

VERMONT COMMUNITY CLIMATE CHANGE GRANT PROGRAM APPLICATION

Applications will be evaluated on the project's ability to successfully address the five review criteria; the qualifications of the project personnel; the clarity of the project plan; and a sound and reasonable budget. The project review criteria and the general terms and conditions of the grant are described in greater detail in the Climate Change Grant Program guidance. All applicants are responsible for reading the guidance and, if awarded a grant, complying with the general terms and conditions.

Please respond to all sections below and attach all documentation that you are relying on to support your grant application.

Due Dates:

February 2, 2009 (Funding Round One)

April 1, 2009 (Funding Round Two)

Contact and Mailing Address:

Don Einhorn
Department of Environmental Conservation
103 South Main Street, West Office Building
Waterbury, VT 05671
802-241-1093
anr.VTClimateChangeGrant@state.vt.us

A. APPLICANT INFORMATION AND PROJECT SUMMARY

- 1. Project Title:** Thetford Home Energy Assistance Team (**HEAT**) Training and Building Weatherization
- 2. Applicant Name:** Sustainable Energy Resource Group (**SERG**)
Additional Partners: Thetford Energy Committee (**TEC**), Thetford Center Community Association (**TCCA**)
- 3. Primary Applicant Address:** 432 Ulman Rd., Thetford Center, VT 05075
- 4. Authorized Contact:** Bob Walker, 802-785-4126, Robert.J.Walker@valley.net
- 5. Project Location:** Thetford Center Community Center (**TCCC**), Thetford Center, Vt.
- 6. Brief Project Description:** SERG will train Thetford Home Energy Assistance Team (HEAT) volunteers to complete simple weatherization and energy-saving measures and oversee their involvement in retrofits done on the Thetford Center Community Center. SERG will train town energy committees to replicate this project.

B. PROJECT WORK PLAN AND BUDGET

1. Describe the project work plan. Include in the work plan, your plan for project oversight and quality assurance. Identify the number of hours dedicated to each task and identify who will complete the tasks. Provide a project timeline. If applicable, identify all permitting requirements, include permitting in your project timeline, and indicate which permits have already been obtained.

SERG is the overall project organizer and will be responsible for project oversight and quality assurance. SERG is a certified Home Performance with ENERGY STAR contractor, trained by Efficiency Vermont. We have conducted a preliminary energy audit on the TCCC and made recommendations for improving the efficiency of the building. We will train and oversee HEAT volunteers in implementing numerous improvements on the building. We have secured estimates from professional contractors for the remaining work. We will oversee their work and we will conduct an energy audit, blower door and infrared scan on the building at the completion of the work and produce a written report of the results. We will then publicize the results of the project and encourage others to replicate it. Following is detailed work plan for this project.

A. Program Planning – SERG/30 hours, Jan. & Feb. 2009

- Meet with TEC to discuss/design program, determine which community building to retrofit
- Meet with TCCA to discuss weatherization retrofits
- Conduct initial energy audit, including blower door test on TCCC
- Define jobs for volunteers and contracted professionals
- Solicit estimates for contracted work

B. Recruit & Train HEAT Volunteers – SERG/30 hours, Feb. & Mar., 2009

- Letter to editor of Valley News – SERG
- Notice to town list serve – TEC
- Notice to 200 Thetford residents on SERG database – SERG
- Notice to local churches – TEC
- Volunteer training and education on dynamics of building heat loss, how to find and seal air leaks – SERG

C. HEAT Volunteer Weatherization Efforts under SERG Guidance – 15 SERG hours/90

- combined volunteer hours, Mar. & Apr., 2009
- Weatherstrip exterior door
- Install interior plastic storms on leaky windows
- Find and seal air leaks through plumbing and electrical fixtures and tops of interior walls with foam board, spray foam and caulk
- Build and install an insulated and weatherstripped basement exterior door
- Build and install an insulated and weatherstripped attic hatch
- Install attic blocking in preparation for cellulose
- Seal joints in hot air ducts with foil tape
- Insulate interior basement rim joists and top brick of foundation walls
- SERG will conduct a followup blower door test and IR scan.

D. Contracted Services with SERG and HEAT assistance – 5 hours SERG/20 combined HEAT hours, May- Aug, 2009

Electrician – move wire junction boxes and service entrance cable from meter to panel and place in conduit in order to allow for placement of cellulose insulation – contracted 8 hours

HVAC Contractor – move one supply duct in basement to allow for foam insulation on foundation wall – contracted 6 hours

Insulation Contractor – Install 2” of 2-part spray on irregular stone foundation walls; dense pack building walls with 4” cellulose; loose-fill 15” of cellulose in open attic – 57 contracted hours

E. Test Out & Publicize Results – 50 hours SERG, Sep. – Dec., 2009

Conduct final blower door test and IR scan on TCCC to verify attainment of reduced air infiltration goals and assure complete insulation when temperatures have dropped so that IR scan gives good reading. HEAT volunteers and other community members will be invited to this test out.

Produce final report with test out results.

Publicize results of project through Thetford list serve, Thetford town newsletter, SERG database list, and a letter to the Valley News. We will also invite the Valley News to do a story of the project as it progresses.

Develop a PowerPoint presentation about the project and lead a workshop to teach other town energy committees how to implement a similar project at the December, 2009 annual Vermont Energy and Climate Action Network (VECAN) conference.

Proposed Schedule

TASK	Jan – December 2009											
	J	F	M	A	M	J	J	A	S	O	N	D
A. Program Planning	X	X										
B. Recruit & Train HEAT Volunteers		X	X									
C. HEAT Volunteer Weatherization Efforts			X	X								
D. Contracted Services					X	X	X	X				
E. Test Out & Publicize Results									X	X	X	X

2. Provide the name, title and contact information for project implementation personnel.

Describe their role and qualifications. Identify all subcontractors that will be involved in this project. Provide the name, title and contact information for primary subcontractor personnel and describe their role and qualifications.

Bob Walker

Founder and Executive Director of Sustainable Energy Resource Group and Chair of the Thetford Energy Committee

432 Ulman Road,

Thetford Center, VT 05075

802-785-4126; serg@valley.net

Role: Project director, weatherization trainer/instructor

Qualifications: Bob has been a certified Home Performance with ENERGY STAR contractor for 4.5 years. Bob was contracted under a State of Vermont grant to Central Vermont Community Action

Council in the summer of 2008 to develop the educational curriculum for statewide Button Up Vermont Home Energy Savings workshops and he presented eight Button Up workshop. He is currently working with Clean Air – Cool Planet to adopt the Button Up workshop for New Hampshire. As program director for EarthRight Institute, Bob co-wrote and edited EarthRight’s “Guide to Town Energy Planning in Vermont,” 1992. Bob has been a community organizer and energy educator in Vermont for the past 20 years.

Subcontractors:

Alex Cherington, PO Box 276, Hartford, VT 05047, 802-295-1895. Certified Electrician – will move wire junction boxes and service entrance cable from meter to panel and place in conduit in order to allow for placement of cellulose insulation.

Roger Carpenter Services, Rt. 132, Thetford Center, VT 05075, 802-785-4619. HVAC contractor – will assist with moving one supply duct in basement to allow for insulation of foundation wall.

We have sought and received estimates for blown-in & dense pack cellulose and spray foam insulation from these three contractors. Estimates are available upon request. We will be choosing one of them for this job:

Michael Goetinck, Snowdog Construction, 649-3605, snowdog.vt@verizon.net in Norwich. Michael is a certified Home Performance with ENERGY STAR and general contractor.

Kendall Smith, Watersmith Home Performance, watersmith@live.com , 802-299-9428, www.watersmithsolutions.com. Kendall is trained and certified as a Home Performance with ENERGY STAR contractor.

Dayco Inc., 101 Commerce Park, Sharon, VT 05065, 802-295-5604. Dayco is an insulation company.

3. Complete the project budget table and provide a narrative description of the project budget.

The budget must include a minimum 10% cash match. Cash spent before the start of the contractual grant period cannot be used as a cash match. Cash matches of greater than 10% are encouraged. In-kind services are not eligible as a match.

a. Budget Table:

	Grant Share	Match Share	Total Cost
Personnel	\$8,000	\$1,150	\$9,150
Materials	\$4,000	\$1,150	\$5,150
Equipment			
Other			
Total Budget	\$12,000	\$2,300	\$14,300

b. Budget Narrative:

SERG will be the overall project director, overseer and will be paid for our services. Contracted professionals will assist and be paid for their services – all have offered discounted rates to participate in this project. The TCCA is contributing \$200 plus food for HEAT volunteer trainings and work days. The TEC is contributing some weatherization materials. We will also be seeking financial support from the Mascoma Savings Bank Foundation and/or the The Preservation Trust of Vermont. In addition, HEAT volunteers and TEC members will be contributing in-kind service to the completion of this project. Following are projected expenses, income and in-kind contributions for this project.

Following are projected itemized expenses for this project:

Project Expenses:	Labor	Materials	Total
SERG - 120 hours @ \$50/hour; travel and copy	\$6,000	\$150	\$6,150
Electrician Labor and Materials	\$200	\$200	\$400
HVAC Contractor Labor and Materials	\$250	\$100	\$350
Insulation Contractor Labor and Materials	\$2,700	\$4,300	\$7,000
Additional weatherization supplies and building materials =	\$0	\$400	\$400
Total Cost	\$9,150	\$5,150	\$14,300

Following are projected itemized income for this project:

Project Income:	Total
TEC Weatherization Materials (Secured)	\$150
TCCA General Support (Promised)	\$200
Vermont Community Climate Change Grant Program (Requested)	\$12,000
The Preservation Trust of Vermont and/or Mascoma Savings Bank Foundation (Pending)	\$1,950
Total Cost	\$14,300

Following are projected “in-kind” contributions for this project:

Project In-Kind Support:	Total
TEC Support – 20 hours@ \$10/hr.	\$200
HEAT Volunteers – 110 hours@ \$10/hour	\$1,100
TCCA is providing food and beverages for HEAT volunteers during training and work sessions	\$200
Total Cost	\$1,500

C. PROJECT REVIEW CRITERIA

Describe how your project addresses the following criteria. Note that the five criteria applied to an application are described only generally below. Please refer to the Climate Change Grant Program guidance for a more detailed discussion of these criteria.

1. Measurable reductions in energy consumption and/or greenhouse gas emissions (30 points).

The TCCC is an old one-room school house, built in 1900 which has no insulation in the walls or basement and only 3” of poorly installed cellulose in the attic. Since there is plumbing in the building,

it needs to be kept above freezing at all times. The TCCC is also very leaky. Current air leakage of the TCCC, as determined by a SERG energy audit and blower door test, is equal to 1.55 air changes/hour (ACH). Buildings need about .35 ACH of ventilation for healthy conditions. So the TCCC has 4 times more ventilation than is necessary.

The building currently uses about 700 gallons of heating oil per year, for a relatively small building (1320 square foot heated space) that is used about 4 times per week, with the temperature kept very low when it is not in use. SERG has provided a series of air sealing and insulation recommendations for improving the efficiency of the TCCC based on its energy audit. We anticipate that measures installed on the TCCC through this project will reduce the building's air leakage and energy use by at least 30%. In addition, we expect that many of the project participants will implement energy-saving measures in their own homes and the homes of neighbors, resulting in even greater savings.

The increased energy efficiency of the TCCC resulting from this project will be measured by pre and post energy audits, including blower door tests performed by SERG. In addition, pre and post energy use information for the TCCC will be gathered. HEAT volunteers will be involved in the audits and calculations so they can learn more about this process and see the effectiveness of their efforts. Results of these tests will be included in the project report and publicity at the end of the project. Complete fuel use information will not be available for comparison until the completion of the 2009/2010 heating season. We will provide that information then, but will also provide preliminary findings in terms of reduced air leakage and improved insulation of the building following completion of the work on the building.

2. Transferability (20 points).

This project should establish a model that could help town energy committees throughout the state educate community volunteers on building thermal efficiency and get them involved in weatherizing town buildings, their own homes and the homes of neighbors in need. The three basic components to successfully replicate this project exist in many communities throughout Vermont.

1. Almost all Vermont towns have old community centers or other public buildings that are in very poor condition, in terms of energy efficiency. These buildings provide excellent opportunities for energy savings and to serve as training and educational ground for the rest of the community.
2. Town Energy Committees or other concerned citizens who want to assist in making their community buildings, their own homes and the homes of their neighbors more energy efficient.
3. Trained and certified Home Performance with ENERGY STAR contractors who can train volunteers to assist in simple weatherization measures

SERG is perfectly situated to actively expand this program to other town energy committees throughout Vermont. SERG has been working with communities to form and consult with town energy committees since our founding in 2002. Four years ago, we were founding members of the Vermont Energy and Climate Action Network (VECAN), which is organizing and networking with over 65 energy committees throughout the state, a number that is constantly growing. VECAN hosts an annual statewide conference for town energy committees, at which we hold workshops to teach committees how to implement energy-saving projects in their communities. SERG will develop a PowerPoint presentation about this project and lead a workshop to teach other town energy committees how to implement a similar project at the December, 2009 annual VECAN conference.

3. Viability of project approach (30 points).

SERG and the TEC screened several of Thetford's public buildings for energy usage and current status of insulation before deciding to focus on the working to improve the TCCC. We selected the TCCC because it is one of the most frequently used community buildings in Thetford and because it had the greatest potential for energy-savings improvement. The TCCC is very poorly insulated and air sealed and must be kept from freezing at all times.

Community members want to learn how they can save energy in their own homes and they are willing to help make changes that will save energy for community buildings. SERG has designed a program that will teach HEAT volunteers weatherization skills while using a community building that needs weatherization as the training ground. HEAT volunteers will also be encouraged to implement similar measures in their own homes and in the homes of needy and elderly neighbors. Volunteers can practice their new skills and make a real difference in the community at the same time.

SERG and the TEC have already identified 30 Thetford residents who have expressed interest in participating on the HEAT. We expect that more volunteers will come forward as news of the program expands in town and residents learn from other HEAT members. We intentionally selected a community building for the training that is used frequently by many members of the community so a broad selection of citizens might take interest and get involved in the weatherization trainings and work.

SERG has many years of experience in community organizing and education and working with town energy committees. SERG director and manager of this project, Bob Walker, also has years of experience as a Home Performance with ENERGY STAR contractor and was primarily responsible for creation of the Button Up Home Energy Saving workshop curriculum, so has extensive knowledge on home weatherization measures. SERG is also well situated to expand information about this project to town energy committees throughout Vermont through the VECAN network and encourage others to replicate it. The TEC has been a successful and active town energy committee since 2002. The TCCC is one of the most well known and frequently used community buildings in Thetford. And it is in desperate need of weatherization services. This has all the components for a very successful project.

4. Cost-effectiveness (10 points).

Air sealing of buildings is about the most cost-effective energy-saving measure that can take place. The greatest loss of thermal energy in most buildings is from air leakage, and sealing those leaks is relatively easy and inexpensive. In 2007, Efficiency Vermont estimated that the average rate of return on completed Home Performance with ENERGY STAR projects was 16.7%. That includes air sealing and insulation, with the air sealing having the greater return on investment. By using community volunteers, we can implement many of the energy-saving measures needed on the building and greatly reduce the cost of the project.

Some of these measures may require the assistance of professional weatherization contractors. Volunteers will assist the contractors to help reduce their costs. We will inform HEAT volunteers how professionals can assist with this work and provide them with a list of certified contractors who can help them with additional work on their own homes. Still, the upfront cost of hiring professionals to install these measures can be an insurmountable hurdle for many homeowners. By training and using volunteers to install some of the simple weatherization measures in community buildings, their own

homes and the homes of those in need, we can lower this barrier and help many in the community achieve significant energy savings and reduced cost.

5. Public Education and Involvement (10 points).

Thirty community volunteers have already committed to being trained and to participate in the weatherization of the TCCC. In this process they will learn how to install weatherization measures in their own homes as well as homes of other needy families in Thetford.

The TCCC was chosen following a screening process in which the TEC and SERG gathered information on numerous community buildings to identify those in greatest need of assistance. The TCCC rose to the top because it is one of the most inefficient and it is one of the most frequently used community buildings in the town. It is used an average of 4 days a week for: meeting for three Girl Scouts troops, weekly yoga classes, monthly dinners for the Thetford Elderly Network, Thursday nights for community take out dinners, Easter through Labor Day by the United Church of Thetford for coffee hour, lots of private parties, Town of Thetford for meeting space, and TCCA dinners. We will inform these groups as well as the community at large throughout this project and at its completion.

SERG will produce a report on the results of this project that will be shared with the TEC, the Town Selectboard and the TCCA. We will also notify all those who use the building and the rest of the Thetford community about the results through the town list serve, a letter to the editor of the Valley News, an article in the town newsletter and a notice on the TEC's website and annual report. In addition, SERG will create PowerPoint and video presentations to assist other towns in educating their community members.

D. ATTACHMENTS

SERG's letter of determination of non-profit status from the IRS is enclosed.

E. APPLICANT REPRESENTATIONS AND SIGNATURE

The applicant(s), by signing and submitting this application, make(s) the following representations with the understanding that the Department of Environmental Conservation will rely on these representations for the purpose of evaluating this application. The applicant(s) understand(s) and acknowledge(s) that should any of these representations be untrue, the Department may rescind any award of assistance and, in the Department's sole discretion, pursue any other appropriate remedy or relief:

1. All information contained in this application, including attachments, is true and complete to the best of the applicant's knowledge and belief;
2. The applicant(s) has read and understands the grant background and guidance and grant terms and conditions and agrees to comply with them;
3. The primary applicant is a Vermont municipal entity or a non-profit organization, and if a non-profit, is in compliance with all requirements for maintaining its non-profit status; and

4. The applicant(s) will be ready to proceed with the project within 60 days of notification of the award.

NAME OF PRIMARY APPLICANT: Sustainable Energy Resource Group

NAME OF PARTNER: Thetford Energy Committee
Thetford Community Center Association

AUTHORIZED SIGNATURES

QuickTime™ and a decompressor are needed to see this picture.

PRIMARY APPLICANT: