

FINAL REPORT

Vermont Community Energy Mobilization Pilot Project



Implemented by Efficiency Vermont in partnership
with Vermont Communities

October 2009

Acknowledgements

The Vermont Community Energy Mobilization project would not have been possible without the remarkable effort and commitment of numerous community volunteers. First and foremost, Efficiency Vermont worked with a core of dedicated volunteers who served as local coordinators for the VCEM project and who devoted countless hours of their time to the project.

These individuals are:

- Paul Cameron Brattleboro
- Eric Stevens Grafton
- Mary Beth Stillwell and Henry Wilmer Lincoln
- Joshua Schwartz, Dennis Derryberry, Erin Russell-Story, and Matt Sargent Mad River Valley
- Rich Phillips, Bob Atchinson, and Dave Grundy Marshfield, Plainfield, and E. Montpelier
- Lee Krohn, Jim Hand, Alan Benoit, Paul Myers, and Philip Picotte Manchester, Dorset, and Peru
- Barry McPhee and Ken Jones Montpelier
- Warren King Ripton
- Bob Walker Thetford

Further, over 240 Vermont residents volunteered their Saturdays and weeknights to help their fellow community members save energy in their homes. Their names are too numerous to mention here, but we give them our heartfelt thanks.

We would like to thank Jim Sinkula for his invaluable assistance in program evaluation. We would also like to thank Emily Levin, Sharon Bay, Suzanne Elowson, Lani Mapalan and Jim Grevatt of Efficiency Vermont for their project assistance.

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Final Report

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A) Summary

The Vermont Community Energy Mobilization Pilot Project (VCEM project) was a five-month demonstration project that relied on community volunteers to (1) increase awareness about energy savings opportunities in Vermonters homes and (2) achieve electrical and thermal energy savings through the installation of home energy saving products. Efficiency Vermont (EVT) partnered with local energy committees and other community groups to implement this program at the community level. Trained community volunteers installed energy saving measures, conducted walk-through assessments of home energy saving opportunities, and held “kitchen table discussions” about energy saving opportunities and resources.

The project resulted in 709 homes receiving a home energy visit and 243 volunteers conducting the home visits. A total of 6449 energy saving products were installed, including compact fluorescent light bulbs, pipe insulation, insulated tank wraps, low-flow showerheads, faucet aerators and programmable thermostats. This resulted in an estimated total of 366,421 kilowatt hours and 1448.1 million British Thermal Units (Btus) saved in the first year. In a follow-up questionnaire, approximately 97% of participant respondents rated the home energy visits either favorably or very favorably, while 98% said that they would recommend a home energy visit to a neighbor or friend. 62% of participant respondents said that as a result of the home energy visit they had already undertaken additional steps to improve energy efficiency in their homes, while 72% said that they planned to take additional steps to improve efficiency. In addition, 96% of volunteers rated the home energy visits favorably to very favorably.

The key desired outcome of the VCEM project was to assess whether a community-based, volunteer program could achieve home energy savings and raise energy awareness – and whether this could be done cost-effectively. The VCEM project was successful in achieving savings in kilowatt hours and millions of British thermal units, in the high satisfaction level of both participants and volunteers, and the increased awareness and understanding of participants of home energy saving opportunities and resources. The project also resulted in an increased awareness of EVT’s programs, incentives and services.

The question of “cost-effective” is less straight-forward. Efficiency Vermont’s overall contractual requirements are to achieve the greatest energy savings at the lowest cost to the rate payer. However, the mandate for the VCEM pilot project was relatively broad:

“the Grassroots Community Energy Mobilization Program would recruit community members to participate in a door-to-door program to provide home efficiency information to targeted, vulnerable populations. The program would involve a standardized, replicable process...to recruit and train volunteers, identify target households, deploy services to the community, and track disbursements of energy

savings materials such as hot water conservation measures, compact fluorescent bulbs, information materials and programmable thermostats.'

The pilot program greatly succeeded in its mandate. However, compared to other Efficiency Vermont programs, the results from the VCEM pilot project indicate that the amount of energy saved per ratepayer dollar spent were not as effective as other EVT programs.¹ The primary immediate savings of VCEM were due to the installation of compact fluorescent light bulbs (CFLs). Comparing this to Efficiency Vermont's Retail Products program, in which CFLs are sold through local retailers, shows the Retail Products Program to be more cost-effective given the absence of program start-up costs and less required staff time. However, this comparison is not direct, as VCEM did achieve non-electric savings, increase the awareness of Vermonters of Efficiency Vermont and energy savings opportunities, thus leading to additional energy savings steps on behalf of VCEM participants. Nonetheless, for EVT to be able to continue to offer the VCEM project, the overall cost-effectiveness of the program would need to be improved. This larger discussion will be revisited later in the report.

The realized energy savings mentioned above were a result of the immediate installation of materials by volunteers during the home visit. Not provided in the above savings numbers are the energy savings achieved indirectly by the VCEM project, as homeowners learned of specific energy savings steps and incentives available to them. In 2008, EVT conducted a market research study to assess which factors led homeowners to move forward with comprehensive home energy retrofit services.² The major finding of this study was that "word-of-mouth" of EVT's weatherization service, Home Performance with ENERGY STAR®, was the most effective method for Vermonters to move forward with comprehensive work. Therefore, a compelling question when utilizing a grassroots, volunteer approach to increasing awareness about and achieving energy savings is how to motivate homeowners to move forward with additional, more comprehensive work?

Review of the survey questionnaire results shows that 20% of participant respondents said they planned to have an energy audit conducted by a Home Performance with ENERGY STAR® contractor. However, only 11 of 576 single family homes have taken additional steps towards moving forward with weatherization work for a total of 2%³; 14 homes have taken additional steps towards moving forward with other steps such as replacing refrigerators, etc.⁴

The VCEM project demonstrates that a community-based approach can be an effective vehicle for public education and achieving energy savings. However, the project needs to be modified to ensure that it achieves deeper energy savings. In other words, we have a highly effective "vehicle" for reaching and satisfying the target population; how can this vehicle be modified to

¹ It is worth noting that the overall cost for the pilot project included program design and start-up costs, which could be minimized in future rounds of the program.

² "Comprehensive home energy retrofit services" refers to complete weatherization work, replacement of fixtures and appliances, etc.

³ Multi-family rental units were not included in the analysis as to how many homes moved forward with comprehensive weatherization retrofit work, due to the split incentive of having landlords pay for a service that may only benefits a tenants' bill.

⁴ As of the writing of this report, these projects are in various stages of completion.

fully achieve all desired outcomes? Some recommendations for improving the VCEM project are listed below.

Efficiency Vermont should:

- Consider providing time-limited incentives to achieve follow-up energy efficiency savings,
- Expand the volunteer training regarding the walk-through energy assessment and the kitchen table discussion,
- Review the list of energy saving products for the savings achieved and performance, evaluate whether new products are warranted, and refine the list of products offered under the program,
- Improve relevant tools to assist local coordinators with VCEM project logistics,
- Help program participants prioritize next steps,
- Do a better job addressing follow-up electrical saving opportunities by program participants:
- Assess whether the project should be expanded to more specifically address the needs of property owners (beyond homeowners), and if so, how:
- Continue to allow maximum flexibility for local groups to piggyback local programs on to the VCEM project, and,
- Do a better job controlling the message that goes out to the public.

Local partners should:

- Spread the work load of the local coordinator position,
- Employ a more flexible team approach for volunteers,
- Expect volunteer interest and participation to drop-off and plan accordingly,
- Improve tracking of energy saving products, and,
- Use more targeted outreach methods to reach desired participants.

B) Project Description

The Vermont Community Energy Mobilization (VCEM) Pilot Project was a five-month demonstration project that relied on community volunteers to conduct home energy visits to:

- Achieve quantifiable reductions in home energy use;
- Increase awareness and understanding by Vermonters of home energy savings opportunities and resources; and,
- Demonstrate that a community-based, volunteer program can be a successful model for achieving home energy savings and raising awareness of Vermonters on home energy savings.

The VCEM project was based on the premise that local energy committees and other local community groups offer great promise for helping Vermont increase energy efficiency in residential buildings. Local energy committees and civic groups understand community dynamics, know those who could benefit most from energy efficiency improvements, and have experience working with a wide range of stakeholders at the local level. They can serve as effective agents for delivering a plethora of programs and ensuring that residents have the

information and access to services they need to make efficiency improvements -- particularly those residents who are underserved or most severely impacted by rising energy prices.

Efficiency Vermont partnered with local energy committees and other community groups to implement this program at the community level. Trained community volunteers undertook home energy visits to directly install energy saving measures such as compact fluorescent light bulbs and low-flow showerheads, conduct walk-through assessments of home energy saving opportunities, and hold a "kitchen table discussion" about energy saving opportunities and resources. The kitchen table talk included educating residents about energy conservation behaviors and providing referrals to services such as the low-income weatherization program and Home Performance with ENERGY STAR®. Home Performance with ENERGY STAR is a partnership between Efficiency Vermont, the Environmental Protection Agency and Vermont contractors that incentivizes and assists customers to work with certified Building Performance Institute weatherization contractors. These contractors undertake comprehensive, cost-effective projects that improve a home's comfort, safety and energy efficiency.

Local energy committees and other volunteer groups were responsible for coordinating the VCEM project in their communities. Responsibilities of local groups included: recruiting and training volunteers, identifying and signing up program participants, organizing home energy visits, managing energy savings material stock and returning Home Visit Forms to EVT. Local groups were encouraged to team up with other community partners to effectively implement the program.

Efficiency Vermont provided overall guidance, training, and energy saving products to local partners. Efficiency Vermont provided all energy saving measures free-of-charge for direct installation in residents' homes, including compact fluorescent light bulbs (CFLs) (including standard CFLs, dimmable/3-way, reflector, and exterior bulbs); pipe insulation; insulated tank wraps, low-flow showerheads and faucet aerators; and programmable thermostats. These measures were chosen because of their cost-effectiveness, measurable savings, and relative ease-of-installation. EVT trained volunteers on direct installation, the walk-through energy assessment, and the elements of the kitchen table discussion. EVT also provided educational materials and information for participants about financial and technical resources. Resources provided included information about Home Performance with ENERGY STAR, heating system replacement and furnace fan incentives, refrigerator replacement opportunities, weatherization services available for low-income Vermonters, tools to understand one's energy use, and more.

EVT worked hand-in-hand with local groups to assist with program implementation, including providing guidance in recruiting volunteers and program participants, and monitoring project results. Each community had a minimum number of 25 homes it targeted for home energy visits, and each pilot community achieved this goal. At the completion of the community work, if this goal was achieved, EVT then provided an award to the community group for a community project of its choice. The amount of the incentive award was \$10/house multiplied by the number of houses that received a home energy visit.

The VCEM project timeline was:

	January 2009	Feb.	March - April	May - August	Sept. 2009
Tasks					
Develop project design & materials; procure direct install materials	X				
Select pilot communities	X				
Recruit and train volunteers		X			
Volunteers conduct door-to-door home energy saving visits		X	X		
Conduct project evaluation				X	
Prepare project report				X	X

C) Activities Completed

Efficiency Vermont and local partners conducted the following activities as part of the VCEM project:

- **Organized stakeholder meeting:** In December 2008, EVT held a meeting with representatives from several communities and non-profit organizations to solicit their input on the VCEM project design.
- **Solicited applications and selected pilot communities:** EVT officially announced the VCEM project at the December 2008 statewide conference on “Community-Based Approaches to Energy and Climate Change” before 220 attendees. EVT received 14 community applications of which several were multi-community applications. The following community groups participated in the project:
 - Brattleboro Climate Protection
 - Grafton Sustainability Group
 - Lincoln Energy Committee
 - Marshfield, Plainfield, E., Montpelier Energy Committees
 - Manchester and Peru Energy Committees
 - Montpelier Energy Team
 - Ripton Energy Assistance Program
 - Thetford Energy Committee
 - Valley Futures Network Energy Group, the Carbon Shredders and Mad River Valley Planning District (Waitsfield, Warren, Moretown and Fayston)

Communities were selected based upon their experience in implementing similar programs and commitment and readiness to implement the program within a tight timeline. EVT was also interested in achieving some diversity in geography and population size in its community selection. After community selection, EVT and local partners signed memoranda of agreement that laid out the respective roles and responsibilities and terms of agreement.

- **Prepared educational and guidance materials:** EVT prepared a number of guidance documents and forms for volunteers, participants, and local coordinators to use in implementing the VCEM project. See Attachment A: Summary of Documents and Materials for Distribution.
- **Conducted trainings for community volunteers:** In February 2009, EVT conducted trainings for volunteers at nine community locations throughout the state. The trainings centered around a prepared PowerPoint presentation and a Volunteer Guide addressing the steps for undertaking a home energy visit. EVT also prepared mock-up demonstrations of installation situations, such as how to wrap pipes and hot water tanks.
- **Organized home energy visits:** Local partners organized home energy visits and used a range of methods to identify and sign up volunteers and program participants, including partnering with other community organizations, media, personal contact, electronic newsletters, targeted mailings, and door-to-door contact. Local partners were responsible for linking volunteers with program participants, providing volunteers with supplies of energy saving products and educational materials, and collecting home energy visits forms at the completion of the home visits, among other responsibilities.

What a great project; I hope the pilot proves successful so that we can expand it statewide and beyond.

-- Local coordinator from a VCEM community



Volunteer training for Marshfield, East Montpelier and Plainfield.

D) Program Results and Evaluation

1) Evaluation Process

The multiple goals of this project were to utilize a community-based, volunteer program to:

- (a) achieve home energy savings
- (b) raise energy awareness
- (c) assess whether a grassroots approach to energy savings and awareness would reach portions of the Vermont population that had not been accessed by EVT through other marketing means
- (d) assess whether a grassroots approach to energy savings and awareness would lead towards homeowners taking additional energy savings steps, in particular comprehensive home weatherization retrofits, and,
- (e) assess the cost-effectiveness of projects like VCEM.

To assess whether these goals were met involved:

- (a) reviewing energy savings achieved
- (b) determining how many participants learned about energy savings opportunities,
- (c) determining how many participants had never been reached by EVT before
- (d) determining how many participants moved forward with additional, comprehensive work, and,
- (e) compare project costs and energy savings achieved to other programs

Key long-term outcomes for this project included:

- Significant reductions in home electrical and thermal energy use achieved,
- Increased awareness and understanding by Vermonters of home energy savings opportunities and resources,
- Increased activities to save energy by the community,
- Increased activities to save energy by the home visit participant, and,
- Increased interest by other communities that did not participate in this round.

To measure these outcomes, EVT identified the following indicators:

- Amount saved in kilowatt hours used
- Amount saved in MMBtu of fuel used
- Increase in awareness/ knowledge level of program participants
- Number of people who had heard of energy efficiency/Efficiency Vermont
- Number of households signed up for energy audits
- Number of households making significant efficiency investments
- Satisfaction levels of volunteers/ local organizers
- Satisfaction levels of participants
- EVT's overall cost per kWh saved or MMBtu saved

See "Attachment B: Logic Model for VCEM Project" for a framework of project outcomes, activities, and indicators.

Volunteers were asked to complete a "home energy visit form" for each home they visited. The home energy visit form served as the key tracking document for the VCEM project. It tracked specific homes visited, the number and types of energy saving measures installed, notes from

the visual inspection of the home, and some feedback from participants on the home energy visit and what follow-up steps they planned to undertake.

After the completion of home energy visits, EVT conducted the following assessment of participants, volunteers, and local coordinators:

- Sent a mail questionnaire to all program participants to determine what energy saving steps they had undertaken and challenges they faced completing additional energy savings steps. Approximately 116 individuals responded out of 709 for a 16% response rate.
- Sent an electronic questionnaire to volunteers to determine how satisfied they were with the program and suggestions for improving it. 51 individuals participated in the survey out of 243 for a 21% response rate.
- Sent an electronic questionnaire and conducted personal interviews with local coordinators to determine how satisfied they were the program and suggestions for improving it. 12 of 14 individuals responded for an 85% response rate.

In addition to the evaluation process described above, EVT called all participants who requested information about available EVT incentives. EVT called every home that requested a call back at least twice. Calls were made during week days and nights in an effort to reach people during work and non-work time periods.

What aspect of the home energy visit did you find to be the most valuable?
(from selected participant responses)

- * I thought they (the volunteers) cared that I was saving energy and that their information was helpful.
- * My volunteer told me about the role of air leaks in the attic and how they draw air up through the house. With some expansion foam, my house is warmer now.
- * My volunteers found ways to save energy that I had no idea were obvious. They were so pleasant I enjoyed their coming.
- * Referring me to Efficiency Vermont; as a result I am having my home's insulation upgraded.
- * Someone would actually spend time to change out all the light bulbs instead of just dropping them off.
- * The calculation of energy use per square foot. My house is less efficient than I thought.
- * Volunteers were knowledgeable and knew where to get answers if they didn't have them.

2) Project Results

Major results for the VCEM project are:

(A) Energy savings achieved:

- **Energy saving products installed:** a total of 6449 energy saving products were installed, including compact fluorescent light bulbs, pipe insulation, insulated tank wraps, low-flow showerhead, faucet aerators, and programmable thermostats.
- **Energy savings:** The project resulted in an estimated total savings of 366,421 kilowatt hours in the first year or 1448.1 million BTUs through volunteer installation of the above mentioned items.
- **Energy Steps scheduled through Efficiency Vermont:** As a result of the volunteer visit and discussion about Efficiency Vermont incentives, 11 comprehensive home weatherization retrofits are in mid-project, 13 refrigerator and 1 furnace fan replacement(s) have been scheduled. Estimated savings from these projects are 23,371.6 kWh and 1559.7 mmBtus.
- **Energy Steps completed through Efficiency Vermont:** As of September 18, 2009, of the above mentioned projects, 3 comprehensive home weatherization retrofits, 4 refrigerator and 1 furnace fan replacement(s) have been completed, totaling 12,438.7 kWh and 55.4 mmBtus.
- **Total Energy Savings:** Assuming all Efficiency Vermont projects are completed, the total savings achieved through VCEM, both through volunteer installation and through additional steps taken in partnership with Efficiency Vermont incentives are 389,395.6 kwh and 3021.7 mmBtus.

(B) Energy awareness raised:

- Approximately 47% of participant respondents said that as a result of the home energy visit they learned about new resources to help improve energy efficiency in their homes.
- The following energy savings topics were mentioned the most frequently (from most to least): where and how to find additional information such as calling EVT, importance of insulation and location of insulation, importance and role of an energy audit/importance of pipe insulation (tied for frequency), importance of energy efficient appliances/helpfulness of infrared gun (tied for frequency).

(C) Effectiveness of grassroots approach to reaching Vermonters, particularly those who had not previously heard of energy efficiency and/or EVT:

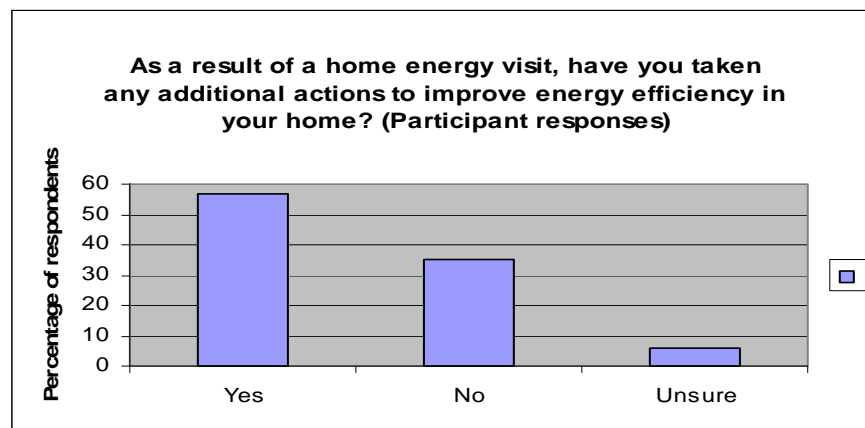
- **Knowledge of Efficiency Vermont:** Approximately 37% of participants had not heard of Efficiency Vermont prior to the home energy visit.
- **Home energy visits:** 709 homes received a home energy visit, with 576 single family homes and 133 apartment units. All communities achieved the minimum goal of 25 home energy visits with some communities conducting one hundred visits or more (Brattleboro, Montpelier, and E. Montpelier-Plainfield-Marshfield), and other communities reaching a high percentage of homes (25% of homes in Ripton).

(D) Number of additional energy savings steps taken:

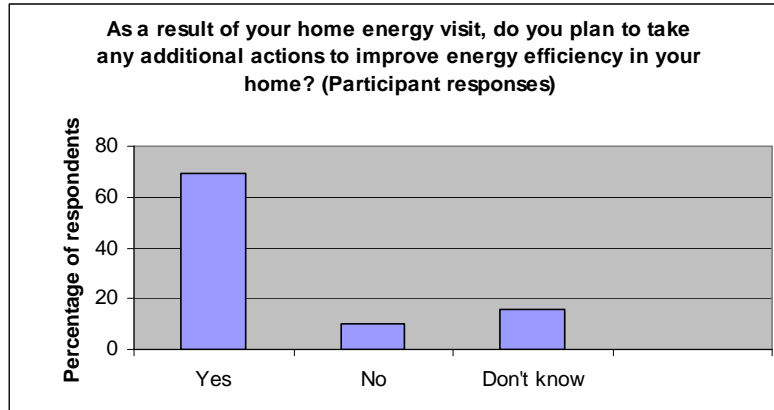
- **Participants' efficiency efforts:**
 - Based off the survey, in which 20% of home participants responded, approximately 62% of participant respondents said that as a result of the home

energy visit they had already undertaken additional steps to improve energy efficiency in their homes. The following energy savings steps participants said they *had already undertaken* as a result of the Home Visit (from most to least):

- Turning off lights and installing compact fluorescent bulbs,
- Purchasing efficient appliances,
- Hanging laundry/researching additional energy savings tips including loaning energy meters from EVT (tied in frequency),
- Using less hot water for clothes washing/insulating portions of the home by oneself (tied in frequency),
- Calling EVT for more information,
- Washing and drying full loads of laundry,
- Running dishwasher at full cycle/cleaning clothes filter (tied in frequency).



- 72% said that they *planned* to take additional steps to improve efficiency. The following energy savings steps that participants planned to undertake were (from most to least):
 - Insulating portions of their homes themselves,
 - Purchasing energy star appliances,
 - Scheduling an audit/researching additional information including obtaining quotes for an audit/water efficiency measures/window replacements (tied in frequency).
- Approximately 20% of participant respondents said they planned to have an energy audit conducted by a Home Performance with ENERGY STAR® contractor.
- The primary reasons why participant respondents *did not take* additional steps were:
 - Thought they were already efficient (48%),
 - Busy/timing/illness (28%),
 - Cost (12%).



- **Volunteers' efficiency efforts:** Approximately 68% of volunteer respondents either have already undertaken or plan to undertake additional action to improve the energy efficiency in their homes.
- **Coordinators' efficiency efforts:** Approximately 60% of coordinators either have already undertaken or plan to undertake additional action to improve the energy efficiency in their homes.

(E) Cost-effectiveness:

- **Volunteer Leveraging:** an estimated 240 volunteers participated in the trainings -- most of these volunteers conducted at least one home energy visit, with a total minimum of 1200 volunteer hours leveraged.
- **Energy savings to "cost":** Assuming all projects are completed, the total savings for the volunteer project are 389,395.6 kwh and 3021.7 mmBtus. Total cost of the program including program design, development, implementation staff time; materials; community awards and stipend was: \$87,558. Given that a portion of this was required for the once-off program start up costs, a continuing program would be presumed to cost less to implement, assuming all other factors are constant (volunteers complete the same amount of work, the same number of participants undertake additional work, etc.)
- **Comparison to other initiatives that were conducted utilizing volunteers, or involving a geographic approach in program design:** The below chart compares VCEM's overall program costs to electrical savings achieved over a one-year period to another volunteer driven energy savings program. Project Porchlight took place over one summer in the Greater Burlington area and consisted of volunteers conducting door-to-door visits to provide homeowners with information about CFLs, including 1 CFL per household:

Community Energy Initiative Cost Analysis per Annual kWh saved

Initiative	VCEM		Porchlight	
Time Period	2009		10/15/07-12/31/08	
Sector	BES	RES	BES	RES
Costs				
Services and Initiatives	n/a	\$53,968	n/a	\$99,372
Marketing/Business Development	n/a	\$1,650	n/a	\$0
Technical Assistance	n/a	\$440	n/a	\$0
Incentives to Customers	n/a	\$31,500	n/a	\$64,560
Incentives to Trade Allies	n/a	\$0	n/a	\$0
Total Costs	n/a	\$87,558	n/a	\$163,932
Annual (1st Year) Savings MWh	n/a	366	n/a	549
Sector \$ per Annual MWh	n/a	\$239	n/a	\$299
Initiative \$ per Annual MWh	n/a	\$239	n/a	\$299
Initiative cents per Annual kWh		\$0.239		\$0.299

Comparing the same programs, but in reference to lifetime, levelized savings, shows the following results:

Community Energy Initiative Cost Analysis per lifetime kWh saved

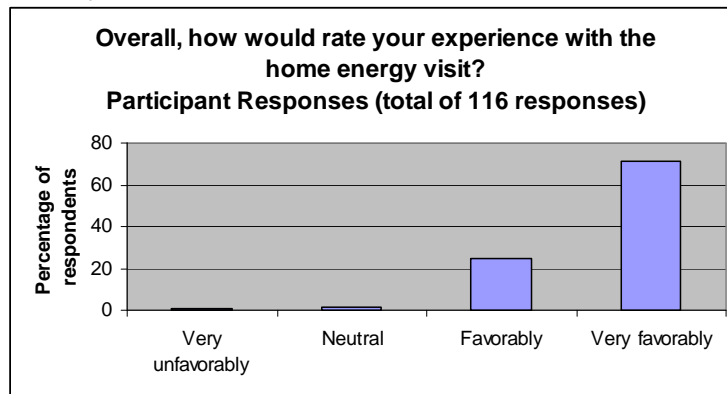
Initiative	VCEM		Porchlight	
Time Period	2009		10/15/07-12/31/08	
Sector	BES	RES	BES	RES
Costs				
Services and Initiatives	n/a	\$53,968	n/a	\$99,372
Marketing/Business Development	n/a	\$1,650	n/a	\$0
Technical Assistance	n/a	\$440	n/a	\$0
Incentives to Customers	n/a	\$31,500	n/a	\$64,560
Incentives to Trade Allies	n/a	\$0	n/a	\$0
Total Costs	n/a	\$87,558	n/a	\$163,932
Lifetime Savings MWh	n/a	2,474	n/a	3,514
Sector \$ per Lifetime MWh	n/a	\$35	n/a	\$47
Initiative \$ per Lifetime MWh	n/a	\$35	n/a	\$47
Initiative cents per kWh		\$0.035		\$0.047

- *Other cost comparisons:* Finally, Efficiency Vermont's 2008 results show the cost of conducting efficiency to be \$0.031/kwh, while the wholesale cost of electricity in Vermont is currently \$0.14/kwh. It is important to note that the \$0.031/kWh figure

includes savings resulting from all of Efficiency Vermont's programs, combining large savings through commercial and industrial projects with smaller savings achieved through individual residential projects.

(F) Satisfaction results from the evaluation process include:

Satisfaction of participants and volunteers with overall project: Approximately 97% of participant respondents rated the home energy visits either favorably to very favorably, while 98% said that they would recommend a home energy visit to a neighbor or friend. Approximately 65% of participant respondents had already recommended a home energy visit to a neighbor or friend. Approximately 96% of volunteers rated the home energy visits favorable to very favorably.



Participant satisfaction with products installed: Participant respondents were satisfied to highly satisfied (4.5 on a 5-point scale) with the energy saving products installed in their homes.

Volunteer satisfaction with training: Approximately 77% of volunteer respondents rated the training session conducted by Efficiency Vermont as very good to excellent.

Volunteer satisfaction with local coordination: Approximately 92% of volunteer respondents indicated the local coordinator did well to very well in providing support for conducting home energy visits; 79% would be willing to be a volunteer in the future.

Local coordinator satisfaction: 100% of the coordinators rated their experience as coordinator favorably to very favorably.

Local coordinator satisfaction: 100% of the coordinators indicated that Efficiency Vermont did well to very well in providing support for conducting the home energy visit and 58% said they would be willing to be a coordinator in the future.

3) Evaluation and Recommendations

As noted earlier, the key desired outcome of the VCEM project was to assess whether a community-based, volunteer program could achieve home energy savings, raise energy awareness, motivate people to take additional energy savings steps – and whether this could be done cost-effectively. The VCEM project was successful in achieving savings in kilowatt hours, in the high satisfaction level of both participants and volunteers, and the increased awareness and understanding of participants of home energy saving opportunities and resources. The

project also resulted in an increased awareness as to EVT's programs, incentives and services (37% of participants had never heard of EVT before VCEM).

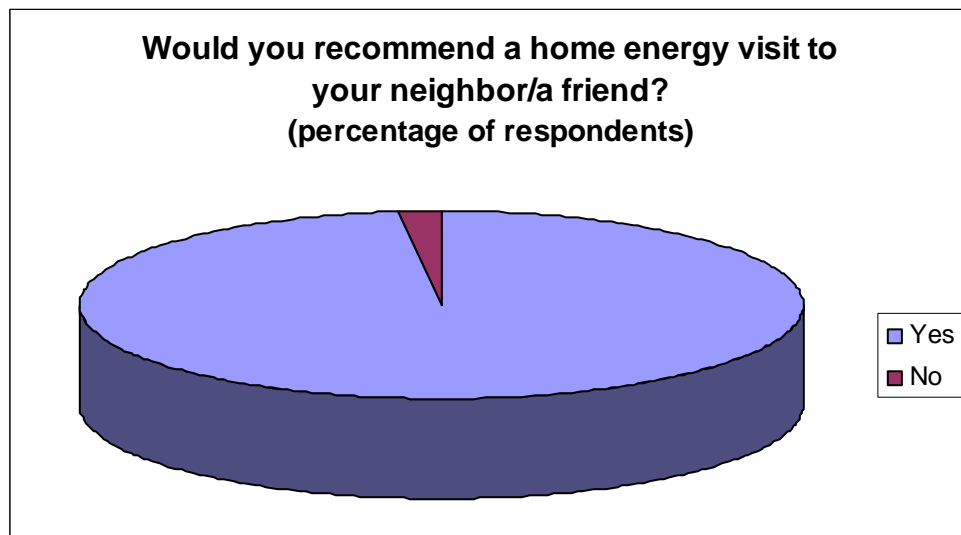
The question of "cost-effective" is less straight-forward. Efficiency Vermont is charged with "achieving the greatest energy savings at the lowest cost to the rate payer." Compared to other Efficiency Vermont programs, in particular Efficiency Vermont's CFL sales program offered through Vermont retailers, the VCEM pilot project did not save as much energy per ratepayer dollar. In terms of cost, EVT estimates that the VCEM pilot project cost an estimated \$87,558, including staffing development costs, energy saving products, and community awards. This computes to a cost per kilo-watt hour saved for the lifetime of the measure of \$.035 compared to an average kwh cost of EVT programs of \$.031. However, this is still significantly less than the current wholesale cost of electricity at \$.14.

The VCEM project did not result in a significant number of participants signing up for an energy audit or making significant efficiency investments. In fact, as of September 18th, 2009, only 2% of single-family home participants had moved forward with scheduling an energy audit. Meanwhile, 20% of participant respondents said they planned to have an energy audit conducted by a Home Performance with ENERGY STAR contractor. Efficiency Vermont will continue to conduct reports to assess if this percentage increases. Clearly, there remains a gap between customers planning on moving forward with additional work, and actually doing so.

The VCEM project demonstrates that a community-based approach can be an effective vehicle for public education and achieving energy savings. However, the project needs to be modified to ensure that it achieves deeper energy savings. Specifically, how can VCEM be modified to harness the energy of local communities to achieve comprehensive energy improvements in Vermont homes? Some recommendations for improving the VCEM project are listed below.

Thanks for all your work making this project available. It was a big success here, and we hope to do it again next year.

-- Local coordinator from pilot community



Recommendations

EVT has identified a number of opportunities for improving the VCEM project design. These include:

- **EVT should consider providing special incentives to achieve additional energy efficiency savings:** One of the desired outcomes of the VCEM project was to determine whether and how much a grassroots program would lead to significant additional electrical and thermal energy savings through follow-up activities with participants. For thermal savings, this was measured by the number of households that signed up for energy audits and made significant building efficiency investments. For electrical savings, this was measured by the number of households that took advantage of financial incentives for replacing inefficient appliances.

After the submittal of home intake forms from the local partners, EVT reviewed those forms with the most potential for savings and called all participants who requested a call-back and were eligible for some type of incentive to further inform them about incentives for purchasing energy efficient appliances and improving building thermal efficiency. In total, 425 customers were called back yielding only 25 positive leads for additional savings.⁵ On the other hand, 62% of participant respondents said that as a result of the home energy visit they had already undertaken additional steps to improve energy efficiency in their homes, while 72% said that they planned to take additional steps to improve efficiency. Similarly, 20% of participant respondents planned to have an energy audit conducted by a Home Performance with ENERGY STAR contractor, while data reports show only 2% following up by scheduling an audit. There is clearly some discrepancy between the survey responses and project database results. If a primary goal of Efficiency Vermont is to stimulate additional follow-up activity, there are a number of steps that EVT can take to strengthen the linkage with Home Performance with ENERGY STAR® during and after the home energy visit.

Recommendations:

- EVT should consider providing financial incentives to participants during the home energy visits to make further electrical and thermal efficiency investments, e.g. provide a \$150 coupon off of the cost of an energy audit if comprehensive Home Performance with ENERGY STAR® (HPwES) work is completed.
- EVT should consider establishing quantifiable goals for the number of homes that receive a major energy retrofit with HPwES and then work closely with local partners to realize this goal.
- EVT should consider providing a local community award for reaching a pre-determined number of homes that actually move forward with an audit and/or retrofit. This would provide local community partners with an incentive to conduct follow-up calls to participants to encourage them to move ahead. EVT can also encourage local community partners to host an “Open House” with homeowners who have completed an HPwES retrofit.

⁵ If customers were not reached during the first call, a message was left explaining when a second call would be made.

- EVT should continue to run frequent reports to assess the full extent of follow-up efficiency efforts undertaken by participants.
- **EVT should expand the volunteer training on the walk-through assessment and kitchen table discussion:** EVT conducted trainings for all volunteers to prepare them for the home energy visits. In the evaluations, 75% of volunteers felt that they were very well prepared to install energy saving products, while only 55% felt well prepared to conduct the walk-through energy assessment and only 49% felt well prepared for the kitchen table discussion.
 - Recommendations:*
 - EVT should expand the training component for the walk-through energy assessment and the kitchen table discussion. This expanded training ties in well with EVT's goal of generating more leads for follow-up building efficiency measures.
 - EVT should strongly encourage or require volunteers to conduct a "practice" home energy visit on their own homes with their partners prior to conducting a home visit for program participants.
- **EVT should refine the list of energy saving products:** Both participants and volunteers gave high marks to the energy saving products installed under the VCEM project. Participants were either satisfied or highly satisfied with all products, while volunteers were also satisfied albeit somewhat less than participants. Both participants and volunteers expressed an interest in EVT offering different light bulbs (for example smaller wattage bulbs, CFLs that accept clip-on shades, and dimmable bulbs). There was also some interest in EVT providing other energy saving products, such as Smart Strips.

Programmable thermostats were by far the most costly item volunteers installed, and overall, participants were pleased with their performance. Approximately 43% of participant respondents had a programmable thermostat installed in their home. Of those who had a thermostat installed, 91% of participant respondents were using the newly installed thermostat to adjust the temperature after the installation.

Meanwhile, 86% of participant respondents who received a programmable thermostat were previously manually turning back their thermostat. Under the premise that "a thermostat never forgets," EVT provided guidance to volunteers to install programmable thermostats even if the participant was previously turning their thermostat back by hand. Given the high number of participants who had previously set their thermostat back by hand, there is some question about the energy savings achieved, and therefore cost-effectiveness of incorporating programmable thermostats into the VCEM project.

Recommendations:

- EVT should review the list of energy saving products for savings achieved and performance, evaluate whether new products are warranted, and refine the list of products offered under the program. Further, EVT should review and revise the estimated number of recommended energy saving products for each home as most homes did not use the full number of products.
- EVT should research and improve methods to improve methodology in tracking follow-up activities that participants undertake.

- EVT should reevaluate the parameters under which volunteers install programmable thermostats and decide whether programmable thermostats should be included in future offers of the program.
- **Improve tools to assist local coordinators with VCEM project logistics:** Local coordinators indicated that it was difficult to keep track of what materials they had and how much they needed to order. Several communities had a significant surplus of materials at the end of the project that had to be returned to the distributor at a cost to EVT.

Regarding home energy visits, many volunteers and local coordinators felt that there were considerable opportunities for improving the use and content of the Home Intake Form. For example, local coordinators said they would like to keep copies of the home intake form so that they could follow-up with participants. (Due to confidentiality issues, local partners would need to secure permission from homeowners about maintaining a copy of the form and following up with a phone call). Further, local coordinators had numerous suggestions for modifications to the form itself, e.g. including adding space on the form to identify whether any solar or other renewable energy technology is used, provide open space for general comments, etc.

Recommendations:

- EVT should develop a more systematic means for keeping track of products, such as improving the spreadsheets that local coordinators can use.
- When reordering products, local coordinators should take stock of what products remain and only order products that are actually needed.
- EVT should revise the Home Intake Form to reflect additional information that will be beneficial to both local partners and EVT. Further, EVT should consider ways in which the local coordinators could keep a copy of the home intake forms.
- EVT should revise the language in the liability release form to be less severe.
- **EVT should help participants prioritize next steps:** Several participants indicated that they wanted more specific information on what they could do next to save energy, on financial incentives available, and how to follow-up with EVT. Along these lines, EVT is developing its new “Buzz Kit” which is designed to help residents establish energy saving priorities. EVT could also provide various incentives to help participants act on these priorities -- consistent with recommendations above on helping customers take follow-up actions.

Recommendation:

- Review educational/informational materials provided to participants to make sure they are in-line with project objectives.
- Incorporate “Buzz Kit,” which lists the top five actions residents can take, into the educational materials distributed to participants and combine this information with a time-bound coupon book with specific incentives, e.g. appliance rebates, \$150 time-limited energy audit incentive.
- Provide more specific information on potential payback/rate-of-return for undertaking certain energy saving investments – from replacing an old refrigerator to air sealing and insulating an attic.

- **EVT should focus more on follow-up electrical energy saving opportunities:** Some volunteers expressed an interest in providing participants during the walk-through and kitchen table discussion with more information about follow-up electrical energy saving opportunities. While the direct installation of energy saving products focused primarily on electrical savings, the walk-through energy assessment and kitchen table discussion focused mainly on thermal energy savings.
 - **Recommendation:** Provide more emphasis during the walk-through assessment and kitchen table discussion on opportunities for homeowners to save on their electrical bill, such as information on how much money people can save by undertaking certain measures; i.e. reducing phantom load, installing Smart Strips, and understanding how much electricity various appliances use.
- **EVT should continue to allow maximum flexibility for local groups to piggyback local programs onto the VCEM project:** Several communities used the VCEM project as a launching point or piggybacked an existing program onto the VCEM project. For example, Montpelier tapped into its Citizen Action Network (network of active citizens working in neighborhoods) and “Between the Cracks” -- a program of neighbors helping others to weatherize their homes. In Manchester and Dorset, as a follow-up to VCEM, the energy committees banded together with the Interfaith Council of Manchester and Dorset to provide low-income homeowners with a comprehensive energy efficiency upgrades.

Still, a number of pilot communities and others which did not participate in the program urged EVT to incorporate more weatherization (air sealing) into the program. EVT was unable to comply with this request due to the strict cost-effectiveness test that it is required to meet under state statute. Additionally, Efficiency Vermont remains concerned regarding the clear risk in volunteers “sealing up” a home tightly without incorporating health and safety measures and testing (i.e. combustion air and mold issues). To meet a compromise, EVT did not stop communities from adding these add-on weatherization components, but did not contribute toward the cost of the materials and made clear that these components of the program were separate from the VCEM. In fact, EVT explicitly stated that volunteer groups that were undertaking weatherization efforts simultaneously to the VCEM Pilot Project did so at their own risk.

- **Recommendation:** EVT should continue allowing maximum flexibility in the VCEM project design to enable interested community groups to piggyback off of the VCEM project to help meet other community goals.
- **EVT should assess whether to expand the program to more specifically address the needs of multi-family property owners (beyond homeowners):** While the VCEM project was that it was open to all residents, the principal target audience was homeowners. Several pilot communities expressed an interest and worked extensively with rental units and property owners. Renters received the benefit of immediate savings from the installation of energy saving products, but face limitation in making significant investments in building efficiency. This split incentive between renters and property owners is one of the most significant barriers to making significant efficiency investments in rental properties.

- **Recommendation:** EVT should assess whether to expand the program, including making design modifications to VCEM, to more fully incorporate property owners of rental units to help them make significant efficiency investments.
- **EVT should do a better job controlling the message that goes out to the public:** There are a number of opportunities that EVT can take to improve the public message about the program. For example, EVT repeatedly emphasized during the volunteer trainings and in communication with local coordinators that the “home energy visits” were not “energy audits.” However, 14% of participant respondents still thought that the home energy visit was an energy audit. In addition, some newspaper reporters inadvertently described the VCEM project using the phrase “energy audits” and this created some ill feelings among a few Home Performance with ENERGY STAR® contractors. Further, in follow-up calls to participants, some participants did not realize the VCEM project was an EVT program done in partnership with local communities.
 - Recommendations:**
 - EVT should do a better job during the volunteer trainings to make sure that volunteers understand key points, e.g. that a home energy visit or walk-through assessment is not an energy audit, that VCEM is a joint project between EVT and the local community, etc. One approach could be to take time during the training for volunteers to practice in teams the introductory talk with participants. However, this may be difficult due to the already lengthy training presentation.
 - EVT needs to continue to work with local coordinators and the media to make sure key points are clearly communicated and understood.
- **Communities should spread the work load of the local coordinator position:** The local coordinator positions were central to the success of the project. Local coordinators indicated that they spent an average of 10-20 hours per week on the project; this is a significant workload for a volunteer position. Several local coordinators asked some of their volunteers to help with tasks such as coordinating visits and putting together the energy saving product kits for volunteers to take to participants’ homes.
 - **Recommendations:** Local organizers should ask volunteers to help with scheduling of home energy visits and coordinating with participants to conduct the home energy visits.
- **Communities should employ a more flexible team approach for volunteers:** Volunteers were the backbone of the VCEM project. EVT encouraged local partners to use a team approach when conducting the home visits, and this appears to have been a successful approach as it helped match up volunteers with complementary skills, e.g. people with technical skills versus people skills. However, some local coordinators and volunteers said it was difficult to coordinate the same team of individuals for the home visits.
 - **Recommendation:** Local coordinators should consider allowing team members to switch around to accommodate various schedules. These teams do not have to be permanent teams that last throughout the entire program.
- **Communities should expect volunteer participation to drop-off:** Local coordinators used a range of methods to solicit participation of volunteers, and in general, were successful in attracting individuals to the training. However, some local coordinators indicated that not

all volunteers followed through in conducting home energy visits due to a variety of reasons such as scheduling conflicts. Meanwhile, many volunteers committed to helping more than the suggested eight hours per volunteer.

- **Recommendation:** Local coordinators should secure more volunteers than they anticipate needing to cover any expected shortfall due to volunteer drop-off. Personal contact and tapping into existing social networks was recommended by local coordinators as the most effective way for getting volunteers.

- **Communities should use more targeted outreach methods to reach desired participants:** Many local coordinators noted that it was often difficult to secure the participation of those individuals who could benefit most from a home energy visit, e.g. lower income populations and/or homes that showed significant ice damming issues. To some extent, the communities of Marshfield and Montpelier were successful in their efforts to reach this target population. In Montpelier, the local coordinator contacted rental agencies and property owners of rental units. In Marshfield, the local coordinator drove around town and identified which homes looked as though a home energy visit was needed, e.g. identifying ice dams and rooftop snowmelt. Ideally, the strength inherent in utilizing a locally-driven, grassroots approach to offer the VCEM home visit would be able to successfully reach households that do not typically proactively participate in energy savings opportunities.
 - **Recommendation:** Communities need to make a concerted effort to reach out to those in need, such as making direct calls to individuals who can really benefit from the program, and working directly with organizations that already provide assistance to low-income people.
 - **Recommendation:** Try a focused door-to-door approach.

Conclusion

The Vermont Community Energy Mobilization Pilot Project (VCEM project) was a five-month demonstration project that relied on community volunteers to conduct home energy visits to achieve energy savings and increase awareness about energy savings opportunities in Vermonters homes. The VCEM project was successful in achieving savings in kilowatt hours, in the high satisfaction level of both participants and volunteers, and the increased awareness and understanding of participants of home energy saving opportunities and resources. The VCEM project demonstrated that a community-based approach can be an effective vehicle for public education and achieving energy savings, but the project design needs to be modified to ensure that it achieves desired cost-effectiveness criteria. Recommendations identified in this report are geared specifically toward improving the VCEM project such that project delivery is more efficient and energy savings are achieved at a lower cost.

Attachment A: Summary of Documents and Materials for Distribution

Document	Purpose/contents
For Volunteers	
a) Home Intake Form	Form that volunteers use to gather information on: homeowner contact info, what efficiency products were installed, heating system and refrigerator data, observations, and the participants' release and waiver
b) Volunteer Guide	Guidance document for volunteers on steps to doing the home energy visit
c) Copy of Training PowerPoint	Copy of training PowerPoint-gives additional information about the Home Energy Visit
d) Volunteer Agreement Form	Describes the VCEM for volunteers and has a place for volunteers to sign agreement on the terms for working on project
For Participants	
e) Summary of Home Intake Form	Contains information on what was done in the house and homeowner pledge
f) How Energy Efficient is Your Home	Worksheet for program participants (with volunteer guidance) to determine BTUs/square footage as a measure of relative energy efficiency
g) Door Hanger	Information on the program to leave on doors of prospective participants
h) Educational resources in leave-behind folder	Folder materials include: (1) Energy Audit and Improvements: Home Performance with ENERGY STAR (includes incentives insert); (2) The Energy Smart Home; (3) A Do-It-Yourself Guide to ENERGY STAR Home Sealing; (4) Mercury/CFLs; (5) Home Performance with ENERGY STAR Case Study; (6) Your Guide to Electrical Use in Your Home; (7) Additional Resources
For Local Partners	
i) Memorandum of Agreement	Lays out roles and responsibilities between local partner and EVT
j) Press kit	Sample press release, media talking points, PSAs, calendar listing
k) Guide to Organizing a Community Energy Mobilization Project	Program overview on the VCEM project, how to recruit volunteers, how to identify and sign up program participants, components of the home energy visit, and monitoring results
l) Expense Reporting Form	Form for local partners to request expense reimbursement
m) Materials Tracking Form	Form for tracking of the amount of each energy saving product installed compared to amount delivered
n) Participant Intake – Talking Points and Log Forms	Participant Intake talking points that walk contact person through process of signing up participants – include log form
o) Schedule Form	Form for scheduling home energy visits
p) Landlord Release	Release and waiver from landlord to allow renters to participate in VCEM

Attachment B: Logic Model for VCEM Project

Activities/Outputs	Short-term Outcomes	Long-term Outcomes	Indicators
EVT selects and signs agreements with xx of communities to participate in VCEM Pilot Project	xx of CFLs and other low-cost measures installed	Significant reductions in home electrical energy use achieved	Amount saved in kilowatt hours used
EVT develops guidance materials and training documents for community organizers and volunteer installers	600 households receive information on home energy saving opportunities and available resources	Increased awareness and understanding by Vermonters of home energy savings opportunities and resources	Amount saved in MMBtu/cords of other fuels used
Local groups solicit and secure volunteer installers			Increase in Awareness/knowledge level of program participants
EVT trains xx of community volunteers on home energy visits and direct installation	xx of participating households sign up for home energy audits	VCEM project shows that a community, volunteer-based program is a successful model for achieving home energy savings	# of households signed up for energy audits
EVT procures efficiency measures	xx of participating households make significant energy efficiency investments	Subsequent activities to save energy by the community	# of households making significant efficiency investments
Local groups identify and secure program participants			Satisfaction levels of volunteers/ local organizers
Community volunteers conduct 600 home energy visits and direct installs	Community organizers and volunteers believe VCEM project was worthwhile endeavor	Increased interest by other communities that did not participate in this round	Satisfaction levels of participants
EVT conducts program evaluation	Number of Volunteers mobilized		Overall effectiveness: Time spent per house relative to energy savings (for comparison purposes to other efforts, such as the weatherization work going on) Cost per kWh saved or MMBtu saved

Attachment C: Newspaper Article

Rutland Herald

“Community Energy-Saving Efforts Pay Off”

By Patrick McArdle, Staff Writer, Rutland Herald

patrick.mcardle@rutlandherald.com

May 31, 2009

MANCHESTER – Almost 500 homeowners in Vermont received energy-saving tips and devices with a personal touch through Efficiency Vermont's Community Energy Mobilization Project pilot program, according to co-organizer Paul Markowitz.

Markowitz said Efficiency Vermont had been looking for ways to expand its work in conserving electric energy to conserving thermal energy, as well.

"They had been looking for some time at the ability of community-based programs to reach energy-efficiency goals," he said.

Participating central Vermont communities include East Montpelier, Plainfield, Marshfield, Montpelier and the Mad River Valley. The program worked with local volunteers to both deliver and receive its message. A team of local residents in each community were trained to offer simple energy-efficiency tips and to install some small items like efficient light bulbs and foam covers for water pipes. Homeowners were given a chance to have a visit by the volunteers, who would then install the items and talk with the residents.

"The whole thing was based on trust, on neighbor helping neighbor. These (volunteers) weren't professionals. They weren't there to perform an energy audit but they were trained to look for anything that might look like an energy savings opportunity," said Markowitz of Montpelier.

Manchester Planning Director and Zoning Administrator Lee Krohn, who took part in a team that included his town, Dorset and Peru, said one of the recommendations volunteers would often make was that the homeowner consider a professional energy audit. With Efficiency Vermont donating materials, the volunteers were also able to install equipment like low-flow shower heads, faucet aerators and compact fluorescent light bulbs.

"We also installed programmable thermostats, probably the most costly item we had, but it was a good example of something that was relatively low cost but potentially had a high impact on energy savings," Krohn said.

Because of the success of the Manchester Challenge, a 2005 and 2006 event during which about 42,000 compact fluorescent bulbs were sold, Krohn said the area is already "pretty well saturated with CFL bulbs." But Krohn said he believed it was the personal touch, the conversations between people who lived in the same or nearby towns, that make the project

much more successful than it would have been if Efficiency Vermont had given away items that "people took home, threw in the garage and never installed."

"The nice thing about this is that people sometimes look at energy conservation as this larger-than-life, unattainable goal. This project showed people that there are things you can do yourself, that you can install right away and start saving money," he said.

Markowitz said the community aspect of the project helped to reach a different set of Vermonters.

"There are people on the cusp, who are just considering energy efficiency projects. Those were the people we were trying to capture and push from inaction to action," he said.

There were nine groups across the state that took part in the pilot program, Markowitz said, and many like Manchester, included more than one community. The largest group was in Brattleboro, while the smallest was in Ripton. Markowitz said the project was being evaluated. He hopes it will not only continue, but expand next year.

"The average home has many energy-saving opportunities. That's what this is all about. It's good for the environment and it's saving people money," he said.

**Attachment D: Savings By Volunteer Group
February-May 2009**

*This report includes savings and leads for materials installed by volunteers (i.e. light bulbs) and for follow-up work to be completed by a professional (i.e. weatherization). The narrative report provides numbers for materials installed by volunteers only. This report pulled on 7/10/09.

Group Name	Towns	Lead Volunteer(s)	# of Residences (Single Family Homes & Apartments combined)	# of Volunteers	Measure Type	# Installed	KWH savings for 1 year**	MMBTU savings for 1 year
Brattleboro Climate Protection	Brattleboro area	Paul Cameron	100	39	Faucet aerator/flow restrictor	42	771.8	7.8
					Insulate hot water tank	2	405.4	0
					Insulate hot water pipes	198	3003.9	17
					Low flow showerhead	29	3782.5	20.7
					Compact fluorescent screw-base bulb	634	40557.4	0
					Energy star refrigerator, early replacement	1	705.1	0
					Setback thermostat, URF	42	0	210
					Subtotal			

Group Name	Towns	Lead Volunteer(s)	# of Residences (Single Family Homes & Apartments combined)	# of Volunteers	Measure Type	# Installed	KWH savings for 1 year**	MMBTU savings for 1 year
Valley Futures Network Energy Group, the Carbon Shredders, Mad River Valley Planning District	Fayston, Warren, Waitsfield, Moretown	Dennis Derryberry, Joshua Schwartz, Matt Sargent, Erin Russell-Story	64	39	Faucet aerator/flow restrictor	14	345.7	2
					Insulate hot water tank	8	1621.5	0
					Insulate hot water pipes	109	1708.4	9.1
					Low flow showerhead	20	2416.8	15.3
					Compact fluorescent screw-base bulb	590	37743.2	0
					Energy star refrigerator, early replacement	1	1419.4	0
					Setback thermostat, URF	12	0	60
Subtotal						754	45255	86.4

Group Name	Towns	Lead Volunteer(s)	# of Residences (Single Family Homes & Apartments combined)	# of Volunteers	Measure Type	# Installed	KWH savings for 1 year**	MMBTU savings for 1 year
Ripton Energy Assistance Program	Ripton	Warren King	58	25	Faucet aerator/flow restrictor	16	437	2
					Insulate hot water tank	15	3040.4	0
					Insulate hot water pipes	52	973.5	3.6
					Low flow showerhead	21	2512.1	16.2
					Compact fluorescent screw-base bulb	510	32624.9	0
					Setback thermostat, URF	9	0	45
Subtotal						623	39587.9	66.8

Group Name	Towns	Lead Volunteer(s)	# of Residences (Single Family Homes & Apartments combined)	# of Volunteers	Measure Type	# Installed	KWH savings for 1 year**	MMBTU savings for 1 year
Town of Manchester	Manchester, Dorset	Lee Krohn & Phil Picotte	48	34	Faucet aerator/flow restrictor	25	613	3.6
					Insulate hot water tank	4	810.8	0
					Insulate hot water pipes	69	1307.2	4.7
					Low flow showerhead	22	3113.7	14.4
					Compact fluorescent screw-base bulb	484	30962.6	0
					Energy star refrigerator, early replacement	1	883.6	0
					Setback thermostat, URF	18	0	90
Subtotal						623	37690.9	112.7

Group Name	Towns	Lead Volunteer(s)	# of Residences (Single Family Homes & Apartments combined)	# of Volunteers	Measure Type	# Installed	KWH savings for 1 year**	MMBTU savings for 1 year
Montpelier Energy Team	Montpelier	Barry McPhee & Ken Jones	189	16	Faucet aerator/flow restrictor	256	4400	49.6
					Insulate hot water tank	6	1216.2	0
					Insulate hot water pipes	108	1738.9	8.8
					Low flow showerhead	134	13982.5	114.3
					Compact fluorescent screw-base bulb	560	35823.9	0
					Setback thermostat, URF	37	0	185
Subtotal						1101	57161.5	357.7

Group Name	Towns	Lead Volunteer(s)	# of Residences (Single Family Homes & Apartments combined)	# of Volunteers	Measure Type	# Installed	KWH savings for 1 year**	MMBTU savings for 1 year
East Montpelier Energy Committee, Marshfield Energy and Climate Change Committee, Plainfield Energy Coordinator	Marshfield/Plainfield/East Montpelier	Rich Phillips, Dave Grundy, Bob Atchinson	133	40	Faucet aerator/flow restrictor	33	566.5	6.4
					Insulate hot water tank	12	2432.3	0
					Insulate hot water pipes	168	2426.1	15
					Low flow showerhead	40	4495.6	32.4
					Compact fluorescent screw-base bulb	611	39087	0
					Setback thermostat, URF	51	0	255
Subtotal						915	49007.5	308.8

Group Name	Towns	Lead Volunteer(s)	# of Residences (Single Family Homes & Apartments combined)	# of Volunteers	Measure Type	# Installed	KWH savings for 1 year**	MMBTU savings for 1 year
Grafton Sustainability Group	Grafton	Eric Stevens	32	14	Faucet aerator/flow restrictor	16	319.2	2.8
					Insulate hot water tank	2	405.4	0
					Insulate hot water pipes	49	787.5	4
					Low flow showerhead	13	1410.3	10.8
					Compact fluorescent screw-base bulb	562	35951.2	0
					Setback thermostat, URF	13	0	65
Subtotal						655	38873.6	82.6

Group Name	Towns	Lead Volunteer(s)	# of Residences (Single Family Homes & Apartments combined)	# of Volunteers	Measure Type	# Installed	KWH savings for 1 year**	MMBTU savings for 1 year
Lincoln Energy Committee	Lincoln	Mary Beth Stillwell	32	10	Faucet aerator/flow restrictor	27	675.1	3.8
					Insulate hot water tank	8	1621.6	0
					Insulate hot water pipes	61	1103.7	4.4
					Low flow showerhead	23	3547	13.5
					Compact fluorescent screw-base bulb	250	15992	0
					Setback thermostat, URF	12	0	60
Subtotal						381	22939.4	81.7

Group Name	Towns	Lead Volunteer(s)	# of Residences (Single Family Homes & Apartments combined)	# of Volunteers	Measure Type	# Installed	KWH savings for 1 year**	MMBTU savings for 1 year
Sustainable Energy Resource Group and Thetford Energy Committee	Thetford	Bob Walker	53	26	Faucet aerator/flow restrictor	20	354.9	3.8
					Insulate hot water tank	2	405.4	0
					Insulate hot water pipes	70	915.3	6.7
					Low flow showerhead	6	573	5.4
					Compact fluorescent screw-base bulb	335	21430.9	0
					Setback thermostat, URF	16	0	80
Subtotal						449	23679.5	95.9
Subtotal materials installed by volunteers			709	243		6449	363421	1448.1
Subtotal-materials installed by professional due to volunteer visit							15067.8	23
TOTAL SAVINGS							378489	1471