

Community Efforts to Promote Heating Efficiency: Lessons Learned from the Field

2013 Vermont Energy and Climate Action Conference
December 7, 2013

2011 Thetford HEAT Campaign



- Goal - Triple to 30 # of weatherization jobs every year in Thetford using Community Based Social Marketing techniques
- Identify effectiveness of various CBSM measures at stimulating action

Team Building, Branding & Messaging

- 50 community volunteers recruited and trained
- Easily identifiable logo
- Simple messaging: “Save Energy - Save Money - Increase Home Comfort”



Information Campaign

- Letter to every home in town
- Town listserv notices
- Town and school newsletters
- Emails to SERG, TEC and project sponsor lists
- Flyers/Posters
- Letters, News Article, Transaction Ad and Calendar Announcements in Valley News

Resource & Calculator Handouts

Thetford Home Weatherization Resources

Save Energy • Save Money • Increase Comfort

HOME PERFORMANCE WITH ENERGY STAR® PROGRAM

Efficiency Vermont provides up to \$2,500 per household to help Vermonters pay for home energy efficiency assessments and improvements completed by a participating Home Performance with ENERGY STAR contractor. For more information, call an Efficiency Vermont Customer Support Specialist at 888-921-5999 or visit www.energysaver.vt.gov/homeperformance. (see handout)



VERMONT'S FREE WEATHERIZATION ASSISTANCE PROGRAM

This program provides **FREE** energy assessments and improvements worth thousands of dollars to Vermonters with incomes at or below 60 percent of Vermont's median income based on household size, helping participants save fuel and money by improving the energy efficiency of their homes. Central Vermont Community Action Council provides this service in Orange County. For more information, including income eligibility guidelines, call (877) 919-2299 or (802) 476-2093 or visit <http://www.cvac.org/index.php/weatherization/about>.
Weatherization Qualifying Income Levels/Number of Household Residents for Orange County:

\$29,020/1	\$32,040/2	\$36,000/3	\$40,020/4	\$43,200/5	\$46,440/6	\$49,620/7	\$52,800/8
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DO-IT-YOURSELF PROGRAM & WEATHERIZATION SKILLSHOP

New this year, Efficiency Vermont provides up to \$2,500 per household to Vermonters who install their own home energy efficiency improvements when they hire a participating Home Performance with ENERGY STAR contractor to perform health, safety and efficiency tests, develop a work plan and provide guidance. Central Vermont Community Action Council will provide hands-on training in weatherizing your own home Saturday Nov. 12th from 9am to 4pm at the Thetford Center Community Center. Attendees will get hands-on training on fundamental techniques for improving your home's efficiency and learn about Efficiency Vermont's Do-It-Yourself program that provides financial incentives for weatherization owner installed improvements. \$50 registration fee includes training and lunch. For more information, check out <http://www.weatherizationskibshop.com/> or call 888-516-2151 or email info@weatherizationskibshop.com.



VOLUNTEER-ASSISTED WEATHERIZATION SERVICES

COVER Home Repair and Upper Valley Habitat for Humanity provide home weatherization measures installed by trained volunteers to income-qualifying homeowners. For more information contact COVER at 802-296-7241 or www.coverhomerepair.org/homerepair.html or Habitat for Humanity at 802-295-1854 or www.uppervalleyhabitat.org.



UPPER VALLEY WEATHERIZATION RESOURCES

Upper Valley Home Energy Action Team (UV HEAT) is a coalition of SERG, COVER, UV Habitat for Humanity and the Upper Valley Housing Coalition working to promote home weatherization in the region. We have developed a one-stop resource where UV residents can find information and links to all weatherization resources at www.UVHEAT.org.



Information compiled by Sustainable Energy Resource Group. For more information on SERG Residential Energy Assessments, Thetford HEAT or other programs contact 802-783-4126 • SERG@valley.net • www.SERG-info.org



Home Heating Efficiency Worksheet

Several issues affect how much energy you use to heat your home, including how leaky the building is, the amount of insulation it has, the efficiency of the heating system, and the actions you take to conserve energy (turning down thermostats, closing storm windows, etc. – see SERG's Energy Saving Tips).

Complete the steps below to easily determine the relative efficiency of your home by comparing the square footage of your home with how much energy you use to heat your home (converted to British Thermal Units – BTUs). For help use the free on-line calculator at www.uvheat.org/pages/calculator or contact Phoebe McCosker at 783-4186 or pmccosker@valley.net. Enter these numbers in your survey and follow instructions there on turning it in, or if the volunteer took your partially filled-out the survey, return fuel numbers and calculation results to Phoebe at PO Box 66, Thetford, VT 05074 or via email.

- Determine the amount of each type of fuel your home uses for heating in one year and enter it below. You can look at your old bills or call your fuel dealer for this information. Then multiply the amount of fuel by the accompanying number of BTU's per unit.

Fuel Type	Amount	BTUs/Fuel Type	Total BTUs per Fuel
Gallons of Oil	_____ X _____	139,200 BTUs/Gallon	_____ BTUs
Gallons of Propane	_____ X _____	91,600 BTUs/Gallon	_____ BTUs
Cords of Wood	_____ X _____	22,000,000 BTUs/cord	_____ BTUs
Tons of Wood Pellets	_____ X _____	16,000,000 BTUs/Ton	_____ BTUs
Gallons of Kerosene	_____ X _____	136,600 BTUs/Gallon	_____ BTUs
KWH of Electricity (for heat)	_____ X _____	3,412 BTUs/kWh	_____ BTUs
Tons of Coal	_____ X _____	24,000,000 BTUs/Ton	_____ BTUs

- Add the BTU's from the separate fuels to get total BTU usage. _____ BTUs

- Determine the square footage of livable space. Multiply the width times the depth of your home's livable floor space times the number of stories. Include rooms that are not being heated but are in the livable area. Basements do not usually count unless you are heating part of it as a living area. _____ Square Footage Livable Area

- Divide the total BTUs used by the square feet of your home's livable space. _____ BTUs / _____ Square Footage = _____ BTUs/sq. ft.

If a home uses less than 30,000 BTUs/square foot of heated space per year, you have a relatively efficient home. If you are using over 30,000 BTUs/sq. ft. you probably have numerous cost effective opportunities to improve your home's efficiency, such as sealing air leaks, adding insulation and upgrading the efficiency of your heating system. You can find resources to help you make home efficiency improvements on the other side of this worksheet or by contacting SERG.



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Sample Case Studies

The Toth Home: Saving Money, Staying Warm

"We were thrilled with the Home Performance insulation and air sealing work – the program was easy and worthwhile. We found some relatively inexpensive improvements that made a big difference. Last winter we used even less heating oil than we expected, and our wood stove now heats the space of our entire house – something we couldn't claim before the project. With oil prices so high, and our cash rebate from Efficiency Vermont, the return on our project investment will be just three winters."

– Brent Toth, Post Mills



Brent and Alison Toth's 1840's Cape in Post Mills, was drafty and hard to keep warm. They figured they had plenty of opportunities for savings, so they hired Building Energy, a participating Home Performance with ENERGY STAR® contractor in 2010 who air-sealed and insulated the attic, reducing the home's air leakage by 22%.

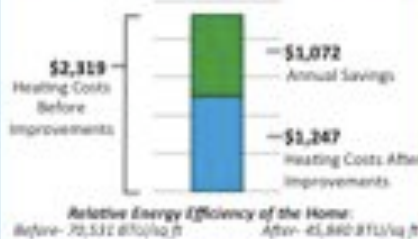
The total cost of the project was \$4,442. The Toths received \$1,379 in incentives from Efficiency Vermont and \$400 in other incentives. In addition the Toths saved about \$1,072 on fuel bills last year alone. The Toths paid for the work through a 6% line of credit from Wells River Savings Bank, so they are saving energy and saving money, while staying more comfortable.



Take advantage of up to \$2,500 in incentives when you complete energy efficiency improvements through a participating Home Performance with ENERGY STAR contractor.

To get started, call a Customer Support Specialist at 800-921-5990 or visit www.efficiencyvermont.com/homeperformance

Summary of Annual Heating Energy Cost and Savings



The Biddle Home: Saving Energy and Money On Your Own

Rick and Jody Biddle were concerned about the high energy costs, huge ice dams and window condensation in their Thetford Center home. As a skilled carpenter, Rick decided to make their home more energy efficient. So last year he participated in Efficiency Vermont's "Do-It-Yourself" (DIY) program that offers financial assistance to homeowners who hire a participating Home Performance with ENERGY STAR® contractor to test the home, develop a list of needed improvements and provide guidance as Rick completed the work.

Rick applied spray foam and cellulose insulation in the attic, air sealed the attic hatch and recessed lights, added foam board insulation on the basement walls, installed a high-efficiency condensing boiler and added a wood stove. He also replaced a few leaky windows and doors and even added solar hot water and electric panels. The Home Performance contractor tested out at the end and verified that Rick had reduced air leakage by 50%. Last year Rick and Jody's fuel use was cut by 40%.

Rick did much of the work by himself and contracted out some of the work. In all, the improvements (not including the solar systems & Rick's labor) cost about \$7,650 and are saving a little over a \$1,000 in fuel per year. So after the \$2,235 they received from Efficiency Vermont, they should recoup their investment in about 5 years, and they are living much more comfortably.



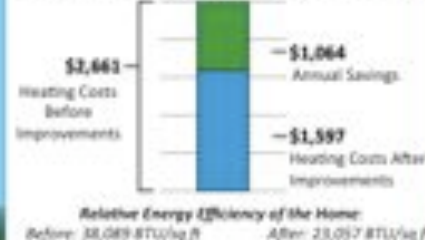
As for the DIY program, Rick says, "The initial energy audit was extremely helpful in getting me going in the right direction. By all means, go for it – enroll in this program and get a realistic appraisal of your capabilities."



Efficiency Vermont's DIY program offers homeowners up to \$2,500 for improvements they install under the guidance of a participating Home Performance with ENERGY STAR contractor.

For more information about the DIY program, go to www.efficiencyvermont.com/homeperformance or contact Efficiency Vermont at 800-921-5990.

Summary of Annual Heating Energy Costs and Savings



Thetford Case Studies compiled by Sustainable Energy Resource Group
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Door-to-Door Outreach



- Hand delivered information and resources to 650 homes
- Collected 240 home energy use surveys and 134 BTU/sf results
- Hand hold & follow up contacts

*See Detailed Door-to-Door Guide at
http://www.encyvermont.com/docs/for_partners/community/Organizing-a-Home-Energy-Door-To-Door-Campaign.pdf*

Thetford Home Energy Expo



THETFORD HOME ENERGY EXPO
SAVE ENERGY · SAVE MONEY · INCREASE COMFORT

9 AM TO 2 PM
SATURDAY, NOV. 5TH
THETFORD ACADEMY GYM

9am - 10am	registration, door prizes, & resource tables	FREE ENTRY OPEN TO ALL
10am - 11am	main presentations, skits, & drawing for free home energy assessment worth \$450	
11am - 2pm	workshops, demonstrations, & resource tables	

Free Door Prizes To The First 50 Attendees
Meet And Talk With Weatherization & Renewable Dealers
Attend A Button Up Home Energy-Saving Workshop
See Demonstrations Of Spray Foam, Blown Cellulose, Window/Door Weatherizing, & More
Learn From The Parish Players Why "Weatherization Is Sexy!"
Pedal Stationary Bikes That Generate Light And Blend Smoothies

FOR MORE INFORMATION CONTACT SERG AT 802-785-4126 OR SERG@VALLEY.NET



- 16 HP & RE vendors
- 150 Attendees
- Weatherization Skits
- Demonstrations
- Door Prizes including free home energy assessment

Home Energy Tour

- Homeowners and HP contractors explain and show improvements
- Demonstrate blower door and infrared
- Food and door prizes

Join Efficiency Vermont for a
Home Performance with ENERGY STAR® Open Home
Saturday, November 19 - 10am - 2pm
Organized by Thetford HEAT & Sustainable Energy Resource Group

Join us at Brent & Aimee Toth's home at
139 VT Route 244 in Post Mills

Fun Activities for Kids & Adults!

Refreshments!

See first-hand how an energy audit and energy improvements work!

You can also tour Rick & Jody Biddle's home at 1849 Gove Hill Rd. in Thetford Center!

Enter to win Raffle Prizes!

Come In! WE'RE OPEN

SERG **Thetford HEAT** **Efficiency Vermont** **BUILDING ENERGY**
www.efficiencyvermont.com

See detailed tips for organizing a Home Energy Tour at:
http://www.efficiencyvermont.com/docs/for_partners/community/Organizing-a-Home-Energy-Party.pdf

Weatherization Skillshop

- A day-long hands-on training in Do-It-Yourself home weatherization
- Produced by and available through Central Vermont Community Action Council



**WEATHERIZATION
SKILLSHOP**

www.weatherizationskillshop.com/

2011 Thetford Results

- 27 HP jobs completed
- Total cost of 18 jobs (local economic stimulation)
- \$160,668
- Average cost of job - \$8,926
- Average EVT incentive - \$1,600
- Projected average energy savings 26% = \$914/year
- Average 8 years to payback
- Average 12.5% ROI

Lessons Learned



- Identify Local Champions
 - Previous HP customers with good results
 - Happy with program and contractor
 - Well-known and respected in community
 - Good spokes people
 - Live in various town villages/neighborhoods

Develop Local Case Summaries

Stephen Branchflower & Coleen Fox, Houghton Hill Road, Thetford

Air sealed attic, ceiling, band joist, and basement/crawl space penetrations.

Insulated attic and basement/crawl space rim joists.

Air Leakage Reduced by - 36.3%

Projected Heat Energy Savings - 39.6%

Cost of Job - \$4,450.00

Incentives - \$1,427.50 from EVT

Net Cost to Homeowner - \$3,022.50

Projected Annual Dollar Savings - \$656.14

Years to Payback Through Savings - 4.6

Return on Investment - 21.73%

Properly air sealing and insulating the attic had the most tangible improvements to date in the overall comfort of our house. Now, since the work was done, after banking down the fire and shutting off the heat in the evening, the house is much more comfortable in the morning.

See Thetford Case Summaries/Template at

www.SERG-info.org

Ways HP Customers Can Help

- Share project results through case summaries/studies
- Speak at a Challenge Forum
- Host an Open Home Energy Tour
- Place lawn sign in front of their home
- Identify friends and neighbors to target for outreach

Local Challenge Forum

- Brief presentation on Challenge and Home Performance program by local Challenge organizer
- Testimonials by local successful HP customers
- Introduce local HP contractors
- Contractors, HP customers and Challenge organizers answer questions
- Distribute pledge cards and signups for energy saving kits
- Food and Door Prizes

Maintain Contact

- Follow up after initial contact & annually
- Offer guidance through process
- Notify of special programs
- Maintain database with BTU/sf, savings, costs, incentives, etc.



Thank you!



Sustainable Energy Resource Group

802-785-4126 • bwalker@serg-info.org • www.SERG-info.org