

Efficiency Vermont Discussion
Budget Structure; S. 202 and S. 302
Senate Committee on Natural Resources and Energy, January 30, 2014
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- I. Review of structure and budget: Efficiency Vermont - electricity
 - a. Rooted in least-cost integrated planning (30 V.S.A., § 202a (2); § 218c)
 - i. Energy efficiency is cheaper than supply (3.5 cents/kWh vs. 8.6 cents/kWh in 2012), so it needs to be part of the electric utility resource portfolio
 - b. Utility obligations to provide this part of the resource were shifted to Efficiency Vermont in 2000 (30 V.S.A. § 209d) – allowing for a more efficient statewide approach (BED excepted)
 - c. Costs of utility efficiency programs had been buried in rates – made explicit when Efficiency Vermont was created (energy efficiency charge, or EEC)
 - d. “Demand Resources Plan” is the process for setting budgets and energy savings goals
 - i. Takes place every 3 years, in coordination with long-range transmission plan
 1. Currently in the 2012-2014 performance period (2015-17 planning is under way).
 - ii. Budgets and energy savings goals are set for 3 years, with a forecast extending 20 years (to align with the long-range transmission plan)
 - iii. Extensive proceeding that examines factors such as cost-effective energy efficiency potential; rate and bill impacts; and much more
 1. The budgets set through this process are what in turn result in the setting of the EEC rates every year
 - iv. Arbitrary caps set on the budget risk “short-circuiting” this process and resulting in higher costs for ratepayers (less efficiency = more need for generation and transmission, which costs more)
 - v. “When should we stop spending money on 3.5 cent power and default to 8.6 cent power?”
 - e. The PSB’s budget order¹ for 2012-2014 set the statewide electric energy efficiency budgets (which includes Efficiency Vermont, BED, and DPS costs) and projected rate impacts as follows:
 - i. 2012: \$40.1 million; 0.1% projected rate impact

¹ <http://psb.vermont.gov/sites/psb/files/orders/2011/EEU-2010-06%20DRP%20and%20AttachA.pdf>



Efficiency Vermont

- ii. 2013: \$42.8 million; 0.4% projected rate impact
 - iii. 2014: \$45.9 million; 0.6% projected rate impact
 - f. Efficiency Vermont is the majority, but not the entirety, of those budgets, e.g., its portion for 2014 is \$42.6 million
- II. Review of structure and budget: Efficiency Vermont - thermal
 - a. Authorized by Legislature in 30 V.S.A. § 209e
 - b. Scope is “unregulated fuels” only – regulated thermal efficiency (i.e., natural gas) programs are run separately by VGS
 - c. Funded through a combination of Forward Capacity Market (FCM) and Regional Greenhouse Gas Initiative (RGGI) auction revenues
 - i. RGGI = regional cap and trade system
 - ii. FCM = energy efficiency capacity is sold to ISO-NE as a resource
 - 1. Energy efficiency is the #2 “power plant” in Vermont, second only to Vermont Yankee
 - d. Planning process is much simpler for thermal energy efficiency
 - i. Constrained by projections of RGGI and FCM revenues
 - e. 2014 thermal budget = \$5.4 million – but expected to be somewhat higher because of stronger than expected auction revenue results
 - f. This already represents a cross-subsidy from electric ratepayers to unregulated fuels, since all these funds come from electric-related expenditures and savings.
- III. Regulation and oversight of budgets, spending, and results
 - a. Efficiency Vermont is a regulated utility, comparable to GMP, VGS, etc. – very high level of regulation and scrutiny to protect ratepayers
 - b. All spending is reviewed by the PSD via an invoice review process, only after which are funds released from the EEU Fiscal Agent (a PSB contractor), which is where ratepayers funds are held
 - c. A significant portion of our compensation is held back, only awarded once every 3 years based on verified achievement of performance metrics
 - i. “Stretch goals” intended to drive high level of performance and ratepayer value
 - ii. Goals designed to meet a number of policy goals – energy savings, geographic equity, residential vs. commercial equity, etc.
 - iii. Performance is independently evaluated by PSD
 - d. Net economic benefits in 2012 = \$102.3 million

- e. 110,179 MWh “purchased” via efficiency for 3.5 cents/kWh – energy that otherwise would have had to be generated or purchased for 8.6 cents/kWh = substantial ratepayer savings
- f. As noted by the Governor in the Budget Address, efficiency and distributed generation investments in Vermont helped ISO-NE avoid or defer some \$400 million in transmission & distribution project costs – benefiting all Vermonters whether they are participating in efficiency programs or not

IV. S. 202 comments

- a. Focus on thermal efficiency is welcome, and is an important topic
- b. Some issues to consider, however:
 - i. As noted earlier, imposing an artificial cap could result in higher costs for ratepayers and lead to the need for more generation
 - ii. With efficiency still less than half the cost of supply, there are vast amounts of low-hanging fruit still ripe for the picking
 - iii. Loss of system-wide benefits could increase ratepayer costs (i.e., they are paying the EEC but it isn’t going to electric efficiency measures that reduce the state’s overall electric load)
 - iv. Cross-subsidy concerns
 - 1. Between fuels (electricity paying for non-electric efficiency)
 - 2. Between classes of ratepayers (commercial subsidizing residential, putting S. 202 at cross-purposes with S. 302)
 - v. Equity concerns for VGS customers, i.e., they are already paying for thermal efficiency through their VGS rates, they would now have to also pay through their electric rates (for programs they couldn’t even use)
 - vi. An analysis from the PSD for the Comprehensive Energy Plan indicated that the economic benefits of electric efficiency were significantly higher than those for thermal efficiency – while thermal efficiency is still a good thing, this shift would moves us backwards in terms of total benefits.

V. S. 302 comments

- a. Efficiency Vermont is delivering a high level of value for these customers currently
 - i. ROI for the “top 100” energy users (IBM excluded) = 287%
- b. Shifts regulatory burdens and costs from Efficiency Vermont to the business community
 - i. Regulatory and verification requirements are significant, especially for Forward Capacity Market verification (which industrial customers have an especially large impact on)

- c. Significant technical expertise needed to achieve requirement in bill for getting all cost-effective energy efficiency
 - i. The benefit of having Efficiency Vermont perform these functions is efficiency, so that businesses don't all have to build this capacity individually – instead they can focus on their core business objectives
- d. Shifts costs to other ratepayers
- e. Makes planning more difficult in terms of balancing out statewide goals (kWh vs. peak demand; geographic targeting; etc.)
- f. The Legislature has already put in place Energy Savings Accounts (30 V.S.A. § 209j) to provide additional options for customers that want more control over their energy efficiency investments. Two customers are currently participating.



Supplemental Handouts for Senate Committee on Natural Resources and Energy

1. 2012-2014 electric efficiency budgets (from PSB order)
2. 2012-2014 Efficiency Vermont thermal budgets
3. 2012-2014 BED thermal budgets
4. 2014 Efficiency Vermont budget by market and initiative (from Efficiency Vermont 2014 Annual Plan)
5. Selected Efficiency Vermont performance indicators (from Efficiency Vermont 2012 Annual Report)
6. Efficiency Vermont net economic benefits delivered (from Efficiency Vermont 2012 Annual Report)

Appendix A:
EEU Program Electric Budgets
Board Determination

	2012	2013	2014	3-yr Total	2015	2016
Funded via EEC						
Electric Resource Acquisition						
Efficiency Vermont	\$32,482,600	\$34,706,540	\$37,385,900	\$104,575,040	\$40,340,759	\$43,469,256
BED	\$1,880,000	\$2,014,000	\$2,170,000	\$6,064,000	\$2,337,666	\$2,513,980
Non-Resource Acquisition						
Efficiency Vermont	\$3,032,000	\$3,264,000	\$3,405,000	\$9,701,000	\$3,058,530	\$3,333,810
BED	\$197,000	\$201,000	\$203,000	\$601,000	\$145,300	\$154,600
Operations and QPI Fees					\$1,855,444	\$2,000,965
Operations Fees	\$607,340	\$649,340	\$697,560	\$1,954,240		
QPI Awards	\$911,020	\$974,010	\$1,046,340	\$2,931,370		
DPS Evaluation					\$959,971	\$959,971
Rest of State	\$885,180	\$885,300	\$885,430	\$2,655,910		
BED	\$63,820	\$63,700	\$63,570	\$191,090		
Fiscal Agent					\$27,703	\$28,423
Rest of State	\$24,290	\$24,930	\$25,570	\$74,790		
BED	\$1,360	\$1,390	\$1,430	\$4,180		
EEU Fund Audit					\$16,622	\$17,054
Rest of State	\$14,570	\$14,950	\$15,350	\$44,870		
BED	\$820	\$840	\$850	\$2,510		
EEC-Funded Subtotal	\$40,100,000	\$42,800,000	\$45,900,000	\$128,800,000	\$48,741,995	\$52,478,056

(1)

Table 1. VEIC's Three-Year HPF Budget Estimate

	2012	2013	2014
Resource Acquisition Budget	\$3,414,280	\$3,973,180	\$4,566,840
Non-Resource Acquisition Budget	\$834,000	\$790,410	\$830,120
EVT Operations Fees and Maximum Performance Incentive Payment	\$181,626	\$203,657	\$230,736

In addition, VEIC proposed the following budget estimate for the 2012 to 2021 time period; this budget is used for planning purposes.

Table 2. VEIC's Ten-Year HPF Budget Estimate

	Resource Acquisition	Non-Resource Acquisition	Operations Fee and QPI
2012	\$3,414,280	\$834,000	\$181,626
2013	\$3,973,180	\$790,410	\$203,657
2014	\$4,566,840	\$830,120	\$230,736
2015	\$4,516,400	\$848,330	\$229,358
2016	\$4,092,000	\$867,940	\$212,052
2017	\$4,319,300	\$887,950	\$222,625
2018	\$4,746,600	\$907,260	\$241,719
2019	\$5,125,200	\$928,070	\$258,795
2020	\$5,452,300	\$950,280	\$273,729
2021	\$5,831,300	\$970,790	\$290,809

VEIC's budget proposes that 75% of the HPF resource acquisition funds be directed to services for residential customers, with the remaining 25% allocated to services for business customers. In addition, VEIC proposes that a portion of the HPF funds be allocated to non-resource acquisition activities. Finally, the filings indicate that approximately 5% of the total budget will be set aside for operations fee and performance incentive payments, with 60% of that amount set aside for performance payments and the remaining 40% set aside for an operations fee. In the Board's Order of August 1, 2011, we determined that a 4.1% set-aside for

B. BED HPF Estimated Budget

On January 14, 2011, BED and the Department filed a joint proposal for HPF budgets.

BED's January 14 filing provides estimated budget amounts for the 2012 to 2014 time period, as well as deductions related to FCM administration, FCM metering and monitoring and evaluation, DPS program monitoring and evaluation, as well as non-resource acquisition activities.

Table 3. BED's Three-Year HPF Budget Estimate

	2012	2013	2014
Total HPF Budget	\$303,486	\$314,983	\$329,015
Resource Acquisition Budget	\$248,197	\$258,683	\$271,915
Non-Resource Acquisition Budget	\$9,050	\$9,200	\$9,200
Evaluation Activities	\$24,239	\$24,700	\$25,100
BED FCM Administration	\$22,000	\$22,400	\$22,800
Residential (75%)	\$186,148	\$194,012	\$203,936
Commercial (25%)	\$62,049	\$64,671	\$67,979

Table 4. BED's Ten-Year HPF Budget Estimate

2012	2013	2014	2015	2016
\$303,486	\$314,983	\$329,015	\$337,647	\$307,818
2017	2018	2019	2020	2021
\$298,497	\$320,220	\$344,851	\$371,750	\$399,354

On March 4, 2011, BED filed proposed revisions to its HPF plans, and requests that it be allowed to use a portion of its available 2012 HPF budget for non-resource acquisition activities related to capitalizing PACE projects in Burlington. BED represents that it worked with the DPS and VEIC on the development of the specific initiatives. The DPS offered comments on only one aspect of BED's non-resource acquisition proposal. The DPS states that it finds BED's proposal to use HPF funding to support a pilot project related to Vermont's PACE program to be acceptable (BED's proposed PACE program is discussed further, below). The DPS represents

4.1.2 2014 Budget by Market and Initiative

<u>RESOURCE ACQUISITION</u>	
<u>Electric Efficiency</u>	
<u>Business Sector</u>	
Business Existing Facilities	\$ 21,699,800
Customer Credit	\$ 1,144,300
<u>Business New Construction</u>	\$ 2,811,100
Sub-Total Business Sector	\$ 25,655,200
<u>Residential Sector</u>	
Efficient Products	\$ 6,843,600
Existing Homes	\$ 3,174,300
<u>Residential New Construction</u>	\$ 1,527,500
Sub-Total Residential Sector	\$ 11,545,400
Total Electric Efficiency	\$ 37,200,600
<u>Thermal Energy and Process Fuels Efficiency</u>	
Business Sector	\$ 1,194,700
<u>Residential Sector</u>	\$ 3,583,800
Total Thermal Energy and Process Fuels Efficiency	\$ 4,778,500
TOTAL RESOURCE ACQUISITION ACTIVITIES	\$ 41,979,100
<u>NON-RESOURCE ACQUISITION</u>	
Education and Training	\$ 677,500
Applied Research and Development	\$ 637,300
Planning and Reporting	\$ 434,500
Evaluation, Measurement and Verification	\$ 804,700
Policy and Public Affairs	\$ 596,500
Information Technology	\$ 887,300
General Administration	\$ 299,600
TOTAL NON-RESOURCE ACQUISITION	\$ 4,337,400
Smart Grid (2011 Carryover)	\$ 50,000
	Operations Fee \$ 793,300
Sub-Total Prior to Performance-Based Fee	\$ 47,159,800
Maximum Performance Award (set-aside)	\$ 1,187,310
TOTAL BUDGET INCLUDING PERFORMANCE-BASED FEE	\$ 48,347,110

energy savings acquisitions, administrative performance elements, and other areas—are established with the Vermont Public Service Board as Quantifiable Performance Indicators (QPIs) for a three-year performance period. The results shown in **Table 1** reveal strong progress toward Efficiency Vermont’s QPI targets for the 2012-2014 performance period. These results were achieved within the budget parameters set by the Vermont Public Service Board.

Table 1. Selected QPI results and progress toward 2012–2014 goals²

Key Quantifiable Performance Indicators (QPIs)	Funding Pool	2012 Results	3-year Goal	% of 3-year Goal Achieved
Electric savings (in megawatt-hours)	Electric Efficiency Charge	110,179	274,000	40%
Total Resource Benefits	Electric Efficiency Charge	\$118,358,445	\$315,710,000	37%
Summer peak kilowatt (kW) demand reduction	Electric Efficiency Charge	15,097	41,920	36%
Summer peak kW demand reduction in Geographic Targeting areas—Susie Wilson Road	Electric Efficiency Charge	870	1,570	55%
Summer peak kW demand reduction in Geographic Targeting areas—Saint Albans	Electric Efficiency Charge	584	1,800	32%
Ratio of gross electric benefits to spending	Electric Efficiency Charge	3.3	1.2	n/a
MMBtu Savings (in million British thermal units)	Heating & Process Fuels Revenues	78,361	149,000	53% ³

² The QPI goals and results in Table 1 are directly attributable to their respective funding sources: either the Energy Efficiency Charge (EEC) or the sources that fund heating and process fuel (HPF) programming. In the remainder of the narrative of this report, electric and MMBtu savings reflect achievements from funding provided through both the EEC and HPF funds. Thus, the total electric and MMBtu in this narrative, if summed, may be different from the amount shown in the QPI results in Table 1.

³ The Three-Year Goal and Percentage of Three-Year Goal for Savings in MMBtu reflect target changes proposed by Efficiency Vermont and approved by the Vermont Public Service Board in 2013.

(5)

Table 2. Net lifetime economic value of electric and thermal energy efficiency investments in 2012

Benefits	\$150,300,000	Total Resource Benefits ⁴
	\$ 23,500,000	Operations and maintenance savings
	\$173,800,000	Total Benefits
Minus Costs	\$ 35,900,000	Efficiency Vermont resource acquisition
	\$ 35,600,000	Participant and third-party costs
	\$ 71,500,000	Total Costs
Equals Net Benefits	<u>\$102,300,000</u>	Net Lifetime Economic Value to Vermont

Total Resource Benefits in 2012 for Efficiency Vermont's reporting categories were:

Business New Construction	\$38.8 million
Existing Businesses	\$58.7 million
Retail Efficient Products	\$26.6 million
Residential New Construction	\$10.4 million
Existing Homes	\$14.7 million

Efficiency Vermont delivered excellent value compared to the costs of other sources of energy.⁵

- Efficiency Vermont supplied electric efficiency in 2012 at 3.5 cents per kilowatt-hour (kWh). Taking into account participating customers' additional costs and savings, the levelized net resource cost of saved electric energy in 2012 was less than 0.1 cents per kWh. By contrast, the cost of comparable electric supply in 2012 was 8.6 cents per kWh.

⁴ Total Resource Benefits is the present value of lifetime economic benefits resulting from resource saving measures, including avoided costs of electricity, fossil fuels, and water.

⁵ Numbers in the two ensuing bulleted items do not include Customer Credit. The "levelized net resource cost of saved electric energy" comprises: 1) Efficiency Vermont costs of delivery, plus customer and third-party contributions to measure costs, all adjusted to reflect the comparative risk adjustment of 10% adopted by the Vermont Public Service Board in Docket 5270; and 2) costs or savings associated with fuel, water, and building operation and maintenance.

