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REP. ANTHONY KLEIN, CHAIR
SEN. CHRISTOPHER BRAY, VICE CHAIR
REP. MARY SULLIVAN, CLERK
REP. ROBIN CHESNUT-TANGERMAN
SEN. VIRGINIA "GINNY" LYONS
SEN. MARK A. MACDONALD
SEN. DIANE SNELLING
REP. WARREN VAN WYCK

STATE OF VERMONT
GENERAL ASSEMBLY
JOINT ENERGY COMMITTEE

TO: House Committee on Commerce and Economic Development
House Committee on Natural Resources and Energy
House Committee on Ways and Means
Senate Committee on Finance
Senate Committee on Natural Resources and Energy

FROM: Joint Energy Committee
Rep. Tony Klein, Chair
Sen. Chris Bray, Vice Chair

RE: Recommendations in Response to 2015 Acts and Resolves No. 56, Sec. 14b
Energy Efficiency Entities

DATE: February 11, 2016

The Joint Energy Committee (the Committee) submits the following recommendations pursuant to 2015 Acts and Resolves No. 56 (Act 56), Sec. 14b:

(1) what revisions, if any, the Committee recommends that the General Assembly enact with respect to the statutes applicable to energy efficiency entities appointed and charges imposed under 30 V.S.A. § 209(d)

The Committee recommends no such revisions at this time. The measures installed through 2014 under the programs implemented by energy efficiency utilities represent a significant financial benefit to Vermonters. The actual and projected monetary savings from those measures by 2025 total $913 million from an investment of $425 million. The net savings are therefore $483 million, representing a return on investment of 113 percent. These figures are in 2015 dollars.

(2) what legislation, if any, the Committee recommends that the General Assembly enact to clarify or alter the relationship of energy efficiency entities and charges under 30 V.S.A. § 209(d) with the energy transformation category adopted under Sec. 3 of this act, 30 V.S.A. § 8005(a)

The Committee recommends no such revisions at this time. As directed in Sec. 8 of Act 56, the Public Service Board (PSB) has engaged affected entities and members of the public in a series of workshops that are ongoing. These workshops include focus on the relationship between the energy efficiency entities and the energy transformation category of the Renewable Energy Standard created in Act 56. This process should be allowed to continue.

In reaching its recommendations, the Committee convened four meetings and offered an opportunity for submission of written comments. It took testimony from Efficiency Vermont, the Department of Public Service (DPS), the Public Service Board, and the Office of Legislative Council. It sent information requests to DPS and received a responsive analysis dated January 8, 2016. It also received and reviewed public comments.

The Committee attaches the following to this memorandum:

A. Charge to Joint Energy Committee (2015 Acts and Resolves No. 56, Sec. 14b)
B. Joint Energy Committee, Information Requests (Nov. 12, 2015)
C. Dept. of Public Service, Response to Joint Energy Committee Questions Regarding Energy Efficiency Investments (Jan. 8, 2016)
D. Public Comments

2015 Acts and Resolves No. 56, Sec. 14b
CHARGE TO JOINT ENERGY COMMITTEE

Sec. 14b. JOINT ENERGY COMMITTEE; RECOMMENDATION

(a) On or before February 15, 2016, the Joint Energy Committee under 2 V.S.A. chapter 17 shall submit a recommendation to the House Committee on Commerce and Economic Development, Senate Committee on Finance, House Committee on Ways and Means, and House and Senate Committees on Natural Resources and Energy on:

(1) what revisions, if any, the Committee recommends that the General Assembly enact with respect to the statutes applicable to energy efficiency entities appointed and charges imposed under 30 V.S.A. § 209(d); and

(2) what legislation, if any, the Committee recommends that the General Assembly enact to clarify or alter the relationship of energy efficiency entities and charges under 30 V.S.A. § 209(d) with the energy transformation category adopted under Sec. 3 of this act, 30 V.S.A. § 8005(a).

(b) Prior to submitting its recommendation under this section, the Joint Energy Committee shall offer an opportunity for comment by affected State agencies; utilities; appointed energy efficiency entities; advocates for business, consumer, and environmental interests; and members of the public.

(c) For the purpose of this section, the Joint Energy Committee:

(1) may meet no more than four times during adjournment without prior approval of the Speaker of the House and the President Pro Tempore of the Senate; and

(2) shall have the administrative, technical, and professional assistance of the Office of Legislative Council and the Joint Fiscal Office.

(d) A bill or amendment during the 2016 session to adopt legislation regarding the issues to be addressed by the Joint Energy Committee under this section this act shall be in order.

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STATE OF VERMONT
GENERAL ASSEMBLY
JOINT ENERGY COMMITTEE

November 12, 2015

Chris Recchia, Commissioner
Jon Copans, Deputy Commissioner
Department of Public Service
112 State Street, Third Floor
Montpelier, VT 05620-2601

Re: Information requests

Dear Chris and Jon:

On behalf of the Joint Energy Committee, I write to make the following information requests of the Department of Public Service, with answers requested by January 5, 2016. These requests are made pursuant to the Committee's discussion at its meeting of October 16, 2015 and its charge under 2015 Acts and Resolves No. 56, Sec. 14b.

Electric energy efficiency

Concerning electric efficiency at currently approved funding levels, the Committee requests information on:

1. System benefits from the energy efficiency utility (EEU) structure and programs

    a. Historic and projected $ savings to Vermonters from avoided power supply costs overall and by customer class (residential and business).
    b. Historic and projected $ savings to Vermonters from the reduction in Vermont's share of the cost of facilities that are socialized through ISO-NE.
    c. Incremental change in average rates and bills for these customer classes:
        i. Absent a and b, what would the average rates and bills for each class be today? Please compare to today's actual average rates and bills.
        ii. Going forward, what would be the projected incremental change in average rates and bills for each of these classes, absent a and b?
        iii. Please compare i and ii to the energy efficiency charge rates.

2. Economic impact of different EEU programs, expressed as:

    a. Direct (jobs and income created from expenditure of program budgets).

b. Indirect (jobs and income created from secondary spending of program funds, i.e. payments to supply chain).
c. Induced (jobs and income created from spending of new discretionary income resulting from program participation).

3. Benefits to individuals served by EEUs

a. Breakdown of resource acquisition spending by customer class (residential and business).
b. Typical average participant bill impact scenarios for each customer class and value of benefits to the served customer.
c. When do these benefits accrue (associated payback period for 3b; timescales of 1a and 1b)?

Heating and fuel-process efficiency (unregulated fuels)

The Committee also requests the following information related to thermal and fuel-process efficiency for unregulated fuels:

1. $ Vermonters pay annually, that flow out-of-state, for fuels for heating and for process fuels.
2. Assuming increased investment, the $ savings that would accrue to residents and the state as a whole assuming various oil prices (low, mid, high forecasts). For this purpose:
   a. please take the number of houses in the state that need thermal efficiency to meet the goals of 10 V.S.A. § 581;
   b. assume 10 percent is done each year; and
   c. estimate the $ savings per household at different oil price forecasts.

Thank you in advance for your attention to this information requests. If you have any questions, please feel free to contact me or Committee counsel Aaron Adler.

Sincerely,

Rep. Tony Klein, Chair

Cc: Committee members

MEMORANDUM

Date: January 8, 2016

To: Representative Tony Klein
Senator Chris Bray

From: Jon Copans, Public Service Department

Subject: Response to Joint Energy Committee Questions Regarding Energy Efficiency Investments

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Introduction

This report was prepared at the request of the Vermont Legislature's Joint Energy Committee pursuant to its charge under 2015 Acts and Resolves No. 56, section 14b. In order to address the committee's questions, the Department of Public Service conducted an analysis of verified savings reported by Energy Efficiency Utilities (EEUs) as well as data on wholesale electric costs from 2000-2014. This report quantifies the historic and projected results of EEU activities across three categories: avoided electric energy purchases, avoided electric capacity purchases, and regional network service charge savings.

The Department finds that from 2000 through 2014, ongoing reductions in electricity consumption attributable to EEU programs has saved a cumulative total of $473 million in wholesale costs, approximately $50 million more than ratepayers have paid to fund EEU programs over this time (in 2015 dollars). Potentially tens of millions more in utility capital expenses associated with the expansion and maintenance of local transmission and distribution systems have also been saved, but an exact estimate of the "T&D" costs avoided by investments in efficiency is beyond the scope of this analysis. Counting only wholesale cost savings has shown EEU programs to have provided substantial net financial benefits to ratepayers, without even considering avoided retail (local T&D) costs. Other non-financial benefits of energy efficiency programs, such as those associated with the reduction of generator emissions are also not addressed in this document.

Using current forecasts for the wholesale price of electricity, the Department projects that these ratepayer benefits will grow as past efficiency investments continue to reduce electricity consumption and as EEUs carry out plans for additional future investments. The expected value of all EEU investments made to date (in 2015 dollars), assuming no additional measures installed after 2015, is around $435 million. No future ratepayer funding will be required to realize this value since the efficiency measures that will save this electricity have already been installed. The additional investments that EEUs are planning to make over the next ten years (which will require additional ratepayer funding) are expected to be worth nearly $960 million dollars in cumulative avoided wholesale costs, an average of more than $95 million in wholesale cost savings each year through 2025 (in 2015 dollars). In contrast, the cumulative ratepayer cost of funding this continued investment is expected to be about $560 million, an

average of $56 million collected from ratepayers each year through 2025 (in 2015 dollars). This would mean that over the next decade the cumulative tally of net financial benefits to ratepayers will have risen from roughly $50 million already accounted for today, to more than $450 million by the end of 2025.

Historical Costs and Value of EEU Programs (millions of 2015 dollars)

Ratepayer Funding 2000 - 2014	Cumulative Wholesale Costs Avoided 2000 - 2014	Net Ratepayer Savings 2000 - 2014	Unrealized Cumulative Value of Investment* 2015 - 2025	Total Current and Future Cumulative Savings by 2025*
$425	$473	$48	$435	$483

*EE = Energy Efficiency. Calculation assumes no future investments after the end of 2014. Total represents future wholesale costs expected to be avoided from measures installed from 2000-2014

Having accounted for the above-mentioned net cumulative financial savings, this brief then presents an analysis of , 1) how these cost-savings have been passed from utilities to their customers (see the *Impact on Rates* and *Impact on Bills* sections, and 2) the overall impact of EEU activities on the Vermont macroeconomy (see the *Impact on Economy* section). Due to the steady increase in ratepayer participation in EEU programs, individual utility customers have reduced their consumption of electricity by an average of 13% and are now paying an average of around 5% less in electricity bills as a result. This is despite the fact that these reductions in electricity consumption have put pressure on utilities to raise rates in order to ensure continued recovery of fixed costs over a reduced number of units of electricity sales. As of 2014, ratepayers as a whole are saving more money on their electricity bills (because of their past efficiency investments) than they are spending to install new efficiency measures, leaving more discretionary income for households and businesses to either spend throughout the Vermont economy or put into savings accounts.

Note to the Committee: The first section of this document, titled *Cost and Value of EEU Programs*, answers all questions contained in the November 2015 request for information from the Committee except for the questions found under the heading, "Heating and fuel-process efficiency (unregulated fuels)," which are answered in a second section beginning after the appendix to the first section. The second section, responding to the Committee's thermal efficiency questions, begins on page 23.

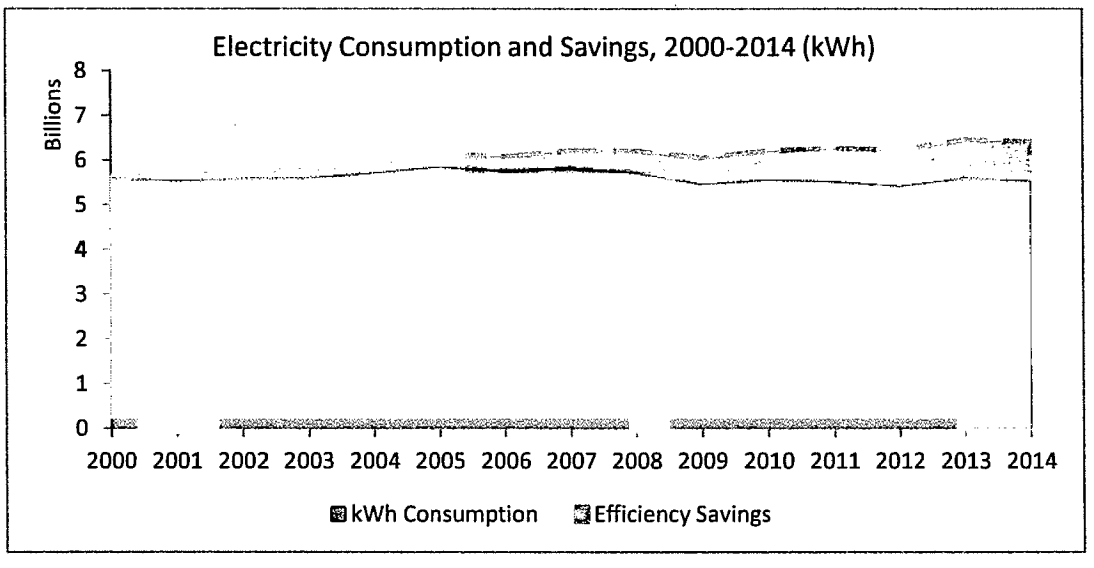
Cost and Value of Vermont's Energy Efficiency Utility Programs

Avoided Wholesale Costs

DPS estimates that from the beginning of 2000 through 2014, EEU investments have avoided a cumulative total of more than 6.6 million MWh of electric power generation.[1] During this period the amount of electric energy saved in each year has steadily increased, from about 50,000 MWh saved in 2000, to nearly 900,000 MWh saved in 2014. This rapid year-over-year growth in electricity savings is a natural consequence of the long-lived nature of the return on investments in efficiency; measures installed in any one year will reduce electricity consumption for several years to come — for as many as 20 or 30 years into the future for some measures.

As EEU program budgets have grown and more efficiency measures have been installed, recurring electricity savings from ongoing investment in efficiency have accumulated to the point that retail consumption in 2014 was more than 13% lower than it would have otherwise been without this history of efficiency investments. Similarly, Vermont's peak demand for electricity in 2014 — the level of consumption to which local grid infrastructure must be built and maintained — was more than 100 MW lower because of EEU investments.[2]

Exhibit 1



In the absence of these reductions in electricity consumption, Vermont utilities would likely have relied on purchases from wholesale electricity markets to supply the power that was saved by efficiency investments. DPS estimates that from the beginning of 2000 through 2014, the cumulative financial costs of those market purchases would have totaled almost $480 million (in 2015 dollars), an amount that ultimately would had to have been collected from ratepayers if not for the demand-side efficiency improvements enabled by EEU programs. These avoided power supply costs can be broken down into two separate categories: avoided market purchases of electric energy, and avoided market purchases of electric capacity.

[1] For reference, Vermont utilities have sold almost 85 million MWh over this time.
[2] For reference, Vermont's peak demand in 2014 was around 950 MW.

Avoided electric energy purchases have been the dominant source of cost savings for electric utilities, totaling around $386 million cumulatively from 2000 through 2014 (in 2015 dollars). *Avoided electric capacity purchases* have historically been a smaller source of cost savings for electric utilities, totaling around $35 million cumulatively from 2000 through 2014 (in 2015 dollars).

In addition to avoiding wholesale market purchases, EEU investments have also reduced the charges that utilities must pay to cover the revenue requirement of the Independent System Operator of New England (ISO-NE). These "Regional Network Service" (RNS) charges can be thought of as the local utility's share of the overall cost to maintain and upgrade the bulk transmission facilities relied on by all wholesale market participants in the New England region. Since 2000, Vermont utilities have paid more than $500 million in RNS charges (in 2015 dollars). DPS estimates that, were it not for EEU investments during this period, Vermont ratepayers would have paid about $52 million more for regional network service.

Exhibits 1 and 2 below present DPS's estimates of the total wholesale electricity cost savings in each year from 2000 through 2014 that have resulted from the avoided market purchases of electricity (energy and capacity) and avoided RNS charges that past investment in efficiency has made possible. In these Exhibits, it can be seen how the cost-savings benefit of efficiency measures installed in a given year have recurred over subsequent years. For example the majority of the wholesale cost savings in 2005 were the result of measures installed years previous to 2005 (some having been installed even before 2000), but which were still saving significant amounts of electricity that many years later.[3] Thus, the wholesale electricity cost savings from EEU investments have generally increased year over year as EEUs installed more and more measures that continue to reduce electricity consumption years after the those investments were made.[4]

[3] The measures installed before 2000 were done by BED. EVT was appointed an EEU in 2000 and does not claim any savings prior to then.

[4] In a given year, the total amount of cost savings from avoided electric energy purchases depends both on the number of MWhs saved by EEU investments and the prevailing price of market electricity during the hours that those MWhs are saved. The average hourly market price of electricity since 2000 has ranged from as low as $38 per MWh to more than $94 per MWh (in 2015 dollars), and it is worth pointing out that there have been two instances in which the market price of electricity has fallen significantly enough to dampen the general trend of year over year increases in cost savings from avoided electric energy purchases; once from 2008 to 2009, when the average hourly price of electricity fell from $91 per MWh down to $46 per MWh (in 2015 dollars, a 50% decrease), and again from 20011 to 2012 when the average hourly price fell from $50 pr MWh to $38 per MWh (in 2015dollars, a nearly 25% decrease).

Exhibit 2

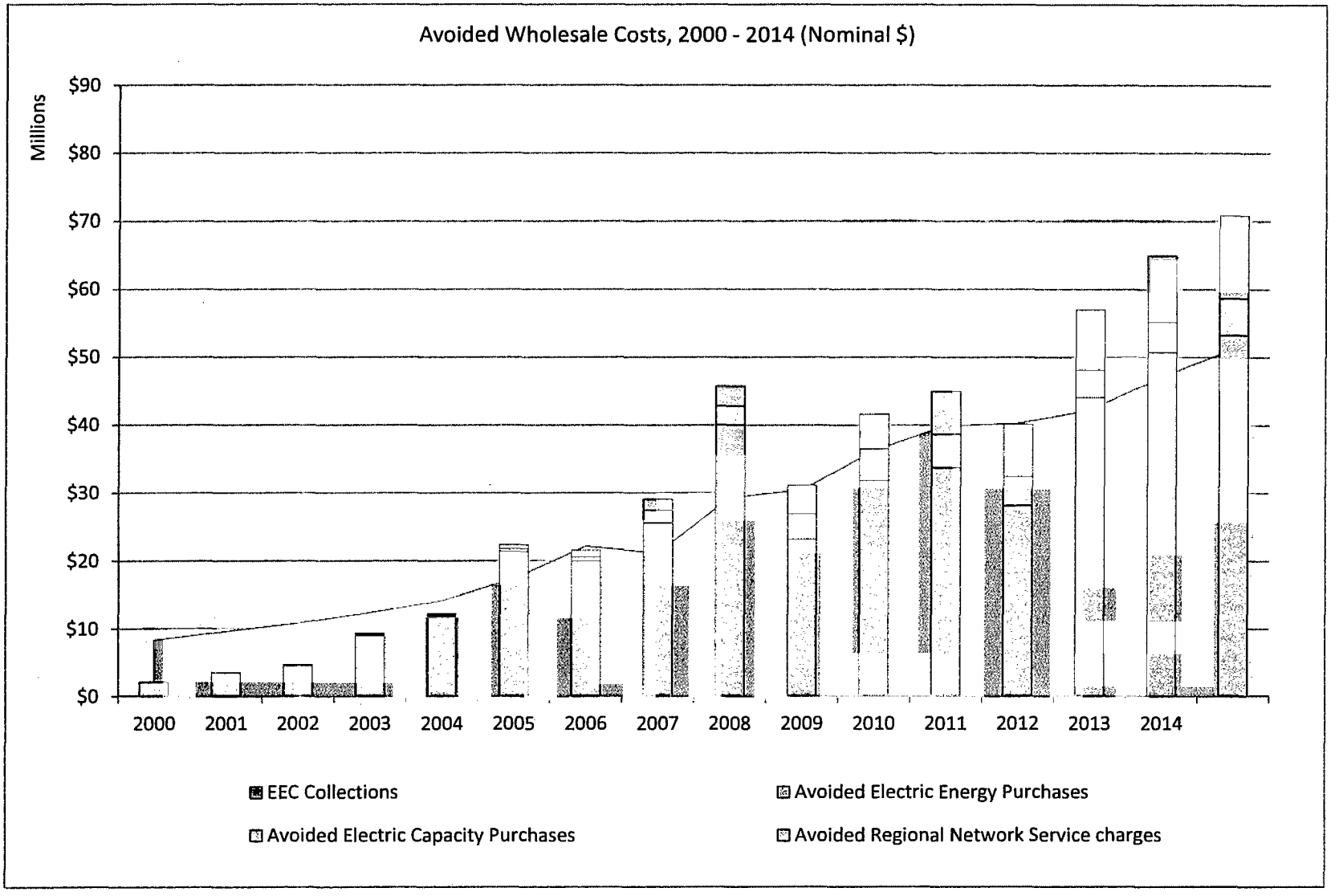

Avoided Wholesale Costs, 2000 - 2014 (Nominal $)
Millions
$90
$80
$70
$60
$50
$40
$30
$20
$10
$0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
EEC Collections
Avoided Electric Energy Purchases
Avoided Electric Capacity Purchases
Avoided Regional Network Service charges

Exhibit 3

Wholesale cost saving and ratepayer expense, by year (millions of 2015 dollars)

Year	Avoided Wholesale Costs of Electricity (millions of 2015 dollars)				Collected from Ratepayers
	Energy	Capacity	RNS Charge	Total	
2000	2.9	0.0	0.1	3.0	11.2
2001	4.5	0.1	0.1	4.6	12.6
2002	5.8	0.1	0.2	6.0	13.9
2003	11.3	0.2	0.3	11.8	15.7
2004	14.6	0.3	0.4	15.3	17.5
2005	25.9	0.5	0.7	27.2	21.2
2006	23.7	0.7	1.1	25.5	26.2
2007	29.5	2.2	1.8	33.5	24.4
2008	45.0	3.1	3.3	51.4	32.9
2009	25.5	4.1	4.7	34.3	33.6
2010	34.8	5.1	5.6	45.4	39.6
2011	36.2	5.3	6.7	48.2	42.8
2012	29.6	4.5	8.1	42.1	42.3
2013	45.5	4.2	9.1	58.8	43.6
2014	51.4	4.5	9.9	65.8	47.8
Cumulative 2000-2014	386.2	34.9	52.1	472.9	425.3
Expected Value of Investment as of 2015	320	55	65	435	N/A
Cumulative 2016-2025	662	162	134	958	560

The cumulative value of all wholesale cost savings from 2000 through 2015 was $473 million (in 2015 dollars). In contrast Vermont ratepayers have paid about $425 million (in 2015 dollars) to fund the

programs that avoided these wholesale costs.[5] Consequently, there has been a cumulative net savings to ratepayers as a whole of more than $50 million over this time (in 2015 dollars).[6]

However, it is important to emphasize that this $65 million sum does not capture the full value of the EEU investments made since 2000, since many of the efficiency measures installed in the past will continue to save wholesale electricity costs for several years to come without any additional ratepayer funding. As of 2015, DPS expects that the EEU portfolio of active efficiency measures will save a total of almost 6 million MWh over the next three decades — almost as much electricity as has already been saved since 2000 — without the need for any additional program monies.[7] Assuming current forecasts for wholesale electricity prices, DPS estimates that the present value (in 2015 dollars) of the future wholesale costs savings associated with EEU investments over the 2000-2014 time frame is in the range of $400 to $500 million. Factoring in the additional efficiency investments that EEUs are planning to make over the next 10 years, DPS projects that wholesale cost savings will continue to exceed the ratepayer costs required to fund EEU programs. With today's price forecasts for electricity and capacity, the wholesale costs avoided by expected future EEU investments will increase faster than the growth in funding necessary to make those investments. As shown in Exhibit 4 below, by 2025, wholesale cost savings could be as much as 75% greater than the cost to run the program in that year (compared to a roughly 30% margin between savings and costs in 2014). The Department projects that the additional investments EEUs are planning to make over this horizon will be worth nearly one billion dollars in cumulative avoided wholesale costs, an average of more than $90 million in wholesale cost savings each year through 2025 (in 2015 dollars). The cumulative ratepayer cost of funding this continued investment is expected to be about $620 million, an average of around $62 million collected from ratepayers each year. This would mean that over the next decade the cumulative net financial benefits to ratepayers will have risen from roughly $50 million in 2014, to more than $500 million by the end of 2025.

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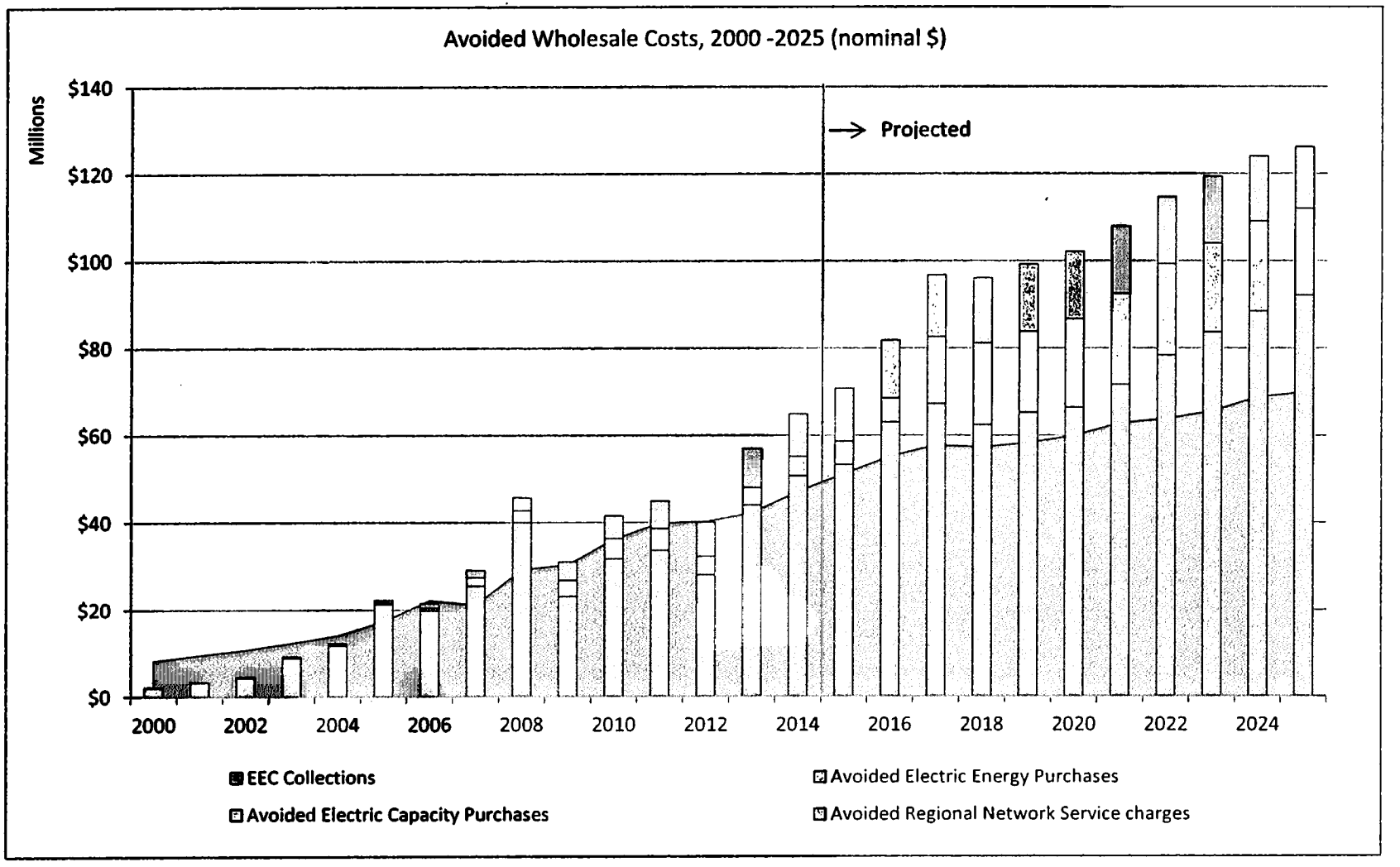
[5] Individual customers that participate in EEU programs have also borne some of the upfront costs of reducing their electricity usage. From 2000-2014 these participant costs have totaled around $267 million (in 2015 dollars). This amount was not however, passed on to ratepayers. For a detailed breakdown of the composition of EEU spending, see Exhibit A-1 in the appendix to this document.

[6] In addition to avoided wholesale costs, efficiency investments are also likely to have avoided at least some amount of the ongoing cost of maintaining and expanding local transmission and distribution systems. Exactly how much "T&D" costs have been avoided by EEU investments is a complicated question requiring elaborate and intricate analysis that has not been conducted for Vermont in almost a decade. For reference, in 2014 Vermont utilities spent over $143 million on local T&D. It is conceivable that without EEU investments, this total could have been 10% to 20% higher.

[7] See Exhibit A-2 in the appendix of this document for the projections of the electricity savings associated with plans for future EEU investment

Exhibit 4


Avoided Wholesale Costs, 2000 -2025 (nominal $)
Millions
$140
$120
$100
$80
$60
$40
$20
$0
Projected
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
2022
2024
EEC Collections
Avoided Electric Capacity Purchases
Avoided Electric Energy Purchases
Avoided Regional Network Service charges

Avoided Retail Costs

In addition to avoiding wholesale costs, efficiency investments have also very likely avoided some amount of the cost of maintaining and expanding local transmission and distribution systems—known as "T&D" costs. These retail-side costs do not tend to vary much due to minor changes in electricity consumption so it is difficult to precisely estimate exactly how much cost-savings EEU investments might have caused since 2000. Utilities in Vermont spend well over $100 million per year on local T&D expenses (representing 10% to 20% of all utility costs), and it is conceivable that without EEU programs this total would have been anywhere from $5 to $20 million higher in each year since 2000. Without extensive additional analysis, it is not currently possible to reliably estimate the total retail costs that efficiency investments have avoided. DPS is planning to undertake such an analysis before the next cycle of EEU planning is complete but makes no attempt to estimate avoided T&D costs in this study.

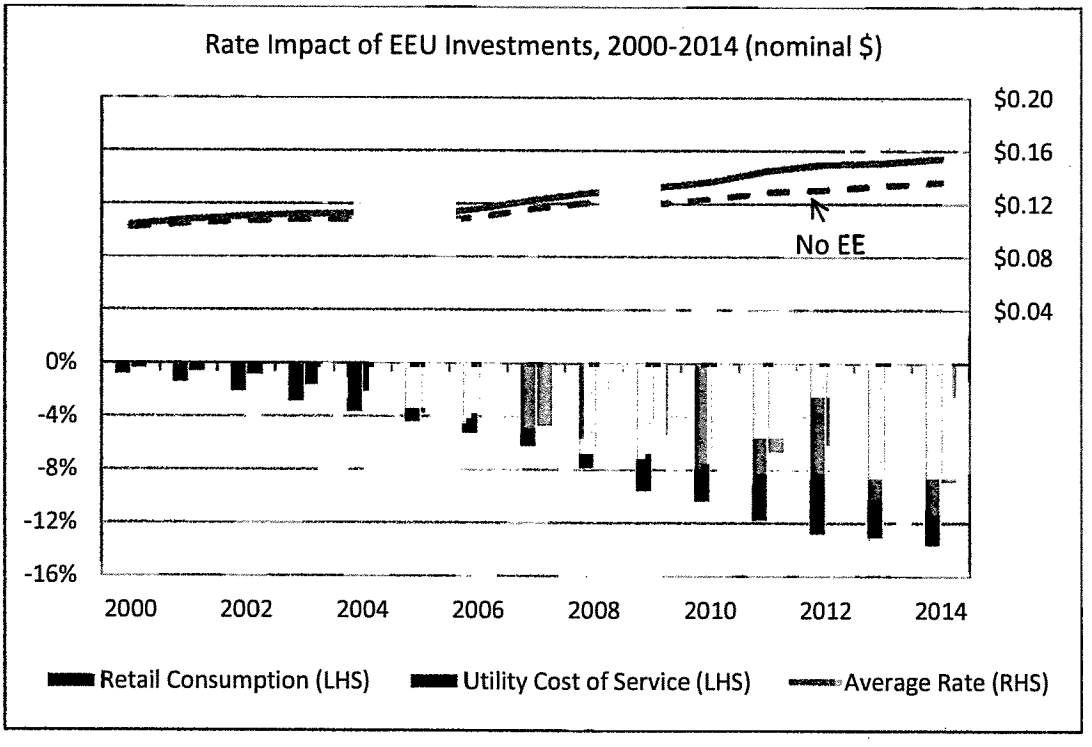
Impact on Rates

As shown in Exhibits 2 and 3 above, starting in 2005, EEU investments have generally saved more in utility wholesale expenses than it has cost ratepayers to fund EEU programs. Even with the energy efficiency charge added to their bills, ratepayers as a whole have been paying a lower total dollar amount to utilities than if utilities had supplied the electricity that was saved by EEU investments with resales of electricity purchased from the wholesale market.

However, this does not imply that EEU programs have caused the electricity rates paid by end-users to go down. There are several categories of utility expense that are not reduced when customer electricity consumption declines. A significant amount of a utility's overall cost of service is fixed and must be recovered regardless of the changing volumes of customer consumption. These fixed costs include capital expenses such as poles, wires, transformers and substations, as well as other administrative and overhead costs. If utilities sell a lower number of kilowatt-hours than expected because of efficiency improvements undertaken by their customers, they will have to raise the per kilowatt-hour rate that those customers are charged in order to avoid under-collecting their fixed costs. In a rate-making regime such as Vermont's, where a majority of utilities' fixed costs are recovered through volumetric rates (a per kilowatt-hour charge), any structural reduction in retail usage will result in "stranded costs" that would not be collected without an increase in rates.

If it were the case that reductions in electricity consumption reduced a utility's cost of service by a proportional amount—for example if a 10% reduction in consumption resulted in a 10% reduction in costs—then electricity rates would not be affected by EEU investments at all. As shown in Exhibit 5, the reality has been that, on average from 2000 through 2014, for each percentage reduction in electricity consumption from efficiency improvements, utility costs have declined by approximately two-thirds of a percent. Thus, between the addition of the energy efficiency charge to customer bills and the reduction in electricity consumption by EEU program participants, retail electricity rates have tended to be higher than if no EEU programs had ever been put into place. For a more detailed depiction of the historical and projected rate impacts of EEU programs on residential and business customer classes, see Exhibits A-3 through A-5 in the appendix of this document.

Exhibit 5



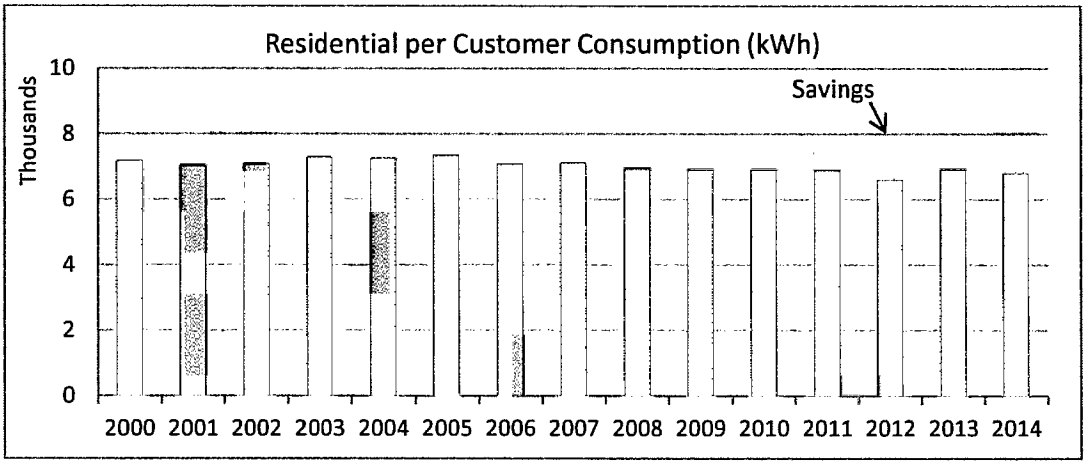
Impact on Bills

Despite the upward pressure on electricity rates from demand-side efficiency improvements, the majority of individual ratepayers are paying lower electricity bills now than if there never been any EEU programs for them to take advantage of. As shown in Exhibit 6 below, per customer consumption of electricity has declined by more than 11 per cent since 2000 (overall, across customer classes), a direct result of steadily increasing ratepayer participation in EEU programs. In the absence of the customer efficiency improvements stimulated by EEU programs over this time, DPS estimates that per customer electricity consumption in 2014 would have been higher than the levels of 15 years ago.

Overall, lower per customer consumption has meant lower bills for those ratepayers who have participated in EEU programs. For those ratepayers who have not participated in EEU programs, their annual consumption is much the same as it was in 2000 and the upward pressure on rates (from the efficiency improvements made by other ratepayers) has meant higher bills. DPS estimates that in 2000, between 10% to 20% of Vermont's then 325,000 ratepayers had participated in an EEU program, and

that by the end of 2014 as many as 90% of Vermont's then 362,000 ratepayers had participated in an EEU program.[8]

Exhibit 6



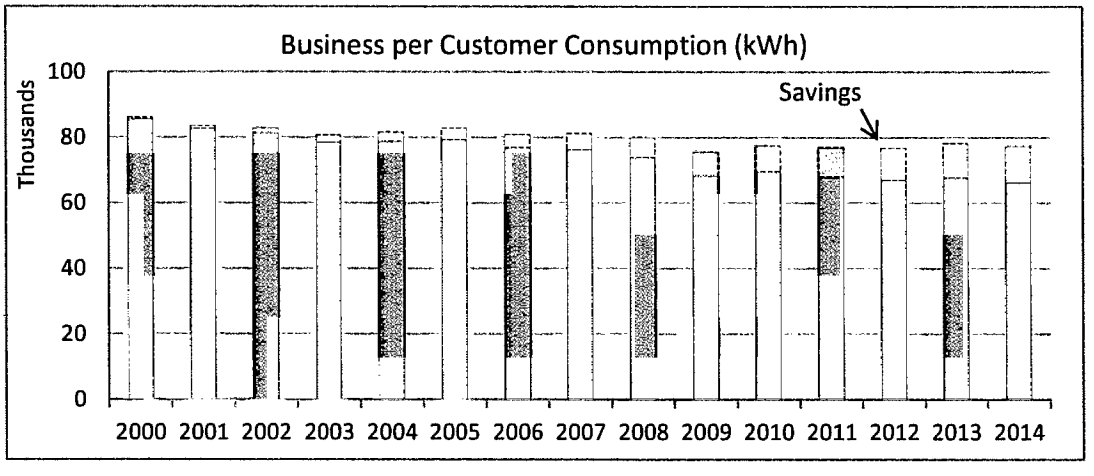


Exhibit 6 above shows the decline in per customer consumption of electricity within each customer class that has resulted from ratepayer participation in EEU programs. For residential customers, per customer consumption has gone from 7,100 kWh in 2000 to 6,800 kWh in 2014—13% less than if no EEU investments had ever been made in that sector. For business customers, per customer consumption has

[8] Reliable information on the number of unique participants in EEU programs and the distribution of electricity savings across these participants does not currently exist. DPS's estimates are consistent with a scenario in which residential and business participants in EEU programs are reducing their consumption of electricity by between 5% and 10% on average in 2000 and by between 10% to 15% on average in 2014.

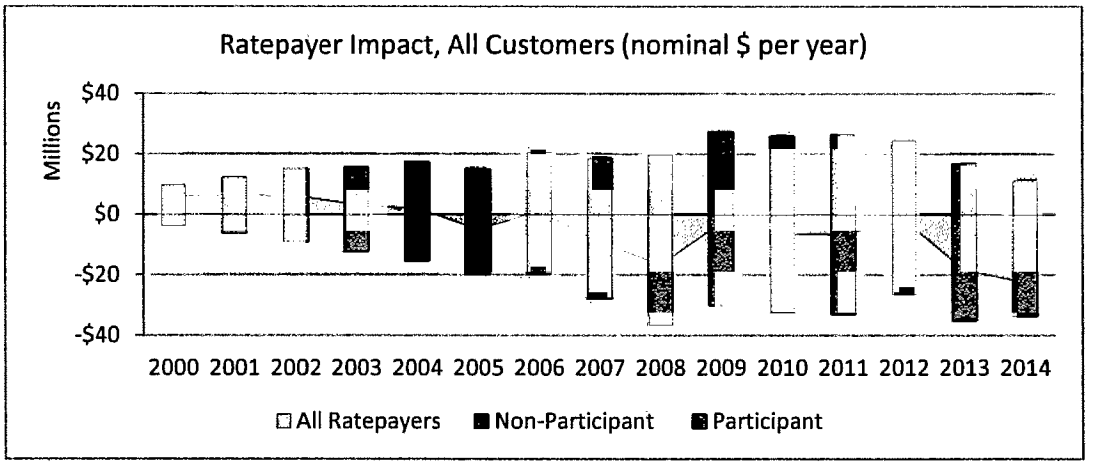
gone from 85,500 kWh per year to 66,200 kWh per year—14% less than if no EEU investments had ever been made in that sector.

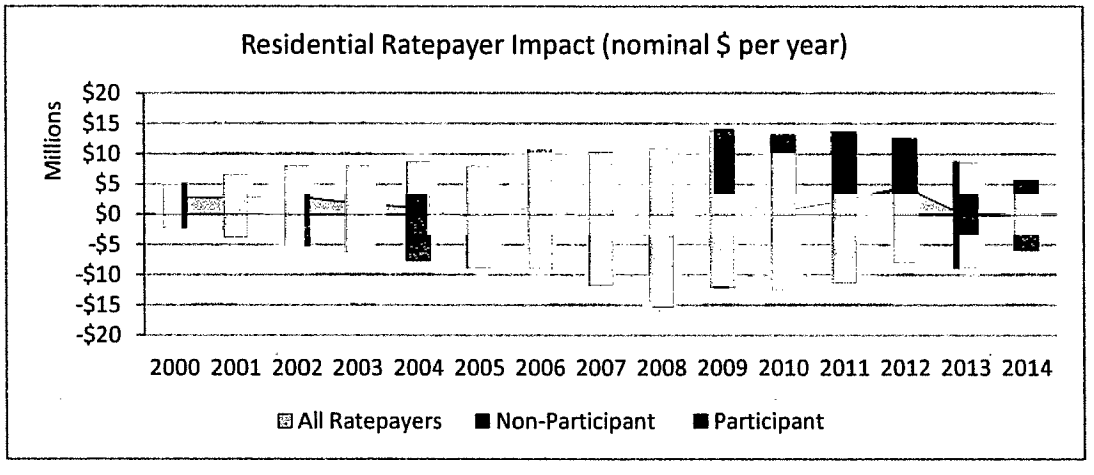
To illustrate the benefits to program participants implied by this trend, an individual residential or business customer who participated in EEU programs in 2000 might have reduced their annual consumption by 5% (from say 6,000 kWh per year to 5,700 kWh per year for the residential customer; from 40,000 kWh per year to 38,000 kWh per year for the business customer).[9] As a result their annual bills in subsequent years would have been almost $40 to $50 lower for the residential customer and $200 to $250 lower for the business customer. By 2014 the residential customer will have saved a cumulative total of around $640 and the business customer will have saved a cumulative total of more than $3,000.

If the same hypothetical customers had made no investment in efficiency in 2000 and continued to consume 6,000 kWh (residential) and 40,000 kWh (business) respectively each year through 2014, their annual bill in subsequent years would be higher because of the upward pressure on rates exerted by the reduction in consumption by other ratepayers who did participate in EEU programs. By 2014, the non-participating residential customer might have paid $1000 more in cumulative electricity bills (since 2000) than in a scenario without any rate impact from EEU programs. The non-participating business customer would have paid more than $4,000 more in cumulative electricity bills. In actuality, the majority of Vermont ratepayers have participated in EEU programs at some point over the past 15 years and have likely reduced their consumption by at least 2% to 3%.

[9] The usage of this hypothetical business customer is more in line with typical commercial sector consumption patterns than industrial levels of consumption, which tend to be significantly higher.

Exhibit 7


Ratepayer Impact, All Customers (nominal $ per year)
Millions
$40
$20
$0
-$20
-$40
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
All Ratepayers
Non-Participant
Participant


Residential Ratepayer Impact (nominal $ per year)
Millions
$20
$15
$10
$5
$0
-$5
-$10
-$15
-$20
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
All Ratepayers
Non-Participant
Participant

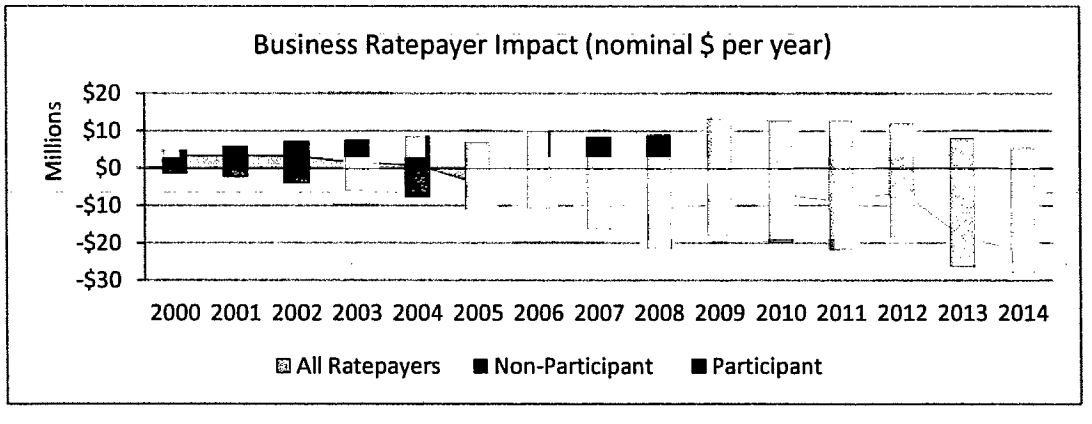
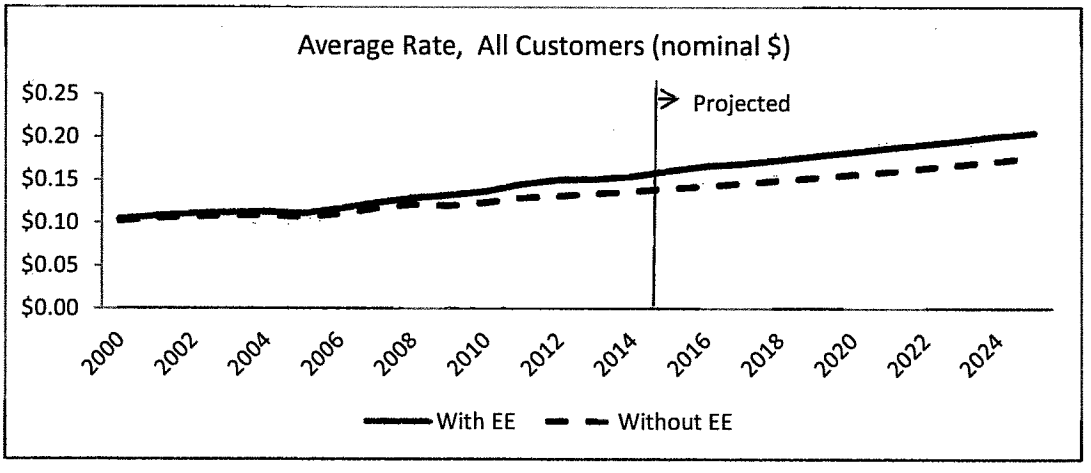
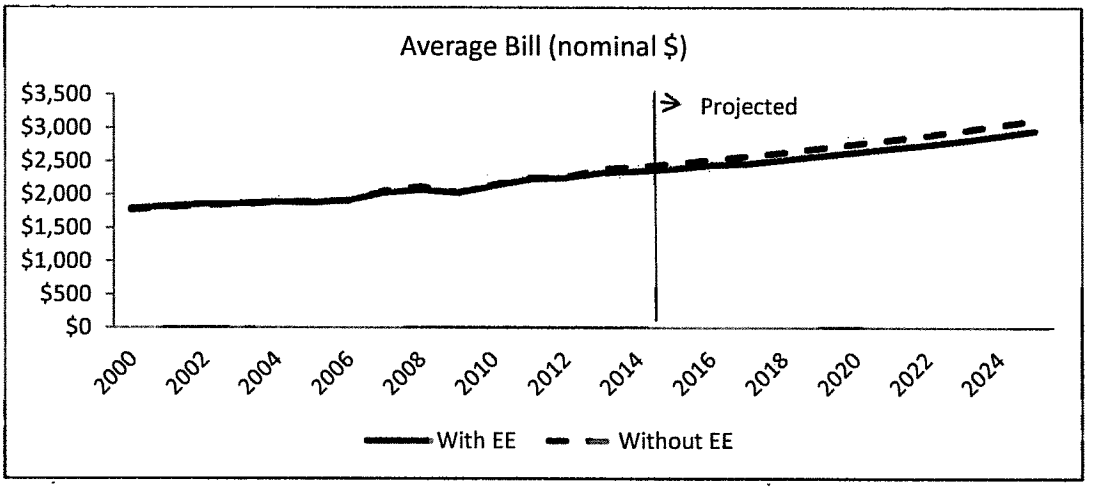
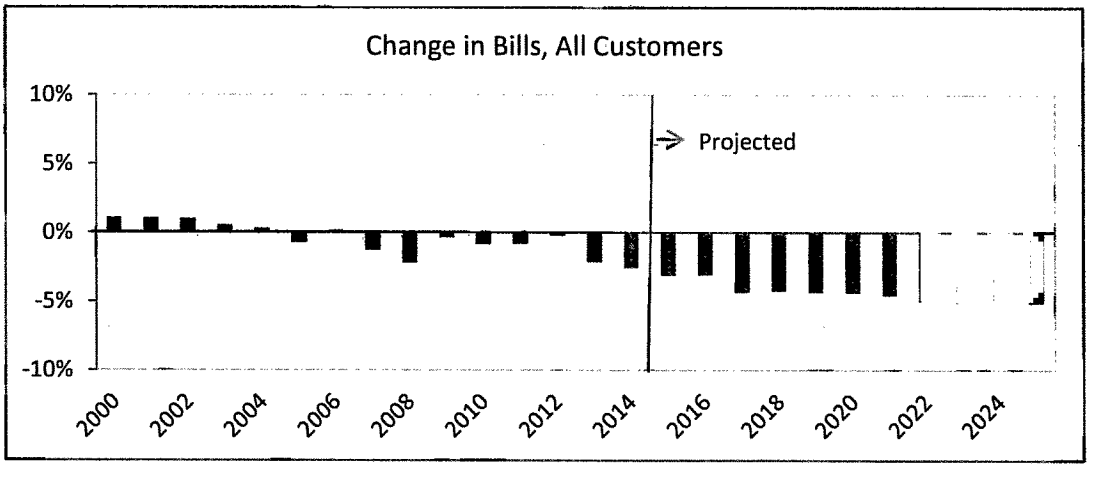

Business Ratepayer Impact (nominal $ per year)
Millions
$20
$10
$0
-$10
-$20
-$30
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
All Ratepayers
Non-Participant
Participant

Exhibit 7 above shows that though ratepayers as a whole have generally experienced lower bills since 2005 because of participation in EEU programs (as indicated by the green area falling below the zero mark of the x axis), these savings have not been evenly distributed across all ratepayers. The total amount of electricity bill savings experienced by EEU program participants has grown from around $2 to $4 million in 2000, to $30 to $35 million in 2014. But because of the impact of EEU investments on electricity rates those customers who did not participate in EEU programs at all over this period have generally experienced higher electricity bills than if EEU programs did not exist. DPS estimates that in 2000, between 80% and 90% of ratepayers had not participated in EEU programs and that these non-participating customers were paying between $8 and $10 million more in electricity bills because of the impact of EEU programs on rates (i.e. the reduction in consumption). As program participation has increased and more ratepayers have reduced their electricity consumption, the number of customers exposed to the higher rates has fallen. The costs faced by those remaining non-participating ratepayers though has tended to creep upward, as more and more reductions in consumption by participating ratepayers has exerted increasing upward pressure on rates. DPS estimates that in 2014, only between 10% and 20% of ratepayers had not participated in EEU programs, and that these non-participating customers were collectively paying $9 to $11 million more in electricity bills because of the impact of EEU programs on rates. Thus, for the minority of ratepayers who have not reduced their electricity consumption by participating in EEU programs, electricity bills are currently more than 10% higher than if EEU programs did not exist. Exhibit 8 below presents the results of DPS's analysis of the rate and bill impact of EEU programs on all ratepayers as a whole, including projections for the next 10 years. For a more detailed depiction of the historical and projected bill impacts of EEU programs on residential and business customer classes, see exhibits A-3 through A-5 in the appendix of this document.

Exhibit 8


Average Rate, All Customers (nominal $)
$0.25
$0.20
$0.15
$0.10
$0.05
$0.00
Projected
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
2022
2024
With EE
Without EE


Average Bill (nominal $)
$3,500
$3,000
$2,500
$2,000
$1,500
$1,000
$500
$0
Projected
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
2022
2024
With EE
Without EE


Change in Bills, All Customers
10%
5%
0%
-5%
-10%
Projected
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
2022
2024

Impact on Economy

The funding of EEU programs (via the energy efficiency charge) creates a stream of spending that originates from ratepayers and flows to both the EEUs and the manufacturers, wholesalers, retailers and installers of the equipment that EEUs choose to incentivize their program participants to purchase (through consumer subsidies). Program participants pay the balance of the cost of the incentivized efficiency measure out of their own private budgets. This outlay by program participants is a capital investment that will be paid back over time through reduced future electricity bills.

In 2014, ratepayers paid a total of approximately $47 million in energy efficiency charges. Roughly half of this total ($23 million) went toward the payment of incentives and subsidies to consumers and retailers, which in turn was used to purchase energy efficient equipment manufactured by out of state producers of capital and consumer goods (thus flowing largely to firms and workers outside of Vermont). The other half of this total ($24 million) went toward the operating costs of the EEUs, including wage and salary payments to staff and management responsible for administering programs and supporting customers. Program participants' contribution to the cost of efficiency measures in 2014 was $26 million, a nearly equal amount as was paid to them in incentives by EEUs.

Each of these spending flows impacts the economy in different ways. Payment of the energy efficiency charge and investment of participant funds in efficiency will leave less immediate discretionary income to be spent throughout the economy. Purchases of efficient equipment and spending by EEUs on their own personnel and supply chain purchases will direct some but not all of that ratepayer and participant expenditure toward Vermont firms and workers. The electricity bill savings experienced by program participants is also likely to be at least partially spent with Vermont firms and will thus help to offset the effects of higher rates on the discretionary income of non-participants.

Exhibit 9 below presents DPS's estimate of the combined impact of these spending flows on Vermont GSP and employment in 2014.[10] In these tables it can be seen that the negative impact of increased rates, which reduces discretionary spending in DPS's analysis, is effectively completely offset by the positive impact of the increase in discretionary spending by program participants who are paying less in electricity bills (compare rows 1 and 2 with rows 3 through 5). In the aggregate, DPS finds there was very little change in GSP or employment in 2014 caused by EEU programs.[11] However it is important to realize that this essentially neutral macroeconomic outcome is largely a result of the fact that ratepayers as a whole are currently spending about as much on new investments in efficiency as they are saving on their electricity bills from past efficiency investments. This means that even though many individual customers have seen their discretionary incomes increase because of their past efficiency investments (and are likely spending some of this income into the Vermont economy), on net the increase in aggregate discretionary income in 2014 was modest—around $4 million (see row 5 of Exhibit 8 tables).

[10] This spending multiplier and all other multipliers described in DPS's analysis was estimated using the structural macroeconomic model developed and licensed by Regional Economic Models Incorporated, commonly known as REMI.

[11] For reference Vermont GSP in 2014 was more than $33 billion and the level of employment was around 347,000.

To elaborate this point, in 2014 all ratepayers who had participated in EEU programs since 2000 were collectively savings around $30 million on their electricity bills (see Exhibit 7 above). Many of these ratepayers are likely to have already had their efficiency investments paid back by 2014 and would be experiencing an increase in discretionary income in 2014 as a result of their past participation in EEU programs. For example, a residential customer who contributed $200 to the cost of purchasing and installing an efficiency measure in 2000 will have saved enough in electricity bill costs to have fully paid off that investment within 3 to 5 years (assuming a reduction in annual consumption of between 4% to 5%, from 6,000 to 5,7000 kWh per year). After that, this household would have freed up an average of around $50 per year that would have either been spent throughout the economy or put away in savings accounts. Similarly, an individual business participant that contributed $2,000 to the cost of purchasing and installing an efficiency measure in 2000 will have also paid off their investment within 3 to 5 years (assuming a 4% to 5% reduction in consumption). After that, this business will have freed up more than $200 annually for discretionary use (such as for other capital investments or increased hiring).

DPS projects that over the next decade, as participation in EEU programs levels off, total ratepayer savings from past efficiency investments will continue to exceed total participant spending on new efficiency investments and will do so by increasing margins. In 2025, for example, there may be as much as a $15 million net increase in aggregate discretionary income that could be spent into the economy, increasing GDP by $6 to $12 million and raising employment by 90 to 165 jobs.

Exhibit 9

Impact of EEU Activities on Vermont GSP in 2014 (millions of nominal $)

		Initial Change in Spending	Spending Multiplier	Change in GSP
1	Ratepayer Cost	-47	0.6	-28
2	Participant Outlay	-26	0.6	-15
3	Equipment Sales	+49	0.2	+10
4	EEU Operations	+24	1.2	+29
5	Participant Saving	+4	0.6	+2
6	Net Impact	+4	N/A	-2

Impact of EEU Activities on Vermont Employment in 2014 (individual jobs)

		Initial Change in Spending	Spending Multiplier	Change in Employment
1	Ratepayer Cost	-47	8	-376
2	Participant Outlay	-26	8	-208
3	Equipment Sales	+49	3	+147
4	EEU Operations	+24	20	+480
5	Participant Saving	+4	8	+32
6	Net Impact	+4	N/A	+75

Appendix

Exhibit A-1

The table below shows a summary of annual spending by Efficiency Vermont (EVT) since 2000. Burlington Electric Department's (BED) energy efficiency program spending, which has comprised about 6% of the total electric EEU budgets since 2012, is not included in this summary.

EVT Spending (nominal $)					
	Resource Acquisition				
	Residential	Commercial &Industrial	Customer Credit Program	Non-Resource Acquisition	TOTAL
2000	$3,008,218	$2,153,229	$201,943	$235,068	$5,363,391
2001	$4,673,733	$3,486,817	$294,629	$347,475	$8,455,179
2002	$5,730,079	$4,368,623	$488,602	$395,078	$10,587,304
2003	$5,249,782	$6,918,895	$325,069	$464,157	$12,493,746
2004	$5,703,131	$7,503,109	$235,402	$551,193	$13,441,642
2005	$5,840,404	$8,331,084	$379,807	$544,269	$14,551,295
2006	$6,977,303	$6,423,083	$834,515	$604,052	$14,234,901
2007	$8,185,303	$8,628,863	$1,545,890	$974,664	$18,360,056
2008	$8,907,393	$19,841,538	$1,169,560	$1,530,343	$29,918,491
2009	$8,166,565	$15,765,178	$885,367	$1,160,699	$24,817,110
2010	$10,371,586	$21,423,350	$179,264	$1,571,826	$31,974,200
2011	$11,014,403	$21,216,670	$0	$2,523,760	$32,231,073
2012	$13,885,866	$18,113,802	$192,307	$3,140,907	$32,191,975
2013	$13,535,082	$16,899,762	$1,888,167	$3,698,708	$32,323,010
2014	$15,678,310	$25,285,093	$834,606	$3,439,585	$41,798,009

EVT resource acquisition spending on residential, commercial & industrial, and the Customer Credit Programs are reflected above, along with spending associated with development and support services related to non-resource acquisition. On average for the 2000-2014 time period, spending on residential programs has comprised approximately 40% of total EVT spending. Spending on commercial & industrial and Customer Credit Program (taken together) has comprised approximately 55% of total EVT spending. Non-resource acquisition spending has comprised 5% of total EVT spending.

The spending totals shown for each sector in the above table are a combination of customer incentives, technical assistance for customers, operating costs, and support services. On average for the past five years spending on customer incentives and technical assistance has represented approximately 60% of EVT spending on residential sector and 75% of total EVT spending on commercial and industrial sector. The remainder of EVT spending on those sectors are a combination of operating costs and support

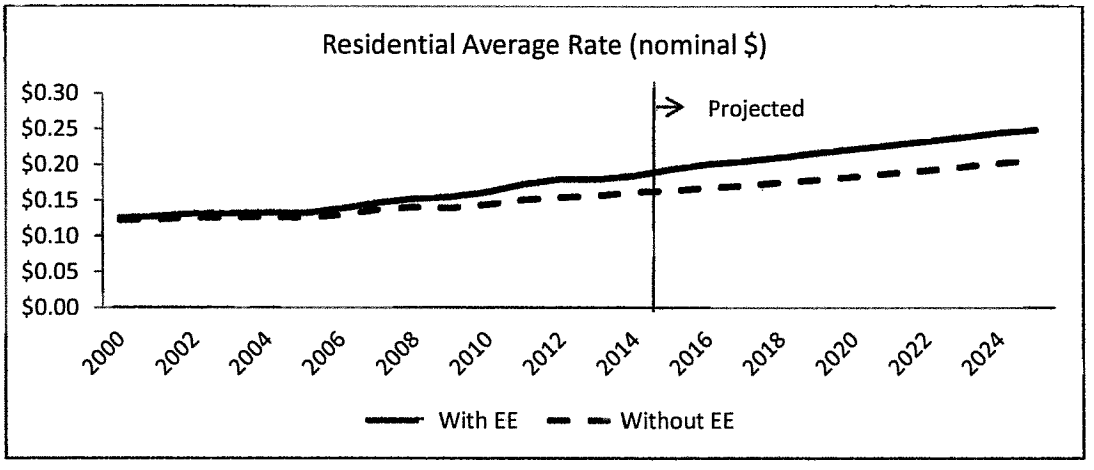
services required to deliver the programs and develop new ones. For a more detailed summary of EVT's budget, see Efficiency Vermont's Annual Reports from 2000-2014 here https://www.efficiencyvermont.com/About-Us/Oversight-Reports-Plans/Annual-Reports-amp-Plans.

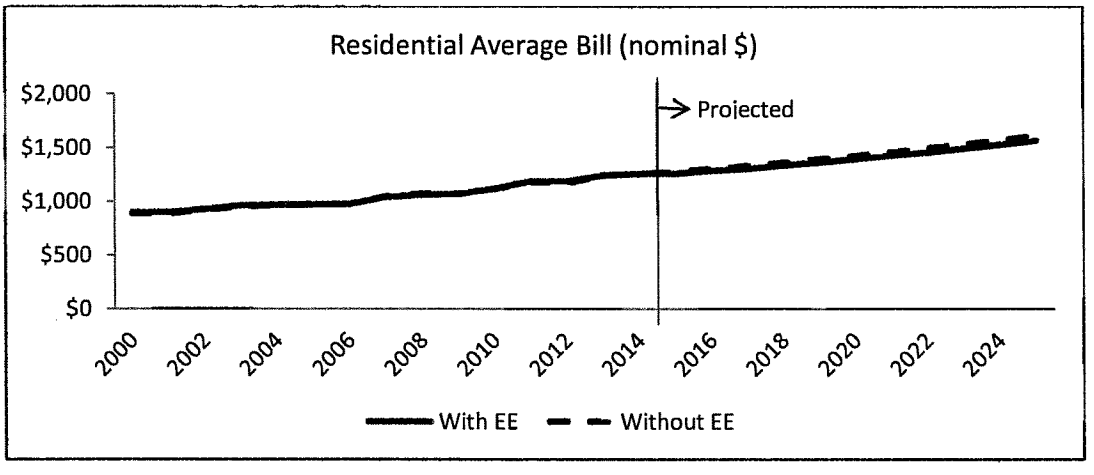
Exhibit A-2

Electricity Saved by EEUs each year, Historical and Projected (MWhs)

	Year	EVT	BED	Total
Historical	2000	6,293	43,121	49,414
	2001	37,605	45,494	83,099
	2002	76,079	49,009	125,088
	2003	117,784	51,444	169,228
	2004	166,508	53,741	220,249
	2005	219,799	53,570	273,368
	2006	273,058	51,368	324,426
	2007	336,511	54,346	390,857
	2008	434,844	57,065	491,909
	2009	520,986	60,900	581,886
	2010	588,094	58,087	646,182
	2011	679,200	62,213	741,413
	2012	737,602	64,362	801,965
	2013	780,622	65,626	846,248
	2014	811,356	68,637	879,994
	2015	940,190	71,622	1,011,812
Sum	2000-2015	6,726,533	910,604	7,637,137
Projected	2016	1,006,753	73,365	1,080,118
	2017	1,037,064	72,811	1,109,874
	2018	1,053,246	73,375	1,126,621
	2019	1,087,779	73,435	1,161,214
	2020	1,103,287	71,171	1,174,458
	2021	1,110,398	72,109	1,182,507
	2022	1,126,217	71,583	1,197,800
	2023	1,129,993	71,668	1,201,661
	2024	1,137,979	72,283	1,210,262
	2025	1,095,993	72,622	1,168,615

Exhibit A-3


Residential Average Rate (nominal $)
$0.30
$0.25
$0.20
$0.15
$0.10
$0.05
$0.00
Projected
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
2022
2024
With EE
Without EE


Residential Average Bill (nominal $)
$2,000
$1,500
$1,000
$500
$0
Projected
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
2022
2024
With EE
Without EE

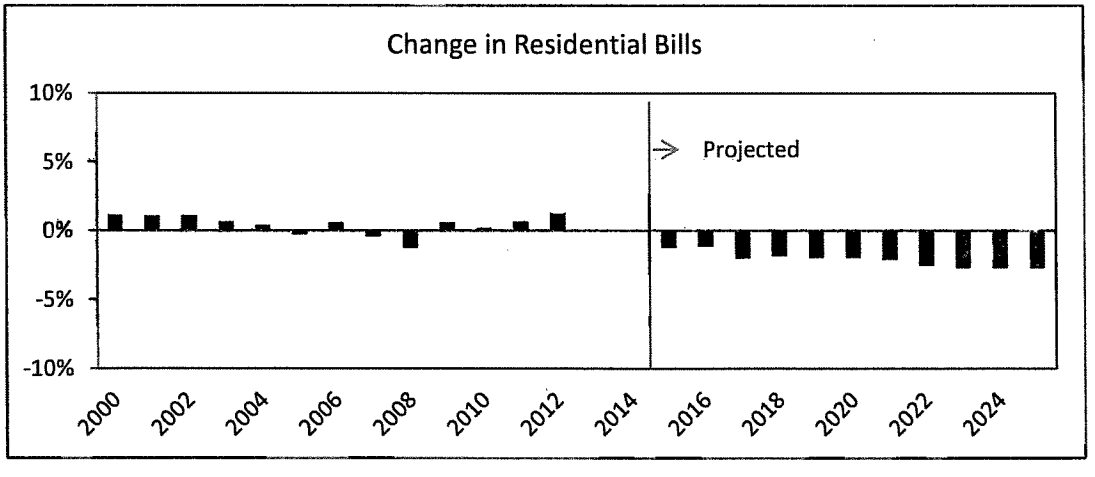
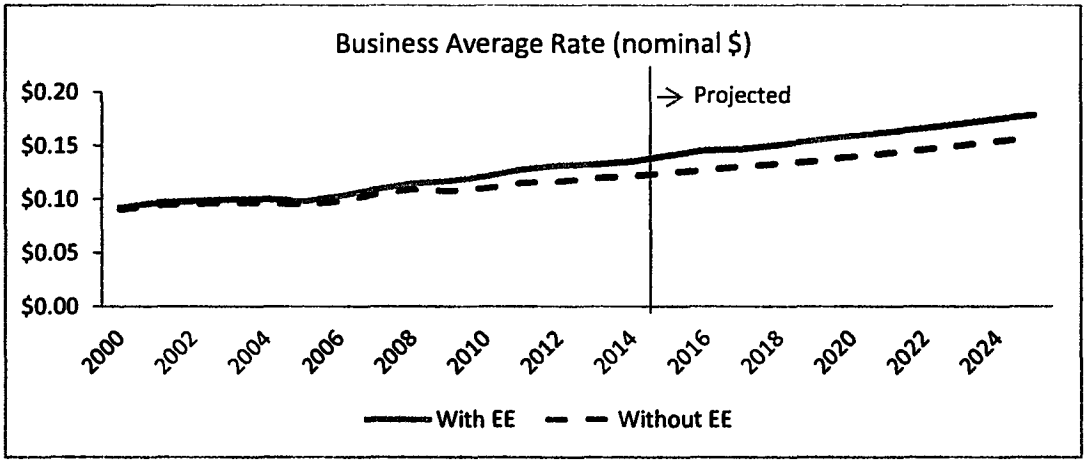
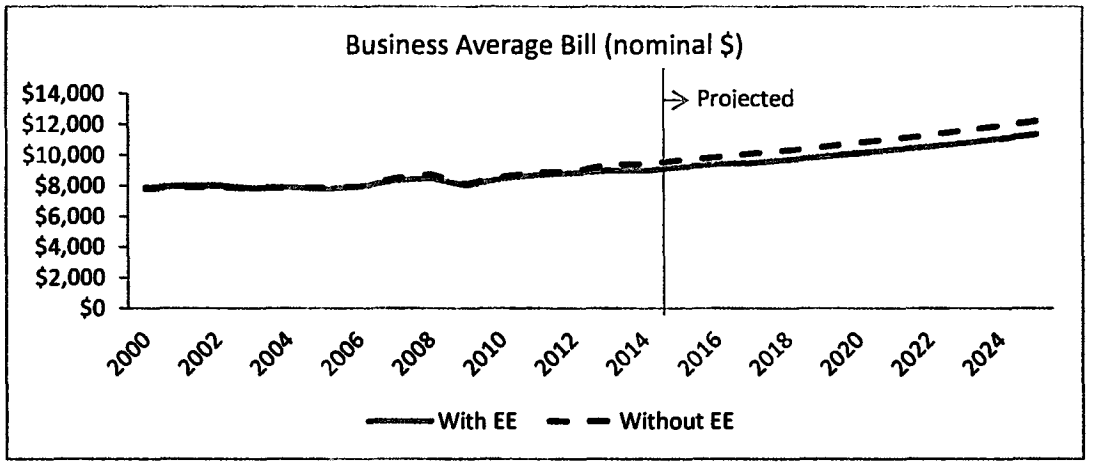
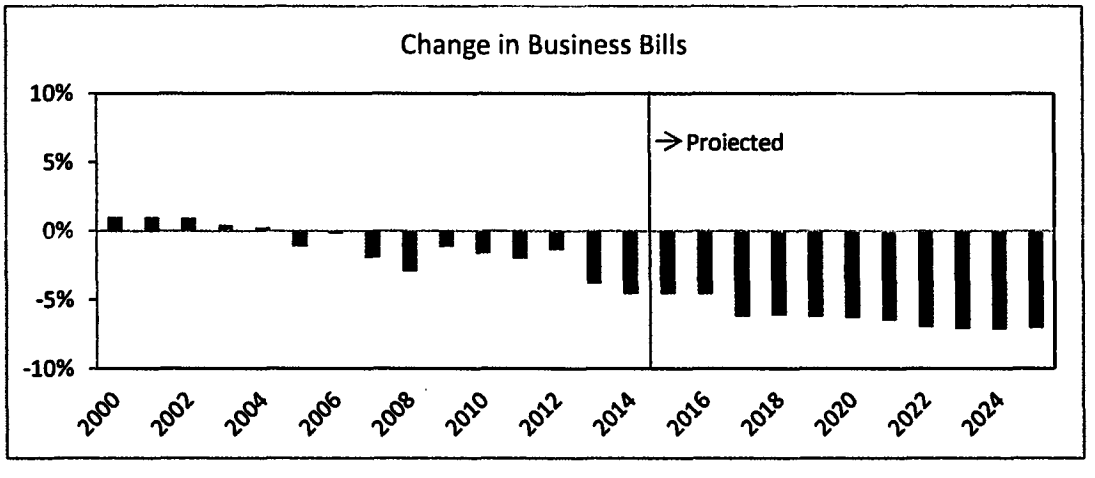

Change in Residential Bills
10%
5%
0%
-5%
-10%
Projected
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
2022
2024

Exhibit A-4


Business Average Rate (nominal $)
$0.20
$0.15
$0.10
$0.05
$0.00
Projected
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
2022
2024
With EE
Without EE


Business Average Bill (nominal $)
$14,000
$12,000
$10,000
$8,000
$6,000
$4,000
$2,000
$0
Projected
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
2022
2024
With EE
Without EE


Change in Business Bills
10%
5%
0%
-5%
-10%
Projected
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
2022
2024

Heating and fuel-process efficiency (unregulated fuels)

Q1

Column 2 in the table below shows the total nominal dollar amount (in millions) spent by Vermont end users in 2013 on purchases of fossil fuels (2013 is the most recent year for which there is complete data on aggregate spending on energy products in Vermont). Column 3 shows the average percentage of the retail consumer price of these fossil fuels that has historically gone to pay upstream wholesale commodity costs, calculated for the last 10 years. Column 4 is the product of the values in Columns 2 and 3, and represents the total dollar amount of Vermont consumer spending on fossil fuels that flows out of state to pay for commodity costs and other upstream expenses such as shipping or transmission costs.

1	2	3	4 = 2 x 3
Fuel	Total Retail Expenditure	Wholesale Percentage of Retail Price	Dollars leaving Vermont
Distillates*	711	86%	619
Propane	310	57%	177
Natural Gas	101	69%	70
Total	1,122	N/A	865

*Includes Kerosene and Residual Fuel Oil. Majority is No.2 Heating Oil.

Q2

The statutory goals codified in 10 V.S.A. 581 set a target of 80,000 residential units weatherized by 2020. The graphs and table below represent a hypothetical scenario in which this target is met by weatherizing 8,000 units a year starting in 2011. Note this implies that as of the end of 2015, 40,000 units would have been weatherized. The actual number of units weatherized to date is well below 40,000 but for the purposes of this question, both the historical trajectory of weatherization and the PSB-ordered interim targets are ignored.

Exhibit 1 presents the fuel oil price forecasts used to estimate fuel bill savings associated with residential shell improvements. Each of these forecasts comes from the Energy Information Administration's Annual Energy Outlook, published in 2015.

Exhibit 2 presents the total statewide fuel bill savings (in 2015 dollars) for each AEO price forecast in a hypothetical scenario where 8,000 residential units are weatherized each year for 10 years, starting in 2011. The growth in fuel bill savings shown in this graph results from reductions in consumption of fuel oil that continue to save household heating costs each year after the initial investment has been made.

Exhibit 3 presents the first year of fuel bill savings (in 2015 dollars) experienced by the 8,000 households newly weatherized each year for each AEO forecast. These savings are accumulated into the totals in Exhibit 2.

Exhibit 4 presents the average amount of household fuel bill savings (in 2015 $) for each AEO price forecast. Average savings is calculated by dividing the statewide fuel bill savings totals in Exhibit 2 by the hypothetical number of households weatherized.

Exhibit 1

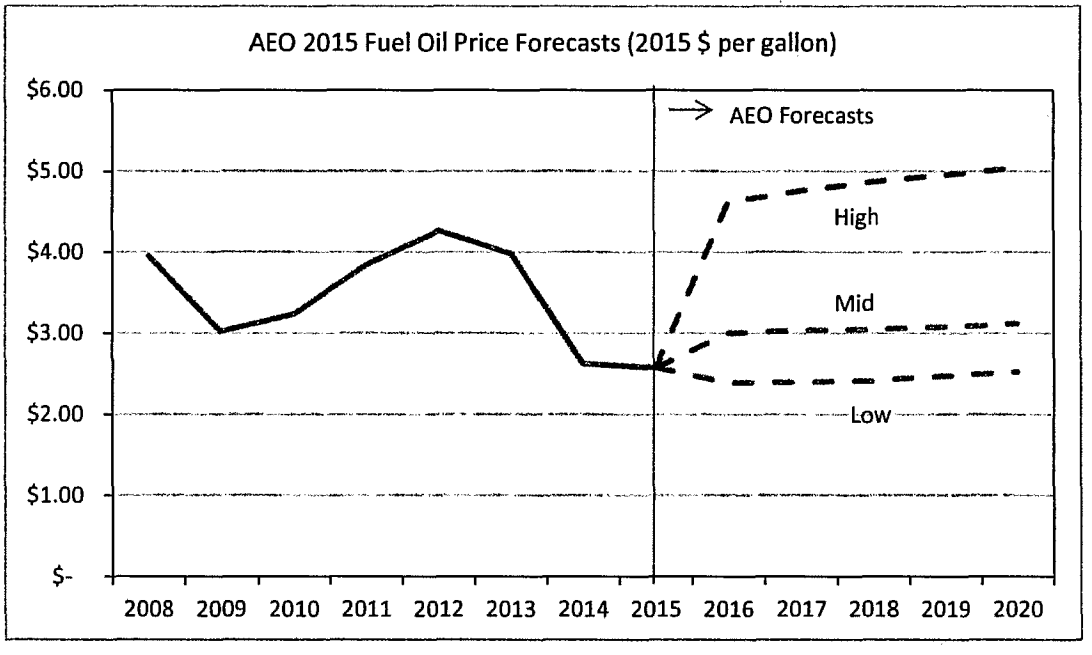


Exhibit 2

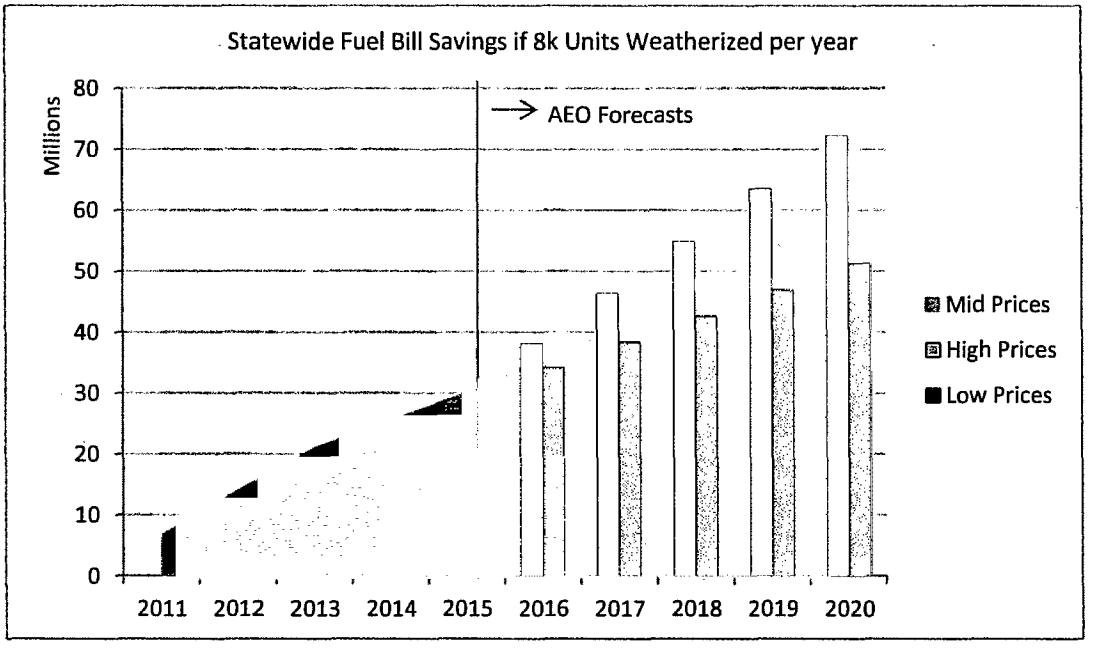


Exhibit 3

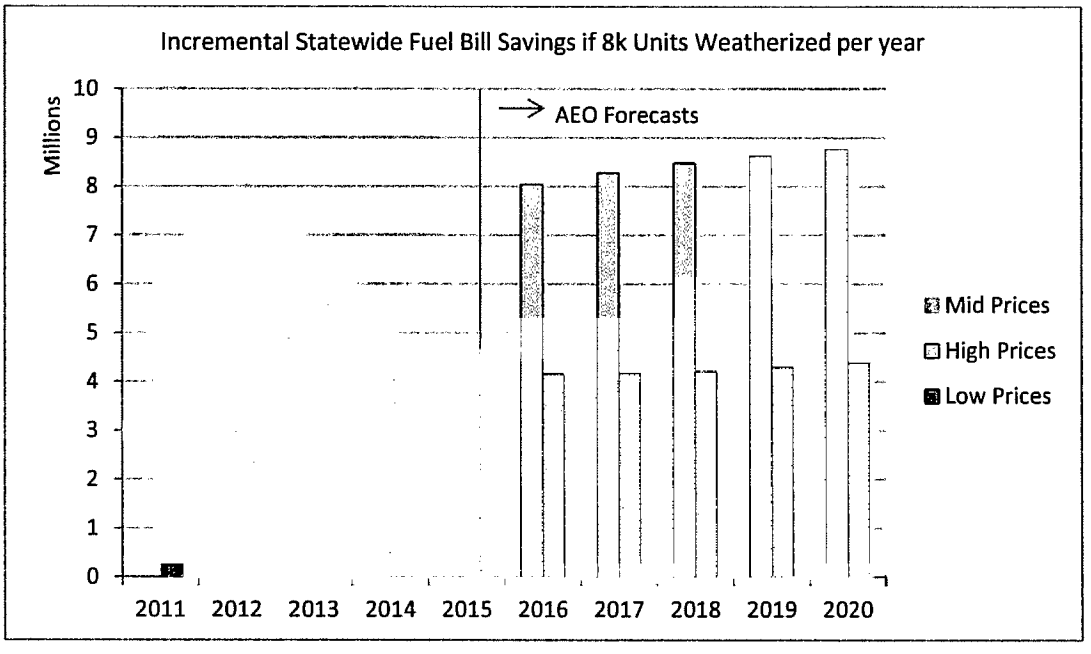


Exhibit 4

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Households Weatherized	8,000	16,000	24,000	32,000	40,000	48,000	56,000	64,000	72,000	80,000
Average Fuel Bill Savings: High Prices	$835	$881	$876	$800	$752	$794	$828	$857	$882	$903
Average Fuel Bill Savings: Mid Prices						$735	$725	$717	$712	$708
Average Fuel Bill Savings: Low Prices						$713	$686	$666	$652	$641

Jeffrey Shover

From:	Samswanson@aol.com
Sent:	Thursday, January 28, 2016 2:44 PM
To:	Chrissy Gilhuly
Cc:	info@vtipl.org
Subject:	Comments on Public Service Department Report on Energy Efficiency Utilities

To: The Joint Energy Committee of the Vermont General Assembly

From: Sam Swanson, Vermont Interfaith Power and Light

I am writing on behalf of Vermont Interfaith Power and Light (VTIPL) to provide comments on the January 8, 2016 memorandum from the Vermont Public Service Department summarizing the cumulative benefits and costs associated with the activities of Vermont's Energy Efficiency Utilities (EEU), Efficiency Vermont and the Burlington Electric Department. I serve as the President of the VTIPL Board of Directors.

VTIPL was organized twelve years ago to support the efforts of Vermont faith communities and their members to address the threat that global warming presents all life on Earth. VTIPL helps Vermont faith communities and their members to reduce their use of carbon based energy by promoting energy conservation, energy efficiency, and renewable energy. We have served more than 200 Vermont faith communities and now count 84 as VTIPL members. Our web site, www.vtipl.org, describes the goals and programs of VTIPL.

VTIPL strongly supports the work that Vermont's EEUs do to enable all electricity consumers to save energy, thus reducing their carbon footprint and their energy bills.

The Report's excellent analysis of the benefits, costs and the distribution of the benefits and costs affirms our belief that the EEU work is achieving huge benefits for the people of Vermont. The EEU programs are helping Vermonters to reduce their energy bills and their contributions to climate change.

VTIPL is doing what we can to reduce the number of non-participants, the one category of energy consumers that is not benefiting directly from the EEU programs. We have a number of programs that leverage Vermont EEU programs. Our programs are designed to help congregations and their members invest in energy efficiency. If you are interested, we will gladly tell you more about our work in this area. This work builds upon Vermont EEU programs by promoting action and in some cases offering funding to help congregations reap the benefits of investing in energy efficiency.

VTIPL encourages VT communities of faith to take advantage of the assistance Vermont EEUs provide to reduce electricity use and the use of other fuels. Unfortunately, we find that the programs EEUs offer to help reduce oil, propane and natural gas use are limited. We urge the Legislature to expand the help Efficiency Vermont and Burlington can provide to improve non-electric energy efficiency in homes and places of worship. Often the technical assistance Vermont EEUs provide is as important as the financial incentives, though the incentives remain a primary impetus to act for budget-constrained congregations and their members.

Not mentioned in the January 8 report is the important role reducing energy use plays in meeting Vermont's long term energy goals, both moving away from fossil fuels and reducing carbon emissions. While Vermont's electricity supply has a comparatively small carbon footprint, the efficiency work is enabling Vermont to switch increasingly from carbon based fuels to electricity produced by carbon free and low carbon energy sources.

Also not mentioned in the report is the need to build more electricity generators if the efficiency gains promised by EEU work do not materialize. You are well aware of the objections some Vermonters voice about

increasing numbers of wind and solar generators, the two most environmentally benign methods of electricity generation.

In summary, we strongly endorse the costs the EEUs incur and the price consumers pay for the services the EEUs deliver. The Public Service Department's January 8 memorandum demonstrates that the benefits already received justify these investments.

More importantly, these benefits provide a clear justification for expanding the resource support consumers provide to extend the work of Vermont's EEUs from electricity efficiency to improving the end use efficiency for oil, propane and natural gas consumers. Energy efficiency is the cleanest and lowest environmental impact path to meeting our energy needs.

We urge the legislature to take steps to increase the scale and impact of the cost effective investments in energy efficiency both in the electricity sector and especially in other energy sectors.

Thank you for this opportunity to comment.

Sam Swanson

President, VTIPL Board of Directors

Jeffrey Shover

From: Dave Benway <dbenway@blodgettsupply.com>
Sent: Wednesday, January 27, 2016 12:54 PM
To: Chrissy Gilhuly
Subject: Comment to Joint Energy Committee on Energy Efficiency

Comment to Joint Energy Committee on Energy Efficiency

Members of the Committee,

If I may just take a few moments to articulate the impact and relevance of programs currently available through Efficiency Vermont to wholesale trade partnerships in the HVAC and Plumbing & Heating industries.

First let me say that Blodgett Supply, one of the State's oldest business entities with roots dating from the late 1800's has a long history of pioneering products in our markets. In the Seventies the first solar powered technologies were made available through Blodgett Supply and our trade partners; less than a decade ago our company revisited those new improved technologies in attempt to proliferate them in our consumer markets. These endeavors while exciting, never presented a solid foundation on which a sound business model could exist. The cost of equipment was then and is arguably still today, an impasse to the mass proliferation of energy efficient products given the socio-economic realities of our small state. In mid-2014 the metrics changed when Efficiency Vermont introduced the first of now several "upstream" programs designed to facilitate the sales growth of high efficiency equipment.

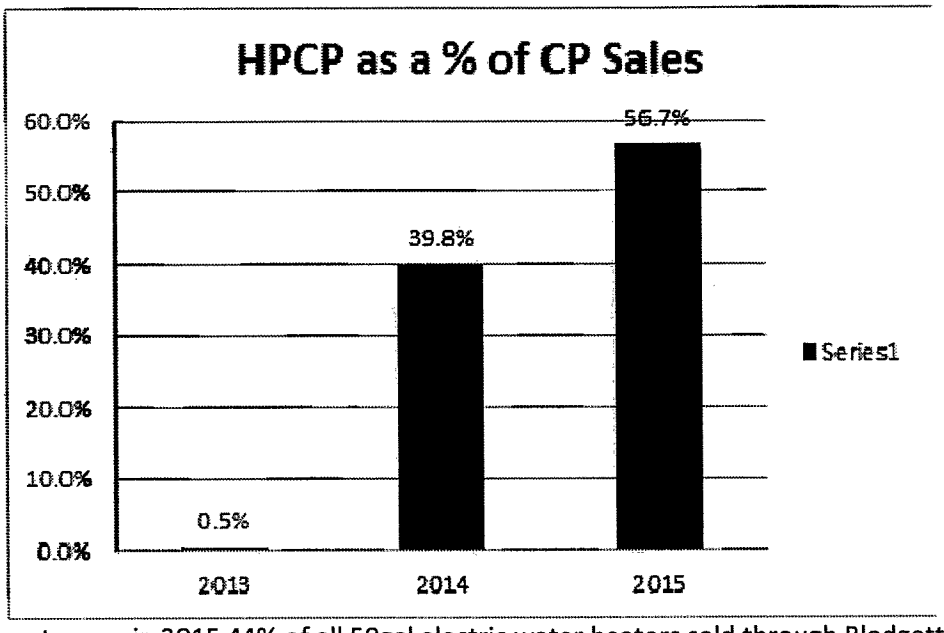
So let's look at the tangible benefits of the existing upstream programs;

- High energy efficient products are introduced into the public domain and I believe that satisfies the mission of Efficiency VT.

- The consumer is advantaged through procuring state of the art, energy efficient products made affordable to them by virtue of the reduced cost available through the upstream rebate programs. These programs require little if anything of the consumer and rely on the supply chain to educate and pass on the savings.

- The supply chain.. Blodgett Supply, is incentivized to move HE equipment through the process .. because here is the financial reality..

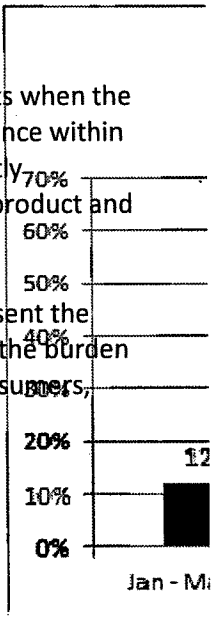
    - The industry is going to supply circulators, water heaters, and heat pumps to consumers. The demand exists regardless of efficiencies.
    - The current rebate programs ensure that the gross dollar value of existing demand increases by converting less expensive, less efficient products, to sales of the more expensive and efficient products. Pretty simple math.. in the case of a high efficient circulator pump the cost to the consumer is nearly double that of a standard pump but the upstream rebates nearly equalize the consumers investment between the two. The wholesaler remains "whole" on the transaction via the rebates. Bottom line is that Blodgett Supply, if we sell not a single pump more than in previous periods "satisfying that existing demand", we double our gross profit dollars. That is a pretty compelling argument for Blodgett to convert time and money into educating our trade partners in the values of HE equipment and employing more people to handle the demands of the programs.
    - Below are some statistics to illustrate the impact of the EVT upstream programs on Blodgett's business.. In High Performance Circulator Pumps the category was less than 1% of our pump business in 2013. In 2014 that category rocketed to 39.8% and in 2015, 56.7% off all circulators sold were HE products. Heat pump hybrid water heaters prior to the program's inception mid 2014 represented 12%



of the category, in 2015 44% of all 50gal electric water heaters sold through Blodgett were Heat pumps! Cold climate heat pump sales in 2015 were 43.8% ahead of 2014!

- To bring clarity to the increased gross sales under these programs.. the average wholesale value of a 50gal electric water heater in 2015 was in the neighborhood of $400.. by contrast the 50gal Hybrid heat pump was on average $1000.. A standard circulator pump $80, a HE pump $160.

- So here's what we've learned.. we can replace existing demand for products with HE products when the cost delta between them is in large part mitigated through efficiency incentives. The experience within the supply chain has started to mature to a point where the our trade partners can confidently introduce these products to the end users and successfully sell the gap between a standard product and a subsidized HE product.



- I'll close with this thought... The current programs we employ through Efficiency Vermont represent the single most effective campaign to put energy efficient products into people's homes and reduce the burden of electricity costs upon them that Blodgett has ever been involved with and that is good for consumers, good for Vermont business, and good for the State.

Best Regards;

David Benway
Vice President
Blodgett Supply Co;
(o) 800-223-6911
(c) 802-355-6123

Jeffrey Shover

From: Samswanson@aol.com
Sent: Thursday, January 28, 2016 2:44 PM
To: Chrissy Gilhuly
Cc: info@vtipl.org
Subject: Comments on Public Service Department Report on Energy Efficiency Utilities

To: The Joint Energy Committee of the Vermont General Assembly

From: Sam Swanson, Vermont Interfaith Power and Light

I am writing on behalf of Vermont Interfaith Power and Light (VTIPL) to provide comments on the January 8, 2016 memorandum from the Vermont Public Service Department summarizing the cumulative benefits and costs associated with the activities of Vermont's Energy Efficiency Utilities (EEU), Efficiency Vermont and the Burlington Electric Department. I serve as the President of the VTIPL Board of Directors.

VTIPL was organized twelve years ago to support the efforts of Vermont faith communities and their members to address the threat that global warming presents all life on Earth. VTIPL helps Vermont faith communities and their members to reduce their use of carbon based energy by promoting energy conservation, energy efficiency, and renewable energy. We have served more than 200 Vermont faith communities and now count 84 as VTIPL members. Our web site, www.vtipl.org, describes the goals and programs of VTIPL.

VTIPL strongly supports the work that Vermont's EEUs do to enable all electricity consumers to save energy, thus reducing their carbon footprint and their energy bills.

The Report's excellent analysis of the benefits, costs and the distribution of the benefits and costs affirms our belief that the EEU work is achieving huge benefits for the people of Vermont. The EEU programs are helping Vermonters to reduce their energy bills and their contributions to climate change.

VTIPL is doing what we can to reduce the number of non-participants, the one category of energy consumers that is not benefiting directly from the EEU programs. We have a number of programs that leverage Vermont EEU programs. Our programs are designed to help congregations and their members invest in energy efficiency. If you are interested, we will gladly tell you more about our work in this area. This work builds upon Vermont EEU programs by promoting action and in some cases offering funding to help congregations reap the benefits of investing in energy efficiency.

VTIPL encourages VT communities of faith to take advantage of the assistance Vermont EEUs provide to reduce electricity use and the use of other fuels. Unfortunately, we find that the programs EEUs offer to help reduce oil, propane and natural gas use are limited. We urge the Legislature to expand the help Efficiency Vermont and Burlington can provide to improve non-electric energy efficiency in homes and places of worship. Often the technical assistance Vermont EEUs provide is as important as the financial incentives, though the incentives remain a primary impetus to act for budget-constrained congregations and their members.

Not mentioned in the January 8 report is the important role reducing energy use plays in meeting Vermont's long term energy goals, both moving away from fossil fuels and reducing carbon emissions. While Vermont's electricity supply has a comparatively small carbon footprint, the efficiency work is enabling Vermont to switch increasingly from carbon based fuels to electricity produced by carbon free and low carbon energy sources.

Also not mentioned in the report is the need to build more electricity generators if the efficiency gains promised by EEU work do not materialize. You are well aware of the objections some Vermonters voice about

increasing numbers of wind and solar generators, the two most environmentally benign methods of electricity generation.

In summary, we strongly endorse the costs the EEUs incur and the price consumers pay for the services the EEUs deliver. The Public Service Department's January 8 memorandum demonstrates that the benefits already received justify these investments.

More importantly, these benefits provide a clear justification for expanding the resource support consumers provide to extend the work of Vermont's EEUs from electricity efficiency to improving the end use efficiency for oil, propane and natural gas consumers. Energy efficiency is the cleanest and lowest environmental impact path to meeting our energy needs.

We urge the legislature to take steps to increase the scale and impact of the cost effective investments in energy efficiency both in the electricity sector and especially in other energy sectors.

Thank you for this opportunity to comment.

Sam Swanson

President, VTIPL Board of Directors

Jeffrey Shover

From: Linda Rainville <bounce@convio.net>
Sent: Friday, January 29, 2016 3:33 PM
To: Chrissy Gilhuly
Subject: Comment on Efficiency Vermont

Jan 29, 2016

Joint Energy Committee

Efficiency Vt programs have help a lot of the farms my husband does business with be able to update and afford efficient equipment. They are great to work with. I feel the programs should be continued.

Sincerely,

Linda Rainville

Highgate Center, VT 05459-3049
lindarainville@comcast.net

Jeffrey Shover

From: Betsy Hardy <betsyh@gmavt.net>
Sent: Friday, January 29, 2016 2:46 PM
To: Chrissy Gilhuly
Subject: Report to Joint Energy Committee regarding EEUs

This is to voice my strong support for Vermont's Energy Efficiency Utilities (especially Efficiency Vermont since it covers most of the state). The memorandum from the Department of Public Service clearly shows their wonderful value to Vermont.

I believe the report is conservative and understates the value of the EEUs. For example, it doesn't go into the benefit to the environment when Vermont needs less power because of energy efficiency improvements. When we use less power, it means fewer transmission lines are needed and less electricity has to be generated -- both in-state and coming into the state from other regions. Since some of our electricity is being generated at out-of-state power plants fueled by natural gas, coal, or oil, less demand for power means less of these fossil fuels are being burned. This in turn means less greenhouse gas emissions -- a step toward stabilizing these emissions that are causing climate change. This is a benefit to the whole world!

My hope is that the EEUs will be fully supported so they're able to continue and expand their great work!

Thank you for this opportunity to comment.

Betsy Hardy
Richmond, VT
802-434-3397

Jeffrey Shover

From: Robert Chutter <bounce@convio.net>
Sent: Friday, January 29, 2016 10:02 AM
To: Chrissy Gilhuly
Subject: Comment on Efficiency Vermont

Jan 29, 2016

Joint Energy Committee

We have participated in Efficiency of Vermont's programs and have realized some of their benefits, We believe the recorded positive statistics strongly support continuation of Efficiency Vermont!!

Sincerely,

Robert Chutter

Charlotte, VT 05445-9325
abcrwc@gmavt.net

Jeffrey Shover

From: Wayn Goodman <bounce@convio.net>
Sent: Friday, January 29, 2016 8:32 AM
To: Chrissy Gilhuly
Subject: Comment on Efficiency Vermont

Jan 29, 2016

Joint Energy Committee

I'd like to see increased funding for Efficiency Vermont efforts, especially considering it's one of the best ways to reach the 90% Renewables by 2050 plan as laid out in Vermont's Comprehensive Energy Plan. I'm a resident of VT and an Energy Management professional working as a consultant to the Defense industry, and I applaud EV in their efforts and successes.
The most important aspect of increased funding is that it enables Efficiency Vermont to more easily reach a larger audience and make a bigger difference - and that difference is important.
Thank you!

Sincerely,

Wayn Goodman

Bennington, VT 05201
wayn@comcast.net

Jeffrey Shover

From: Terrence Dinnan <bounce@convio.net>
Sent: Thursday, January 28, 2016 9:01 PM
To: Chrissy Gilhuly
Subject: Comment on Efficiency Vermont

Jan 28, 2016

Joint Energy Committee

Efficiency Vermont is one of the best things to happen to this state in recent times. Their focus and the practical application of their methods to achieve laudable goals is really impressive. Please continue to support their efforts to conserve energy and continue to offer incentives for alternative energy installations. Utilities should also be allowed to cut checks (and not just offer credits) to those customers who generate a surplus of clean energy.

Sincerely,

Terrence Dinnan

Charlotte, VT 05445-9154
scottpond@gmavt.net

Jeffrey Shover

From: Sarah Carter <bounce@convio.net>
Sent: Thursday, January 28, 2016 3:08 PM
To: Chrissy Gilhuly
Subject: Comment on Efficiency Vermont

Jan 28, 2016

Joint Energy Committee

I had the good fortune of having Efficeimcy Vermont perform an audit of my 1930s home and subsequently added insulation and buttoned up windows and doors to conserve energy. What a difference! We need to keep Efficiency Vermont doing this for all Vermont homes!

Sincerely,

Sarah Carter

Windsor, VT 05089-1609
sfcarter22@gmail.com

Jeffrey Shover

From: Joshua Kelly <joshuakelly23@hotmail.com>
Sent: Wednesday, January 27, 2016 8:35 PM
To: Chrissy Gilhuly
Subject: Value of Energy Efficiency

Dear Chrissy
My wife and I recently had our house weatherized and insulated by Capstone Community Action. The difference is amazing. Not just warmer but cozier. No drafts and the house holds the heat much longer meaning less time that the boiler kicks on and less trips for firewood. And then there's the bathroom fan. Yes I'm a huge fan of the bathroom fan. It's bright and super quiet.
I can't say enough about the importance of EE for me and all VTers. It's the gift that keeps on quietly and comfortably giving. This work on my house was free through Capstone's weatherization program. I would like to thank the Legislators for supporting funding for programs like these. My family is much better for it.
Thank you.
Sincerely
Josh Kelly
Montpelier

Jeffrey Shover

From: Dave Benway <dbenway@blodgettsupply.com>
Sent: Wednesday, January 27, 2016 12:54 PM
To: Chrissy Gilhuly
Subject: Comment to Joint Energy Committee on Energy Efficiency

Comment to Joint Energy Committee on Energy Efficiency

Members of the Committee,

If I may just take a few moments to articulate the impact and relevance of programs currently available through Efficiency Vermont to wholesale trade partnerships in the HVAC and Plumbing & Heating industries.

First let me say that Blodgett Supply, one of the State's oldest business entities with roots dating from the late 1800's has a long history of pioneering products in our markets. In the Seventies the first solar powered technologies were made available through Blodgett Supply and our trade partners; less than a decade ago our company revisited those new improved technologies in attempt to proliferate them in our consumer markets. These endeavors while exciting, never presented a solid foundation on which a sound business model could exist. The cost of equipment was then and is arguably still today, an impasse to the mass proliferation of energy efficient products given the socio-economic realities of our small state. In mid-2014 the metrics changed when Efficiency Vermont introduced the first of now several "upstream" programs designed to facilitate the sales growth of high efficiency equipment.

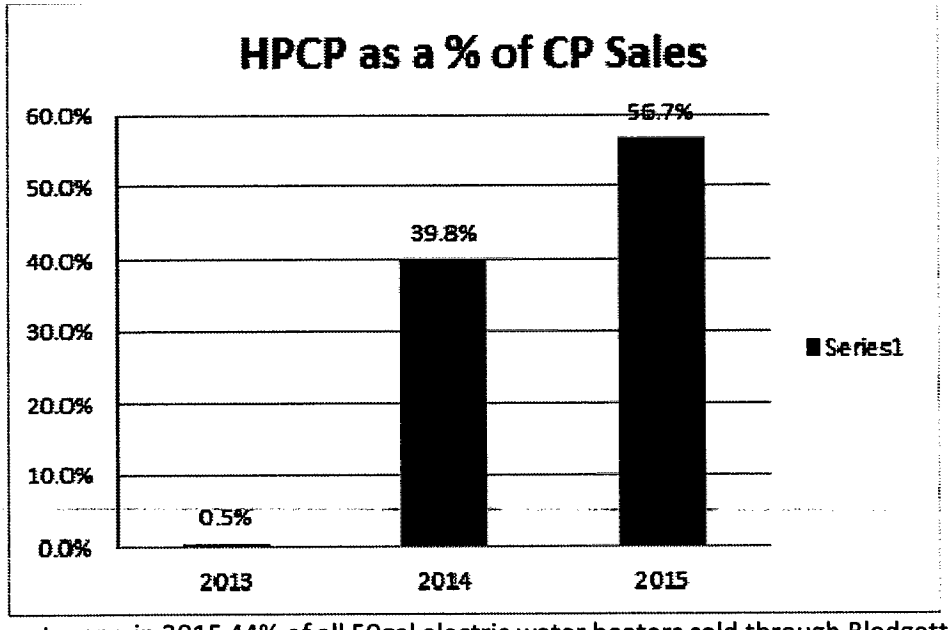
So let's look at the tangible benefits of the existing upstream programs;

- High energy efficient products are introduced into the public domain and I believe that satisfies the mission of Efficiency VT.

- The consumer is advantaged through procuring state of the art, energy efficient products made affordable to them by virtue of the reduced cost available through the upstream rebate programs. These programs require little if anything of the consumer and rely on the supply chain to educate and pass on the savings.

- The supply chain.. Blodgett Supply, is incentivized to move HE equipment through the process .. because here is the financial reality..

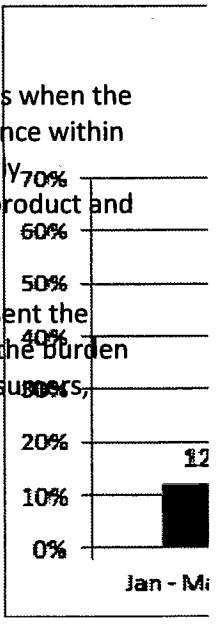
    - The industry is going to supply circulators, water heaters, and heat pumps to consumers. The demand exists regardless of efficiencies.
    - The current rebate programs ensure that the gross dollar value of existing demand increases by converting less expensive, less efficient products, to sales of the more expensive and efficient products. Pretty simple math.. in the case of a high efficient circulator pump the cost to the consumer is nearly double that of a standard pump but the upstream rebates nearly equalize the consumers investment between the two. The wholesaler remains "whole" on the transaction via the rebates. Bottom line is that Blodgett Supply, if we sell not a single pump more than in previous periods "satisfying that existing demand", we double our gross profit dollars. That is a pretty compelling argument for Blodgett to convert time and money into educating our trade partners in the values of HE equipment and employing more people to handle the demands of the programs.
    - Below are some statistics to illustrate the impact of the EVT upstream programs on Blodgett's business.. In High Performance Circulator Pumps the category was less than 1% of our pump business in 2013. In 2014 that category rocketed to 39.8% and in 2015, 56.7% off all circulators sold were HE products. Heat pump hybrid water heaters prior to the program's inception mid 2014 represented 12%



of the category, in 2015 44% of all 50gal electric water heaters sold through Blodgett were Heat pumps! Cold climate heat pump sales in 2015 were 43.8% ahead of 2014!

- To bring clarity to the increased gross sales under these programs.. the average wholesale value of a 50gal electric water heater in 2015 was in the neighborhood of $400.. by contrast the 50gal Hybrid heat pump was on average $1000.. A standard circulator pump $80, a HE pump $160.

- So here's what we've learned.. we can replace existing demand for products with HE products when the cost delta between them is in large part mitigated through efficiency incentives. The experience within the supply chain has started to mature to a point where the our trade partners can confidently introduce these products to the end users and successfully sell the gap between a standard product and a subsidized HE product.



- I'll close with this thought... The current programs we employ through Efficiency Vermont represent the single most effective campaign to put energy efficient products into people's homes and reduce the burden of electricity costs upon them that Blodgett has ever been involved with and that is good for consumers, good for Vermont business, and good for the State.

Best Regards;

David Benway
Vice President
Blodgett Supply Co;
(o) 800-223-6911
(c) 802-355-6123

Jeffrey Shover

From: Tillotson, Lisa (Milton) <ltillots@husky.ca>
Sent: Wednesday, January 27, 2016 12:45 PM
To: Chrissy Gilhuly
Subject: Public Comment to Joint Energy Committee on Energy Efficiency
Attachments: Support Letter Efficiency Vermont 01-26-16.pdf

Good afternoon,

Please see attached letter from Geoff Glaspie, Plant Manager for Husky I.M.S. Inc.

Regards,

Lisa Tillotson
Administrative Asst., HRC Operations
Husky Injection Molding Systems, Inc.
288 North Road
Milton, Vermont 05468

(802) 859-8000 ext 8082
(802) 859-8499
ltillotson@husky.ca
www.husky.co

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North America: 500 Queen St. South, Bolton, ON, Canada L7E 5W6
Asia: 101 BaSheng Road, Waigaoqiao Free Trade Zone, Shanghai 200131
EMEA: Zone Industrielle Riedgen, Technical Center, B.P. 93, L-3401 Dudelange Luxembourg

Jeffrey Shover

From: Jan Albrecht <bounce@convio.net>
Sent: Wednesday, January 27, 2016 2:28 AM
To: Chrissy Gilhuly
Subject: Comment on Efficiency Vermont

Jan 27, 2016

Joint Energy Committee

Efficiency VT has helped me after Irene damage, and most recently doing upgrades to my cold, drafty little house. The help enabled me to undertake larger projects than I would have otherwise, and really made a difference in quality of life for me, and reduced carbon emissions.

Thank you. I hope this program continues, and expands with encouraging renewable energy.

Sincerely,
Jan Albrecht

Sincerely,

Jan Albrecht

Gaysville, VT 05746
janismonroe@rocketmail.com

Jeffrey Shover

From: Patricia Sharpe <bounce@convio.net>
Sent: Wednesday, January 27, 2016 2:28 AM
To: Chrissy Gilhuly
Subject: Comment on Efficiency Vermont

Jan 27, 2016

Joint Energy Committee

I support the good work of Efficiency Vermont.

Sincerely,

Patricia Sharpe

Bristol, VT 05443-5281
patsharpe@gmavt.net

Jeffrey Shover

From: John Field <bounce@convio.net>
Sent: Wednesday, January 27, 2016 2:28 AM
To: Chrissy Gilhuly
Subject: Comment on Efficiency Vermont

Jan 27, 2016

Joint Energy Committee

Efficiency Vermont is a success story. My wife and I have consulted them numerous times to get an energy audit done on our house (which was completed a year later, saving about 25% of our previous energy consumption !). This program should be expanded since we know that the single most efficient way of reducing carbon footprints is by conservation. EV has a terrifically helpful staff, wonderful materials, (even free meters to map your energy usage in the home, appliance by appliance! Ps --that lead us to get rid of our old, energy-sucking refrigerator and replace it with a super-high-energy-star
refrigerator.)

Please don't be "Penny-Foolish", i.e.cutting back on the budget for EV: it really needs to be expanded to allow larger numbers of residents to use mechanisms like PACE to secure loans to retrofit our homes saving significant amounts of energy.

Thanks so much,

Sincerely,

John Field

Putney, VT 05346-8984
fieldkatz44@yahoo.com

Jeffrey Shover

From: Elise Marks <bounce@convio.net>
Sent: Wednesday, January 27, 2016 2:28 AM
To: Chrissy Gilhuly
Subject: Comment on Efficiency Vermont

Jan 27, 2016

Joint Energy Committee

An estimated 90% of Vermonters have participated in Efficiency Vermont's programs.
Efficiency Vermont has completed projects that are yielding $483 million in net savings for ratepayers. That's a whopping 113% return on investment.
Efficiency Vermont has helped customers reduce their consumption of electricity by an average of 13%.
It would be great to expand this and do even more.

Sincerely,

Elise Marks

Burlington, VT 05408-1928
elise_create@yahoo.com

Jeffrey Shover

From: Deborah Lisman <bounce@convio.net>
Sent: Tuesday, January 26, 2016 10:41 PM
To: Chrissy Gilhuly
Subject: Comment on Efficiency Vermont

Jan 26, 2016

Joint Energy Committee

I support Efficiency Vermont. It has been helpful to many many citizens and we need it to continue it's good work. Efficiency Vermont has completed projects that are yielding $483 million in net savings for ratepayers. That's a whopping 113% return on investment.
Please keep funding it!

Sincerely,

Deborah Lisman

Montpelier, VT 05602-3718
dlisman1@myfairpoint.net

Jeffrey Shover

From: Bill Christian <bounce@convio.net>
Sent: Tuesday, January 26, 2016 10:41 PM
To: Chrissy Gilhuly
Subject: Comment on Efficiency Vermont

Jan 26, 2016

Joint Energy Committee

Common sense says "if it's working, don't break it". And if it's doing something really, really good, and you need much more of it, try doing more of what's working. Efficiency Vermont is successful.
Continue, expand.

But EV can't do it alone. A carbon tax is absolutely vital to our fight to reduce fossil fuel use. Please implement that as well.

Thanks.

Sincerely,

Bill Christian

North Bennington, VT 05257-9131
bill_christian@comcast.net

Jeffrey Shover

From: Melanie Henderson <bounce@convio.net>
Sent: Tuesday, January 26, 2016 10:41 PM
To: Chrissy Gilhuly
Subject: Comment on Efficiency Vermont

Jan 26, 2016

Joint Energy Committee

Small steps, when taken by many people, can accomplish big things.
Help us invest in the energy efficiency of our state, and the future of our planet.

Sincerely,

Melanie Henderson

South Hero, VT 05486-4900
mmhenderson15@gmail.com

Jeffrey Shover

From: Miles Powers <bounce@convio.net>
Sent: Tuesday, January 26, 2016 10:11 PM
To: Chrissy Gilhuly
Subject: Comment on Efficiency Vermont

Jan 26, 2016

Joint Energy Committee

I have a problem when they (Efficiency Vermont) compare my energy usage to my neighbor----who is here about 8 days out of the year-----don't quite see the real "reality" of such data.

I basically live with the bare necessities for energy usage and yet I'm not labeled as such by "Efficiency Vermont" in their all too frequent (and costly?) mailings----and no I don't feel I should pay more on my electric bill for such superficial folly----- Green Mountain takes enough each month----bill wise----close to half of my bill is for "administrative" needs-----not really for the energy I use.

Miles A. Powers DVM
East Dover, Vermont

Sincerely,

Miles Powers

East Dover, VT 05341
haragan.miles@gmail.com

Jeffrey Shover

From: Katherine Bizzoco <bounce@convio.net>
Sent: Tuesday, January 26, 2016 10:11 PM
To: Chrissy Gilhuly
Subject: Comment on Efficiency Vermont

Jan 26, 2016

Joint Energy Committee

This program not only helps families, seniors and people with disabilities stay warm during the winter, it helps Mother Earth stay healthy. It's a win/win situation.

Sincerely,

Katherine Bizzoco

East Montpelier, VT 05651-0202
kathy@greenfrogpublishing.com

Jeffrey Shover

From: Richard Adler <bounce@convio.net>
Sent: Tuesday, January 26, 2016 10:11 PM
To: Chrissy Gilhuly
Subject: Comment on Efficiency Vermont

Jan 26, 2016

Joint Energy Committee

Efficiency Vermont is an incredible Vermont Institution. I'm proud to live in a state with an Energy Efficiency Utility, and it is necessary if we are to reach out State's Energy Goals of 90% Renewable by 2050!

Sincerely,

Richard Adler

Middlebury, VT 05753-1549
rjajr89@gmail.com

Jeffrey Shover

From: Michael Doran <bounce@convio.net>
Sent: Tuesday, January 26, 2016 10:11 PM
To: Chrissy Gilhuly
Subject: Comment on Efficiency Vermont

Jan 26, 2016

Joint Energy Committee

I personally know that It has been an industry-wide understanding for well over 25 years that conservation gives the most "bang for the buck" in terms of savings for consumers. The other part of this win-win approach is the reduction of energy use which means a lesser load on the infrastructure and a lesser carbon footprint.
My personal experiences with Efficiency Vermont range from being able to easily afford energy saving light bulbs to renovating the building with more efficient lighting in the building where I work. It was an easy process and the incentives through Efficiency Vermont were enough to get me over the up-front costs.
Efficiency Vermont also showed me the relative sense of this as an investment whose payback was within a relatively short time with lasting savings. They provide a necessary service going forward and I believe would be useful if they could expand weatherization beyond energy audits and assessments.
Efficiency Vermont is a unique and valuable asset for our state with great value. I support it wholeheartedly and hope you do too. It has done a lot for citizens of Vermont and is still needed for furthering energy conservation in the coming years ahead.
I want you to keep them going.
Thank-you.

Sincerely,

Michael Doran

Vergennes, VT 05491-9815
mkdoran9@gmail.com

Jeffrey Shover

From: Charlene Fitzpatrick <bounce@convio.net>
Sent: Tuesday, January 26, 2016 9:41 PM
To: Chrissy Gilhuly
Subject: Comment on Efficiency Vermont

Jan 26, 2016

Joint Energy Committee

I support efficiency vermont, and have worked with them to make our house mor efficient.

Sincerely,

Charlene Fitzpatrick

South Burlington, VT 05403-6626
charliebfitz@gmail.com

Jeffrey Shover

From: Chris Pazandak <bounce@convio.net>
Sent: Tuesday, January 26, 2016 9:41 PM
To: Chrissy Gilhuly
Subject: Comment on Efficiency Vermont

Jan 26, 2016

Joint Energy Committee

I have , in the past 6 years, converted from gas to electric my water heater and clothes dryer. Thanks to EVt, I installed solar panels producing enough to do this.

Sincerely,

Chris Pazandak

Stowe, VT 05672-0633
cpazdds@gmail.com

Jeffrey Shover

From: Steven Stone <bounce@convio.net>
Sent: Tuesday, January 26, 2016 9:41 PM
To: Chrissy Gilhuly
Subject: Comment on Efficiency Vermont

Jan 26, 2016

Joint Energy Committee

Thank you for taking the time to hear my endorsement of and support for Efficiency Vermont.
I have had many helpful interactions with them including the use of the "watts up" meter, helping with water and energy saving devices and utilizing all the information on the website.
Anything that can be done to keep (or increase) funding so that programs can be expanded would be appreciated.
Thanks in advance,

Sincerely,

Steven Stone

Brattleboro, VT 05301-6852
squeven1@hotmail.com

Jeffrey Shover

From: Jonathan Morse <bounce@convio.net>
Sent: Tuesday, January 26, 2016 9:41 PM
To: Chrissy Gilhuly
Subject: Comment on Efficiency Vermont

Jan 26, 2016

Joint Energy Committee

I am a home builder specializing in energy-efficient construction.
Efficiency VT has been very helpful to us over the years, from giving us guidance to improve our techniques, to guiding us through energy audits and building testing, to excellent information transmitted at the annual Building Energy conference. Everyone involved with Efficiency VT has been highly professional, and helpful in whatever way that we have asked. They have made it possible for us to help numerous clients to lower their electricity consumption, whether they own an existing home or are contracting a new one. Without Efficiency VT, our job would be immeasurably harder, if not impossible.

Efficiency VT is so valuable that I think that it's services should be expanded.

Sincerely,

Jonathan Morse

Marlboro, VT 05344-0127
jonathan@mindelmorse.com

Jeffrey Shover

From: Sylvia Perera <bounce@convio.net>
Sent: Tuesday, January 26, 2016 9:41 PM
To: Chrissy Gilhuly
Subject: Comment on Efficiency Vermont

Jan 26, 2016

Joint Energy Committee

I was able to consider and then actually insulate my house and put solar panels on the roof through this program. It made the work affordable, and that has cut my electric bill more than 20%. Extra energy also gets returned to Burlington Electric, so I am very satisfied and feel glad to have contributed to forestalling the climate catastrophe that looms over us all.

Rather than cutting the program, we need to work to expand it.

Sincerely,

Sylvia Perera

Burlington, VT 05401-3513
sbperera@aol.com

Jeffrey Shover

From: Dana Dwinell-Yardley <bounce@convio.net>
Sent: Tuesday, January 26, 2016 9:41 PM
To: Chrissy Gilhuly
Subject: Comment on Efficiency Vermont

Jan 26, 2016

Joint Energy Committee

Please continue to support Efficiency Vermont! It's so important that we reduce our consumption of energy -- perhaps one of the most important tools as we confront climate change. Keep this organization fully funded!

Sincerely,

Dana Dwinell-Yardley

Montpelier, VT 05602-2509
danadwya@gmail.com

Jeffrey Shover

From: Laurie Elwell <bounce@convio.net>
Sent: Tuesday, January 26, 2016 9:41 PM
To: Chrissy Gilhuly
Subject: Comment on Efficiency Vermont

Jan 26, 2016

Joint Energy Committee

I think efficiency Vermont is a wonderful program to help people lower their costs and at the same time lessen their footprint on our world. I have at least three neighbors who have taken advantage of this great organization. I plan on having my house tested this spring. My experience has been that my friends are extremely happy with the changes that were made to their houses. Anything that can help us to use less energy is s good thing.

Sincerely,

Laurie Elwell

Mendon, VT 05701-6590
laurieelwell@yahoo.com

Jeffrey Shover

From: David Grundy <bounce@convio.net>
Sent: Tuesday, January 26, 2016 9:41 PM
To: Chrissy Gilhuly
Subject: Comment on Efficiency Vermont

Jan 26, 2016

Joint Energy Committee

I am writing in support of Efficiency Vermont. As Chair of the East Montpelier Energy Committee, I have worked with EV on a number of issues and found them to be a valuable force for energy conservation in Vermont. If we are ever going to reach our energy efficiency goals as outlined in legislation, we need to not only continue the good work of EV but expand their scope to include all areas of energy in the state.

Sincerely,

David Grundy

East Montpelier, VT 05651-4529
ddgrundy@comcast.net

Jeffrey Shover

From: Grant Taylor <bounce@convio.net>
Sent: Tuesday, January 26, 2016 9:11 PM
To: Chrissy Gilhuly
Subject: Comment on Efficiency Vermont

Jan 26, 2016

Joint Energy Committee

Thank you for reading this. I believe in sustainable communities, which include many things. One of those is understanding responsible consumption as a society. I believe Efficiency Vermont works toward that goal.

Please work to strengthen Efficiency Vermont.

Thanks again,
Grant

Sincerely,

Grant Taylor

South Burlington, VT 05403-6612
myconstruct360@gmail.com

Jeffrey Shover

From: David I <bounce@convio.net>
Sent: Tuesday, January 26, 2016 9:11 PM
To: Chrissy Gilhuly
Subject: Comment on Efficiency Vermont

Jan 26, 2016

Joint Energy Committee

I support Efficiency Vermont. If anything, it should be expanded.

Why?

- I've read that an estimated 90% of Vermonters have participated in Efficiency Vermont's programs.

- VPIRG reports that Efficiency Vermont has completed projects that are yielding $483 million in net savings for ratepayers. That's a huge 113% return on investment.

- Efficiency Vermont has reportedly helped customers reduce their consumption of electricity by an average of 13%.

Sincerely,

David I

N. Ferrisburgh, VT 05473
possiblejunk@mac.com

Jeffrey Shover

From: Diora Kania <bounce@convio.net>
Sent: Tuesday, January 26, 2016 9:11 PM
To: Chrissy Gilhuly
Subject: Comment on Efficiency Vermont

Jan 26, 2016

Joint Energy Committee

Please continue to help Vermonters with efficiency Vermont. Consider we are working towards clean energy.

Sincerely,

Diora Kania

Randolph, VT 05060-1368
dsk09150@vsc.edu

Jeffrey Shover

From: Spencer Putnam <bounce@convio.net>
Sent: Tuesday, January 26, 2016 9:11 PM
To: Chrissy Gilhuly
Subject: Comment on Efficiency Vermont

Jan 26, 2016

Joint Energy Committee

Efficiency Vermont is one of our most valuable tools in fighting climate change, in reaching Vermont's efficiency goals, and in helping individuals and businesses reduce their energy consumption and related costs. I have benefited from their services in a business setting (Vermont Teddy Bear), in my own home, and in the help they are providing the Weybridge Energy Committee. We need to strengthen our commitment to their efforts.

Sincerely,

Spencer Putnam

Weybridge, VT 05753-9777
spencerp@sover.net

Jeffrey Shover

From: Kirke Mcvay <bounce@convio.net>
Sent: Tuesday, January 26, 2016 9:11 PM
To: Chrissy Gilhuly
Subject: Comment on Efficiency Vermont

Jan 26, 2016

Joint Energy Committee

Efficiency VT helped me insulate my 1823 built medical office building.
I wouldn't have been able to afford it due to low reimbursements from Medicaid.

Sincerely,

Kirke Mcvay

Shaftsbury, VT 05262-9480
kirkemcvay@comcast.net