TEEC
Temple Eco Energy Committee

FINAL REPORT

TO

PUBLIC UTILITIES COMMISSION

RGGI/GHGREF PROGRAM

From: Temple, NH
Date: June 30, 2011

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Temple Climate Protection and Energy Reduction Initiative

Type: The *Temple Climate Protection and Energy Reduction Initiative* is designed to reduce greenhouse gas emissions through implementation of the following components as described in the PUC *Greenhouse Gas Emissions Reduction Fund*

GHGERF #1 Energy audits – completed in 2007 and 2008

GHGERF #2 Weatherization of NH residential housing and commercial building stock

GHGERF #8 Programs to improve the electric and thermal energy efficiency of new and existing residences and commercial buildings

GHGERF #10 Education, outreach and information programs that promote energy efficiency, conservation, and demand response

GHGERF #12 Other: Pilot Recycling Program to expand recycling, which will conserve resources and reduce greenhouse gas emissions generated within NH

Summary of the Overall Work Completed

Temple has completed each of the tasks described in Exhibit A from the contract 100 %.

Temple's Climate Reduction Initiative has included a broader program than the 4 tasks that were delineated in Appendix A. This brief summary will include the full program, since all the components have contributed to our efforts to reduce greenhouse gas emissions and energy consumption locally.

1. The comprehensive energy efficiency retrofit for three of Temple's municipal buildings has been successfully completed. Its goals of GHG reductions and energy savings have been accomplished. The energy efficiency of Mansfield Library has been "vastly improved", in addition to extensive moisture reduction. The Municipal Building tested 88% tighter than at the beginning of the retrofit in its final blower door tests. And the combined Municipal Building/FD complex energy savings for heating the buildings and carbon reductions came in at 75-85%!

2. Temple's energy committee (TEEC) work with the Planning Board to adopt recommendations from the 2009 Energy Audit Report for the Master Plan and Zoning Ordinances has had several outstanding successes. Most importantly, we created an Energy Chapter for the Temple Master Plan which the Planning Board adopted into the Master Plan on May 5, 2010. We are continuing to work toward manifesting all of the recommendations which we adopted from the audit and have included in the Energy Chapter. We have developed a working relationship with the Planning Board that is continuing to move the board foreword. To date, they have worked with us through multiple joint meetings and joint subcommittee efforts that brought three zoning ordinance modifications to public hearings and were later voted in by Temple citizens. Two were related to creating a more sustainable

community through supporting home businesses, and one allows for more Workforce Housing.

The most time intensive work with the board was devoted to writing an Energy Chapter for the Master Plan and seeing it through to a public hearing and to its adoption into the MP by the Planning Board. The board is presently working on several additional zoning modifications, taken from recommendations from the energy audit and adopted into the Energy Chapter. Of particular importance is one which would permit more "mixed use" in Temple's Village District and increase the size of the district. If passed, this will greatly assist Temple in becoming a more sustainable community, reducing the need for travel outside of town.

3. The Carbon Challenge was a great success. It is described in its own section for this report. The bottom line is that almost 15 % of Temple households participated in the program…a surprisingly high percentage. We also won the 4-town regional competition which we had helped to create in order to inspire regional participation in the Carbon Challenge program. We will continue to actively encourage residents to use the CC website for participating in the Challenge and to find ways to reduce their household energy consumption.

4. The Recycling Program has succeeded beyond the goals stated in our original plans. It has now been fully adopted by the school's principal and made "their own". The school is not only recycling paper at its own Paper Retriever dumpster in the school parking lot and collects plastic, glass bottles and aluminum cans, which TEEC members pick up and recycle at the Wilton Recycling Center, but has integrated energy conservation and climate challenge concerns into their overall curriculum.

5. Tec's Free Weatherization Program for low-income residents is continuing to be a success, supported by a $2,000 grant from the Congregational Church of Temple. Through the services of a local

carpenter, it has expanded into providing more extensive work than our original efforts had included.

6. TEEC's eco-educational website, www.teec.info has reached over 6,000 visitors from all over NH and beyond. It is updated on a regular basis with environmental and climate news, the activities of TEEC's programs, plus rebate and tax credit information for the installation of renewables and energy efficiency upgrades.

7. Our Educational Outreach Program has included: numerous eco-educational events that TEEC has created or participated in; articles and case studies on our programs and retrofits; a Button Up NH weatherization workshop for residents; an educational Open House-Celebration for the completed retrofit; conferences TEEC has participated in with PowerPoint presentations about our GHG reduction programs; Harvest Festival booths and booths at regional events with materials galore on climate change solutions and displays on the benefits of starting an energy committee; individual assistance given to other energy committees and towns; and the expansive outreach provided on our website.

Task 1. Summary of the Work Completed for the Retrofit for Mansfield Library, the Fire Department and the Municipal Building

Task 1 from Exhibit A outlines the requirement to be fulfilled as Temple's agreement "to conduct a comprehensive energy efficiency retrofit for its Municipal Building/FD complex and Mansfield Library." The project was then to be "used by the Cool Monadnock Program as a model program for the regional community on the advantages of a comprehensive municipal

climate and energy program." This has been fully completed and is 100% in compliance with the contract agreement and goals.

Although the Cool Monadnock Program ended before the retrofit was completed, its obligation in this task--to use Temple's program as a model for the region--was informally transferred to Clean Air-Cool Planet, one of the three original entities in the Cool Monadnock Program. They have used Temple as a model in a number of ways, and we have responded 100% of the time when called to write an article or give a presentation.

This has taken the form of being presented as a model in the last initiative of the Cool Monadnock Program, the "Neighbors Helping Neighbors" Program in late 2009. Temple's energy conservation program was written up as a "case study" and presented as part of the materials provided to all the regional communities involved in the program. Since CM ended, TEEC has written numerous articles for the Local Energy Committee Newsletter (coordinated by CA-CP), largely focused on our events, programs and the progress of the municipal energy efficiency retrofit; given workshop PowerPoint presentations at both the 2010 and 2011 "Local Energy Solutions Conference", sponsored by CA-CP, using our program as a model for the region; written an article about our highly successful Carbon Challenge Program for the CC website, now available for regional viewing; and we responded to the request from CA-CP to showcase one of our home made videos about the 4- town Carbon Challenge competition on the LEC Newsletter, available to the NE region. TEEC will continue this outreach effort to the best of our ability.

When invited to testify at the Science, Technology and Energy Committee hearings for RGGI at the NH statehouse, we presented our testimony about the enormous benefits of the RGGI program for municipalities, using our grant funded program and municipal energy efficiency retrofit as an example. We shared the news of

our retrofit's success in reducing energy consumption, GHG emissions and the town's tax burden. We then sent the more detailed written report of our testimony to all the representatives on the committee, wrote articles for our regional newspapers and made phone calls and sent letters and emails to the state senators involved in RGGI decisions. We felt it was important for the legislators to learn how RGGI has helped towns save energy and lower their taxes. We will continue to use our program as an example for other towns throughout the region and beyond.

The Retrofit:

Once the governor made Temple's RGGI grant award official in October, 2009, we moved promptly to get the retrofitting project for our buildings off the ground. We had already taken the preliminary step of creating a Building Committee for the project with two members of our select board and two members from TEEC. We sent out our invitations to bid to three green construction companies and one that was highly recommended because of their outstanding previous work renovating Temple's historical Town Hall.

After a very troubling and abrupt end to our work with the construction company we had chosen (see "Changes and Challenges"), we were compelled to hire an architect to manage, direct and oversee the retrofit as well as to teach energy efficiency retrofitting techniques and concepts to the less "green" construction company crew leaders and subcontractors we hired as a replacement. Our Building Committee interviewed 5 architects with the necessary experience for leading our retrofit. We chose Tom Hartman, of Coldham and Hartman Architects, specialists in energy efficiency projects and building science. He became an excellent project director, overseer and teacher for the work crews. He also worked in a collegial way with Margaret Dillon, Temple's energy auditor, who attended many of the pre-construction meetings and walk-throughs; consulted by phone and emails

throughout the project; and provided the professional, objective final blower door tests for the retrofits.

Aside from some of the obstacles in its path, spelled out in the "Changes and Obstacles" section of this report, the process of the retrofit went very smoothly.

Weekly planning, scheduling and decision-making meetings eventually became bi-weekly. They usually included:
Tom Hartman, Architect
Steve Ingram, General Contractor
Wayne Daniels, Site Supervisor
John Kieley, Select Board Chair
Bev Edwards, TEEC Chair
Rob Wills, TEEC member, engineer (when available)
Mike Darnell, selectman (when available)
Betsy Perry, municipal assistant

Throughout the project, Tom Hartman was on top of things, Margaret Dillon was close at hand and Steve Ingram and site supervisor, Wayne Daniels, were top notch in their respective roles. John Kieley was clear, careful, on top of the finances and always ready with a helping hand. Bev Edwards took hundreds of photos and was usually at hand. Rob Wills provided additional expert advice on engineering and energy efficiency issues and monitored the data loggers we installed in the library crawl spaces. Mike Darnell attended occasional meetings, offered the use of his digital camera for the entire project and downloaded the photos to be used in educational displays and PowerPoint presentations about the process of the retrofit.

The subcontractors and vendors all did an excellent job executing their tasks. They all worked cooperatively as they intersected in time and space with the other crews and were efficient in their use of time.

Mr. Hartman spent a good amount of time teaching the site supervisor and crew leaders about energy efficiency retrofitting. He focused on aggressive air sealing, first and foremost. But he also taught them how to use a fog tester, how to install the new energy efficient external insulation, etc. After several weeks, the concerns about the crew being inexperienced in energy conservation retrofitting were replaced with confidence in Mr. Hartman's oversight and in how the workers had integrated and were applying all they had learned.

The story of the retrofit is in the Quarterly Reports and the other pages in this report. But what is often invisible and does not tend to stand out in on a list of what was accomplished was one of the most critical and time consuming components of the entire project…the air sealing—aggressive, thorough air sealing.

Every molecule of the old insulation was removed from the attics of both the library and the FD so that careful, complete, tedious, meticulous amounts of air sealing could be conducted…followed by fog testing to see where it was not complete, and then more air sealing. Sealing the envelope of the buildings depended on it—not just the 15" of new cellulose insulation (to to R 50) in the attics which followed it, and the 2 layers of 2 ¼" solid foam, Vycor-taped polyiso insulation wrapped around the entire FD and Municipal Building before the new siding was installed.

In fact, after the ground was dug up 3 ft. around the foundation of the buildings so that the Roxul drain board could be installed to surround the foundation, Tom Hartman sent one of his crew members to the site with a Todol foam gun, to air seal tiny holes in the cement foundation. Then the seams and edges of the foundation were all spray foamed sealed to seal the base of the "envelope". In a nutshell, aggressive air sealing was the heart of the matter--filling the holes where the heat could go out and the air could come in. It had everything to do with the success of the retrofit.

Summary of the Library Retrofit

1. **The extreme moisture and air infiltration problems stemming from the Library crawl spaces have been mitigated through multiple steps of sealing all foundation openings, installing Stego Wrap moisture proofing, and sealing with an air barrier spray foam-- eliminating heat losses, air infiltration and the slow deterioration of the building as well as the musty smell which prompted the librarians to raise the heat temp in the winter and lower the AC temp in the summer.**

2. **Extreme air infiltration and heat losses have also been corrected by eliminating the fireplace gas line and pilot light which allowed the flue and chimney to be sealed.**

3. **Cracked heating ducts were replaced & covered with 15" of cellulose insulation blown into the attic, following thorough air sealing, to seal the top of the library "envelope".**

4. **The inefficient old furnace was replaced with a high efficiency condensing propane burner.**

5. **Leaky windows and frames were replaced with R4 windows and new insulated and thoroughly air sealed frames.**

6. **A leaky bucket light fixture was replaced with LED track lighting and the old ventilation system replaced with an energy efficient Whisper Green ventilation system.**

7. **Aggressive air sealing underscored the rest of the work, bringing the library to where its energy efficiency has been "vastly improved".**

Summary of what was accomplished in the Municipal Building and Fire Department:

1. **The buildings were wrapped in 2 layers of 2 ¼" solid foam,**

Vycor-taped polyiso insulation. Roxul drain board was installed around the foundation and the seams and edges spray foam sealed to create a tight base for the buildings' "envelope".

2. **An R 40 Cool-vent insulated roof was installed to insulate the top of the "envelope" of the Municipal Building and FD meeting room.**

3. **A new high efficiency sealed combustion modulating, condensing propane boiler was installed along with its propane tank.**

4. **New R4 windows with properly insulated and air sealed frames were installed.**

5. **Thermal front doors for the Municipal Building and FD were installed to replace leaky doors and door frames. Weather stripping was applied and the new frames completely air sealed.**

6. **An efficient new ventilation system was installed for air quality.**

7. **3 energy efficient Daikon mini-split heat pump/AC units were installed for the Municipal Building offices for moisture mitigation and efficient cooling.**

8. **4 new Thermacore 591 insulated overhead Fire Department garage doors were installed and thoroughly weather-stripped for absolute energy efficiency.**

9. **15" of blown-in cellulose insulation was blown into the attic to seal the top of the "envelope" for the FD garage.**

10. **With the level of aggressive air sealing throughout the buildings --from the foundation on up, plus the deep insulation around the sides and at the top of the "envelopes", the Municipal Building tested 88% tighter than at the start of the retrofit. And the report from Tom Hartman's data analysis from the final blower door tests and additional field data projected the energy savings for heating the complex and carbon loading to be between 75-85%.**

This exceptionally successful retrofit for our buildings will be of immense benefit for Temple residents long into the future -- reducing GHG emissions, saving energy and lowering our tax burden.

It has been beneficial for our region and state, as well, by illustrating many of the steps that can be taken to reduce heat loss, air infiltration and moisture problems in buildings—homes, schools and businesses--and by giving hope to other towns that are conducting municipal energy inventories, getting energy audits of their buildings, preparing for retrofits and waiting for the financial support to carry them forward. RGGI is one of the necessary keys and best hopes for helping NH meet the challenges of climate change. TEEC will share that message as widely as possible, along with the example it is setting of how to carve a path toward sustainability, which we will continue to pursue.

Task 2. Work with the Planning Board to Adopt Recommendations from the Energy Audit of the Master Plan and Zoning Ordinances

TASK 2 - TEEC has completed the task 100% to "Work with the Planning Board to adopt recommendations from the Master Plan and Zoning Ordinances energy audit." This task did not include specific accomplishments, rather describes the process or activity of working with the board. We are still in that process. The steps we have taken and accomplishments we have made are described below.

Steps -2009-June, 2011:

1. TEEC **worked with Temple's Planning Board in a series of 6 joint meetings for over a year,** in the interest of finding ways to adopt recommendations from the Energy Audit of the Master Plan and Zoning Ordinances. After a number of challenging but eventually constructive meetings, we were able to **obtain the board's approval for TEEC to write**

a draft for an Energy Chapter for the Master Plan which the board would study and consider before deciding whether to take any next steps toward adopting it.

2. During this time, **we also obtained the board's approval** (by a 4 to 3 vote) **to create two joint TEEC/Planning Board subcommittees that were tasked with the job of exploring several recommendations from the energy audit that would initiate potential new zoning modifications.** One subcommittee assessed the amount of Work Force Housing in Temple and then began to write a new ordinance that would expand it-- to allow more affordable housing and rental units in town to help low-income people obtain housing in Temple. The other subcommittee considered modifications to ordinances related to Home Businesses and Commercial Uses, both designed to ease and facilitate the establishment of more home businesses and commercial uses in town, thereby, influencing a reduction in commuting and GHG emissions.

3. TEEC presented 4 drafts of an Energy Chapter to the Planning Board, over a span of ten months, each successive draft was revised based on the board's feedback and input. Each draft also satisfied our intentions to utilize and implement the recommendations from the 2008 Energy Audit. **Finally, we presented the board with a draft that the majority of members fully supported and agreed to bring forward to the town**.

Eventually, **they also prepared to bring the proposed zoning modifications and new ordinance from the subcommittees forward to the town.** So**, two Public Hearings were held in the spring.**

4. First, **the board held a Public Hearing for the zoning ordinances. TEEC members attended and some spoke in behalf of the proposed ordinances to underscore their value and potential benefits for our citizens and town. The ordinances were then placed on the ballot at Temple's March, 2010 Town Elections where all three were approved.**

5. On May 5, 2010, the Planning Board also **held a Public Hearing for the Energy Chapter for the Master Plan. TEEC created and presented a persuasive PowerPoint program for the hearing.** It presented clear statements and illustrations of the immense value that the Chapter would have for the well-being of our citizens and town. At the close of the hearing, **the board unanimously adopted the Chapter into the Master Plan.**

These ordinance upgrades and the Energy Chapter have helped to set a course for Temple that will guide the town toward a future which promises more energy efficiency for all sectors of the community; greater adaptability and sustainability in response to climate change; significant reductions in GHG emissions; the establishment of an expanded mixed use Village District; zoning upgrades to support renewable installations and more home businesses; more locally focused food production and availability; and accessability for more local community amenities and activities, while preserving our open spaces, woodlands and farms.

The Process

Careful negotiations were essential during the joint meetings TEEC held with the Planning Board. By the time the board approved our request to begin the processes of writing a draft for an Energy Chapter for the Master Plan, it had become clear that two of the challenges we faced were 1) a strong aversion by several board members for anything that appeared to be a "new rule" that people would be forced to "obey" and 2) an aversion to anything that was perceived to have been derived from "outside" influences. We had to clarify that, although most of our recommendations reflected those from the energy audit, they had been examined and considered through the filter of Temple's own situations and needs. Without reducing the impact of the recommendations, it became necessary to soften the wording of some to make it clear that they were not intended to be "orders" and not copied verbatim from "outside forces". Rather, they had grown out of reasonable considerations of ways to help our community deal with the conditions of NH's present climate challenges, such as the potential for more disastrous storms like the Ice Storm of 2008. In fact, we began to refer to that event just often enough for it to become a powerful image for the board members to hold in their minds throughout the remainder of our work with them. That storm had devastated Temple for weeks. It had put some sections of the town out of power for 14 days right at the winter holidays. It also left us with thousands of broken and destroyed trees that crashed over the roads, fell onto houses and cars, and created a threat for future forest fires with all the debris and dying trees in our woods, along with raising our electric rates to cover the cost of repairing the damage to the grid.

Although the wording was altered, the gist of the majority of recommendations for the Chapter grew out of the energy audit. But only a few quotations and references

from other outside sources were included, such as State Statutes and the NH Climate Action Plan.

The Planning Board also wanted the Energy Chapter to be easily readable by our citizens and not complicated by technical charts and graphs or sections of the Report from our Municipal Energy Inventory, etc. They wanted them to be taken out of the text and put into an Appendix, which we did.

Again, in the end, the **Energy Chapter incorporated the majority of the locally viable recommendations from the 2008 Energy Audit for the Master Plan and Zoning Ordinances** which had been produced by and presented to the Planning Board and TEEC by Steve Whitman of Jeffrey Taylor & Associates.

When the Planning Board decided that the last draft was acceptable and they were ready to hold a **Public Hearing for the Chapter, in the interest of honoring their desire to have everything focused locally, TEEC changed our previous plan to have the energy auditor come to speak** to the public for that event.

In stead, **TEEC created and presented an excellent home grown PowerPoint program.** It highlighted the Chapter's key recommendations, linking them to Temple values and their critical importance for the town's future. Following public commentary and feedback, the Planning Board unanimously adopted the Energy Chapter into the Master Plan that same night.

Where Are We Now?
The **new Work Force Housing ordinance allows more rental units and affordable housing to be built in town and is serving the needs of more low-income families. The modified ordinances for Business and Commercial Use facilitate the opportunity for more growth in home businesses, designed to reduce travel and GHG emissions**.

Since the passage of those ordinances, **the Planning Board has been working toward the creation of another ordinance modification. It stems from one of the strongest recommendations in the energy audit, referred to throughout the audit report. It also comes straight from the Energy Chapter for the Master Plan. It would allow Temple's Village District to expand** in size as well as in the scope of the amenities and services possible, becoming a **"mixed use" zone that would enable**

residents to meet more of their needs locally, reducing some of the pressure for travel to other towns--saving energy and reducing GHG emissions.

The Planning Board completed a survey in June, 2011, which they will be sending out to all residents in the fall to gather input regarding the Village District "mixed use" ordinance modification.

Meanwhile, TEEC is following the work of the Planning Board closely.

One of the new items for consideration is going to be the **issue of wind turbine installations in Temple**. There have been several recent approaches to the board from residents interested in installing turbines on their land. TEEC will encourage the use of some of the town's land for wind turbine installations, in general. But there are a number of questions and challenges which will need to be dealt with or overcome. A representative from the Pioneer Green Energy Co. from Austin, Texas, has approached TEEC with **questions about the feasibility of installing 2-4 wind turbines on Kidder Mountain in Temple.** One of Temple's land owners would like to lease some of their land to that company. But, along with the needed zoning ordinance modifications and other concerns expected to arise from citizens, they will need to provide a reliable, professional assessment of whether the turbines would interfere with the flight paths of raptors which ride the thermals over Pack Monadnock Mt. and fly south through Temple. **TEEC's chair wrote a letter to the Planning Board, in behalf of the Pioneer Green Energy Co. and interested land owner requesting a meeting with the board. The Planning Board responded by agreeing to set up an exploratory meeting to be held on July 13, 2011.**

The Planning Board is carrying forward the heart and intentions of the Energy Chapter on its own, at this point. It is independently **working on implementing more of the recommendations. It has created subcommittees tasked with working on the issues listed below.**

Planning Board Sub-Committees Implementation of Audit and Energy Chapter Recommendations:

Extend all portions of the MDCD (Mountain District) ordinance to the Rural/Agri zone

- Promote open space development
- Protect natural/historic resources
- Protect view shed

Sub-Committee B:

Promote Best Practices in Future developments

- Outdoor Lighting –Dark sky initiative
- Energy Efficiency construction (LEED Certification)
- Underground utilities
- Density Bonuses
- Pedestrian Trails/walkways
- Roadway aesthetics
- Landscaping using indigenous species and wildlife food sources
- Building orientation for energy reduction

Other Land Use Efforts Supported by TEEC

Through its participation, TEEC is supporting and will continue to support the development of several other local and regional initiatives which contribute to reductions in GHG emissions and regional land use improvements.

Locally, we have encouraged the growth of Temple's rapidly flourishing **Farmer's Market, which takes place every Sunday from 11-1 PM on the Village Green** or in Town Hall in inclement or cold weather from spring through early winter. It supports local and regional farmers, bakers and crafts people. It increases regional connections and mutual support. TEEC's support is manifested by our members' presence at the market whenever possible, buying locally grown food and hand-crafts, and by occasional booths to hand out flyers for our projects, sign up households for participation in the Energy Challenge and discuss energy saving steps visitors can take in their households, on the road and in their workplaces.

We also support the regional alternative transportation project of the CVTA, Contoocook Valley Transportation Authority, which organizes and arranges rides for those without transportation, ride sharing programs, car pooling, handi-capped rides, etc. for towns in our region. Temple is well represented in the program's activity and TEEC members are among the drivers for the program, which also **serves to help low-income families.**

We support the People's Service Exchange, as well. Organized in Antrim**,** it serves the 9 towns in the ConVal school district, including

Temple. To quote their brochure, it is a "framework for exchanging skills without using money": "One hour of service is equal to one hour of credit (one time dollar)". There are hundreds of services available and the hundreds of people involved in the program. It serves to reduce trips to our larger cities, by fulfilling more needs locally and regionally, while also **helping others who are cash limited, for one reason or another.**

These local and regional amenities--the Farmer's Market, CVTA and People's Service Exchange--contribute toward local and regional sustainability.

Combined with the recommendations in our Master Plan's Energy Chapter; the newly gained energy efficiency of our municipal buildings; the committed GHG reductions of 15% of our households who took the Energy Challenge and all those who will in the future; our Free Weatherization Program; our bi-annual home weatherization workshops; our town's recycling program and recycling work in our elementary school; the energy and climate educational program and web site; the ordinance upgrades; Farmer's Market; and the many local organic farms, dairy farm, chicken lamb and egg farms, our grass fed beef farm, our maple syrup producer, our weavers, knitters, and incredible bakers, doctors, auto mechanics, gas pump and small store; we are earnestly working our way toward becoming a more locally sustainable community and "transition town".

TEEC continues to educate Temple's citizens, boards, committees and municipal departments in the interest of greater clarity around the seriousness of climate change and the need for immediate, transformative action to counter its destructive process and respond to its challenges.

Recommendations from the Energy Chapter of the Master Plan which TEEC will be implementing to the best of our ability in the months and years to come.

Recommendations

"There is no simple answer to stabilizing energy issues and their environmental impacts. Through implementing a combination of available solutions, our community can play a direct role in reducing its energy use and in controlling its impact on the environment. Temple can encourage

different scales of renewable energy generation, improve energy efficiency in the built environment, and continue to promote smart growth principles that concentrate development in the village area where feasible. These efforts will improve the efficiency of the community, support a sustainable environment, and reduce fuel costs and the tax burden."

Below are suggested actions for Temple to implement as we work toward reducing greenhouse gas emissions and energy usage within our community.

Initiating, Acting Agent	Potential Actions
Planning Board	▪ Implement the viable policy recommendations from the 2008 energy audit of the Master Plan and Zoning Ordinances. Most notably, expanding the activities and uses available in the village center to encourage local activity and reduce travel.
Planning Board	▪ Adopt ordinances that encourage and improve energy efficient development including green building design and small wind, geothermal and solar energy systems.
Planning Board, TEEC, BOS	• Adopt energy conservation and efficiency measures for municipal buildings and operations. This could include creating local energy building requirements that exceed the State Energy Code.
BOS and TEEC	▪ Reduce barriers to, and promote the development and installation of appropriate thermal and electric renewable energy sources in all sectors
BOS and TEEC	

	of the community. • Implement a municipal buying strategy of Energy Star equipment and eco-friendly office products, as costs permit, and implement awareness campaigns to encourage the consumption of such equipment and products within the broader community.
Highway Department and TEEC	• Join with nearby towns to form eco-friendly purchasing contracts.
	• Implement the dimming and lowering of the arc of night lighting on public buildings where reasonable.
TEEC	• Evaluate ways to reduce fuel usage with Temple's vehicle fleet – analyzing routes, usage, and creating a strict anti-idling policy where feasible. • Create an Energy Savings Trust Fund to be used in the future for energy saving initiatives within a 5 year payback. Submit this Fund for majority vote at a Town Meeting.
TEEC	• Promote voluntary efforts to weatherize and insulate homes and businesses. • Encourage residents to reduce, reuse, recycle, compost, replace incandescent bulbs with CFLs,

	and use clotheslines and wooden drying racks to reduce the energy usage of clothes dryers. • Encourage ride-sharing, bike riding, walking and the use of mass transit where possible. And to that end, encourage municipal development of bike and walking paths where feasible.

Task 3. The Carbon Challenge

TASK 3. "Work with the NH Carbon Challenge in an aggressive outreach program into the residential community to reduce GHG emissions. TEEC will identify a neighboring community to challenge using the Carbon Challenge model and will set up a kiosk (or work station) at the Mansfield Library." This has been completed with 100% success.

After months of searching for a town to compete with in a Carbon Challenge, the town of Rindge came into view as a town that was also looking to enter a CC competition. We agreed to compete in December and quickly seemed to inspire Jaffrey and Bennington to jump in on what became the 4-town Monadnock region competition.

Due to the widely varying sizes of our towns, we agreed that the competition would be for which town could help the highest percentage of its residents take the Challenge. The towns' schedules varied, as well. So we agreed to have a rolling competition, 3 months for each town, beginning with Rindge in mid-January and all ending by June 30. For the winner, the prize became an ice cream social, supported by Stonyfield Farm.

TEEC obtained a reconditioned computer which was set up at a separate table in Mansfield Library and set to immediately bring up the Carbon Challenge website, www.myenergyplan.net. We created a small workstation where the computer could be used for residents to take the Challenge with the instructions for doing so attached. This computer was one of the ones used during the special workshop for the Challenge which we held in the library in March.

TEEC kicked-off what we called our Temple Energy Challenge on February 9, at a lively event in Town Hall. Along with introducing the Challenge and explaining how and why it would benefit each household, we had speakers on solar power and wood pellet power; educational displays; hand-outs on energy saving steps for drivers and households; wonderful refreshments and energy conserving door prizes for the 30 residents who attended. It was an excellent start for our Challenge.

Home made posters advertised the Challenge throughout the town. Flyers were sent home with our elementary school students and were also placed on every seat at Temple's Town Meeting. An announcement was made at Town Meeting to invite residents to come to a workshop at the library the following Saturday--for coffee cake and assistance to "take the Challenge". Emails were sent out every other week to a large email list of residents, encouraging them to cut their energy usage and participate in the competition--some with attachments of home-made videos about the Challenge.

Articles about the competition and the benefits of taking the Challenge went into local papers, Temple's March/April and May/June Newsletters, the Local Energy Committee Newsletters, Temple's town website, and TEEC's energy/climate/and environment website, www.teec.info.

The Challenge workshop at the library was productive and helpful for the mostly elderly folks who attended. They were concerned about taking the Challenge correctly at home or didn't feel computer savvy. It also brought to light the reality that a number of elderly widows on fixed incomes were spending far too much of their household budget on home heating bills. This lead to signing two of them up for weatherization from our Free Weatherization Program for low-income residents.

The next opportunity to offer direct help for the Challenge came at the pot luck luncheon for Temple's "Good Roads Day"—a traditional spring road clean-up event since 1914. TEEC had a long table with a 4 ft x 4 ft tri-fold display for the Energy Challenge with a computer available and a committee member there to help residents participate and to make an announcement about the results of the competition to that point, with Temple in the lead.

In the spirit of cooperation, TEEC joined Jaffrey and Rindge at the Millipore Corporation's Earth Day Fair, handing out information about the Carbon Challenge and signing up participants for many towns in the region.

On June 23, from 11- 5 PM, TEEC and the other towns in our competition came together, again, to bring the Carbon Challenge to a Health and Energy Fair at NH Ball Bearing Company in Peterborough. There we spoke to roughly 500 of their 600 empoyees about taking the Challenge, saving energy and saving money. It was an outstanding fair and an excellent opportunity to share the Carbon Challenge website and information. TEEC also filled a second table with a display and hand-out material on climate change in NH and the northeast.

All in all, the Energy Challenge competition was a great success. It brought a lot of attention to the benefits of taking even one new step to reduce household energy usage. Temple won the competition and will be celebrating with an ice cream social on September 24. We will be simultaneously honoring the 350.org campaign that day, bringing awareness to the critical need to lower carbon in the atmosphere and pointing out how taking even one new step in the Carbon Challenge helps households participate in that effort.

TEEC is pleased to have helped 76 households take the Challenge--almost 15 % of our households. Our households have committed to reduce 255,092 lbs. of CO2 and have pledged to take steps that will lead to a town-wide saving of $35,484 in reduced energy costs. We are 6th in registered participants in New England, according to the Carbon Challenge program.

Task 4. Recycling Program at Temple Elementary School

TASK 4. **"**Start a pilot recycling program at the Temple Elementary School that will double as an educational tool by engaging the students in hands-on projects involving math and science, as well as recycling paper, bottles and cans." This has been accomplished 100%.

Implementing the Recycling Program at the Temple Elementary School has been an especially enjoyable project. The students have been enthusiastic and intently interested in every subject we have raised with them. Whether we are discussing the environment, how eco-systems work, how recycled paper transforms into newspapers, or all the ways they can help take care of the earth—at school, in town, at home, at the beach--they always end up owning the issue. They make it their own…usually with passion.

This program has also become more of a success than we had imagined it might be, by having taken a surprising turn. It has evolved from our original plan, as described in the contract with the PUC. It has grown from a TEEC-run school recycling program, functioning as an educational tool for integrating math and science into eco-related hands-on projects, into where it is now a self-propelled, school-run Recycling Program integrating energy conservation and earth care consciousness into many more components of their curriculum and hands-on projects than we had even envisioned.

After a year of TEEC's work with the principal, teachers and students, the staff has picked up the ball and is running with it on their own. We now come in sporadically to discuss projects or subjects that we would like to introduce to the students. And TEEC's chair, known to the kids in the lower grades as, "the Recycle Lady", picks up the school's recyclable bottles and cans that the students have collected and recycles them on a bi-weekly basis. So we are still providing support and encouragement for their efforts and will continue to bring new ideas into the classroom when appropriate. But the recycling of paper, plastic, glass and aluminum cans is just a normal part of life at TES now. And the teachers are integrating energy conservation and an earth-care program into their classroom work on their own, in an organic way on an ongoing basis. They've claimed it as an integral part of TES life…as it should be. Quite a success.

The Program's History

We received the OK to move forward on this initiative from the school's principal back in the spring of 2009. When we received the RGGI grant, in the fall of that year, we arranged a short series of meetings with the principal and several staff members to coordinate the start of the program and establish our mutual intentions and goals. After waiting for the school's scheduling log jam to open up, in March, 2010, we finally had lift off with the kids.

TEEC's secretary created a stimulating, entertaining and educational interactive PowerPoint presentation which we brought into each classroom. We were given 45 minutes per class, from kindergarten through 4th grade, to talk about recycling—what it is and how it helps the earth. We encouraged the students to talk about their feelings about helping the earth and we let them know that we would be helping them start recycling right there in their classrooms at school. With the help of the energizing and interesting PowerPoint, the students opened up. In class after class, they all seemed to have their hands up at once…bursting with something they just had to say. Our challenge became how to gracefully bring their discussions to a close so that we could go on to the next class.

It should be mentioned that, after unsuccessfully spending considerable time trying to find a good video or visual aide to bring for that first day that would help ignite some interest and enthusiasm as well as be appropriate for all the grades, we gave up, and our secretary made her own. And what a rousing response it created with each age group that day, helped by her narration of it and interaction with the students. It sparked classroom discussions that were lively, positive and constructive.

With the help of the grant funds, we provided each of the six classrooms their own brightly colored and unique paper recycling bin and their own container for bottles and cans. We also provided a larger recycling bin for those bottles and cans to be put into when the classroom containers become full. It stays in the gym and is emptied every other week when TEEC comes to pick up the recyclables and take them to the Wilton Recycling Center.

The students from the combined third and fourth grade classroom have established the routine of taking turns, once a week, gathering all the paper from each classroom and carrying it in containers pulled on a wagon to the

Paper Retriever dumpsters in the school parking lot, where they put it all in the dumpsters, accompanied by a teacher. The school gets paid a small amount of money for the weight of the paper collected by the Paper Retriever Company. So each year, the students have made posters which we place throughout the town, asking residents to recycle their paper at the school's paper dumpster. TEEC also writes an entry for every issue of Temple's bi-monthly Newsletter, asking residents to support the students by recycling their paper at the school's paper collection dumpster. Over all, the Recycling Program is working smoothly and effectively.

One of the ways that TEEC expanded the students' horizons in 2010/11 and used the Recycling Program as a vehicle for inspiring the kids to learn some new skills, was to offer the students a page of their own on our educational website, the "Kids' Corner". When the kids learned that TEEC's website is viewed by thousands of people from all over the world—from Paris to Hong Kong, from Russia to Australia, and from other towns in NH to San Francisco and all over the USA--the kids were excited to imagine sharing what they might enter on their page with other kids around the world.

Their principal picked up on this opportunity and realized that this offer could motivate her students to stretch their skill level with technology. They soon were all learning some new practical and invaluable skills they will take with them to middle and upper school, college and beyond. Using various software programs such as Microsoft Poster Maker, Microsoft Office including PowerPoint, and integrating other multimedia devices such as digital recorders, flip videos, and cameras, the students prepared educational materials to share on their page of TEEC's website. They also presented these ideas in front of the classroom while two TEC members were present, which helped them practice the subtleties of public speaking and learning how to get their points across to a wide audience.

The students also gained practice in how to organize a project. TEEC members came in to share the Temple Energy Challenge program with the kids, where we were helping grown ups take new steps to save energy at home. Then we invited the class to discuss how they could participate. They decided that they could pay more attention to what steps they could take to save energy at school. They discussed all the steps they could think of and then made a list of them. Next they decided to have photos taken with them acting out those steps to put on the website. Their teacher helped sort out who could act out which step, and TEEC began to take their pictures. Later,

their teacher took a further step and taught the students how to use her flip cam themselves. So the kids took turns taking each other's pictures in various acts of saving energy at school. The students then worked with online programs that helped them make a series of posters which were put up on display in the front hall of the school, teaching the students in the other grades ways to save energy and resources by: "using both sides of the paper", "turning off lights when they leave a room," "turning off computers when not in use", "unplugging the power cord when done with your work", "recycling paper when both sides have been used", etc. Their posters were also entered on the kid's page of TEEC's website, as promised.

From that point on, the principal (who is also the combined 3rd/4th grade teacher) took the reigns. She has continued to integrate energy conservation and environmental education into her classroom activities and the students' daily lives at school. This is the best possible outgrowth of our program. As the principal of the school, she is modeling this for her staff, setting the school's course and policies, and will be passing this training on to all of her future students.

As mentioned before, TEEC will continue to come in for special programs and visits, encourage more use of the kids' page on our website, as well as continue to pick up the recyclable bottles and cans and take them to the recycling center every other week during the school year as long as the school still needs that support. We'll keep track of how things are going at TES and continue to invite ongoing attention to energy and climate education. Through our program there, we have learned how much the students love the earth and how strongly they feel about helping to keep it healthy and safe.

Benefits for Low-Income Residents

I. The Free Home Weatherization Program provided by Temple's Energy Committee with financial support from the Congregational Church of Temple, provided direct benefits to 18 residents who qualified for fuel assistance and two low-income residents who had not applied for fuel assistance.

The program ran throughout the seasons and through the duration of the grant funding. In the beginning, members of the Energy Committee used kits of materials we had obtained from the Stay Warm NH Program to conduct simple weatherization for 8 homes.

This involved installing low-flow sink aerators and bathroom shower heads, weather stripping around doors, water savers for toilets, CFLs, caulking around windows, plastic insulation for windows, refrigerator temperature gauges, electric outlet insulation, heating pipe insulation, and CO2 detectors.

In the late winter of 2010, we hired a local carpenter to expand the level of weatherization we could offer residents. This included more extensive weather stripping of all exterior doors, more thorough caulking around old window frames and doing repairs for problems of heat loss and air infiltration (sometimes extreme) in twelve homes—replacing broken windows and window latches, adjusting doors which no longer fit properly in their frames, repairing and filling holes in exterior doors and walls as well as well as holes in floors where cold air would come up from a crawl space or cold basement below, etc.

Occasionally, the costs per home were over $100, plus supplies. The church's Benevolent Committee paid for the majority of the cost for all the supplies and the carpenter's work through a grant to our committee of $2,000 for this program. The church held the money and TEEC submitted requests for payments to the church treasurer, which were then paid directly to the carpenter. The church has a charge account with a local lumber yard/ hardware store which was used for supplies, after the Stay Warm NH kits were gone.

As a result of giving hands-on help to some of our residents, particularly the elderly, as we were assisting folks to take the Carbon Challenge, we realized that there were many residents who are embarrassed to apply for fuel assistance or simply don't want anyone in town to think they are low-income, but who are spending extreme amounts of their fixed incomes just to heat their homes.

This is especially true for a number of widows who are living in old, drafty farm houses. For this reason, **we altered our screening process for qualifying for free weatherization. We put up new signs, indicating that residents no longer needed to qualify for fuel assistance to receive free**

home weatherization. TEEC made the decision that we would offer free home weatherization on a first come first serve basis via a common sense screening process for a limited period of time.

This provided the opportunity for **two more residents to feel comfortable requesting and receiving free weatherization** for their homes, which were found to be in dire need of help.

We are **looking forward to continuing this program with the help of an additional grant which we will be applying for this coming fall to the church's "Stewardship Committee", which is beginning to address the issue of stewardship for the earth**.

It has been a successful program in every way. It has helped all of these homes to save energy, reduce their CO2 footprint, and save money. It has provided work for an out-of-work carpenter with two young children. And it has provided support for the work of our Energy Committee within the church community, one of the largest communities in town.

We put up fresh posters around town each year to remind low-income residents to apply for help, which is beneficial in two ways. It brings attention to the importance of home weatherization and lowering home energy use and it reminds residents that our committee is here to be a helping hand.

2. The significantly reduced fuel usage for powering Temple's Fire Department, Municipal Building and library, as a result of their successful energy efficiency retrofits, will lower the town's tax burden. This will have a beneficial affect for low-income home owners and should "trickle down" a benefit for renters, as well.

3. Temple's Free Button-Up NH workshop in November, 2010, offered assistance to low-income residents, by providing in-depth home weatherization information for all residents. There were low-income residents in attendance at the workshop, some who asked in depth questions and received thorough answers for which they expressed gratitude. There were tables filled with hand-outs on energy-saving tips and free energy-saving items donated by PSNH, such as energy efficient nite lights and non-electric bottle opening devices.

4. Temple's Carbon Challenge program, the "Temple Energy Challenge", provides opportunities for all residents to take steps that will help them to save household energy and money--in their homes, through improved driving patterns and life style changes. Many steps are cost free.

The kick-off event for the Challenge, itself, was beneficial for low-income residents. The event included free door prizes of energy saving items, such as several aluminum water bottles (to discourage buying bottled water), sets of clothes lines & clothes pins to encourage hanging out laundry rather than using a dryer, three beautiful hand-made door "snakes" to seal the bottom of doors that might allow heat losses and air infiltration, and a programmable thermostat donated by PSNH. Copies of the steps involved in taking the Energy Challenge were given to all who attended. We also gave a verbal presentation on how to take the Challenge, information about how much money folks in NE were saving in their first year after taking it, and we read aloud many of the no-cost or low cost steps residents can take to cut down on their energy usage and costs.

Taking the Challenge was aggressively promoted over the span of 3 months in town, with opportunities provided for all residents to receive help in the process—at a free CC workshop held at the library one Saturday from 11- 1 PM, at the free pot luck luncheon at Friendship Hall for Temple's Good Roads Day (volunteer spring road clean up day), and by calling the Energy Committee chair to take the Challenge by phone, as advertized on posters and flyers .

5. The Open House - Celebration of the Completed Retrofit was also an opportunity for low-income residents to learn more about saving energy and money at home. Not only was there time for asking questions, there were displays focused on energy efficiency for buildings, and hand-outs with energy saving tips for households.

6. The new zoning ordinances TEEC worked with the Planning Board to manifest are all beneficial to low-income individuals and families:

A) The Work Force Housing ordinance offers low-income workers' families more opportunities to find housing in Temple.

B) The ordinance to facilitate Home Businesses helps low-income individuals and households save on commuting costs.

C) The ordinance to ease some restrictions on local Commercial Enterprises also serves to help low-income residents save on commuting costs by encouraging them to engage in local businesses when possible.

7. The adoption of the Energy Chapter into Temple's Master Plan helps low-income families in various ways—through many of the programs listed above, which were mentioned directly or indirectly in the Recommendations from the Energy Chapter, as well as recommendations not yet brought to fruition. Included in the list of recommendations that are waiting to be made manifest would be the construction of bike paths and walking paths, and the creation of a "mixed use" Village District, which is presently in the process of being brought to fruition by the Planning Board, as a result of its inclusion in the Energy Chapter.

8. TEEC's and Temple's support for and active participation in the CVTC regional transportation program helps low-income people through organizing ride-sharing opportunities, car pooling and volunteer rides for people in need of transportation.

9. TEEC's support for The People's Exchange helps low-income people in Temple and our region through providing services of all kinds without the need for payment in the form of money.

10. The 2010 Annual Harvest Festival booth provided tables filled with free material on saving energy and cutting fuel costs. It was visited by hundreds of people from all economic levels of the region's community.

Changes to the Original Plans and Obstacles Encountered

Following the addition of Tom Hartman as the architect for the municipal retrofit, all of the changes made to the original plans and contract were evaluated and decided under his guidance and approved by our 4- member Temple Building Committee in conjunction with appropriate entities, such as the Library Trustees and Historic District Commission. The majority of changes grew out of opportunities that presented themselves following decisions made along the way that freed up some of the funds. In some cases, they were made possible simply due to the frugal management of the

grant funds or by tapping into the "contingency fund" built into the budget. Several changes arose prior to the start of work, after reassessments of the scope/plans by Tom Hartman and Margaret Dillon, our energy auditor. But some came the hard way--from obstacles that popped up or problems that could never have been foreseen. With most of the hard ones, it was a lemons-to-lemonade approach that managed to turn the corner on events that seemed disastrous, but often evolved into pluses.

1. The first and hardest came 2 months into our program—a dramatic turn of events and very serious obstacle to overcome. It involved the most important component of our program, the retrofit.

In the interest of not wasting any time getting started, we had already created our Building Committee--two selectmen and two TEEC members, searched for construction companies with good reputations for energy efficiency work, written some of the necessary contracts and had our invitations to bid ready to go, as we waited for the governor to sign the grant award. When the award became official, we sent out our invitations. Then we interviewed the two companies that stated that they could accept our invitation (meet its requirements, such as being bonded for the full cost of the retrofit). We selected the one with a reputation for being one of the top green construction companies in NH. We worked together with them on all the pre-construction preparations. We gave them the 200 + pages of Margaret Dillon's energy audit reports for the buildings to study, filled with thermographic photos of every nook and cranny. There were many site visits and decision making meetings, several which included Ms. Dillon, our energy consultant. There were site visits for subcontractors; measurements and calculations of all kinds. We were so excited to be finally getting off the ground with our retrofit and reassured that the physical work would begin before the snow would come in December.

Then, out of nowhere, it was over. Contract negotiations fell apart. Our Select Board chair, the retrofit's business manager, had been engaged in a series of contract meetings with the project's general contractor. But, finally, he came back to us with the devastating news that the construction company had just acknowledged that it was not fully bonded for the project. This was in spite of the fact that full bonding had been stated as a requirement in our Invitation to Bid. So we were shocked and truly thrown for a loop. Two other green companies who were hoping to get the job had declined our invitation, because they would not be able to obtain a bond for such a large project. Since

it is a state mandated requirement for municipalities to protect their tax payers from having to pick up the pieces if anything were to go awry during construction, our town lawyers and selectmen would not agree to any compromise for getting around it.

So we had to put our tremendous disappointment under wraps and get on with deciding what to do. All that time and energy had been wasted along with thousands of dollars from the grant funds for their initial work. And the retrofit was in a serious pickle. The only other company we had invited to bid that was able to accept our invitation (was fully bonded) was not experienced enough in energy efficiency work to manage the retrofit. We had invited them out of a sense of courtesy because of their outstanding work renovating our Town Hall two years prior. We had fully expected to hire a qualified green construction company.

But now, TEEC had to go before the Select Board to make it crystal clear that we could not proceed to hire them without providing a significant amount of training for their crews. They would need to learn how to do the kind of work we needed to have done…and not from books or the internet. We needed to find a strong but easy-to-work-with leader to train, guide and oversee the construction company workers and subcontractors, as well as to organize the scope and oversee the whole project. The next obstacle became how challenging it was to help all the Select Board members understand that—to grasp that our project was very different from an ordinary renovation. It would not be wise to simply move ahead or, as was said, "…not be so worried. We're not trying to build the Taj Mahal."

TEEC and the Select Board chair persisted and made it clear that it was definitely not that simple. We asked Ms. Dillon if she could fill the bill. But she felt that she did not want to take responsibility for overseeing the entire construction of the retrofit. She would, however, be available and involved throughout the project for testing, questions, emails, phone calls and consultations. And she was. In the end, the board gave its OK for us to try to find an architect to lead the project and teach the crews. So the hunt was on. We gathered the names of 5 architects to interview who all had years of experience with energy efficiency retrofitting and would be able to guide the project with competence and dedication. After a full day of lengthy interviews and discussions to follow, we chose Tom Hartman from Coldham and Hartman Architects, later learning that "Coldham wrote the book on building science."

From there things settled right down. Mr. Hartman was able to take the leadership role immediately. He understood the situation we were in and became an excellent and likeable teacher for the crews. Wisely, he spent several meetings with the site supervisor and exterior insulation crew leader focused on teaching them why aggressive, thorough air sealing would be one of the most important jobs they would have and how to do it successfully. They also had to learn how to properly install the new kinds of insulation that were going to be used, why and how to use a fog tester, etc. Most importantly, he taught them that the goal of this project was different from what they were used to. Within a couple of weeks, they "got it." They became believers. And that made all the difference.

So this major obstacle--the loss of months of work and the complication it created for the project's finances by forcing us to hire an architect/teacher--ultimately turned into a plus. It certainly deviated from our contract and plans. But, unexpectedly, our project became a 6 month intensive, top notch, on-the-job training program in energy efficiency retrofitting for Ingram Construction Co. and their subcontractors. They are now more equipped to become involved in other retrofitting contracts after having had this invaluable training from Tom Hartman. They now have a totally successful experience in conducting an energy efficiency retrofitting of three municipal buildings under their belt. It has contributed to the greatly needed expertise available for this type of retrofitting in the construction industry in NH.

2. There were a number of other changes or deviations from the plans for the retrofit. Prior to the start of work, we cancelled the plan to insulate the interior walls of the library when the architect (as well as the company we had started to work with in the beginning) determined that it could not be guaranteed to be as successful as our original scope had predicted. They also pointed out that it would be tremendously disruptive to dismantle all the built-in bookshelves filled with books and find places to store it all, as well as problematic for a number of more technical reasons, and not at all cost effective.

3. The gas insert with a glass front for the library fireplace was also cancelled. With the Library Trustees' approval, the gas line with its pilot light that had cost $300 a year to keep lit and necessitated keeping the flue open at all times, was eliminated. Since it was only used "once a year or so" and had been such an enormous source of air infiltration and heat loss for the building, the FP flue was then sealed as was the chimney, at the top and bottom. That lovely old fireplace will still be beautiful, but no longer be the source of energy wastefulness that it had become.

4. Both of these cancelled plans lead to it being affordable to replace the old, inefficient furnace in the library with a new energy efficient sealed combustion propane furnace and to replace the cracked heating ducts with new ones. That was an easy and extremely beneficial decision to make, certainly raising the level of energy efficiency for the library.

5. The library's bucket lights were found to be causing heat losses and air infiltration in the library, too. So they were removed, the ceiling was patched and painted, and a set of LED track lights was installed in their place.

6. In January, in response to the level of tightness the Municipal Building had attained, Tom Hartman and Margaret Dillon strongly recommended that we install three mini-split heat pump wall AC units to replace the old, inefficient window AC units.
They will keep more of the moisture out of the building in the summer months, not damage the new window installations (as the old window AC units would have done as they were put in and taken out manually), and be much more energy efficient than our old window units. Again, thanks to the frugal grant management, they were able to be added to the project.

7. Then, there was a very significant discovery made in the library, last fall. A second crawl space was found to exist under the old historical section of the building. This was a big obstacle to the flow and schedule of the work and would add to costs for the project. But, it lead to an important and extremely valuable change in our plans. It definitely created a lot of extra work and took a lot of time to seal off and moisture proof. But the retrofit would have been sorely missing the boat if it had not been found and its problems addressed. In addition, and most surprising, was the 5 ft by 3 ft hole found in its foundation, hidden from sight by the old stone front steps. What a major access for air infiltration and point of heat loss that was! It had to be filled in with a cement block to fit the exact size and then thoroughly air sealed. Even though we still had enough Stego Wrap left over from the first crawl space to moisture proof the dirt floor and walls, which helped with the costs, the considerable work on moisture mitigation and air infiltration created a lot more hours of work than had been planned. This was one case where we appreciated the "contingency fund" that had been built into the project for just such surprises.

Although the discovery of this second crawl space was experienced as an obstacle, at first, it was a significant boon to the retrofit. It would have been a serious blunder to have done all the work in the library, assuming we had solved the moisture problems, heat losses and air infiltration, only to find out that moisture was still coming up to the working space and the heat losses and air infiltration had not been solved! It was a total gift that our architect had stomped on the floor of that section of the building and thought it sounded as if there was space underneath. It lead to some of the most important retrofitting for the library!

8. Another change for the library plans was the addition of data loggers that have been placed in both crawl spaces and are being regularly monitored and analyzed by Rob Wills, engineer, and member of TEEC and the Building Committee.

9. Also added to the plans, were two openings cut into the floor of the library, one in each section with a crawl space under it, with well sealed hatches that can be pulled open through which workers can enter the spaces. These were made so that workers can check the data from the data loggers from inside the building, rather than from openings to the outside. This seals the "envelope" of the building from air infiltration at the level of the foundation and will add immensely to the energy efficiency of the library.

10. We also added "cat walks" to the plans for the attics of both the library and the Fire Department. They were installed after all the air sealing was completed in the attics and after the electrical work was done for the installation of the new heating system and track lights for the library. After the "cat walks" were installed, 15" of cellulose insulation was blown into each attic--one huge truck full for the library and three trucks full for the FD. The cat walks will allow a future electrician or worker to be able walk up in the attics without disturbing the insulation. They are excellent additions to the plans.

11. Another obstacle in the path of progress for the library was the discovery of an active yellow jacket hive in the attic. All the air sealing in the library attic came to a halt until an exterminator could come and clean out the hive.

12. A seriously stressful obstacle to progress for the work, appeared in the form of the summer's worst torrential rain fall, just as the preparatory work was beginning on the installation of the Municipal Building's R 40 insulated

roof. The shingles had been removed. It had been covered with tarps, but not sufficiently to protect against the kind of torrential rain we had one night. So water began dripping into the Municipal Building offices. It was not well received! Papers were ruined, walls, desks and even a computer got wet…etc. It created a considerable problem for over a week. Dehumidifiers and large fans were brought in, stacks of papers had to be moved, and equipment had to be moved. All but some of the papers were OK in the end. Also, of course, the roof had to dry out before any progress could resume up there. It had created a work stoppage for the office area for a week. After everything appeared to have dried out, Tom Hartman sent one of his crew members with a moisture meter to test the wood in the window frames and many other places to see if we needed to wait longer to let everything dry out more. Finally, it dried out sufficiently to get back to the work at the Municipal Building. In between, the crews spent more time working in the library. Fortunately, no serious damage had occurred. But there was no silver lining for that obstacle. It was solely unpleasant and slowed the work's progress.

13. Changes in plans came in our Free Weatherization Program as we learned that many of our elderly residents were too embarrassed to apply for fuel assistance, to admit that they were in need. So this spring, when we realized the problem in the midst of helping them take the Carbon Challenge, we decided to expand the program to cover folks who are not receiving fuel assistance, by offering the weatherization with just a simple screening process. Already, this has served two elderly residents with serious heat loss problems.

14. We changed that program in a second way by being able to hire a local out-of-work carpenter to do deeper work than we were doing to begin with when we were using the Stay Warm NH kits. It has become a much more helpful program now. The carpenter does an evaluation of each home he is asked to work on, then presents his findings to the TEEC chair. She approves what seems reasonable and helpful to accomplish, while remaining cognizant of the budget and wanting as many people as possible to receive our help.

15. Our Recycling Program has also changed from our original plans. After initiating the program and helping it take root for about a year, it has been picked up and adopted by the school's principal/head teacher for the 3rd and 4th grades. She is integrating the environmental and energy conservation

program into their total school curriculum, along with the recycling of paper, plastic, and aluminum cans. Now TEEC comes in for special visits, to pick up the plastic and aluminum cans every other week, and to see what the kids want to add to their page of our website. Perfect.

16. The original plan for the Public Hearing for the Energy Chapter of the Master Plan was changed as well. Instead of having Steve Whitman, our energy auditor for the MP, come to speak and answer questions from the public, we kept it locally focused, as the Planning Board wished. We presented a home grown PowerPoint program that was very effective, and greatly enjoyed. We then answered the public's questions ourselves. And it was a thoroughly successful hearing--sealing the deal, so to speak. The Chapter was unanimously adopted by the board at the end of the hearing that night.

17. The Carbon Challenge plans changed, too. First, in terms of its timing, and secondly its structure. Originally, we had anticipated kicking it off in September at the 2010 Harvest Festival. But, hard as we tried, we could not find a town willing to join in a competition with us. In November, we found Rindge ready and willing to join us. And within a month, the plans began to morph into a 4-town competition, including the towns of Jaffrey and Bennington. That added more energy and fun to the Challenge and gave the four energy committee chairs a chance to meet and connect. Another change came as we all shifted from just competing with each other to working together and supporting each other's Challenges as best we could. This lead to a lot of helpful advice-giving emails flowing between us and eventually to our decision to all work together at two corporate fairs in our region this spring. In turn, that has lead to a sincere interest in working together on energy and climate change issues regionally in the future--a totally unanticipated benefit from the Challenge.

Funding, Partnerships and Activities Resulting from the Grant

Funding:

1. Our funding assistance from the Benevolent Committee of the Congregational Church of Temple for the Free Weatherization Program had

begun before the grant award. It was given as a one-time contribution for our work with low-income people in town. But all the work over the span of the grant-funding period, including the benefits to the town from our municipal retrofit, has provided TEEC with a more solid relationship with members of our community, including a stronger connection with the church community. When their $2,000 grant to support our weatherization runs out, we have been told by the chair of another church committee, the Stewardship Committee, that he would like to suggest to that committee that they vote to provide another substantial grant to TEEC for us to continue this program.

2. Since our multifaceted program has been so successful and brought so many benefits to the town, Temple's Budget Committee honored our request for our committee's budget to be ramped up to cover the cost of continuing the eco-educational website. Given how tight the budget is this year, that would not have been the case had we not earned their respect through the successful running of the grant-funded programs.

3. Not cash, but ice cream! Connelly Brothers' Dairy is run by a family of brothers, including one who is also the Fire Chief for Temple's Volunteer Fire Department. The fire fighters had been in "another camp"--not believing in climate change, global warming, etc. or interested in anything the energy committee did…until the retrofitting work for the Fire Department began to change that. TEEC has been working to bridge the gap and bring factions of Temple's community together for some time. So the opportunity to have several meetings with the Fire Chief and Assistant Fire Chief to discuss what would be taking place in the FD garage and meeting room provided opportunities to see about softening the barriers. They expressed a desire for larger windows in their overhead garage doors, but we had already ordered them with the same size they had before. TEEC's chair told them that she would see if we could change the order. And we did. That, plus honoring several other requests they had for types of door locks, etc, and making sure they knew when various aspects of the project would impact or take place in the FD so they could prepare for them, seemed to create a thaw. Things continued to improve over the period of the retrofit to the point where TEEC could even ask for a favor. So, during the Carbon Challenge, we asked the Fire Chief if he and his brothers would be willing to donate some ice cream from their farm for the ice cream social (the winning team's prize) to add to the frozen yogurt and ice cream from Stonyfield Farm, if Temple were to win. He smiled and said yes. The fence was gone.

So, this was not funding in the form of money. But the donation of ice cream for our Carbon Challenge prize was a form of funding that was rich with meaning. Since we are the winners, we will also get to enjoy it.

Partnerships and Activities:

New partnerships and activities have developed as a result of TEEC's grant program, both within our town and with groups in neighboring towns. From the experience we have had manifesting our grant-funded programs, we are now in the position of being able to offer a lot of help to other towns. Partnering with their energy committees or similar groups can spark some of the changes they have wanted to make plus new ones.

1. Locally, TEEC has developed an excellent partnership with the Temple Elementary School principal and staff. This will help to sustain the Recycling Program and nourish the staff with ideas and energy for their eco-educational program at the school along with maintaining a strong Recycling Program. We have also partnered with the Historical Society, Library Trustees, Village Green Committee, Recreation Committee, Good Roads Day Committee, Planning Board, and Conservation Commission. These relationships can only serve to benefit our future efforts to continue reducing GHG emissions and saving energy locally.

2. After being invited to create a booth for an event in Milford, NH, in October, 2010, where we were asked to showcase how an energy committee can help a community, we began a partnership with the event's organizer. Since then, she invited TEEC to come to a group of Amherst, Milford and Wilton residents to talk about the work we have been doing in Temple and how they might be better able to help their towns. The group is named the NH Green Coalition and is starting to work together more actively to manifest steps that will help their communities become more sustainable. Four of their members attended our Open House-Celebration for the retrofit and came away energized to get moving in their own towns. TEEC is now helping them create an educational event for their area in late July, and has offered to provide a day-long training to students from the Student Climate Summer Program, coming to stay in Milford for a week to learn about energy and climate efforts in our region. We will be including a lot of information about our retrofit and the other grant-supported programs. This is a part of our educational outreach that has been enhanced by forming this partnership. We have worked together to organize an educational film series

next year to show climate and energy focused films locally and regionally. Arrangements have been made with the owner of the Wilton Town Hall Theater for us to be able to show a film every first Sunday afternoon of the month, starting in September, with refreshments and discussions to follow in the meeting room downstairs from the theater. There was an introductory film showing of "The Economics of Happiness" in late May. The theater was filled, and around 70 people stayed for the community action-oriented discussion that followed. It was an excellent taste of what will come.

3. Partnerships have been forming between the energy committees from our 4-town, Monadnock Region Carbon Challenge competition. We plan to continue to build on the connections we have formed that were enriched by our work together at two local corporate fairs this spring. We intend to continue joining forces to build and strengthen efforts of mutual interest that will help our communities and region become more sustainable and energy efficient.

4. At the 2010 NH Climate and Energy Retreat up at the Whole Communities Center in VT, last summer, TEEC's chair made many invaluable connections with other energy and climate activists in NH that will last a life time. It was a rare opportunity to attend the retreat. Surely, it was offered to TEEC's chair based on much of the work TEEC has been doing with the help of the RGGI grant. The connections from that retreat can easily morph into partnerships in our common work to help our state and region reduce GHG emissions, become more sustainable and able to deal with the challenges of climate change.

5. A partnership that existed with Cool Monadnock before the grant funds were awarded to Temple, has evolved into an ongoing partnership with people who were involved in that program and are branching out into "Transition Town" efforts and other initiatives. TEEC is continuing to connect with CA-CP, the Local Energy Newsletter, members of the RGGI Coalition that helped drive the efforts to keep RGGI in NH, etc. largely through the programs we are running that have been RGGI grant funded.

Steps We Would Not Be Taking Without Having Had the Experience of Running our Programs

1. Sharing what we have learned:
The most important step that TEEC is taking, as a result of having received the RGGI grant and coordinating all of our projects, is that we are now reaching out to share what we have learned in the process of manifesting them. At this point, since many of our programs have been successful, we can share our experiences with confidence. The breadth of our program also offers a variety of examples of steps towns can take toward: retrofitting buildings, starting a school recycling program, starting your own town's free weatherization program for low-income residents, creating an Energy Chapter for your town's Master Plan, running a very successful Carbon Challenge program or CC competition, saving municipal and residential energy, reducing GHG emissions, and lowering your town's tax burden or your household energy budget through energy conservation.

As long as NH has a strong RGGI program, we will also be taking steps to bring hope to other towns that are preparing for future energy conservation work for their municipal buildings and local programs that will need funding.

a) A month ago, a graduate student from across the state was directed to contact us and asked if she could came to learn about our program and its impact on low-income residents for a Masters Degree research paper she was writing. She spent several hours in Temple at an arranged time, learning about our programs. Later we received an email from her which said our programs became the meat of her research. The information we offered her is a consequence of knowing the ins and outs of our programs. Sharing that is something we would not have done prior to all our work with them.

b) Conservation NH and NRDC of NY both requested "case studies" from us on our RGGI-funded energy efficiency programs, this spring. We responded, got them written, and they were posted on their websites. It was good to be able to take that step to return RGGI's favor to us, which would not have happened prior to the grant.

c) Testifying in behalf of the RGGI program at the NH Statehouse was another step we would not have taken prior to our successful retrofit...

d) This summer, at the public event in Milford we will speak at about our municipal building retrofit and other energy reduction programs, and how our town and residents are saving GHG emissions and money through municipal and residential energy conservation. That is another step we would not have taken prior to our completed retrofit and grant funding.

e) At the end of July, we will be spending a half day or more with the Student Climate Summer Program students, sharing what we have learned about running the programs we have initiated and what we learned in the process of our municipal energy efficiency retrofit. They will be coming to learn and then cross-pollinate information between many towns. This is also a step we could not have taken prior to the grant and all the programs it funded that we can share.

2. Without the grant programs TEEC would not be taking the steps we are now taking to respond to people who contact us as a result of reading something on our eco-educational website. We would not have had the money to create the site that has now had over 6,000 visits.

a) A new free weatherization program for low-income residents would probably not be lifting off the ground for a town in northern NH, if TEEC had not had our RGGI funded website up and running. We were contacted by a woman from the town's energy committee asking about our program. After several long phone conversations and emails over a span of several months, she has said that they are now on there way. It is a step in outreach that would not have happened as easily and at this time without our website.

b) Contact from the chair of the Bennington Energy Committee began in response to his reading some of the material we had on our website. After several phone conversations with him, he became energized to organize a Button Up NH workshop along with Hancock and Antrim, and eventually to join the Carbon Challenge with Rindge, Jaffrey and Temple. After working together at the NHBB Health and Energy Fair on June 23, we agreed to continue working together regionally. We would not have invited him to come to a NH Green Coalition meeting to expand his horizon and see how they are getting energized. We would not have taken this step if we had not

learned from our projects that connections and partners make such a difference in helping to manifest your goals.

3. TEEC would not have become the model it has become for municipal energy efficiency work, without the successful results from our projects. Now that we find ourselves in that position we are taking more and more steps to share as broadly as possible in the following ways: through our website, the Local Energy Committee Newsletter, at state-wide and other conferences, exhibits and events, in newspaper articles, or any other opportunities that arise, such as the Southern NH Planning Commission, where we were invited to speak on how to build a healthy energy committee.

4. As a result of the grant funded Carbon Challenge program and more exposure to the list of energy saving steps folks can take in their households, TEEC members are taking new steps in their own homes to save more energy. Bringing it all home.

Future Work and Follow-Through Plans

1. Some TEEC members will attend the Planning Board meeting that is being scheduled in July to hear the representative from Pioneer Green Energy Co. present their interest in requesting permits to install 2-4 large wind turbines up on Kidder Mountain in Temple. We will be following these discussions and this process closely over the coming months and be supporting a new zoning ordinance or revisions to the present ones to accommodate and encourage reasonable installations of turbines where they are deemed appropriate and safe for wildlife and the public.

2. In the last week of July, TEEC will participate in an educational outreach project for the Student Climate Summer Program that will have arrived in Milford, NH. This is a program for college students, ages 18 -26, who are biking throughout NH and MA for 9 weeks learning about what various towns and areas are doing in response to climate change. Their intention is to learn, cross-pollinate information, and help towns with specific projects. We are participating in organizing the week's events in the Milford area and will be providing at least a solid half day or more of a presentation to the students on all the work TEEC has done as an energy committee in 4 years.

There will be a strong focus on what was accomplished through the financial support of our RGGI grant and, again, we will be singing the praises of RGGI and expressing how the benefits of the program should be shared with towns all over the state, region and beyond.

We will also prepare a presentation for a public evening event that is being organized for the evening of July 28 in Amherst. We will share more about our energy efficiency work in town, and particularly the stunningly successful retrofit of our municipal buildings, thanks to RGGI.

3. On September 24, when we hold the ice cream social for our residents (our prize for winning the Carbon Challenge competition – from Stonyfield Farm and Connelly Brothers' Dairy in Temple), we will have long tables filled with large displays and hand-outs of energy saving recommendations and tips, contact info on energy efficiency professionals, climate change in NH, Carbon Challenge information for those who haven't taken it yet, our retrofit tri-fold brochures, and RGGI! And, of course, we'll be singing the praises of RGGI there, too.

4. TEEC has been invited to provide the "Special Exhibit" for this fall's Annual Harvest Festival. Along with our booth on the Village Green, as we always have, we will also fill Town Hall with displays of photos and information from the municipal retrofit; showings of the PowerPoint presentation and an ongoing DVD about the process of the work; and tables with the trifold hand-out we made about the retrofit, Carbon Challenge information, climate change material, and energy-saving tips.

5. TEEC will continue most of the programs that were not time limited that were launched through the financial support of the GHGERF:

a) We will continue our work with the Planning Board to manifest all of the recommendations from the energy audit and our new Energy Chapter for the Master Plan.

b) TEEC will continue to maintain our eco-educational website, updating it bi-monthly, to the best of our ability.

c) TEEC will continue working with the students at the Temple Elementary School and sustain the support for their presently well-heeled Recycling Program and eco-educational program.

d) TEEC will continue to provide our Free Weatherization Program for low-income residents. If we do not get refunded by the Congregational Church of Temple, we will search for funding elsewhere and/or return to doing what we can with the labor of our members or other local volunteers. We do not want this program to end for lack of money!

e) TEEC will continue to offer free home weatherization workshops for our residents, bi-annually, one way or another. In 2008 we had a local donor pay for Keith Abbot to come to Temple to give a Button Up workshop, in 2010 we held a Button Up NH workshop, and in 2012 we will offer another one.

f) TEEC will continue to encourage residents to take the Carbon Challenge. When our subscription/participation term runs out in the fall, we will try to find a donor to sign up again. And we will take the recommended steps provided on the CC site and share them widely and aggressively with our residents on an ongoing basis.

7. TEEC will continue to respond to energy committee chair persons or committee members from other towns who ask us for guidance and encouragement, such as the work we did to get Bennington off the ground last fall—leading them to where they put together a three-town Button Up workshop with Hancock and Antrim last winter.

8. TEEC will continue responding to requests to present our story or provide a model for other towns at various conferences throughout the state, and New England.

9. TEEC will continue to respond to requests for us to write "case studies" on our program and RGGI-funded accomplishments, as we did this year for Conservation NH and NRDC of NY and others. We will also continue writing articles for the Local Energy Committee Newsletter, as we have been doing for almost each issue for a year or so.

10. TEEC will continue to attend energy fairs in towns or at businesses that will give us space to do educational outreach on climate change and all the ways that energy committees can help their communities reduce their energy consumption, and GHG emissions as well as to move toward greater sustainability and lower their tax burdens.

11. TEEC will continue its work with the NH Green Coalition in an effort to expand the regional connections around energy conservation efforts-- to join with many nearby towns, encourage more active energy committees, and find ways to support each others' efforts and consider more regional approaches to energy conservation and GHG reduction work.

12. TEEC will continue to clarify our intentions and efforts to integrate as many components of energy conservation and sustainability work as we can in the direction of becoming a "Transition Town"—not necessarily in a formal way, but in a real and practical way. We already have many of the elements that move us in that direction in place. But we need to continue to pursue ways we can help our town and region prepare for and cope with the changing climate, energy crises, and need for creating more cooperative life styles and locally sustainable communities.

13. To that end, TEEC will continue its support for the CVTC transportation program and the People's Exchange Program and work to bring such programs to into towns that are outside the reach of these programs.

Numbers of Workers and Hours Worked for the Program

Number of On Site Workers for Retrofitting Project

From: steve@ingram-construction.com

"We had **a total of 33 workers** who contributed to the Muni and Library work." Steve Ingram

2 from Ingram – General Contractor and Site Supervisor

2 electricians

2 plumbers

6 roofers

6 framers/siding/trim carpenters

2 window installers at the library

2 painters

3 insulators

6 overhead door installers

2 drywall installers

"This number doesn't take into account office staff in the home offices of all the participants, or the sales people, delivery people, manufacturers of the windows---boiler/furnace---doors---hardware---insulation---and on and on." Steve (General Contractor, Ingram Construction Co)

10 Additional Workers- up to 6/30

1 - Margaret Dillon - energy consultant & blower door test reports

3 - Michael Bruss, plus 2 employees from Bruss Construction Company.

5 -Tom Hartman, architect, plus 4 employees of Coldham & Hartman Architects

1 - Matt Callistro – local carpenter for air sealing in library following Final Blower Door Tests

5 Workers for AC Installation in July **(**paid with 6/28 invoice)

4 **–** AC installers –Economy (mechanical)

1 – Electrician **–** KA Electric

48 Total Grant Paid Workers for Retrofit

9 In-Kind On-Site Workers

5 -Temple Employees

3 - Temple Highway Dept. workers

2 - Temple office workers – Administrative Assistant and her assistant

4- Volunteer Workers

4 -Building Committee Members: John Kieley, Mike Darnell, Bev Edwards, Rob Wills

57 Total Workers for Retrofitting Project- Paid & In-Kind

Plus Uncounted - Manufacturers, suppliers, truckers, sales people, office workers for all products and supplies used in retrofit, plus Ingram Construction Co and Coldham & Hartman office staffs

Hours of Work for Temple Retrofit

Name	Hours	Time Period
Ingram Construction	1800	2/15/10-6/30/11
Economy (mechanical)	500	07/8/10-11/26/10
Lawrence Electric	350	08/10/10-1/29/11
Farnum Insulation	200	07/15/10-12/15/10
Victor Johnson Roofers	400	07/1510-10/28/10
Millwork Masters	50	08/10/10-9/24/10
Overhead Doors of Rutland	60	09/07/10-9/10/10
Blanchard & Sons Drywall	40	10/25/10-11/5/10
Edson Painting	150	10/11/10- 12/10/10
Cedar Ridge Construction	700	07/05/10-11/9/10
Margaret Dillon	60	11/06/09- 1/25/11
Tom Hartman	285	02/26/10-5/10/11
Matt Callistro	5	02/15/11-2/16/11
Michael Bruss	20	11/08/09-12/20/09

4,620 Total Hours of Grant Paid Work for Retrofit = 2.22 FTE

Hours of In-Kind Work for Retrofit

Name	Hours	Time Period
Highway Department	260	7/20/10-12/15/10
Administrative Office	90	10/30/09-6/30/11
John Kieley, Chair BOS	400	10/30/09-6/30/11
Mike Darnell, BOS	20	10/30/09-6/10/11
Rob Wills, TEEC	35	10/30/09-6/15/11

1,355 Total In-Kind Hours of Work for Retrofit

5,975 Total Hours of Work for Retrofit-- Grant Paid Plus In-Kind Work

Hours of In-Kind Work with Temple's Planning Board and for the Other Projects in the Educational Program

Name	Hours	Time Period
Bev Edwards	1100	10/25/09-6/30/11
Mary Beth Ayvazian	120	10/30/09-6/23/11
Rob Wills	30	10/25/09-6/12/11
Other TEEC members	100	10/30.09-6/11/11
Planning Board	120	11/20/09-6/23/11
Matt Callistro	50	3/10/10- 4/13/11
Betsy Perry	60	10/25/09-6/3011

1,580 Hours of In-Kind Work with Planning Board and Other Components of Educational Program

7,555 Total Hours of Work: Paid & In-Kind for Entire Program

Match Dollars $2,000 Congregational Church of Temple