

Guide for Municipal Clean Energy Task Forces Regarding the Energy Efficiency and Conservation Block Grants

The American Recovery and Reinvestment Act of 2009 (ARRA) appropriated \$24.5 million for Energy Efficiency and Conservation Block Grants (EECBG) to be received by municipalities and Indian tribes in Connecticut. Of this \$24.5 million received by Connecticut entities, \$8.4 million in funding will be directed to smaller Connecticut municipalities (any municipality with less than 35,000 inhabitants). The state Office of Policy and Management (OPM) is the agency responsible for managing the allocation of this \$8.4 million and created a formula to determine how much money any town is eligible for ([OPM Municipal Energy Efficiency and Conservation Block Grant](#)) You can find updates on the application process from OPM on their webpage here: <http://www.ct.gov/opm/cwp/view.asp?a=2994&q=437162>. In addition to this allocation, OPM has reserved \$959,350 for regional “bonus pool” grants which can be applied for by two or more municipalities of any size.

Each of the 143 CT municipalities with less than 35,000 residents must submit to OPM an application which proposes what they want to accomplish with the grant money allotted to them. Many towns lack staff dedicated to grants or energy, and unfortunately due to a similar shortage of staffing at the state level, there may not be much guidance or support from OPM. If a town misses the application deadline they will potentially forfeit their grant money and with it an opportunity to further clean energy and energy efficiency. You will be expected to expend or commit all funds no later than two years from when you receive the funding.

As of September 30th, 2009, the application timeline is as follows:

- OPM will have an online grant portal ready to use by October 8th.
- The due date for grant submissions will be Thursday, November 5, 2009.
- The regional “bonus pool” grant applications will be due no earlier than December 2, 2009, with the exact date to be announced by OPM.

To help volunteer clean energy task forces and staff for smaller towns, the non-profits Clean Water Action and Clean Water Fund have collected and compiled a list of potential project ideas from some of the forerunners of the state (including Bethany, West Hartford, Fairfield, and Manchester) later in this guide.

1. Getting started

A. Before applying for the grant

While OPM has not yet provided an application form to fill out there are initial steps you can take.

Step #1: Find out who is in charge of the EEBCG grants in your town and offer the assistance of your task force or volunteers.

Several larger CT municipalities failed to even submit their EEBCG grant applications and thereby forfeited more than \$1 million. It's essential that town residents work with local elected officials and your municipal administration to ensure your town submits an application, and that the application reflects local priorities, and not just expediency.

Step #2: Ensure your municipality registers online

For towns getting their grants through OPM (any town with a population less than 35,000), to apply for funding your town needs a user ID and password. OPM posted an update on the 14th and sent it to "[municipal chief executive officers](#)". The actual form that needs to be filled out (an excel spreadsheet) is available [here](#).

Key points, to get a user ID and password, each town must:

- Designate 3 officers- Chief Elected/Executive Official; Chief Financial Officer; Project officer
- Submit the "password authorization form" to OPM
- Each town must also have a [DUNS](#) (Data Universal Numbering System) number and a current registration in the Federal [CCR](#) (Central Contractor Registration).

Step #3: Brainstorm projects

Work with elected officials and municipal staff to decide whether to use the EEBCG grant to upgrade municipal buildings and schools, to use it to directly help town residents or to do some of both. There is a broad list of acceptable uses of this funding on the next page.

Step #4: Begin application preparation: put projects into context

Many towns are already participating in state and federal energy programs including the CT Clean Energy Fund's *Clean Energy Communities*, the CT Energy Efficiency Fund's *EE Communities*, The US Environmental Protection Agency's *Community Energy Challenge*, ICLEI's *Cities for Climate Protection Campaign* and the Sierra Club's *Cool Cities*. Towns should refer to

existing or planned commitments to such programs in the application as they constitute at least partial energy plans, demonstrate coordination with government agencies and non-profit environmental organizations and create measurable goals. You should consider how potential projects can help the town to meet targets established under such programs.

➤ **Ways Clean Water Fund/Clean Water Action Can Help**

Clean Water Fund wants to help your municipality and task force be successful. If you have having trouble working with your town officials, with the application process, or with project types, we can try to assist based on the experience of the larger towns who have already submitted applications. We can connect you to your counterparts in other towns and help you find appropriate contacts at the CT Clean Energy Fund, CT Energy Efficiency Fund, or other in-state experts.

For assistance just call Roger Smith, or interns Vincent Jumeaux and Kirsten Kubiak at 860-232-6232 or email rsmith@cleanwater.org

B. How to choose your energy projects

Determine your goals and priorities, especially whether to focus on municipal energy use, town residents and businesses, or both. You may decide to convene a meeting or informational hearing for municipal officials to solicit input from residents on how best to use the money. Your task force can use such a meeting as an opportunity to engage community members and invite them to attend and be active locally. Public participation generally leads to better outcomes.

Potential EEBCG goals:


- Reduce immediate energy costs for the municipality
- Provide the greatest long-term energy reduction benefit
- Reduce greenhouse gas emissions
- Benefit the greatest number of residents in reducing energy use/ costs
- Provide a learning opportunity for residents and students
- Help position the municipality to achieve longer-term energy reductions
- Improve quality of life for residents

Starting with your municipality's values and priorities you can then determine the types of projects that would best accomplish your goals.

Try to pick projects that will be accepted. All municipal EEBCG applications will be reviewed and approved by both the state OPM and by the US Department of Energy.

Connecticut wants towns to use their grants in ways that will meet statewide energy goals including:

- Developing and utilizing renewable energy sources to the maximum extent practicable.
- Diversifying Connecticut's energy supply mix
- Assisting citizens and businesses to reduce energy consumption and cost
- A 20% reduction in electricity-peak grid consumption by 2020
- A 20% reduction in fossil fuels consumption by 2020
- Commercial transportation fuels to include a mixture of 20% alternative fuels by 2020
- By 2020 a 10% reduction in GHG emission as compared to 1990 levels
- By 2050 an 80% reduction in GHG emissions as compared to 2001 levels

The US Department of Energy has a page on acceptable activities which is somewhat broader than what OPM is looking for. Follow the link to the "[solution center](#)"  sample strategies for each eligible activity listed. DOE approved activities include:

- Development of an energy efficiency and conservation strategy;
- Building energy audits and retrofits, including weatherization;
- Financial incentive programs for energy efficiency such as energy savings performance contracting, on-bill financing, and revolving loan funds;
- Transportation programs to conserve energy;
- Building code development, implementation, and inspections;
- Installation of distributed energy technologies including combined heat and power and district heating and cooling systems;
- Material conservation programs including source reduction, recycling, and recycled content procurement programs;
- Reduction and capture of greenhouse gas emissions generated by landfills or similar waste-related sources;
- Installation of energy efficient traffic signals and street lighting;
- Installation of renewable energy technologies on government buildings;
- Any other appropriate activity that meets the purposes of the program and is approved by DOE.

C. Municipal energy planning/ longer-term investments

Most municipalities intend to use a significant portion of their EEBCG grant to reduce municipal energy use and thereby reduce pressure on the town budget. This guide is mainly focused on helping towns achieve this goal.

In general, towns tend to upgrade buildings on an ad-hoc, rather than a comprehensive basis, fixing an appliance that fails or making a renovation in one building, but lack a prioritized energy upgrade plan for all town facilities and schools. The EEBCG provides an opportunity to realize some near-term savings, but also an opportunity to invest part of the grant into energy planning which can help your town yield far greater future savings and be ready for future energy opportunities.

The EEBCG grant criteria, as outlined by the US Department of Energy above, *explicitly* allows you to spend a portion of the grant on administration, or hiring staff or outside consultants to create an energy plan, identify specific conservation strategies, and measure progress. An increasing number of municipalities are recognizing the value of a more holistic approach to energy with West Hartford, Milford, Portland, Bridgeport and others creating broad energy strategies and Stamford, New Haven, Hartford and others hiring dedicated energy staff to address their energy use in a comprehensive manner.

Step #1: Earn support for the concept of energy planning and longer-term savings

You must have the backing of your town government and public support to think about how this one-time stimulus can be used as a down payment towards a cleaner, more affordable energy future. Also, to implement any energy plan there needs be support from your town administration. Your town must provide staff resources to create a plan, and more importantly to implement it by providing direction to employees, making energy upgrades a financial priority and maintaining an overall commitment to the goals.

Step #2: Develop an energy plan for your municipality

An energy plan does not have to be complicated or require technical expertise to create. The town of West Hartford offers its energy plan as a template (see link on following page), and other municipal energy plans are available on the internet. Determine whether your task force and town officials have the time, interest and ability to create an adequate plan yourself, or whether you wish to use EEBCG dollars to hire others to help your town officials and task force create an energy plan. We caution against outsourcing the entire planning process as you need “buy-in” to the plan’s recommendations for it to be meaningful.

As an early step, you and your town leaders need to determine the scope of your plan (i.e. municipal lighting and buildings, schools, whether you wish to include town

residents/businesses or only facilities directly under town control). Based on the scope, set concrete and achievable goals and objectives. Assign responsibility for implementing the plan as well as regular reporting with measurement of progress to ensure accountability.

Your plan will likely call for energy audits or other professional building and lighting assessments, and we suggest dedicating some money from your EEBCG grant for this purpose—even before you are sure of which buildings you will audit.

We also suggest trying to convince your town to reinvest part (or all) of the money saved from conservation efforts using EEBCG dollars into further energy efficiency measures. This would enable you to save far more energy (and money!) than you could through a one-time stimulus. The US Department of Energy strongly favors this type of approach and explicitly allows for the creation of “revolving loan” funds which are used and then replenished with energy savings.

Energy planning in Connecticut

Several municipalities have energy plans specific to their towns:

- **West Hartford Comprehensive Energy Plan**

Comprehensive energy plan to address municipal buildings, lighting and transportation energy use. Written by West Hartford Clean Energy Task Force volunteers and town staff and adopted unanimously by the town council. Concepts can be scaled down to smaller communities.

Contact: Robert Palmer, Director of Facilities, robert.palmer@westhartford.org
Roger Smith, West Hartford CETF and Clean Water Fund/Action, 860-232-6232, rsmith@cleanwater.org

Read the [PDF plan](#), editable [Word version](#)

- **Stamford “Cool and Green 2020”**

Municipal energy reductions are overseen by in-house energy staff, but Stamford’s goals also extend to residents and businesses. Read [more](#)

D. Implementing your energy plan- collecting the right data

Now that you have developed general goals and objectives related to municipal energy use, you need to start compiling data on your current operations so that you can identify meaningful projects to pursue using EEBCG money, money saved from your EEBCG projects, CT Energy Efficiency Fund dollars, bonding, or funding from other sources.

Step #1: Track energy use

It is very important to have an energy accounting system in which your town comprehensively tracks the energy you are using and measures progress over time. Categories of energy use include building consumption of electricity, heating oil and/or natural gas, fuel for transportation fleets and non-building lighting.

Some towns have contracted with third parties to provide automated bill tracking (e.g. West Hartford uses an online platform created by [EnergySolve](#)). With some discipline, your town and board of education can maintain centralized energy records themselves. Your tracking system will help you realistically understand your energy consumption going forward; it will also potentially alert you to equipment malfunctions that lead to increased energy costs as well as help identify future opportunities for savings.

If you do not have any historical energy data, a letter signed by your municipal officials to the electric and natural gas utilities can provide you with back data regarding electricity use- be sure to include all meter numbers for your municipality and try to get at least 24 months worth of data.

Step #2: Compile data and prioritize buildings to upgrade

For building energy use, the free online US EPA/Department of Energy [EnergyStar Portfolio Manager Tool](#) is a powerful way to rate the energy performance of your buildings on a scale of 0-100 and compare them to their peers across the region. By joining the EPA's Community Energy Challenge, which is a requirement of the Clean Energy Fund's *Clean Energy Communities* program (and also the Energy Efficiency Fund's new *EE Communities* program), towns can receive free training and technical assistance from the EPA together with from the Clean Energy Fund, the Energy Efficiency Fund¹ and the Institute for Sustainable Energy at Eastern CT State University. (To request interns to help you enter data- please contact Bill Leahy leahyw@easternct.edu.) Clean Water Fund has a sample PowerPoint you can customize

¹ Rebecca Meyer (Energy Efficiency Fund, CL&P territory): meyerra@nu.com
Chris Ehlert (Energy Efficiency Fund, UI territory): christopher.ehlert@uinet.com
Bob Wall (Clean Energy Fund): bob.wall@ctcleanenergy.com

to present your building data to town officials and are working on an easy-to-follow guide to the Portfolio Manger Tool; just email vincent.jumeaux@gmail.com.

This tool can provide an understanding of which buildings use the most energy in town, which are the least efficient and that will enable you to know where to find the greatest potential savings of both dollars and energy. Based on the results you may then decide to conduct a basic walkthrough of a building together with the Energy Efficiency Fund (as part of their new EE Communities program), use the free Efficiency Fund Small Business Energy Advantage program building audit/retrofit program (applicable for any municipal building with a demand of less than 200kW in CL&P territory or 150kW in UI Territory), or pay for basic all the way up to expensive “investment-grade” professional energy audits.

With this data you can now make a case to your town leadership for prioritizing the funding of energy upgrades and will be ready with quality projects for any future federal energy grants. Money comes to those who are ready- use your EEBCG grant to position yourself for the future. Imagine if your town had this data and a plan before the EEBCG grants were announced!

2. Potential Projects to reduce municipal energy consumption

The EEBCG will provide for numerous projects ranging from cleaner transportation to lighting upgrades, building energy auditing and renewable energy projects. Cost is the biggest concern for most for these projects. Having received between \$30,000 and \$150,000, small municipalities cannot afford to take on larger projects such as replacement boilers (West Hartford), cogeneration (Fairfield) or large solar power installations (Greenwich) using just the EEBCG grant.

Some towns are using their own money (other energy savings, operating budget, bonding, grants, etc.) to match the EEBCG money. Others are turning to “performance contractors” who will use their own capital (some times with ratios as high as 10:1- i.e. for every dollar you put up they commit \$10) to enable you to do far larger projects in exchange for them retaining a portion of your energy savings. It is critical to properly oversee performance contracts, including establishing a robust methodology to determine energy saved, having a high quality baseline to measure savings from and having a clear recourse for your town if the anticipated energy savings are not achieved. We suggest that a town going down this path hire a firm to serve as an “owner’s agent” to represent the town’s interests in all efficiency contracts it enters into. New Haven put \$50,000 of their EEBCG grant for an owner’s agent. There are at least a few for-profit companies (including Glastonbury-based Celtic Energy Chris@celticenergy.com) which assist municipalities in working with performance contractors and writing air-tight contracts. The CT Conference of Municipalities has a contract with Siemens (a performance contractor) that any of its member towns can use.

Keeping your likely modest budget in mind, we compiled some examples from the larger municipalities to assist you. Please email rsmith@cleanwater.org if you would like the actual application from one of the larger towns listed below. One important note is that the CT Energy Efficiency Fund provides on-going project support and financing for electricity (and also natural gas) conservation measures but nothing for heating oil reduction. For this reason you may wish to focus your block grant on measures that can save heating oil as the EEBCG grants have no such restrictions and savings can be considerable.

➤ **Municipal building energy audits**

Connecticut has a variety of specialized companies who will perform energy audits on town buildings. Some just do audits, and others package audits with the actual retrofits. In an energy audit, trained specialists will walk through a building and analyze building systems to find ways that the building can cut down on energy waste and reduce costs.

For **municipal** building audit projects, it is best to first identify the buildings to audit yourself (please see the previous section on EnergyStar benchmarking), and decide how in-depth you need the audit to be. For example, if your building has high heating but low electrical costs, you may decide to save money by assessing measures related to heating.

If the goal of the audit is to provide a general description of what could be done to improve the building (as a precursor to getting funding allocated to accomplish this), you need a much less detailed (and less expensive) audit than if you are ready to move forward and replace a heating system or weatherize a building, for example.

Many towns have requirements to **competitively bid** contracts (including those with auditors), which will require you to create a proposal with criteria for what you are looking for. Your town will need to include a list of the buildings to be included in the audit and energy-related information for each building including square footage, building age, and more. We suggest you use the EnergyStar Portfolio Manager tool to capture and share useful building energy data with a potential auditor.

For a mid-range audit/retrofit service you can use the free CT Energy Efficiency Fund **“Small Business Energy Advantage Program** (applicable for any municipal building with a demand of less than 200kW in CL&P territory or 150kW in UI territory), where you can choose a contractor from a pre-approved list to conduct basic building assessments and then offer rebates and on-bill 0% interest financing for certain measures (including lighting and automated controls). You can potentially combine this program with your block grant to undertake larger or deeper measures than normally affordable under this program.

“Performance contracts”, where a third party finances and conducts building upgrades in exchange for a portion of the energy savings, generally include detailed “investment-grade” audits as part of the contract.

Connecticut Examples

- **Bristol** will spend part of their EEBCG grant to perform audits in 63 public buildings.
- **New Haven** will include the review and updating of audits for 80 City buildings.

➤ **Space lighting, traffic signals and street lighting**

Space lighting accounts for an estimated 12% of a building's operating cost. By installing timers, occupancy sensors and other controls on the inside and outside lighting systems, a building can greatly improve its energy efficiency.

Installing more efficiency fluorescent or LED lighting can immediately reduce energy usage. Solid state LED lighting for street and exterior building lighting is becoming more cost-effective and some towns are using their EEBCG grants to try these newer lighting technologies.

LED traffic lights use almost 85% less energy than the average incandescent traffic light and need to be replaced less frequently as they last for 100,000 hours, compared to incandescent bulbs, which have filaments that burn out and may only last 8,000 hours before needing to be replaced.

While lighting is easy, cheap, and immediately effective, it's important to also consider energy audits and deeper retrofits, which may have a much bigger energy impact in the long term. Also remember that the CT Energy Efficiency Fund has significant incentives available for lighting including both rebates and financing. Contact your town's electric utility account manager for details.

Estimated Payback: 2-7 years

Connecticut Examples

Many towns are using their EEBCG grant for lighting upgrades:

- **Enfield** focuses the grant only on lighting projects: replace school gym, street and parking lot lighting with LEDs; retrofitting manual interior lighting controls with automated ones, renovation of pedestrian walkway lights and poles.
- **East Hartford** is also installing LED traffic signals thanks to the grant.

➤ Energy efficiency retrofits

Retrofitting is a huge step towards better energy efficiency in public buildings. The order is important, as it is more effective to reduce energy use through conservation and efficiency before upgrading an energy supply (i.e. EnergyStar furnace, solar panels, geothermal heating, etc.) The lower the building's heating, cooling or electrical load, the smaller and cheaper the energy supply has to be.

The EEBCG grant is a great opportunity to invest in technologies to decrease energy costs, especially measures to reduce heating oil consumption which are not normally supported by any state efficiency program. In general heating costs are an order of magnitude higher than electricity costs, so keep this in mind as you select projects.

Remember that significant incentives exist for both electric and natural gas retrofits through the CT Energy Efficiency Fund and CMEEC's efficiency programs for those served by a municipal electric utility. From a finance point of view, retrofits can be achieved no matter how small your budget.

➤ Installing renewable energy

Clean energy can replace fossil fuel use today and stabilize energy costs for years to come. However, before making the decision to install a renewable energy system, it is important to reduce the underlying building energy use as much as possible, so as not to waste a precious renewable resource. The Connecticut Clean Energy Fund has some incentives available for municipal and residential clean energy installations. Find the latest information [here](#) and please see Appendix 2 for a list of contacts at the Clean Energy Fund.

Solar photovoltaic (electric) systems are relatively expensive compared to other energy solutions (each kilowatt of solar installed costs roughly \$7,000), the Clean Energy Fund is not currently accepting applications for commercial-scale solar, and towns cannot benefit from the 30% federal tax credit for solar. We expect that incentives for commercial-scale solar energy will return in the years to come. That said, if you want solar power now for a town building, and have earned one or more kilowatts of free solar from the Clean Energy Fund through the *Clean Energy Communities* program, you can pay the *incremental* cost of increasing the system size. The Clean Energy Fund will not only pay the entire cost of the earned system but will pay 50% of the cost of additional kilowatts up to a total of \$8,000. In addition, the Clean Energy Fund offers incentives to put solar on schools being built or renovated to LEED standards through its *High Performance Schools* program².

Solar hot water heating (thermal) systems are quite cost-effective, especially when replacing electric water heating. In October 2009, the Clean Energy Fund is coming out with a rebate for solar hot water for commercial, municipal and residential systems that will reduce the cost of the systems. You may use the EEBCG to pay for the rest of the system cost. This

² Contact: Bob Wall (Clean Energy Fund): bob.wall@ctcleanenergy.com

technology may be appropriate for municipal buildings that feature showers or cafeterias. One note- you cannot use federal grants for solar pool heating.

Similarly, the Clean Energy Fund plans to launch a **geothermal** (ground source heat pump) program in late 2009. This program will provide incentives to lower the cost of systems that provide heating and cooling using the relatively constant temperatures below the earth's surface. The incentives may further be combined with incentives currently offered by the Energy Efficiency Fund.

The Clean Energy Fund can normally only support projects that generate electricity (or use renewable energy to reduce the use of electricity). Thanks to federal funding support for the new geothermal and solar thermal programs, these incentives will be available for those who heat water and buildings with oil, gas and other fuels, and will also be available to towns served by a municipal electric utility.

Payback: PV, Geothermal- long term (10+ years), solar hot water- medium term- (4-10 years)

➤ **Hiring an energy manager to oversee municipal conservation**

Hiring a town energy manager (or retaining an outside energy management firm) who keeps track of energy management and conservation activities and aggressively pursues savings has proven by Connecticut cities including New Haven, Stamford and Hartford to be an effective way to implement energy efficiency programs and save money. With a large enough energy budget, it can be feasible to pay for such a position entirely through energy savings. Because the grant budget is limited for the smaller municipalities, and their building square footage and energy use may not fully justify a full-time staff person, you may consider hiring a regional manager who will cover four to five cities and can work part time for each.

Connecticut Examples

Small municipalities across the state are working together to consider the hiring of regional energy managers using the EEBCG grant. Contact **Cornwall** and **Madison** to learn how they are approaching this issue.

Contact:

Dean Plummer, Madison Town Energy Committee, deanplummer@mac.com

Katherine Freygang, Chair of Cornwall Clean Energy Task Force, kfreygang@aol.com

Residential Project Ideas

➤ Promote Residential Clean Energy

You can potentially use your EEBCG block grant to help move your town residents toward a clean energy future. Options include using a portion to provide incentives for residents to sign up for the Clean Energy Options, such as providing a local clean energy task force with a small grant for outreach. Your town could also help residents afford the initial costs of solar hot water systems which will be rebated by the Clean Energy Fund later this fall. Please see the discussion on the next page regarding creating loan funds. We don't recommend this approach for solar PV as the Clean Energy Fund already has a lease program to address the issue of up-front costs of solar photovoltaic panels: www.ctsolarlease.com.

➤ Grassroots Outreach on Residential Energy Efficiency

For **residential** buildings, the Connecticut Energy Efficiency Fund has set up programs such as Home Energy Solutions, as well as free limited income programs WRAP (CL&P territory) and UI Helps. Home Energy Solutions has a modest co-pay of \$75 and a specialist will come to your home and perform an energy assessment; find and professionally seal critical air leaks; replace incandescent bulbs with compact florescent bulbs; provide water conservation devices; offer rebates for appliances and insulation (if needed), and more.

How to Sign Up for Home Energy Solutions

- Call 1-877-WISE-USE
- You can also directly contact a Home Energy Solutions contractor
- Go to one of these websites: for [CL&P customers](#) and for [UI customers](#)

#1: Reduce co-pay for Home Energy Solutions/ help finance follow-on measures

Some towns are considering using their EEBCG grant to simply reduce the \$75 co-pay for residents. Portland & East Hampton and Cornwall are exploring ways to provide grants or loans to residents who need assistance where HES recommends that they install a new appliance or insulate their home. One note is that if multiple towns pursue the “revolving loan” approach, OPM confirms that the total amount that can go into such funds using the OPM EEBCG grants are capped at \$250,000 for the entire state. (cf. “revolving loan funds best practices” page 17 of this guide)

Connecticut Example

- **Portland, Cornwall** and other towns are exploring the creation of revolving loan funds to help residents afford follow-on measures after doing Home Energy Solutions.

Contact

Kerry O’Neill, finance expert working with towns on residential loan funds and community-based outreach: kerry@earthmarkets.com

Andy Bauer, Portland CETF andytbauer@aol.com, 860-342-1379

Katherine Freygang, Cornwall Energy Task Force kfreygang@aol.com, 860-672-6010.

#2: Create “Community Innovation Grants” for Efficiency

The Clean Energy Fund [Community Innovation Grants](#) program has provided Clean Energy Task Forces with to \$4,000 to promote the CTCleanEnergyOptions in their communities. A portion of a municipal EEBCG grant could potentially be used to seed a similar program where a town or clean energy task force could give grants to support Home Energy Solutions outreach, for example. You could also possibly use additional funding to support additional clean energy outreach. The benefit of piggybacking with the Community Innovation grants is that there is already a process and reporting protocol in place which you could adapt for efficiency.

#3: Neighborhood outreach program

Towns may otherwise use EEBCG money to promote these programs and increase participation in their communities. A town could put together a neighborhood outreach program where volunteers/students/staff would go door to door; the town would send employees and residents informational mailings; conduct neighborhood or town-wide energy reduction or clean energy sign-up contests; arm volunteers with free incentives (light bulbs, low-

flow shower heads, etc.) to use as they educate residents on clean energy and energy efficiency programs.

The city of Durham, North Carolina is using its EEBCG grant for a 3 year neighborhood outreach program (email rsmith@cleanwater.org for more information). The program aims to reduce energy use and associated greenhouse gas emissions from at least 350 homes. The goals of this project are to:

- *Reduce energy use and greenhouse gas emissions from at least 350 homes in Durham through basic weatherization improvements.*
- *Educate Durham residents about the importance of energy efficiency and about simple ways they can reduce energy use at home.*
- *Build neighborhood capacity to improve the efficiency of housing stock.*
- *Train, provide experience for, and employ energy efficiency professionals in work that efficiently and effectively improves household energy efficiency.*

The City will conduct these upgrades within neighborhoods that have a core group of interested participants and that have sufficient houses that meet basic program criteria. The strategy behind this program is to use the strengths of neighborhood organizing to implement a few highly effective and commonly needed weatherization upgrades to as many homes as possible and to pair that work with one-on-one and small group education on energy efficiency.

#4: Conduct volunteer Energy Assessments/training

A town could train its employees, clean energy task force, and interested volunteers to conduct basic residential energy assessments and perform simple upgrades. They can then steer appropriate homes to Home Energy Solutions or the free CT Energy Efficiency Fund limited-income programs (WRAP and UI Helps). Wilson Educational Services has trained the Wallingford energy task force on how to do home assessments, and has been hired to work with faith communities to train volunteers to assess churches and homes as part of the Interreligious Eco-Justice Network's "This Old House of Worship" program. It would be possible to hire this group or another to provide similar training to volunteers in your town.

Contact Carol Wilson carolwilsoned@yahoo.com and <http://www.wilsoned.com/>

3. Additional guidance to help with your application

A. Rough payback of EEBCG project types

This is a general overview of the payback described above (and more); the long-term paybacks will usually generate more savings than the short term.

Short-Term Payback (under 5 years)	Medium-Term Payback (5-10 years)	Long-Term Payback (10+ years)
Equipment retrofits	Building envelop measures	Building codes
Labeling building energy use	Green roofs	Certification of building materials
Solar water heating	Retrofits using LEDs	Building integrated PV
Lighting retrofits (HPSV)	Lighting system redesign	Equipment standards
Control systems & sensors		Street & traffic lighting standards

Source: Jas Singh, Senior Energy Specialist, ESMAP, World Bank, Washington D.C., June 26, 2009

B. DOE materials for assisting small municipalities

#1: *EEBCG Estimated Expected Benefits Calculator*

This simple tool available [here](#) has been created by the DOE to help large cities with their project impact estimations. This calculator roughly estimates the numbers of jobs created, the energy saved and the greenhouse gas emissions reduced. It is important to note that this tool has been developed for a national purpose and might be too general to provide accurate figures for Connecticut municipalities.

#2: *Revolving loan funds best practices*

The DOE held a webcast on August 26th in order to provide guidance about revolving loan funds and gathered best practices across the US. For more information about these type of financial options, a presentation is available [online](#)

Broader information and background material for the webcast can be found [here](#)

#3: *Model Energy Efficiency and Conservation Strategies*

The Department of Energy provides resources large cities may find useful to prepare the EEBCG applications. This guidance can also be very helpful for smaller municipalities. The DOE has developed a [model](#) tailored to the needs of municipalities. The main goal of this sample application is to provide an idea of the length and level of detail needed. However these information might be slightly different from what the OPM require.

For more information and materials about the DOE guidance are available [here](#)

#4: *California program Q&A*

While Connecticut-specific guidance is not yet available you may wish to start with this guidance already issued by the state of California for its towns [here](#) on what EEBCG grants can and can't be used for.

C. Regional bonus pool program

As part of the state's EEBCG grant, OPM will use 10% (of the \$9,593,500) for a competitive regional sub-grant. Municipalities of all sizes can apply for the OPM bonus pool- the only requirement is that two or more municipalities apply.

Applying for this grant could bring a significant amount of additional funding for energy efficiency projects, as OPM states that they will give priority to projects that extend municipal EEBCG grants. For instance, a city which applies for the EEBCG main grant to synchronize traffic signals might have better chance to receive the regional grant by extending the synchronization to neighboring cities. It may also be possible for residential outreach to promote Home Energy Solutions audits on a multi-town basis to qualify for the bonus tool program.

Finally, the regional bonus pool grant applications will be due no earlier than December 2, 2009. Therefore, we suggest that you first focus on the main grant your town will get just by applying. Later this fall we will provide additional guidance to help municipalities applying for the regional grant. Please send us ideas.

More information available [here](#)

D. Simple Projects from California

Some towns may not have the resources and/or expertise to develop complex energy efficiency projects. In these cases, the California Energy Commission has created a list of efficient equipment a town can just purchase, [Attachment B page 28](#). By choosing from the list below, municipalities can apply for the EEBCG grant and pick from highly-cost effective technologies without hiring any technical experts. However, this solution should be pursued only if municipalities lack the ability to create a more localized energy proposal.

➤ Lighting

1. Fluorescent Lamps: All T8 linear lamps except for 25-watt lamps, and all T8 u-shape fluorescent lamp. Minimum operation of 2,000 hours/ year.
2. Instant Start Electronic Ballast: 0.9 Power Factor or higher and 0.77 ballast factor minimum.
3. LED traffic signal and LED pedestrian signal modules.
4. LED or Induction lamps for street lighting application, parking lot/ garage application and exterior applications.
5. LED exit signs
6. Lighting occupancy sensors for intermittently occupied spaces.
7. Exterior lighting controls such as time clock and/ or photocell.
8. Probe Start HID ballasts with Pulse Start HID ballasts.

➤ Electrical

1. NEMA approved Premium efficiency motors (Minimum of 4,380 hours of operations annually or 12 hours /day).

➤ Mechanical

1. High Efficiency HVAC system replacement for 24 hour operation facilities such as police department or jails. High Efficiency is SEER 14 Minimum.
2. Condensing boiler or furnace for 24 hour operation facilities.

➤ Miscellaneous Controls

1. Vending Machine controllers
2. Programmable thermostats
3. Variable Frequency Drives (VFD) for aeration motor.

Appendixes

Appendix 1: Summary of applications from large CT municipalities

We compiled applications from large Connecticut cities that had both submitted grant applications and were willing to share information with us. This is an overview of what the bigger cities will be doing with their EEBCG grant money, note that not all of it will scale down to smaller towns. If you would like the actual application from one of these towns please email rsmith@cleanwater.org.

➤ Bridgeport
EECGB budget : \$1,257,000
<ul style="list-style-type: none"> • LEED energy efficiency upgrades of main public libraries, replacement of boilers, chillers and air handlers (\$750,000) • 300 home weatherization loans program (\$250,000) • Sewage treatment and energy facilities feasibility (waste to energy) (\$57,600) • Street lights retrofit in downtown Bridgeport (\$50,000) • Building Energy Efficiency and Conservation Strategy by an environmental consultant (\$30,000) • Creation of an Energy Improvement District (\$45,000) • 9 solar powered recycling compactors (\$40,000)
Contact: John Coctell john.coctell@bridgeport.gov

➤ Bristol
EECGB budget : \$557,500
<ul style="list-style-type: none"> • Replacement of the City Hall heating system installed in the 1960s. • Energy audits on up to 63 City buildings and facilities.
Contact: Justin Malley : JustinMalley@ci.bristol.ct.us

➤ East Hartford

EECGB budget : \$216,000

- The Town is installing LED traffic signals
- Break-out the HVAC system in the Council Chamber so it can stand alone.

Contact: Mary Martin mmartin@ci.east-hartford.ct.us

➤ Enfield

EECGB budget : \$290,100

- Replace school gyms lighting
- Street and parking lot LED lighting
- Retrofitting manual interior lighting controls with automated units
- Renovation of pedestrian walkway lights and poles

➤ Fairfield

EECGB budget : \$545,100

- Combined Heat and Power Projects: reciprocating natural gas generators which generate electricity and use waste heat (\$360,000)
- Financial Incentive and Public Awareness Program (\$121,000): Reusable bag giveaway, 10 new bike racks, reimbursement for residents' and small business owners' energy efficient purchases for the home
- Geothermal study of Stratfield School (\$45,000)
- Hybrid Town Vehicles (\$7,100)

Contact: Bob Wall bob.wall@ctcleanenergy.com

➤ Greenwich

EECGB budget : \$627,500 + Town funding \$331,500 + State reimbursement \$36,000

- 100kWh photovoltaic system on Glenville School which is under construction and slated for completion in Dec 2009 – possible delay until summer 2010. (\$995,000 from engineering design through installation).

Contact: Denise Savageau denise.savageau@greenwichct.org

➤ Harford

EECGB budget : \$1,372,000 + Town funding \$1,188,000

Lighting (\$1,040,700)

- 75 traffic lights replacement (\$244,032)
- LED Street light replacement (\$132,725)
- Facilities lighting upgrade (\$660,000)
- “Energy conservation awareness” program with CLFs replacement (\$3,943)

Building upgrade (\$1,210,000)

- Energy audits on 35 schools and public facilities (\$150,000)
- Building BAS (\$415,000)
- Retro-commission (\$645,000)

Other projects

- PV system potential projects (\$140,000)
- Backup generators replacement (\$50,000)
- Establish a position of Project Administrator/Building Control Specialist (\$120,000)

Contact: Don Blakelock dblakelock@hatford.gov

➤ Meriden

EECGB budget : \$546,400 + Town funding \$152,000

- Replace the City Hall boiler. The City retained the services of LMG Consulting Engineers, Inc. to assist in the development of the bid specifications. (\$423,932)
- Replacing the existing oil-fired boilers with one high-efficiency, natural gas fired condensing boiler and one dual-fuel boiler firing natural gas or number two fuel oil. (\$275,000)

Contact: Juliet Burdelski jburdelski@ci.meriden.ct.us

➤ Middletown

EECGB budget : \$213,300

- Repair or replace existing windows at Remington Rand, a large manufacturing building of historical significance in the Northend section of Middletown. Many of the existing windows are broken or missing and all contain lead and/or asbestos. (\$200,000)

Contact: Ron Klattenburg: r.klattenberg@sbcglobal.net or Bill Warner: bill.warner@cityofmiddletown.com

➤ Milford

EECGB budget : \$536,100

- Benchmarking & Auditing
- Broadband Infrastructure & Monitoring
- HVAC Improvements at City hall
- Pipe Valve Insulating Jackets at Various Locations
- Fuel Cell at Wastewater Treatment Plant
- Financial Management Assurances

Contact: Tom Ivers tivers@ci.milford.ct.us

➤ New Haven

EECGB budget : \$1,372,700; total projects cost \$1,037,000

- Creation of a two person office dedicated to the City's sustainability initiatives. (\$200,000)
- Revamping its recycling program to encourage residents to increase the recycling rate. Replacing 34,000 recycling bins with large 96 gallon totes. (\$87,500)

Energy conservation Strategy (\$750,000):

Audits & Feasibility Studies: review of existing audits and update of audits for 80 City buildings, including EPA Energy Challenge benchmarks for all buildings. (\$50,000 audits, \$100,000 feasibility).

- Owner's Agent to represent the City on all energy efficiency upgrade contracts (\$50,000)
- Upgrade to more energy efficient lighting. (\$300,000)
- HVAC/VFD Upgrades, variable frequency drives. (\$150,000)
- Sensors (\$100,000)

Contact: Robert Smuts rsmuts@newhavenct.net

➤ Stamford

EECGB budget : \$1,186,300 + Town funding \$72,000 + Fuel cell plant 6,373,000

- Lighting retrofit in schools (\$296,800)
- Street lights retrofit to LED (\$600,000)
- Two electric vehicle charging stations (\$125,400)
- Fuel cell and engine hybrid power plant at the Government Center (\$237,000 from EECBG + \$6,373,000)

Contact: Karen Cammarota kcammarota@ci.stamford.ct.us

➤ West Hartford

EECGB budget : \$574,500

- Boiler replacements at Elmwood Community Center and Noah Webster Library

Contact: Robert Palmer robert.palmer@westhartford.org

Appendix 2: Contacts to help municipal-level clean energy committees

Organization	Contact	Phone	Email	Description of services
Clean Water Fund/ Clean Water Action Hartford	Roger Smith	860-232-6232	rsmith@cleanwater.org	Serves as information clearinghouse to assist local clean energy task forces. Coordinates email list of clean energy task forces. Offers workshops and trainings Compiling best practices manuals Can provide one-on-one assistance to towns and attend local meetings.
CT Clean Energy Fund (education and 20% by 2010) Rocky Hill	Bob Wall	860 563-0015	bob.wall@ctcleanenergy.com	Materials and for achieving 20% clean energy purchase goal; support for becoming Clean Energy Community. www.ctcleanenergy.com
CT Clean Energy Fund (commercial/municipal renewable energy programs)	Dave Ljungquist	860-257-2352	dave.ljungquist@ctcleanenergy.com	Clean Energy Fund offers solar power rebates and incentives, incentives for solar water heating, fuel cells, and geothermal for homes, businesses and municipalities.
CT Clean Energy Fund (residential solar programs)	Angela Perondi-Pitel	860-257-2362	angela.perondi@ctcleanenergy.com	Residential solar PV, solar thermal rebates and solar lease program
CT Energy Efficiency Fund (residential/community outreach)	CL&P: Rebecca Meyer UI: Chris Ehlert	860-832-4924 203-499-2965	meyerra@nu.com christopher.ehlert@uinet.com	Support local clean energy task forces in outreach on Home Energy Solutions or other residential efficiency programs; energy competitions www.ctenergyinfo.com
CT Energy Efficiency Fund (municipal efficiency programs-CL&P territory)	Jim Motta (CL&P)	860-665-3098	mottaj@nu.com	CEEF has programs available for lighting, electricity & natural gas retrofits, proper building operations, zero-interest “on-bill financing” www.ctenergyinfo.com 1877WISEUSE

<p>CT Energy Efficiency Fund (municipal efficiency programs- UI territory)</p>	<p>Roy Haller (UI)</p>	<p>203-499-2025</p>	<p>roy.haller@uinet.com</p>	<p>CEEF has programs available for lighting, electricity & natural gas retrofits, proper building operations, zero-interest “on-bill financing” www.ctenergyinfo.com 1877WISEUSE</p>
<p>Office of Policy and Management</p>	<p>David Kalafa</p>	<p>860-418-6301</p>	<p>David.kalafa@ct.gov</p>	<p>In charge of stimulus conservation block grants for municipalities- contact him if you have questions and visit www.ct.gov/opm/</p>
<p>CT Department of Environmental Protection</p>	<p>Lynn Stoddard</p>	<p>860-424-3236</p>	<p>Lynn.Stoddard@ct.gov</p>	<p>Coordinates climate change education group which meets monthly. Working to create climate change resources for municipalities. www.ctclimatechange.com</p>
<p>Institute for Sustainable Energy at Eastern CT State University</p>	<p>Bill Leahy</p>	<p>860-465-0252</p>	<p>LeahyW@easternct.edu</p>	<p>Technical assistance on construction of new schools or municipal buildings; support for building energy audits and use of EnergyStar portfolio manager tool; energy educational curricula</p>

Appendix 3: EEBCG Allocations by town

Andover \$ 34,211	Ansonia \$ 78,713
Ashford \$ 37,894	Avon \$ 75,189
Barkhamsted \$ 35,612	Beacon falls \$ 41,708
Berlin \$ 83,647	Bethany \$ 41,117
Bethel \$ 78,609	Bethlehem \$ 35,276
Bloomfield \$ 84,918	Bolton \$ 39,814
Bozrah \$ 32,077	Branford \$ 108,926
Bridgeport direct grant	Bridgewater \$ 30,455
Bristol direct grant	Brookfield \$ 72,525
Brooklyn \$ 47,835	Burlington \$ 51,474
Canaan \$ 28,168	Canterbury \$ 3 9,768
Canton \$ 54,205	Chaplin \$ 32,320
Cheshire \$108,489	Chester \$ 36,102
Clinton \$ 64,316	Colchester \$ 69,867
Colebrook \$ 29,427	Columbia \$ 40,436
Cornwall \$ 29,285	Coventry \$ 60,303
Cromwell \$ 64,241	Danbury direct grant
Darien \$ 83,624	Deep river \$ 38,531
Derby \$ 61,004	Durham \$ 46,419
East granby \$ 39,831	East haddam \$ 50,632
East hampton \$ 61,334	East hartford direct grant
East haven \$ 107,907	East lyme \$ 79,119
East windsor \$ 55,742	Eastford \$ 30,180
Easton \$ 46,329	Ellington \$ 66,772
Enfield direct grant	Essex \$ 44,554
Fairfield direct grant	Farmington \$ 97,633
Franklin \$ 30,476	Glastonbury \$ 121,044
Goshen \$ 34,173	Granby \$ 57,474
Greenwich direct grant	Griswold \$ 57,981
Groton \$ 147,553	Guilford \$ 89,783
Haddam \$ 47,586	Hamden direct grant
Hampton \$ 31,133	Hartford direct grant
Hartland \$ 31,014	Harwinton \$ 41,111
Hebron \$ 51,732	Kent \$ 33,548

Killingly \$ 76,281	Killingworth \$ 43,656
Lebanon \$ 46,294	Ledyard \$ 68,715
Lisbon \$ 37,176	Litchfield \$ 50,108
Lyme \$ 31,011	Madison \$ 7 9,417
Manchester direct grant	Mansfield \$ 9 7,054
Marlborough \$ 43,390	Meriden direct grant
Middlebury \$ 45,999	Middlefield \$ 37,300
Middletown direct grant	Milford direct grant
Monrow \$ 81,180	Montville \$ 82,171
Morris \$ 3 1,790	Naugatuck \$ 117,459
New Britain direct grant	New Canaan \$ 8 2,593
New Fairfield \$ 6 5,828	New Hartford \$ 4 4,505
New haven direct grant	New London \$ 100,062
New Milford \$ 107,348	Newington \$ 110,765
Newtown \$ 102,573	Norfolk \$ 29,784
North Branford \$ 66,714	North Canaan \$ 34,706
North haven \$ 94,500	North Stonington \$ 40,092
Norwalk direct grant	Norwich direct grant
Old Lyme \$ 46,381	Old Saybrook \$ 55,517
Orange \$ 64,997	Oxford \$ 61,273
Plainfield \$ 69,737	Plainville \$ 74,784
Plymouth \$ 59,779	Pomfret \$ 37,060
Portland \$ 52,615	Preston \$ 39,194
Prospect \$ 51,851	Putnam \$ 51,906
Redding \$ 50,597	Ridgefield \$ 94,124
Rocky hill \$ 79,460	Roxbury \$ 31,715
Salem \$ 36,878	Salisbury \$ 36,545
Scotland \$ 29,995	Seymour \$ 72,024
Sharon \$ 33,750	Shelton direct grant
Sherman \$ 36,901	Simsbury \$ 93,507
Somers \$ 56,417	South Windsor \$ 100,112
Southbury \$ 81,979	Southington direct grant
Sprague \$ 33,632	Stafford \$ 59,127
Stamford direct grant	Sterling \$ 35,786
Stonington \$ 78,114	Stratford direct grant
Suffield \$ 68,735	Thomaston \$ 47,638
Thompson \$ 51,729	Tolland \$ 67,365

Torrington <i>direct grant</i>	Trumbull \$ 125,628
Union \$27,175	Vernon \$ 110,767
Voluntown \$ 32,563	Wallingford <i>direct grant</i>
Warren \$ 29,007	Washington \$ 35,630
Waterbury <i>direct grant</i>	Waterford \$ 79,365
Watertown \$ 89,074	West Hartford <i>direct grant</i>
West haven <i>direct grant</i>	Westbrook \$ 44,163
Weston \$ 54,535	Westport \$ 101,756
Wethersfield \$ 99,651	Willington \$ 42,776
Wilton \$ 76,295	Winchester \$ 56,122
Windham \$ 93,562	Windsor locks \$ 61,169
Windsor \$ 108,260	Wolcott \$ 72,508
Woodbridge \$ 51,642	Woodbury \$ 52,954
Woodstock \$ 48,709	Total grants: \$ 8,634,150

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Please contact us for more information

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