program** for commercial and industrial customers. In Part Two, the Department explains why it would be appropriate to allow Efficiency Vermont (EVT) and other entities to implement a **Total Energy Pilot Program** that would be delivered as part of the **Self-Administered Program** described in Part One.

Under the Department's proposal, a limited number of businesses would be able to participate in the **Self-Administered Energy Efficiency Pilot** and these participants would be able to retain their EEC funds for use at their facilities, and also allow these customers to select the entity that would provide technical assistance for energy efficiency measures. Such a program could limit the use of EEC funds for electric efficiency measures; however, the Department is further proposing a **Total Energy Pilot Program** that would allow customers participating in the **Self-Administered Pilot** to use the EEC funds for thermal and process fuel efficiency measures as well as storage. While the **Total Energy Pilot** would not use EEC funds to provide incentives for fuel switching measures such as electrification or for on-site generation, the customer's EEC funds could be used for technical assistance in identifying such measures, with pre-existing state programs then available to provide incentives for the business to implement fuel switching and on-site generation.

Background on Act 77

Act 77 contained multiple provisions aimed at improving the economic competitiveness of rural enterprises and communities across Vermont. During consideration of the legislation, testimony was taken concerning the increasing energy efficiency utility charges rural businesses were paying. Both small, locally-owned businesses and large multi-national corporations expressed their concerns about the competitive disadvantage their businesses faced due to the rising charge. Several businesses and advocacy groups asked for relief from the charge, others asked for more flexibility in how they accessed the benefits of the charge, and others argued the charge and the efficiencies implemented with the funds had made these businesses more competitive.

As a result, Act 77 requires the Commissioner of Public Service to submit a report on or before January 15, 2018, with recommendations on whether and how to increase participation in self-administered energy efficiency programs, in part to improve the economic competitiveness of rural businesses. The Act also requires the Department to recommend whether to establish a multiyear pilot program that would allow customers to utilize EEC monies for investments that reduce total energy consumption with respect to electric, heating, transportation, and process fuels. Act 77 also included clarifying language that directed the Public Utility Commission (PUC or the Commission) to consider the "state's economic policy interests" and the "state's economic vitality" when establishing the EEC.

This report, like Act 77 itself, is structured in two parts. Part One addresses the Department's recommendations regarding self-administered energy efficiency programs. Part Two addresses the

Department's recommendations on the potential establishment of a total energy pilot program. As explained below, these programs would exist as a supplement to the pre-existing energy efficiency Thermal Efficiency and Process Fuel (TEPF) programs delivered through the energy efficiency utilities. These TEPF programs derive their funding from sources that are distinct from the EEC.

In preparing this report, the Department held stakeholder meetings with interested parties, including the Agency of Commerce and Community Development, the energy efficiency utilities (EEUs), the regional development corporations, the PUC, electric distribution utilities, individual commercial and industrial companies, and other affected entities. This outreach included two stakeholder meetings, one focused on the self-administered program considered in Part One of this report, and the second focused on a total energy component considered in Part Two of this report. Additionally, Department staff discussed these issues with individual business and worked with the Vermont Chamber of Commerce to conduct an online survey to receive further input.

Background on the Energy Efficiency Utility Structure

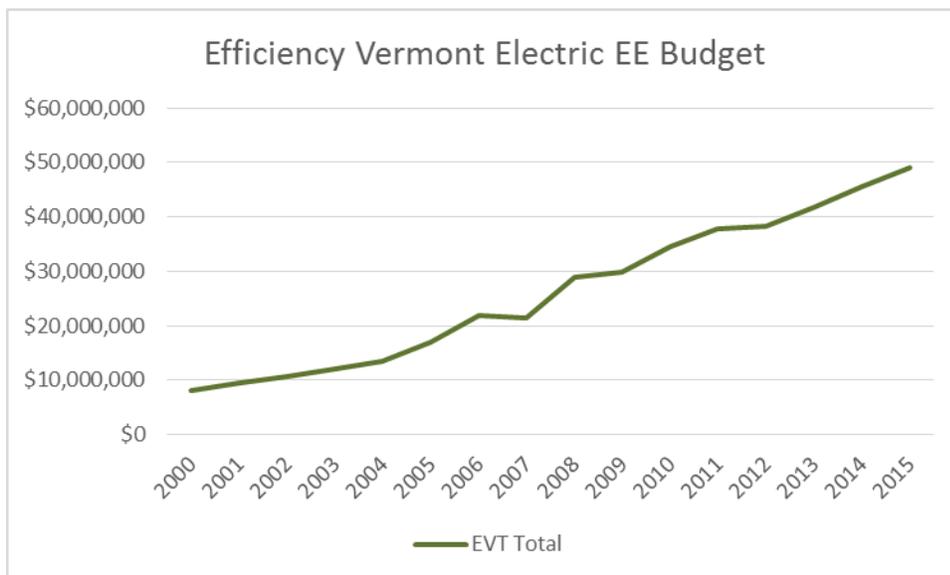
The Vermont Legislature has long required that electric utilities include “comprehensive energy efficiency programs” as part of their responsibility to deliver electricity to their customers at least cost (30 V.S.A. § 218c). These programs have been incorporated into rates and funded through ratepayers’ electric bills. During the 1980s, regulators and utilities valued electric efficiency based on impacts to stability and cost effectiveness of electricity services delivery. The first phase of electric efficiency service delivery was based on each utility working with its customers to reduce use and maximize system effectiveness through cost-effective end-use energy efficiency technologies. After the better part of a decade under this approach, the state decided that centralizing the functions of delivering energy efficiency through one entity would better align the State’s energy efficiency incentives and programs for delivering cost-effective efficiency measures.

In 2000, Vermont began administering these programs through EEUs. Efficiency Vermont was created for this purpose; it originally operated under a contract with the PUC for all electric service territories other than Burlington. In 2010, the PUC modified the structure of efficiency delivery by creating a longer-term “Order of Appointment” model that encourages the EEUs to better plan for long-term efficiency programs that transform markets, while allowing for a greater degree of regulatory oversight and transparent public processes to determine budget and performance targets. The City of Burlington Electric Department (BED) operates programs in its service territory; EVT serves the remainder of the state. BED’s programs are required to have the same “look and feel” as EVT programs. Since April 2015, Vermont Gas Systems (VGS) has operated natural gas efficiency programs under a Board-approved Order of Appointment to serve as an EEU, although it was operating efficiency services prior to being appointed an EEU.

Funding for the regulated electric and natural gas energy efficiency programs is collected through a non-by-passable volumetric energy efficiency charge on customer’s bills. In addition to delivering “regulated” electric energy efficiency services EVT and BED also deliver energy efficiency services for

“unregulated” TEPF including heating oil, propane, and kerosene with the use of proceeds generated from the ISO New England Forward Capacity Market (FCM) and the Regional Greenhouse Gas Initiative (RGGI).

EEU budgets and quantifiable performance indicators (goals) are established every three years in the context of a Demand Resources Plan (DRP) proceeding held before the PUC. The most recent DRP proceeding concluded in November 2017 and established budgets and goals for the 2018-2020 performance period (as well as longer term budgets and energy savings forecasts). The PUC balances a number of legislatively directed considerations when it determines the EEU’s three-year budgets and goals, as well as approving efficiency programs delivered by EEU’s. These directives can be found in 30 V.S.A. § 209(d)(4) and 30 V.S.A. § 209(e). For the regulated electric and natural gas programs they include the directive to set budgets at a level adequate to acquire “all reasonably available, cost-effective energy efficiency savings,” with particular emphasis on “reducing the size of future power purchases; reducing the generation of Green House Gasses (GHGs); limiting the need to upgrade the state’s transmission and distribution infrastructure; [and] minimizing the costs of electricity.” In addition, V.S.A. § 209(d)(3) was amended as part of Act 77 to include specific language directing the PUC to consider the state’s economic vitality and economic policy interests when setting budgets and associated charges. The chart below show’s Efficiency Vermont’s approved electric efficiency budgets since its creation.



For the unregulated TEPF program budgets and goals the PUC allocates FCM and RGGI proceeds to EVT and BED based on forecasted revenues (TEPF funds are not eligible to be used for natural gas energy efficiency). Because TEPF funds are generally outside of EEU and PUC control, the TEPF budgets established in the Demand Resources Proceeding are estimates.

Vermont law, 30 V.S.A. §209 requires that the PUC “[p]rovide for the independent evaluation of programs delivered” by an EEU. The PSD is the entity identified to carry out this role since the EEU’s

inception, first in Docket 5980,¹ and more recently in the “Process and Administration of an Order of Appointment” approved by the Commission on February 16, 2016. The primary objective of the PSD’s evaluation is to annually verify the energy savings claimed by the EEs and measure the EEU energy saving performance relative to the benefits expected from the investment. In addition, the PSD also completes energy efficiency market assessments and potential studies to assess the saturation of efficient equipment in the market and estimate the cost to achieve the remaining potential.

The EEs provide services to all ratepayers in two general categories. Technical assistance identifies specific efficiency activities that different customers may undertake. For industrial users, these may include efficiencies in the operations of a building (lighting and climate control) and industrial processes unique to each industrial business. The second category of service is a group of incentives for energy using equipment to buy down the payback period for new energy efficient equipment. Among the most well-known of these incentive programs is the reduced price for more efficient lighting. Beyond lighting and energy efficient bulbs, the EEs provide incentives for equipment, motors, custom mechanical process improvements, and even some specialty items such as the snow-making guns used at Vermont ski areas.

For large firms, the EEs maintain account managers who facilitate the identification of cost-effective energy efficiency opportunities and identify either prescriptive or custom incentives for energy efficiency opportunities. The EEs provide incentives or assistance for improved:

- Processes, such as through “lean” improvements;
- Motors, drives and pumps;
- Compressed air systems;
- Lighting equipment, controls, and design;
- Heating, ventilation, and air conditioning (HVAC);
- Refrigeration and controls;
- Commissioning existing buildings;
- New construction and major renovation; and
- Insulation and air sealing.

These measures will deliver projected benefits for the lifetime of the efficient equipment (typically more than 12 years).

¹ In its Order of 9/30/99 in Docket 5980, the PUC approved a Memorandum of Understanding between parties that identified the PSD as the entity to “provide for formal evaluation of the Core Programs and any other System-wide programs approved by the PUC for EEU implementation.”

PART ONE – SELF ADMINISTERED EFFICIENCY PROGRAMS

Introduction

In Part One of this Report, the Department proposes the creation of a pilot ***Self-Administered Energy Efficiency Program***, which would allow commercial and industrial customers of various sizes greater control over energy efficiency expenditures. Additionally, the Department recommends that the EEU be instructed by the PUC to better publicize the existing Energy Savings Account and Customer Credit program so that any companies that are not able to participate in the Self-Administered Pilot are aware that an alternative process is available.

Overview of Self-Administered Efficiency Programs

In general terms, a self-administered energy efficiency Program recognizes that certain customers may have unique or customer-specific requirements, or facilities management expertise to manage efficiency work in their facilities more cost-effectively than participating in the typical offerings of the Energy Efficiency Utility programs. This approach is not the same as an opt-out, where certain customers are not required to implement efficiency measures. Instead, customers in a self-administered program are provided with greater control over the use of program payments while still achieving verifiable savings. Vermont is not unique in offering such programs; there are currently 13 states offering some form of a self-administered efficiency programs.²

Self-Managed Energy Efficiency Program - SMEEP (Currently used by Global Foundries)

The SMEEP program, of which Global Foundries is currently the only eligible customer, completely separates the participant's energy efficiency program from the EEU and EEC structure, while requiring a substantial investment in cost-effective energy efficiency.

Section 209(j) of Title 30 provides for very large users to design and carry out their own efficiency activities and not pay the Electric Efficiency Charge. This statute was designed to provide an alternative to the unique situation at Global Foundries (previously IBM). Global Foundries has its own campus in Essex Junction and Williston and has a dedicated electricity distribution system. Since 2010 IBM/Global Foundries has carried out a cumulative total of \$6.1 million in qualifying energy efficiency investments under SMEEP, a sum roughly equivalent to what it would have paid for efficiency services under the pre-EEU model. IBM/Global Foundries also reports results to the PUC for each of year of its program and those reports have demonstrated the economic advantage to the company of its participation in SMEEP. No other company in Vermont meets the legal requirements which have allowed Global Foundries to develop its own efficiency program.

Customer Credit Program - CCP (Currently used by OMYA)

The Customer Credit Program was created during the initial process establishing the third-party EEU structure. Global Foundries was a CCP participant until the creation of the SMEEP program. Omya, Inc.,

² <https://aceee.org/sector/state-policy/toolkit/industrial-self-direct>. As of January 2017, Arizona, Colorado, Idaho, Michigan, Minnesota, Montana, New Jersey, New Mexico, New York, Oregon, Vermont, Washington, and Wisconsin offer self-direct programs for large customers.

is now the only CCP participant. The CCP is similar to the Energy Savings Account program (described below) in that it allows participating firms to receive a portion of their EEC payments back to cover the costs of energy efficiency investments. It differs in that the range of possible energy efficiency expenditures is wider in some respects; up to 90% of the EEC may be returned. Omya has indicated that it is close to running into limits on the amount of electric efficiency measures that can reasonable be installed at its facility and is interested in having greater flexibility in the use of EEC funds.

There has been limited interest from companies to pursue the CCP based on a combination of the difficulty of meeting the qualifying requirements and a recognition that existing staff may not have expertise in efficient technologies.

The CCP and SMEEP programs are designed for firms that have never received any assistance from their EEU and have demonstrated expertise in implementation of energy efficiency.

Energy Savings Accounts

Recognizing that certain business customers already may be committed to energy efficiency and have considerable expertise in implementing it, the energy savings account (ESA) option allows eligible business customers to administer their own efficiency efforts instead of participating in EEU services. To date, there have been two participants in the ESA program. An ESA is a way for an individual company to set aside possible investment dollars for implementing efficiency improvements.

The ESA program allows participating firms to receive a rebate of up to 70% of their EEC expenditure over the course of two or more years for use in self-administered energy efficiency investments in their own facilities. The firm forfeits unused funds to be used by the rest of the EEU programs. The EEU provides some technical assistance and administers the program. Firms must pay at least \$5,000 per year in EEC in order to be eligible for the ESA program.

As required by 30 V.S.A. § 209(d)(3)(B), in 2009 the PUC established a process by which eligible customers may apply to the PUC for an energy savings account. Customers pay their EEC as usual, and can then apply for reimbursement of qualified expenses from their own funds. The law provides that the energy savings account contains a percentage of the customer's EEC payments for use in making energy efficiency investments, and that the remaining portion of the charge be used for system-wide benefits and are not eligible for customer use under the program.

Like the Customer Credit Program, businesses have not expressed great interest in this approach for the same reasons. Qualifying for the program is seen as too onerous and there is a general concern that pursuing efficiency options without professional support can be difficult. Participation requires both energy efficiency expertise (including how to use various tools developed for use by the EEUs, such as the cost-effectiveness screening tool) and administrative capacity to handle the extensive requirements regarding how funds may be used and how savings are documented. In part due to these barriers, to date there have been only two participants in the ESA program.

Table 1.1 (below) provides a comparison of the ESA and CCP programs that the Department created as part of these efforts, with a focus on the areas of Customer Type, Eligibility, Program Design and Energy Savings and Verification.

Program Name	Customer Type	Eligibility	Program Design	Energy Savings and Verification
Energy Savings Accounts (ESA)	Large Business	<p>Paid at least \$5,000 in EEC...</p> <ul style="list-style-type: none"> - Over the last year or - Average of last 3 years EEC exceeds \$5,000 or - Customer is in a new building and estimates paying an EEC greater than \$5,000 <p>Once enrolled customer is not eligible to participate in Statewide EEU programs, but can receive EEU technical assistance</p>	<p>Reimbursed for “Qualified Expenses”</p> <ul style="list-style-type: none"> - Market Driven = 100% of incremental costs - Retrofit = Portion of planning, engineering, labor & equipment costs necessary to realize an 18-month payback. <p>Projects need to be “new”... not received incentives in the past</p> <p>Available Funds = 70% of EEC contribution</p> <ul style="list-style-type: none"> - After 2 years customer can apply to PUC for a greater % 	<p>Savings are counted towards EEU performance goals. Savings verified by DPS</p>
Customer Credit Program (CCP)	Commercial / Industrial	<p>Never accepted a financial incentive from a VT Energy Efficiency program</p> <p>Customer has demonstrated a commitment to pursuing cost effective energy efficiency on its own by:</p> <ul style="list-style-type: none"> - Certification under ISO standard 14001 and - Describing the program that shows a commitment to implementing cost- effective electric efficiency in the customers facilities <p>Once enrolled customer is not eligible to participate in Statewide EEU programs</p>	<p>Reimbursed for “Qualified Expenses”</p> <ul style="list-style-type: none"> - Market Driven = 100% incremental costs - Retrofit = Portion of planning, engineering, labor, equipment costs necessary to realize a 12-month payback. - Planning – 100% of costs <p>Available Funds = 90% of EEC contribution</p>	<p>Savings are not counted towards EEU performance goals. Savings verified by DPS</p>

Act 199 Report³

During the 2014 legislative session, representatives of some large electricity users raised concerns about the high price of electricity as one factor contributing to overall high business costs in Vermont. In order to address those concerns, the Legislature included Section 13 in Act 199, which directed the Department and the Agency of Commerce and Community Development (ACCD) to study electric rates, efficiency, retail choice and cost-shifts among customer classes. Over 18 months, the PSD and ACCD worked closely with stakeholders to identify concerns.

Several manufacturing businesses raised concerns during this process about the continuation and expansion of future investments and future payments through the EEC. Those concerns included the following:

- Although all customers pay the EEC, not all customers will take advantage of the efficiency services. As a result, the individual benefits from participating in efficiency activities are not uniform while the payments are.
- The premise that a third party can identify efficiencies in a business about which they are not the primary experts. Particularly for industrial processes, which are unique to each business. Some business owners noted that it takes a significant amount of time to bring EEU consultants up to speed with respect to systems operations, and that time is not accounted for in the cost of efficiency investments.
- The EEC is a mechanism over which businesses do not have any control, and business can only receive efficiency services from a single efficiency provider (EVT for most customers, BED for others). This differs significantly from most business models where a business can decide what to invest in and who to consult with to make these investments; this ability to select a vendor provides assurance that investment decisions are made by the company and are not being imposed upon them. Additionally, some users hypothesized that competition would also put pressure on the EEUs to consider their own operational costs.
- The amount that all users have paid as their electric efficiency charge has increased from the advent of the EEUs to today and the PUC has approved continuing increases through 2017 with growth rates slowing in 2018. EEC rates are now over 8 percent and among the highest in the nation for delivery of electric energy efficiency services through utility programs. It is not obvious to industrial users that the opportunities for efficiency investments have increased or will increase to justify the rate increase. In fact, some customers suspect that the most cost-effective investments have already been made and that future investments will have longer paybacks and lower returns.
- Most businesses note that a payback period of two years or less is necessary for consideration of an energy efficiency investment. This contrasts with qualifying efficiency utility investments that typically exceed seven years.
- There are cases where industrial users do not believe that the savings promised or reported by the EEUs are realized. Savings calculations are often the product of modeled results. Reporting modeled rather than real-world results is a basis for skepticism among some users.

³ The Act 199 Report is available at:

http://publicservice.vermont.gov/sites/dps/files/documents/Pubs_Plans_Reports/Legislative_Reports/Act_199_Report_FINAL.pdf.

- There a lack of clarity regarding when all fuels can be considered and when a particular efficiency program is exclusive to electricity use. However, if expanding the scope of the EEU's to include efficiency in fossil fuel combustion would require an increase in the electric EEC, industrial users would prefer that the EEU's continue to focus exclusively on electric efficiency.

These concerns escalated with the recent annual increase in 2017 EEC rates for Commercial and Industrial class customers. Relative to 2016, the EEC rates increased by 9% for Commercial non-demand customers, 12% for Industrial non-demand customers, 10% for Commercial demand customers, and 11% for Industrial demand customers.⁴

Prior to drafting the Act 77 report, the Department reached out to stakeholders to obtain their input. The Department held two stakeholder meetings in September that included the EEU's, Distribution Utilities, PUC Staff, RDC representatives, ACCD, and other interested stakeholders to discuss self-administered programs and a potential total energy pilot. The Department also held a focus group discussion in November with large energy users, including the current CCP and ESA participants and a RDC representative. Additionally, the Department conducted a survey to receive additional feedback from commercial and industrial customers regarding their energy concerns. The survey was distributed to the EEU's and contacts in the business community, including AIV, Ski Vermont, and the Vermont Chamber of Commerce who advertised the survey in their newsletter. The survey was open for almost three weeks and had fifty respondents. Many respondents indicated that they were not aware of the existing self-managed energy efficiency programs and expressed interest in participating in such programs. A full summary of the survey is included in Appendix I.

Impact of Self-Administered Programs on Other Electric Customers

Historically, the primary argument for requiring all customers to participate in energy efficiency programs is that energy efficiency provides system benefits that inure to all electric customers – those customers that did not participate in the program received these benefits without helping to pay for the programs. Customers who did not participate in utility or EEU-delivered (and funding) efficiency programs would then be considered “free riders” that benefit from the programs generally without contribution to funding or participation. However, in recent years the Vermont electric industry has changed significantly such that this logic has likely reversed. Those that participate actively continue to benefit, but those that fund and do not participate are still paying into the fund but do not receive the same system-wide benefits that were previously realized through efficiency savings. Additionally, as energy sales decline as a result of energy efficiency, the fixed costs of ensuring reliable power are spread over a smaller amount of kWh, resulting in upward rate pressure.

The environmental impacts of generation have declined significantly since 2000. In 2017, the Renewable Energy Standard became effective, requiring Vermont utilities to meet 55% of load through renewable energy, thereby reducing the environmental savings associated with energy efficiency. In addition, Vermont has participated in the Regional Greenhouse Gas Initiative, a carbon cap-and-trade

⁴ Customers that have high peaks in usage typically are required to pay a “demand charge” to reflect the fact that these customers impose additional costs to the host electric utility as the utility is required to have sufficient infrastructure in place to serve these high peaks.

program, since its inception in 2009. And while Vermont relies to a limited extent on the regional grid, the amount of coal and oil-fired generation in New England has also declined significantly.⁵

Transmission and distribution benefits of energy efficiency have also declined dramatically in the past few years. Net metering has experienced explosive growth in recent years, which has pushed out Vermont's peak hour until after sunset. The high amounts of distributed generation on the system also means that energy efficiency no longer avoids distribution costs, and could increase these costs depending on the amount of load and distributed generation on a particular distribution line. In the northeastern portion of Vermont, the amount of renewable generation in many hours of the year exceeds the amount of load and the ability of transmission to export excess power – energy efficiency can exacerbate this issue.

Finally, the energy component of the cost of wholesale power has reached historic lows – the average 2016 wholesale energy cost was \$0.029/kWh, compared to the average 2006 cost of \$0.06/kWh. The costs avoided by energy efficiency have declined significantly, with little change expected anytime soon.

These factors have significantly reduced the system benefits of energy efficiency programs and decreased the concern associated with free ridership. Further, the programs being recommended by the Department do not allow customers to opt out of pursuing energy efficiency measures but instead provide greater flexibility for these customers to use the energy efficiency charge on their electric bills to further their business needs.

DPS Recommended Pilot Program

Many stakeholders indicated interest in a new Self-Administered Program model with the most important component being that the customer would keep all or a portion of their EEC for energy efficiency investments. In order to best respond to customer demand, minimize impacts on the traditionally delivered commercial and industrial programs (and participants) and create a valuable educational opportunity, the Department is recommending a new self-administered pilot program be created and operated for three years. The Department is recommending a pilot approach as it provides a more adept environment in which to make changes and could minimize risks that would be associated with a full-scale launch of new self-administered program(s). Additionally, while the proposed Self-Administered Program is similar to the self-managed program currently being operated by Global Foundries, that facility has had considerable demonstrated experience with implementing efficiency measures and has staff dedicated to facilities management. The program proposed here envisions the participation of relatively small companies that are unlikely to have the same relevant experience and personnel. Accordingly, the need for program management will be greater and a limited pilot program will help target customers and address case-specific particulars that help to ensure a successful program.

A narrative describing the potential new self-administered pilot program can be found below.

⁵ See, https://www.iso-ne.com/static-assets/documents/2017/01/ne_power_grid_2016_2017_regional_profile.pdf

Participant Eligibility

During the stakeholder process, there was considerable interest expressed in a Self-Administered Program. The Department is recommending that this be implemented as a pilot to help manage and understand interest and to better understand the energy efficiency requirements of businesses based on industry and size. The Department is also concerned that implementing a new program with minimal restrictions on participation could cause disruptions to existing programs. At this early stage, the Department recommends that the program be trialed as a three-year pilot; it would not be open to additional participants after the initial applications are approved until the pilot has been completed and evaluated in terms of its performance. Additionally, the Department recommends that the pilot be limited to EVT's customer base; as EVT provides services to all the customers outside Chittenden County. One of the factors leading to Act 77 was an increased concern for those businesses in more rural parts of the state. BED and VGS service areas are mostly in the more urbanized northwestern corner of the state.

The Department recommends the following process for selecting participants in the pilot. First, a total cap on participation should be set at no more than 20 participants, with cumulative EEC payments of no more than \$4 million per year. The PUC would conduct a Request for Proposals to select participants, with the assistance of the Department and ACCD. The Department and ACCD would be responsible for reviewing responses and providing recommendations to the PUC. Selection of participants would be based on business sector, size, and geographic diversity, as well as the economic benefit of the company to the host community. Diversity in the selection process will help ensure that lessons can be gleaned from different segments of participating businesses. Upon approval to participate in the pilot, participants need to produce a comprehensive three-year plan detailing potential investments; this requirement would need to be met prior to the use of any accrued funds.

At a minimum, eligibility would be based upon either consumption or EEC contributions (or both - as MWh consumption does not consider the KW adder C&I customers pay, this can be aggregated over multiple accounts and locations, as long as they are all paid by the same business entity with multiple meters billed to the same account.). For example, a participant that used more than 500 MWh in the previous year (or an average greater than in the past three years) and/or participant paid an EEC of \$5,000 or more in the previous year (or an average greater than in the previous three years). Eligibility could also be based on ensuring that there is a diverse portfolio of businesses participating based on location and industry sector.

Participants in the pilot would be considered outside the electric Energy Efficiency Utility structure and should not be eligible to participate in any offerings provided by the electric Energy Efficiency Utilities, other than those that are unavoidable through upstream program activities. However, an electric Energy Efficiency Utility should be allowed to offer consulting services to a participant in the Self-Administered Program either on a fee-for-service basis or in the form of services delivered through the **Total Energy Pilot Program** (described below).

In addition, the Department recommends that Omya, which is currently participating in the Customer Credit Program, be granted preferred entry into the Self-Administered Program and, given that 90% of its EEC payments are already retained by Omya, that the participation of Omya not count against the participation limitations on the pilot. Alternatively, the legislature could modify the SMEEP requirements to allow Omya to participate directly in that program.

Funding

Similar to the existing SMEEP, funds would be retained by the participant instead of being paid into the energy efficiency fund. This sends a clear signal that the participant is not a customer of the EEU and ensures that the customer is responsible for implementation of efficiency measures. An applicant would commit to an annual average energy efficiency investment during the three-year pilot period in an amount equal to the participant's EEC paid in the year prior to participation in the self-managed program.

In order to ensure that funds are used for the intended purpose, the pilot program should include a requirement that any participant that does not expend the full amount of funds required to participate in the program must, at the end of the three-year pilot, pay the amount of unspent funds to the electric efficiency fund. Additionally, participants in the Self-Administered Program should pay a cost-based fee, the amount of which shall be determined by the Commission, to cover the administrative costs, including savings verification, incurred by the Commission and Department.

Eligible Program Measures

Based on PUC precedent and statute, EEC funds can typically be used only for electric efficiency measures. As explained in Part Two of this report, the Department is recommending that the **Self-Administered Program Pilot** also contain a **Total Energy Pilot** component. This would allow EEC funds to be used for thermal energy and process fuel efficiency measures, storage, and technical assistance related to fuel switching and on-site generation. Additionally, participants should be able to utilize EEC funds for measures that improve productivity, provided that such measures decrease energy usage.

Evaluation Process

In order to ensure that the **Self-Administered Program Pilot** produced verifiable savings, participating customers would need to, within three months of being selected for the pilot, develop a three-year plan that sets forth the total expenditures to be invested, a summary of the proposed investments, and the expected savings resulting from such investments. This plan would be filed with the PUC, Department, and ACCD. In addition, participants would be required to provide to the PUC and Department annually an accounting of energy and productivity investments and the resulting energy savings in the form prescribed by the PUC. The PUC would further be allowed to conduct reasonable audits to ensure the accuracy of the data provided. These savings claims would be reviewed by the Department, similar to the review that is currently undertaken under the existing self-managed energy efficiency program that Global Foundries participates in.

Study Requirements

In order to ensure the program is effective and lessons learned from pilot are appropriately incorporated, there should be a requirement that, at the end of the three-year pilot period, the Department provide to the General Assembly a recommendation regarding the continuation or expansion of the program. In making its recommendation, the Department should consider, at a minimum: any economic impacts the pilot had on job creation and job retention, the impact of the pilot on other EEU customers, the impact of the pilot on participating customers, the impact of the pilot on other electric utility customers, and the impact of the pilot on meeting the state's energy goals.

Impact on Existing Programs

The Department expects that, due to the limit on the number of participating companies in the pilot, there would likely be additional interested companies unable to participate. The Department notes that the existing Energy Savings Account and Customer Credit program would continue to exist during the pilot phase of the Self-Administered Program. Accordingly, the Department recommends that the EEs increase awareness of the Self-Administered Program options among potential program participants. At minimum, the Department recommends the EEs provide customers with more frequent and accessible information regarding their program options,⁶ including a side-by-side comparison between the self-administered and other incentive programs available to the commercial and industrial sector and annual outreach from the EEs explaining the customer's potential options. These materials should be updated on a routine basis, both with the traditional program offerings and self-managed program offerings, and work to ensure that up-to-date information is made available to all potential commercial and industrial customers, via the EEs' websites and other routine program materials and outreach. Additionally, the Department will propose potential changes to the existing programs to make them more effective and beneficial to potential participants, which will be submitted to the PUC for their consideration. Finally, the Department recommends that the EEs provide periodic reporting on the participation rates in those programs.

It is also expected that the pilot program would have some impact on EVT's programs; both with respect to a decreased overall budget and removal of certain customers that would otherwise participate in EVT's programs. Consequently, the Department recommends that, after the selection of participants, the PUC be directed to reexamine the quantifiable performance indicators set for EVT.

⁶ At the time this report was drafted, there was no information on the CCP option online (there was previously information on the Public Utility Commission website, but is longer available). Information on ESAs is available on the PSD website, but it is unlikely a business would think to go there for information on these types of programs. There did not appear to be any information on BED's website and the information on EVT's website was only accessible by entering "Energy Savings Accounts" into the search engine (so businesses would already need to know about the option to find more information about it) or by going to "Tips & Tools" then "Questions and Answers" and scrolling through to find Energy Savings Accounts.

PART 2 – POTENTIAL TOTAL ENERGY PILOT PROGRAM

Introduction

Act 77 required the Department to provide recommendations on the “potential establishment of a multiyear pilot program that allows a category of commercial customers to apply the total amount of their Energy Efficiency Charge (EEC), for the period of the pilot, to investments that reduce the customer’s total energy consumption.” The Act makes clear that the Department consider the development of a total energy program administered by an EEU.

The goal of such a program would be to reduce significantly all energy costs for the customer, and to transform the energy profile of the customer such that significant savings would be generated and endure over the long term. Customers in the program would receive the full amount of their EEC contributions, for the period of the pilot, in the form of direct services and incentives provided by an EEU, which would consider how to lower customers’ bills cost-effectively across electric, heating, transportation, and process fuels using energy efficiency, demand management, energy storage, fuel switching, and on-site renewable energy.⁷

The Department is supportive of measures that reduce total energy consumption; if done properly, such an approach will reduce will reduce customer energy bills and help meet energy and environmental goals, such as those set forth in the Department’s 2016 Comprehensive Energy Plan. As described in Part One of this report, the Department recommends that the legislature authorize a pilot self-administered energy efficiency program. In Part Two of this report, the Department recommends that the self-administered pilot allow a program participant’s EEC to be used to engage EVT, among others, in the delivery of all or a portion of total energy services and for measures that may include load management and fuel switching.

For the reasons explained below, the Department recommends that program participants be allowed significant flexibility in selecting an entity to provide technical assistance on total efficiency measures. Under this model, participants would have the freedom to select the entity to perform the technical assistance required to identify and evaluate eligible energy efficiency projects. The participants could choose an EEU, the host electric utility, or an independent contractor to perform these tasks.

The Department has significant concerns with structuring a pilot in a way that provides EVT with responsibility for delivering technical assistance and incentives for load management and fuel switching. These responsibilities are already clearly placed with the electric utilities. Such a significant expansion of the EEUs’ responsibilities to include fuel switching, and the closely related responsibility for load management, effectively places EVT in a potentially damaging competitive conflict with the responsibilities that have already been appropriately assigned to the electric utilities through the Renewable Energy Standard. The practical effect of this form of competition is to place two regulated utility entities (EVT and the electric utilities) with responsibility for capturing savings from captive ratepayers using monopoly ratepayer revenues. While the Department supports competition and utility

⁷ Act 77, Section 5(b)(2)(A).

efforts to capture all cost-effective demand-side management opportunities, the Department recommends against assigning more than one regulated entity with responsibilities for delivering load management and fuel switching using ratepayer funds. Such an assignment will inevitably increase overall costs for ratepayers with incommensurate return.

Notwithstanding the above concerns, the Department recognizes that Act 77 expressly contemplated an EEU being the entity responsible for implementing a total energy pilot. For that reason, the Department recommends that a total energy pilot be structured in such a way that, for 25% of the businesses participating in such a pilot, that Efficiency Vermont be the assigned entity responsible for identifying the tasks associated with the Total Energy Pilot. For the remaining 75% of businesses, EVT may implement such measures if selected by a program participant, but is not automatically the responsible entity. This is consistent with the language of the Act and the principles embedded in the recommendation contained in Part One of this report, that a pilot program be implemented in such a way as to provide customers with significant leeway to implement business decisions in a way that meets overall efficiency, environmental, and energy goals, while also addressing the business needs of participating customers.

Department Concerns with a Total Energy Pilot Program Administered Solely by an EEU

Although the Department is generally supportive of a pilot program that expands the potential use of the EEC, it continues to have concerns with the use of ratepayer revenues collected through the Energy Efficiency Charge (i.e., the Electric Efficiency Fund) for total energy measures. As explained below, statute and PUC decisions generally limit the use of EEC revenues specifically for measures that reduce **electric** consumption. These limits exist for fundamental reasons related to ratepayer equity and provide a close match between the services delivered and the system benefits that were historically linked to ratepayer benefits. Potentially exacerbating these concerns are the potential budget pressures that could result if the pilot was expanded to allow the use of EEC for total energy measures. The overlap of the Renewable Energy Standard Tier 3 responsibilities that are squarely with the electric utilities adds additional concerns regarding costly duplication of effort. However, the Department believes that a pilot program, implemented through the ***Self-Administered Program*** described in Part One of this report, has the potential to provide information that can fruitfully inform whether a permanent program can be structured to address these concerns on a going forward basis.

A Total Energy Pilot Would Redefine the Mission of the EEU's

The Department is not opposed to modifying existing programs; however, it is important to be cognizant of existing restrictions and the rationales behind these limitations. Many measures that could be implemented under a Total Energy Pilot would have the net effect of reducing total energy usage (such as fuel switching from a gasoline vehicle fleet to an electric vehicle fleet) while increasing electric usage. While fuel switching is generally an overall energy efficiency measure, this would be a fundamental change in direction from the existing statutory mandates. And unlike traditional electric energy efficiency measures that reduce utility margins in ways that potentially conflict with utility financial performance, fuel switching inherently enhances utility financial performance and yields resulting benefits to ratepayers over time, thereby providing incentives for electric utilities to implement fuel switching measures. The EEU's began with a clear direction to reduce electricity usage through traditional electric-only energy efficiency. Over time, the responsibility of the EEU's was expanded to

also implement thermal efficiency and process fuel programs, but funded through distinct mechanisms not directly linked to electric ratepayer funding through the EEC.⁸

The electric EEC has been limited to measures that reduce electric usage. There are statutory provisions that permit an EEU to petition the PUC to allow the use of EEC funds for technologies that “reduce the use of fossil fuels for space heating by supporting electric technologies that may increase electric consumption. . . .”⁹ To date the PUC has not authorized such an action; instead Efficiency Vermont utilizes EEC funds to promote the most energy efficient heat pumps, while claiming savings associated with this electric usage reduction and uses thermal funds to reduce fossil fuel use and emissions.¹⁰

TEPF funds are available for customers that are outside Vermont Gas Systems (VGS) service territory. Participants who are customers of VGS pay two separate EECs, one for electric and one for gas efficiency programs. With respect to these latter EEC charges, Vermont Gas energy efficiency programs already deliver thermal and process fuel efficiency services.

Despite these long-standing restrictions related to use of EEC funds for thermal energy and process fuel measures, the Department is recommending that the **Total Energy Pilot** allow participants to conflate EEC funding and process and thermal measures. Doing so would not only provide businesses participating in the **Self-Administered Program** with greater flexibility for accessing their EEC funds but would also provide useful information related to the ongoing need for such restrictions. Allowing the use of EEC funds for thermal and process fuel efficiency measures in the pilot program would also free up limited TEPF funding for other customers.

Duplication of Efforts Required of the Electric Distribution Utilities

Starting in 2017, the Vermont electric distribution utilities have been required to comply with a Renewable Energy Standard (RES), consisting of three tiers. The first two tiers require utilities to meet a certain percentage of load with renewable energy; Tier 3 establishes a requirement that utilities engage in activities that transform the energy sector. Electric utilities have been working with customers in the heating, transportation, and process fuel areas to reduce overall fossil fuel use through fuel switching measures. Consequently, there is already a legislative requirement to achieve the results intended by the potential pilot program. Further, Tier 3 requires that any measures that increase electric use “incorporates best practices for demand management. . . .”¹¹ The reason for this requirement is that electrification measures such as promoting electric vehicles and heat pumps, while reducing total energy consumption, also have the potential to drive up peak loads and create the need for investment in expensive transmission and distribution infrastructure upgrades. Accordingly, any measures that increase load will require both active involvement and tools that are intrinsic to the electric utilities to minimize overall costs to ratepayers. Electric utilities already have to actively manage their electric systems and are in the best position to implement, or oversee the implementation of, load management measures such as rate design and active control technologies.

⁸ Additionally, the EEU's have had the ability to provide assistance on combined heat and power generation facilities located at a customer's site, although the use of this provision has been extremely limited.

⁹ 30 V.S.A. § 209(d)(3)(C).

¹⁰ With respect to heat pumps, EEC funds are used to promote the purchase of the most efficient units, while TEPF funds are used to provide incentives for customers to purchase heat pumps.

¹¹ 30 V.S.A. § 8005(a)(3)(F)(viii).

Additionally, 2017 was the first year of Renewable Energy Standard Tier 3 requirements and electric utilities and regulators are still in the process of creating cost-effective programs for customers. The Department believes that Tier 3 should be allowed to play out and that a total energy pilot program that extended the reach of the EEU at this juncture would only cause further confusion among customers. An analogy would be if the electric utilities were encouraged to create overlapping energy efficiency programs in 2001 (the year after EVT began operations) that offer lighting efficiency programs or other electric efficiency programs and activities that duplicated programs offered through a separate EEU. It is likely that such a move would have impaired the effectiveness of the EEUs; a total energy pilot administered solely by EVT would have a similar impact on the effectiveness of the electric utilities in promoting the energy transformation required under the Renewable Energy Standard.

Absent significant changes to the distribution utilities' Renewable Energy Standard Tier 3 requirement, a pilot program administered solely by EVT would be duplicative of existing requirements and add ratepayer costs without any clear benefits.

EEU Budgets

The budgets for the EEUs are established to "in order to realize all reasonably available, cost-effective energy efficiency savings."¹² While the program described below would be a pilot that would terminate after three years, pilot programs often create inertia, and this would particularly be true of a multi-year pilot. The presence of the pilot creates the expectation of continuing access for customers. To the extent that the definition of energy efficiency was permanently altered to also include total energy, there would be significant upward pressure on the EEU budgets, with corresponding impacts on the electric efficiency charge and customers' bills. The energy efficiency charge on electric bills in Vermont is already among the highest in the country. For Vermont businesses that compete regionally and nationally, this potentially places that at a competitive disadvantage. The Department is concerned that expansion of EEC funds for measures that extend beyond core efficiency programs and are already being provided through other entities would increase ratepayer costs without corresponding benefits.

Department Proposal for a Total Energy Pilot

In Part One of this report, the Department set forth a proposed **Self-Administered Energy Efficiency Program** where companies would have greater control over the use of electric EEC funds to better suit their business needs while also providing societal benefits. This would largely be accomplished by allowing companies to utilize the funding they would otherwise pay to EVT and allowing these companies to self-deliver or select which entity should be responsible for providing technical assistance in identifying efficiency measures. EVT would provide this service for 25% of businesses within the pilot and for the remaining 75% of participants, EVT and other entities, including electric utilities, would be able to compete to provide these services, with application of EEC funds on a fee-for-service basis or as part of a Total Energy Pilot. Expanding the measures eligible to be paid by electric EEC funds within the proposed pilot would be consistent with the overall purpose of the **Self-Administered Pilot** and would also provide useful information regarding the potential viability of such an approach.

¹² 30 V.S.A. § 209(d)(3)(B).

With respect to eligible measures for a Total Energy Pilot, Act 77 provides the following list of potential measures: “electric, heating, transportation, and process fuels using energy efficiency, demand management, energy storage, fuel switching, and on-site renewable energy.” A Total Energy Pilot should focus on measures that require more technical assistance and lead to more lasting energy transformation. While measures such as fuel switching to electric vehicles, installation of storage, and development of demand management strategies could all lead to a transformation in how customers use energy, installation of renewable energy would simply add new generation sources. This is not to say that companies should be discouraged from installing generation, simply that there are long-established programs that provide incentives for a now well-formed market of renewable providers. Considering that the net metering program has led to the development of thousands of distributed solar projects across Vermont, there does not appear to be a compelling rationale for allowing EEC funds to be used toward this technology. Accordingly, the Department recommends that installation of on-site renewable energy not be considered an eligible measure for the proposed **Total Energy Pilot**.

Similarly, the Renewable Energy Standard Tier 3 requirement specifically tasks electric utilities with fuel switching measures such as transportation electrification. The **Total Energy Pilot** should not have the effect of simply creating a duplicate funding source for such measures, and therefore should not allow EEC funds for electrification measures. There is a distinction, however, between providing technical assistance to customers regarding potential benefits of on-site generation and fuel-switching and providing funding for such measures. Under the Department’s proposal, the provider of total energy advisory services selected by the participating business should be expected to advise customers of opportunities for renewable energy and load management through appropriate referrals to third party and distribution utility providers of such services, and should be allowed to be paid for such analysis from EEC funds.

Implementation of a **Total Energy Pilot** would be relatively straightforward if combined with the proposed pilot **Self-Administered Energy Efficiency Program** described in Part One. Participants would be required to prepare a comprehensive plan prior to implementing any measures; these plans could be expanded to include total energy measures. Participants could select appropriate entities to provide technical assistance and implementation of measures, with EVT and the electric utilities able to fulfill this role. Participants would still need to demonstrate that the measures achieved projected energy reductions.

Benefits and Costs of a Total Energy Pilot

Total energy measures would reduce operating costs and improve the cost-effectiveness of participating companies by lowering the energy costs of the company. These lowered costs would increase the competitiveness of participating companies and increase the potential for job retention and creation, and on economic development.

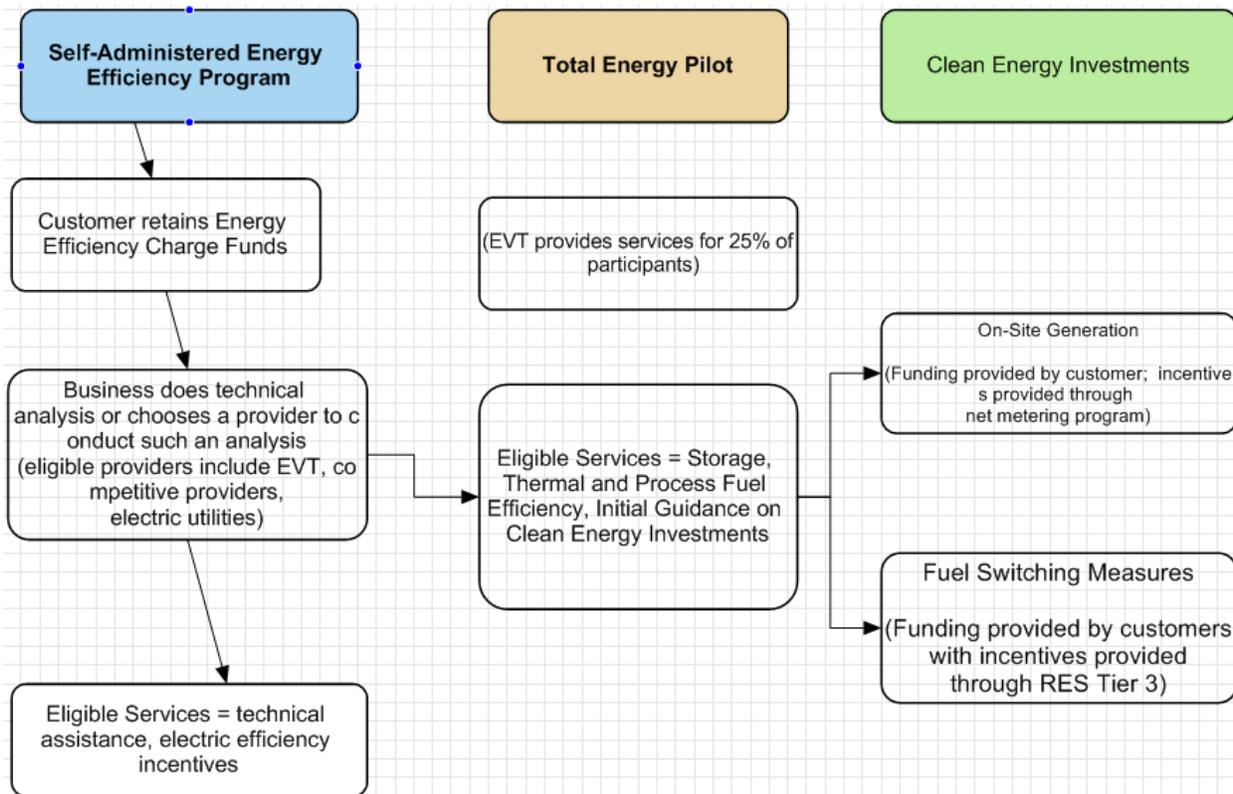
As explained in Part One of this report, the system benefits associated with electric energy efficiency are significantly diminished compared to prior years (and potentially negated by recent changes to the Vermont electric system with flat to declining loads and improvements in the environmental profile of Vermont utilities’ power supply portfolios), and therefore diverting a relatively small amount of EEC funds for total energy measures is unlikely to undermine system benefits that have been associated with EEU programs. Additionally, the proposed cap of \$4 million for the Self-Administered Program, of which the Total Energy pilot would be a part, would be less than 10% of the total annual budget of EVT. As

recommended in Part One, the PUC should adjust the quantifiable performance indicators of EVT to ensure that EVT is not financially harmed by the program. Finally, it is important to note that the **Self-Administered** and **Total Energy Pilot** would still obtain reductions in energy usage and greenhouse gas emissions, thereby providing societal benefits to all Vermonters.

Implementation of a Self-Administered Energy Efficiency Pilot Program and Total Energy Pilot

The pilots proposed in this report would require statutory authority. Attached as Appendix II is draft proposed legislative language authorizing these pilots. After passage of such legislation, the Department could work with stakeholders, including the EEs, the electric utilities, ACCD, the PUC, and interested business stakeholder groups to develop the additional steps necessary to make these pilot programs a reality. This would include, developing a process for selecting participating businesses, ensuring there is clarity regarding what constitutes measures and activities eligible for reimbursement, ensuring a rigorous evaluation process is in place, and establishing a PUC proceeding that would adjust EVT’s existing Quantifiable Performance Indicators to ensure that the program does not unfairly prejudice EVT’s performance of its existing responsibilities.

Provided below is a graphic designed to better illustrate the Department’s proposal.



Conclusion

Pursuant to the requirements of Act 77, the Department recommends the establishment of a pilot ***Self-Administered Energy Efficiency Program*** that allows participating companies to have greater freedom over their EEC funds while still accomplishing state goals. Expanding such a program to include a ***Total Energy Pilot*** component would not only provide greater flexibility for participating companies but also allow an opportunity to review the potential implementation strategies for energy transformation measures.

The proposed pilot would provide both an economic benefit to Vermont while also furthering the State's energy and environmental goals.

Appendix I – Study Requirements

Section 5 of Act 77 provides in full:

Sec. 5. REPORT; ENERGY EFFICIENCY CHARGE; COMMERCIAL AND INDUSTRIAL CUSTOMERS

(a) On or before January 15, 2018, the Commissioner of Public Service (the Commissioner) shall submit a report with recommendations as described in subsection (b) of this section.

(1) In preparing the report, the Commissioner shall consult with the Secretary of Commerce and Community Development, the energy efficiency utilities (EEU) appointed under 30 V.S.A. § 209(d)(2), the regional development corporations, the Public Service Board, and other affected persons.

(2) The Commissioner shall submit the report to the Senate Committees on Finance, on Natural Resources and Energy, and on Agriculture and the House Committees on Ways and Means, on Energy and Technology, on Commerce and Economic Development, and on Agriculture and Forestry.

(b) The report shall provide the Commissioner’s recommendations on:

(1) Whether and how to increase the use by commercial and industrial customers of self-administered efficiency programs under 30 V.S.A. § 209(d) and (j), including:

(A) Potential methods and incentives to increase participation in self-administration of energy efficiency, including:

(i) Potential changes to the eligibility criteria for existing programs.

(ii) Use of performance-based structures.

(iii) Self-administration of energy efficiency by a commercial and industrial customer, with payment of an energy efficiency charge (EEC) amount only for technical assistance by an EEU, if the customer demonstrates that it possesses in-house expertise that supports such self-administration and implements energy efficiency measures that the customer demonstrates are cost-effective and save energy at a benefit-cost ratio similar to the EEU.

(B) The potential inclusion of such methods and incentives in EEU demand resource plans.

(C) Periodic reporting by the EEUs of participation rates in self-administration of energy efficiency by commercial and industrial customers located in the small towns in the State’s rural areas. As used in this subdivision (C):

(i) “Rural area” means a county of the State designated as “rural” or “mostly rural” by the U.S. Census Bureau in its most recent decennial census.

(ii) “Small town” means a town in a rural area of the State with a population of less than 5,000 at the date of the most recent U.S. Census Bureau decennial census.

(2) The potential establishment of a multiyear pilot program that allows a category of commercial and industrial customers to apply the total amount of their Energy Efficiency Charge (EEC), for the period of the pilot, to investments that reduce the customer’s total energy consumption.

(A) The goal of such a program would be to reduce significantly all energy costs for the customer, and to transform the energy profile of the customer such that significant savings would be generated and endure over the long term. Customers in the program would receive the full amount of their EEC contributions, for the period of the pilot, in the form of direct services and incentives provided by an EEU, which would consider how to lower customers' bills cost-effectively across electric, heating, transportation, and process fuels using energy efficiency, demand management, energy storage, fuel switching, and on-site renewable energy.

(B) In the report, the Commissioner shall consider:

(i) the definition of eligible commercial and industrial customers;

(ii) the potential establishment and implementation of such a program in a manner similar to an economic development rate for the EEU;

(iii) the interaction of such a program with the existing programs for self-managed energy efficiency under 30 V.S.A. § 209(d), including the Energy Savings Account, Self-Managed Energy Efficiency, and Customer Credit Programs;

(iv) the benefits and costs of such a program, including:

(I) a reduction in the operating costs of participating customers;

(II) the effect on job retention and creation and on economic development;

(III) the effect on greenhouse gas emissions;

(IV) the effect on systemwide efficiency benefits that would otherwise be obtained with the EEC funds, such as avoided supply costs, avoided transmission and distribution costs, avoided regional network service charges, and lost revenues from the regional forward-capacity market;

(V) the potential impact on commercial and industrial customers that may not be eligible to participate in such a program;

(VI) the extent to which such a program may result in cost shifts or subsidization among rate classes, and methods for avoiding or mitigating these effects;

(VII) the effect on the budgets developed through the demand resource planning process;

(VIII) the costs of administration;

(IX) any other benefits and costs of the potential program; and

(v) the consistency of such a program with least-cost planning as defined in 30 V.S.A. § 218c; with State energy goals and policy set forth in 10 V.S.A. §§ 578, 580, and 581 and 30 V.S.A. §§ 202a and 218e; and with the State energy plans adopted pursuant to 30 V.S.A. §§ 202 and 202b.

(c) The report submitted under this section shall include a proposed timeline to phase in the recommendations contained in the report. In developing this timeline, the Commissioner shall consider the impact to the established budgets of the EEUs, the regulatory requirements applicable to the EEUs, and the value of rapid implementation of the recommendations.

Appendix II – Draft Statutory Language

30 V.S.A. § 209(k) **Self-Administered energy efficiency programs.**

- (1) The Commission shall enact, by order, a three-year pilot self-administered energy efficiency program for commercial and industrial customers.
- (2) Participants in the pilot shall be considered outside the electric Energy Efficiency Utility structure and shall not be eligible to participate in any offerings provided by the electric Energy Efficiency Utilities. However, an electric Energy Efficiency Utility may offer consulting services to a participant in the self-administered program.
 - (A) An applicant shall commit to an annual average energy efficiency investment during the three-year pilot period in an amount equal to the participant's Energy Efficiency Charge paid in the year prior to participation in the self-managed program.
 - (B) Any participant that does not expend the full amount of funds required to participate in the program must, at the end of the three-year pilot, pay the amount of unspent funds to the electric efficiency fund.
 - (C) Participants in the self-administered pilot shall pay a cost-based fee, the amount of which shall be determined by the Commission, to cover the administrative costs, including savings verification, incurred by the Commission and Department.
 - (D) The Commission shall reduce the budget and quantifiable performance indicators of the electric EEUs commensurate with participation in the self-administered pilot.
 - (E) A participant in the self-administered pilot may use its annual budget for electric and thermal efficiency and productivity measures as well as storage measures. In addition, the Commission may allow the use of self-administered funds for initial technical guidance related to energy transformation projects such as electrification of vehicles.
- (4) The Agency of Commerce and Community Development shall identify not more than 20 companies willing to participate in the pilot. In identifying companies to participate in the pilot, ACCD shall give consideration to diversity in geographic location, energy consumption, and type of business.
 - (A) Within three months of being selected for the pilot, each participant must develop a three-year plan that sets forth the total expenditures to be invested, a summary of the proposed investments, and the expected savings resulting from such investments. This plan shall be filed with the Commission, Department, and ACCD.
- (5) A participant shall provide to the Commission and Department annually an accounting of energy and productivity investments and the resulting energy savings in the form prescribed by the Commission, which may conduct reasonable audits to ensure accuracy of the data provided.
- (6) A participant in the self-managed program class may request confidentiality of data it reports to the Commission if the data would qualify for exemption from disclosure under 1 V.S.A. § 317. If such confidentiality is requested, the Commission shall disclose the data only in accordance with a protective agreement approved by the Commission and signed by the recipient of the data, unless a court orders

otherwise. Any data not subject to a confidentiality request under this subsection will be a public record.

(7) At the end of the three-year pilot period, the Department shall provide to the General Assembly a recommendation regarding the continuation or expansion of the program. In making its recommendation, the Department shall consider, at a minimum: any economic impacts the pilot had on job creation and job retention, the impact of the pilot on other EEU customers, the impact of the pilot on participating customers, the impact of the pilot on other electric utility customers, and the impact of the pilot on meeting the state's energy goals.

(8) A participant in the self-administered pilot may receive funding from an energy program administered by a government or other entity which is not the participant but may not count such funds received as part of the investment commitment of the pilot.

Appendix III – Information Regarding Survey Results

The Vermont Department of Public Service (VT DPS) conducted a Commercial & Industrial Business Survey, which was released on 13 November 2017. Information about the survey was distributed to the EEU's and contacts in the business community, including AIV, Ski Vermont and Vermont Chamber of Commerce, who advertised and distributed survey information directing interested parties to the announcements section of VT DPS's home page in their newsletter (which is distributed to over 7500 members). The DPS home page featured a prominently-placed survey announcement, which linked to a dedicated survey page on the VT DPS website containing the message seen below:

Announcements

VT Department of Public Service's Commercial & Industrial Business Survey!

13 November 2017

VT Department of Public Service - Commercial & Industrial Business Survey

The Vermont Department of Public Service (VT DPS) is looking for feedback to help gain a better understanding of the energy-related issues that are important to your business and to the larger commercial and industrial community in Vermont. As part of this effort, VT DPS invites VT business owners (or their authorized representatives) to participate in a survey on these topics. If you would like to participate, click here to link to the survey. Please complete this survey on or before Thursday, 30 November 2017 for best results.

<https://www.surveymonkey.com/r/QX362H5>

Interested parties who clicked on the link were connected directly to the Survey Monkey survey page, where they were met with a similar message. It should be noted that this was not a scientific survey - the survey group was self-selecting and all questions / responses were optional. A full list of survey questions can be found in the attached Appendix. A summary of survey results can be found below.

The survey, which was open for over 2.5 weeks, collected over 50 responses. Responses were high-quality, with most participants answering all questions (as applicable), resulting in a 100% completion rate. The average response time was 11 minutes. Many respondents came from the following business sectors: Municipal, Government, Education, Healthcare, Manufacturing, Materials, Rubber, Retail, Grocery / Food, Recreation and Resort. 1.92% of respondents represented home businesses. 78% of respondents owned their office and related business facilities, with 6% renting and 16% reporting that they owned some portion of their office and business facilities and also rented some portion of their office and business facilities. 49.02% of respondents categorized themselves as "medium" size businesses, 33.33% as "large" and 17.65% as "small". 84.62% reported their business' electric rate as "commercial", 7.69% reported their business' electric rate as "other" (primarily industrial) and another 7.69% responded "unknown". 59.62% of respondents reported no natural gas at their facility. 32.69% of respondents with natural gas reported their business' rate as "commercial", with 3.85% reporting their rate as "other" and another 3.85% responding "unknown". Propane, oil and diesel represented the majority of other fuels that businesses reported using.

While respondents came from businesses located around the state served by a variety of electric utilities, 96.15% reported their business' electric efficiency utility as EVT, with 1.92% in BED's EEU territory and another 1.92% reporting their electric efficiency utility as unknown. 98.08% of respondents reported that they had either participated in an electric or natural gas efficiency program and / or received incentives for energy efficiency products / equipment. (1.92% said that they had not.) When asked why their business had not participated in any of the programs, survey respondents did not offer any reasons. Of the businesses that reported participating, the

respondents commonly mentioned engaging in efficiency programs, projects, measures and / or rebates for electric energy efficiency, LED lighting, snowmaking, pump, plant, compressor and / or insulation upgrades.

Of the businesses who participated in energy efficiency programs, 74.51% reported that they were satisfied, 9.8% reported that they were not satisfied and 15.69% replied “other”. Many respondents who replied “other” further clarified their answer as to whether they were satisfied as “yes and no” or “mixed”. (In other words, they were satisfied with some parts and not with others.) Of the 74.51% participants reporting satisfaction, there were some clear trends, with many describing the best parts of their experience with the program(s) as increased efficiency, reduced consumption, money saved and financial incentives / rebates leading to attractive ROIs and, in some cases, incentivizing their company to complete projects. Some customers made particular mention that they had experienced and appreciated positive concern from and working relations with their respective EEs.

Among the 9.8% reporting that they were not satisfied, the respondents who offered additional feedback describing the parts of the efficiency program(s) / their experience with which they were not satisfied gave the following reasons:

- *To prescriptive- for lighting programs. Need more customized options for our type of business operations*
- *It feels like EVT is a very large beauracracy but I could be wrong*
- *The cost of the electrical energy efficiency program is too much. The energy efficiency charge is more than 8% of (our) electricity costs. This is unreasonable. The EEC continues to increase even during economic down- turns. (Our business) competes nationally and internationally for market share so the added costs of doing business in VT make a huge difference. The rebate program with Eff VT lacks transparency. Eff VT uses a societal model to determine rebate amounts, which changes from one project to the next. The energy efficiency program should include a provision to incentivize replacement of old equipment with new more energy efficient equipment. Currently, Eff VT doesn't allow this. The energy efficiency utility needs to be more transparent with funding received from rate payers. During previous discussion people were uncertain if the rebates returned to rate payers is 40/60 or 60/40. Rate payers should know how their money is spent.*
- *EVT tools do not work to properly screen our utility*
- *Obnoxiously excessive fees and inflexibility and bureaucracy on larger projects*
- *We could probably do more to reduce our overall footprint if we kept the money*
- *The tax imposed to support Efficiency Vermont. Far exceeds the generated savings provided by the project monies supplied by EVT and the investment money required by the company*
- *The fact that we saved money doing the project but the State allowed utilities to charge an extra fee due to the power they purchased but no longer sold.*
- *The program in and of itself.*
- *Diminishing returns on investments*
- *We have a project that requires engineering work and obtaining proposals for implementation. Beyond the resources and talents of our business. Project could not move forward.*
- *Lighting components are low quality*

When asked what would make the existing electric or natural gas efficiency program(s) incentives more beneficial to their company, the respondents offered many of the same / similar responses listed above, including a desire for more transparency re: EVT's financials. Other common themes were:

- Taking less money / returning more of the EEC funds to ratepayers / more incentive money
- Better information to the consumer
- Continue to improve offerings, rebates, incentives

- Including engineering design and cost into the offerings
- Eliminating the programs

Another recurring theme of note was the desire among some businesses to keep their efficiency money:

- *We are paying an increasing amount to EEV. We would prefer to keep the money ourselves And manage the timing and the initiatives we feel make the most sense for us*
- *Give us the option to keep the money if we demonstrate it will be used for energy efficiency, like MA.*

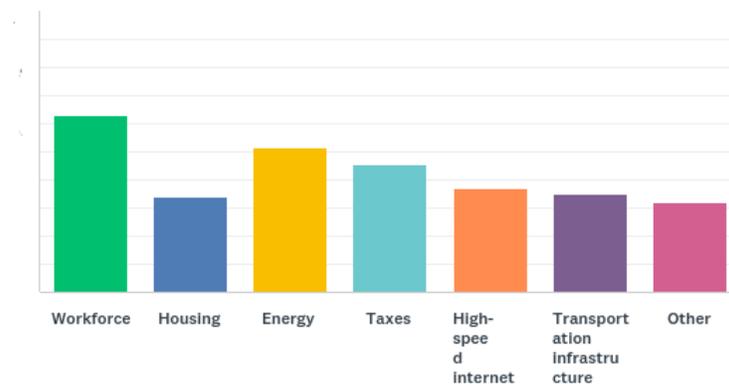
(Interestingly, although some business expressed the desire to self-manage their own efficiency, 62.75% of respondents reported that their business was unaware of the existence of self-managed energy efficiency programs in VT, with only 37.25% reporting that they were aware of these programs.)

There were also suggestions offered as to how changing efficiency programs may help Vermont’s ability to become more competitive and encourage economic growth:

- *I have written to this Board regarding the need to reduce this program -- Vermont needs more competitive energy pricing to be competitive in the current market place and to encourage Economic growth in the state .This form of taxation does little to increase Business growth in Vermont*

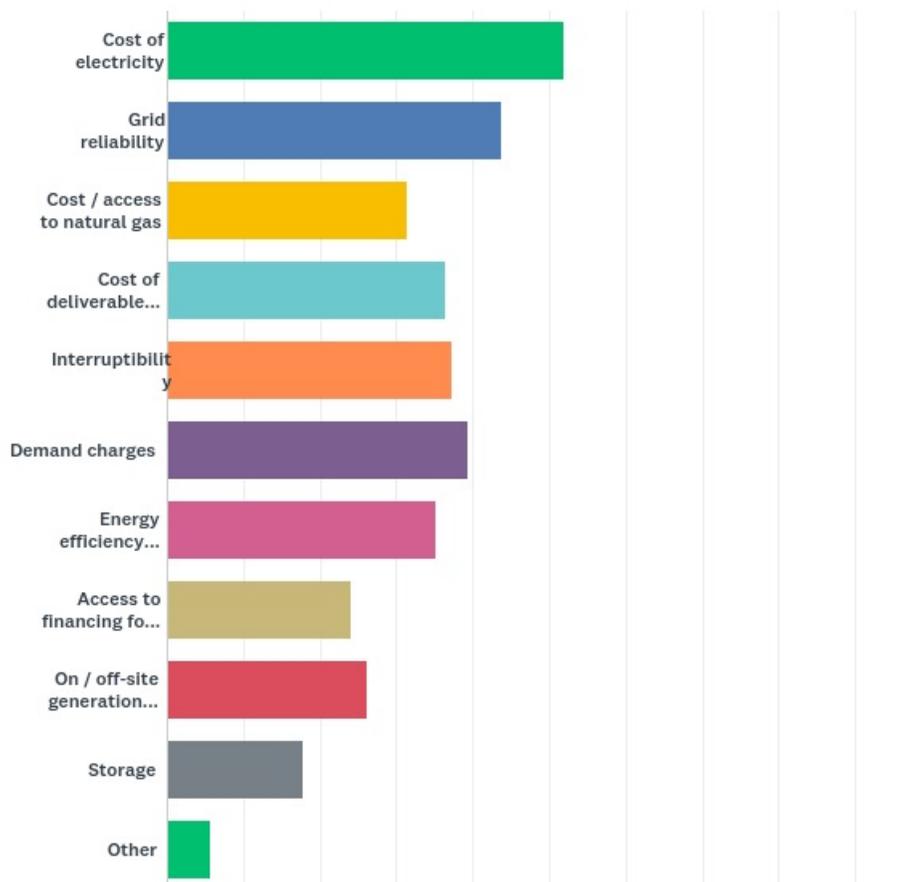
Question 19 asked businesses to rank various factors that have the biggest impact on the ability of the respondents to successfully operate their business in Vermont. As seen in **the figure** below, while the majority reported “workforce” as the biggest factor, “energy” came in second, with “taxes” a close third. Rounding out the results were “high-speed internet” (4th), “transportation infrastructure” (5th) and “housing” (6th), with “other” unspecified factors ranked last (7th).

What has the biggest impact on your ability to successfully operate your business in the State of VT? (Please rank.)



Question 20 asked respondents to rank their biggest concern re: energy and their business. As seen in **the figure** below, the overwhelming concern reported was “cost of electricity” at #1. Also of significant concern were “grid reliability” (#2), “demand charges” (#3) and “interruption” (#4).

What is your biggest concern re: energy and your business? (Please rank.)



Rounding out the results were “energy efficiency charges” (#5), “cost of deliverable fuels” (#6), “cost / access to natural gas” (#7), “on / off site generation - including renewables” (#8), “access to financing for energy efficiency and / or renewable energy projects” (#9), and “storage” (#10), with “other” unspecified factors ranked last (#11).

When asked if their business had any other thoughts / comments they would like to share, the respondents continued to reiterate many of the same / similar responses and opinions as they had previously. It should be noted that this question (and the related responses) did not focus exclusively on the energy efficiency programs. Common themes were:

- Some businesses are very happy with their EEU and the related programs / incentives / services
- Some would like to see these efficiency programs and the related EEUs and fees reduced and / or eliminated entirely
- Some feel the efficiency charge is too high relative to other states, making VT less competitive
- Some would rather not pay an efficiency fee and use their own money for efficiency or in any other business-related manner that they see fit
- Businesses are concerned with Vermont’s economy and the ability to remain competitive (as a State and a place to do business)

Examples of comments that echoed these and other common survey themes are:

- *I believe that E Vt mandate is being achieved and therefore the size and cost of this organization needs to be reduced accordingly-- Increasing the scope of their mission and pay for this change by taxing electrical rates exceeds the wishes of many Vermont businesses and residents of the State*
- *We need options to help us compete in the international marketplace and grow Vermont's economy.*
- *Glad to see the PUC doing an independent survey*
- *Base load, reliable power is key for our business.*
- *Grateful that you are surveying and looking into what the next "best" steps should be. Still a very expensive State to do business in given energy, taxes, permitting*

Online Survey Questions

The instructions, questions and answer options presented to interested parties who visited the Survey Monkey survey page can be found below:

VT Department of Public Service - Commercial & Industrial Business Survey

About This Survey

The Vermont Department of Public Service (VT DPS) is looking for feedback to help gain a better understanding of the energy-related issues that are important to your business and to the larger commercial and industrial community in Vermont. As part of this effort, VT DPS invites VT business owners (or their authorized representatives) to participate in a survey on these topics. **Please Note: All questions / responses are optional. Please complete this survey on or before 30 November 2017 for best results.**

1. Please enter your name and business contact information

2. In what town is your business located (if different from mailing address)?

3. Is this a home business?

- Yes
- No

4. Does your business own or rent its office and related business facilities?

- Own
- Rent
- Both (a mix)
- Unsure

5. What size is your business?

- Small
- Medium
- Large

6. How many employees does your business have?

7. What is your business' sector (i.e. what business are you in)?

8. What is your business' electric rate?

- Commercial
- Residential
- I don't know
- Other (please specify)

9. What is your business' natural gas rate?

- Commercial
- Residential
- I don't know
- None - There is no natural gas
- Other (please specify)

10. What other fuels does your business use?

11. Who is your business' electric utility?

12. Who is your business' electric efficiency utility?

- Burlington Electric (BED)
- Efficiency Vermont (EVT)
- I don't know

13. Has your business participated in any electric or natural gas energy efficiency program(s) and / or received incentives for energy efficient products / equipment?

- Yes
- No
- I don't know

14. If you answered "Yes" to Question #13 (above), please tell us what program(s) your business participated in. If you answered "No" to Question #13, please tell us why your business has not participated in any program(s).

15. If your business participated in any electric or natural gas energy efficiency program(s), were you satisfied?

- Yes
- No
- Other (Please specify)

16. If You answered "Yes" to Question #15 (above): What would you describe as the best parts of the program(s) / your experience?

17. If You answered "No" to Question #15 (above): What, if any, parts of the program(s) / your experience were you not satisfied with?

18. (If you have not already given feedback on this topic above) What would make the existing electric or natural gas energy efficiency program(s) / incentive(s) more beneficial to your company?

19. What has the biggest impact on your ability to successfully operate your business in the State of VT? (Please rank.)

- Workforce
- Housing
- Energy
- Taxes
- High-speed internet
- Transportation infrastructure
- Other

20. What is your biggest concern re: energy and your business? (Please rank.)

- Cost of electricity
- Grid reliability
- Cost / access to natural gas
- Cost of deliverable fuels
- Interruptibility
- Demand charges
- Energy efficiency charges
- Access to financing for energy efficiency and / or renewable energy projects
- On / off-site generation (including renewables)
- Storage
- Other

21. (If you have not already given feedback on this topic above) Is your business aware of the existence of self-managed energy efficiency programs (currently named "Customer Credit Program" and "Energy Savings Account" program) in VT?

- Yes
- No

22. Would your business be interested in participating in a more in-depth survey, interview, meeting or call on related topics in the future?

- Yes
- No
- Maybe

23. If your business has any other thoughts / comments you would like to share, please write-in: