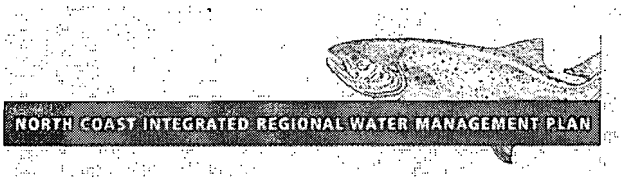


To: Mr. Pat Perez, California Energy Commission
Fr: Jimmy Smith, Policy Review Panel Chairman
North Coast Integrated Regional Water Management Plan
Re: Comments on CEC Energy Efficiency and Conservation Block Grant Program
Da: July 16, 2009

The North Coast Integrated Regional Water Management Planning (NCIRWMP) process is a regional, stakeholder-driven planning and implementation framework that comprises seven north coast counties, including Del Norte, Trinity, Siskiyou, Modoc, Humboldt, Mendocino, and Sonoma. Covering a land mass of 19,390 square miles—which represents 12% of the landscape of California - the NCIRWMP integrates long term planning and high quality project implementation in an adaptive management framework, fostering coordination and communication among the diverse stakeholders in the Region. As a truly integrated planning entity, focus areas for the NCIRWMP include energy independence, GHG emissions reduction, energy efficiency and conservation, salmonid recovery, enhancement of the beneficial uses of water, and the synchronization of state and federal priorities with local priorities, knowledge, and leadership.

Our Policy Review Panel is comprised of elected officials appointed by each county's Board of Supervisors, and this governance group is committed to transparent and inclusive decision making that welcomes participation from all stakeholders in the North Coast region. The Policy Review Panel is supported in its decision making by a Technical Peer Review Committee comprised of scientists, planners and engineers, as well as staff and consultants with substantial experience in a range of technical areas.

The NCIRWMP has been highly successful at synchronizing state and federal priorities with local priorities via its planning and implementation framework. Through our regional contracting framework, we are currently implementing twenty integrated water projects at a cost of over $25 million. These projects are priorities for our state and federal agency partners, and include multiple objectives related to water supply reliability, water conservation, public health and watershed health. Partner agencies such as the Department of Water Resources and the State Water Resources Control Board appreciate the depth of local and regional planning, coordination, prioritization and implementation that the NCIRWMP has engaged in, as it creates a "one stop shop" for agency interaction across a broad region.

The North Coast IRWMP has held several workshops in the North Coast region focused on energy independence, climate mitigation and adaptation, and is integrating these issues into the planning framework and beginning to compile a diverse list of potential projects that will address the state's goals under AB 32 and other climate objectives, including the following:

- Forest fire fuel reduction biomass to energy projects
- AB 811 energy conservation
- AB 939 food waste diversion and conversion to biogas energy
- Dairy farm manure pollution control and methane generation
- Rural low income commercial and residential energy conservation
- Disadvantaged community water and wastewater service district energy conservation program
- Rural municipality and county government energy conservation program

We would welcome the opportunity to act as a demonstration region for planning, implementation and evaluation of the CEC's energy efficiency priorities through a regional planning framework. The North Coast IRWMP places a strong emphasis on technically sound innovation, efficiency, and the sharing of information so that successful projects and initiatives can be franchised to other areas. We have a diversity of options for acting as a test bed for energy independence and climate mitigation strategies and can coordinate the efforts of our many small communities in our region, thereby gaining substantial economies of scope and scale.

We believe that there is substantial opportunity for the creation and ongoing maintenance of energy efficiency jobs in the North Coast region, and believe that your program offers a way to jump start economic capacity in the North Coast. Given our solid track record of responsible regional grant management, the NCIRWMP represents a strong choice for fiscal accountability while delivering economic development opportunities to an often overlooked rural region of California.

As you develop your guidelines and criteria for the Energy Efficiency and Conservation Block Grant program for small communities and for the $19.8 million in designated funding for the Commission to utilize at its discretion, we ask that you take into account the benefits that result from the type of integrated regional planning and implementation framework that we have successfully developed in the North Coast, and that your eligibility requirements are conducive to this type of regional approach.

Additionally, since the North Coast region is comprised of predominantly economically disadvantaged communities, we ask that you consider criteria that provide incentives for the participation of disadvantaged communities or at the very least do not create barriers to their participation - perhaps a lowered or waived match requirement as other granting agencies have done. We are also requesting that your program include technical assistance to economically disadvantaged communities, as the lack of technical support often results in a lack of participation from communities that have worthwhile projects, but need extra support for project development. Specifically, we understand that the CEC may be able to assist applicants with energy assessments, and we would appreciate this and other types of technical assistance.

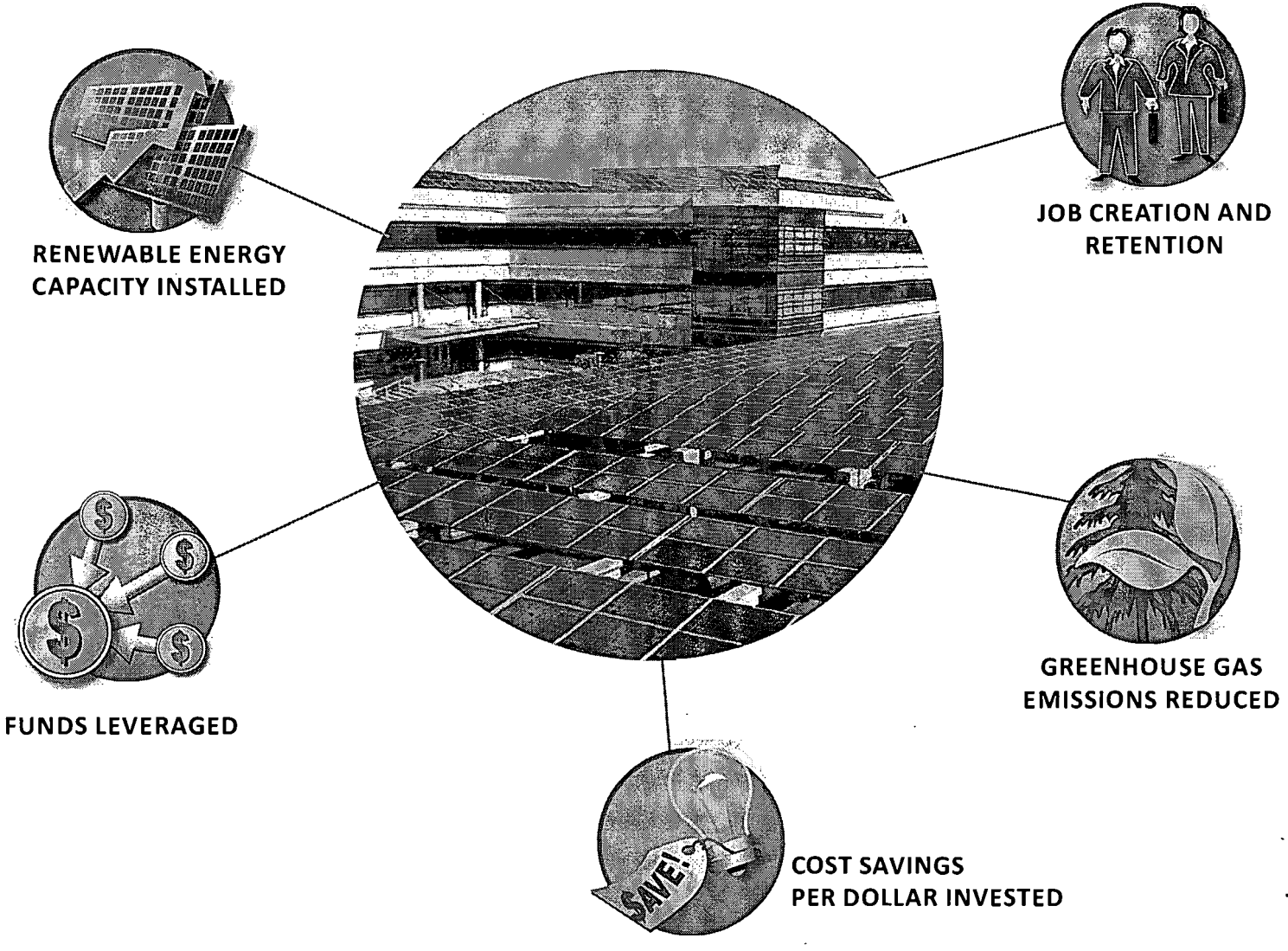
Finally, we hope that you will consider flexibility in the proposal to limit administrative expenses to five percent (perhaps this limit could be dependent upon the size of the award) and give preference to projects that can demonstrate their integration into a regional planning framework which results in efficient use of public funds and economies of scope and scale.

We thank you for your consideration of the above, and would like to set a meeting with you and our staff to discuss your program, the NCIRWMP, and energy project opportunities in the North Coast region. I will ask our staff – Lisa Renton and/or Karen Gaffney to follow up with you to set a meeting.

How Will the Success of Your Stimulus Spending be Measured? Choose a Solar PPA

SOLAR POWER PARTNERS

The funds from the Department of Energy for the use of Energy Efficiency and Conservation Block Grant (EECBG) deliver long-term positive impacts to both your organization and the community. The following five performance metrics show the positive benefits of using the funding combined with a solar Power Purchase Agreement (PPA).



RENEWABLE ENERGY CAPACITY INSTALLED

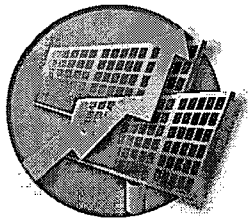
JOB CREATION AND RETENTION

FUNDS LEVERAGED

GREENHOUSE GAS EMISSIONS REDUCED

COST SAVINGS PER DOLLAR INVESTED

Turn over for explanations

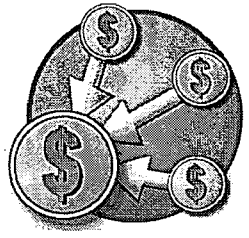


RENEWABLE ENERGY CAPACITY INSTALLED

Leveraging the stimulus funds with a solar PPA will increase the total renewable energy capacity installed.

Straight purchase $500K		Use $500k to buy down rate of solar PPA
• You get one 71 kW system	**vs.**	• You get four 250 kW systems (1 MW total)
• Additional cost for operation and maintenance		• No additional capital required, SPP covers maintenance costs

Using this calculation, you can get **14 times as much solar** by buying down the rate with a solar PPA.



FUNDS LEVERAGED

Leverage the best combination of public and private incentives.

Example: Using $500K of stimulus funds for renewable energy using a PPA can leverage multiple solar systems instead of just one system. Doing so will enable you to capture:

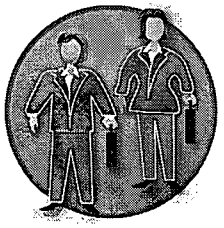
- The use of Solar Power Partners' private capital
- 30% Investment Tax Credit (ITC)
- Accelerated depreciation (accounts for 10% of system when monetized)

GREENHOUSE GAS EMISSIONS REDUCED

A 1 MW DC solar array reduces emissions equivalent to:

- Annual carbon dioxide (CO_2) offset: **1532 metric tons**
- Carbon sequestered annual by: **10.7 acres of forest**
- CO_2 emissions from: **1,738,50 gallons of gasoline consumed, 3562 barrels of oil consumed**, and **281 passenger vehicles**

Source: US EPA Greenhouse Gas Equivalencies Calculator, www.epa.gov



JOB CREATION AND RETENTION

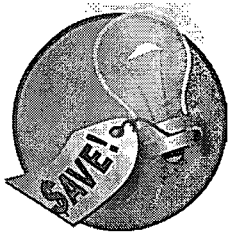
Initial solar installation will employ approximately 100 part time workers per 1 MW including:

- Local general construction workers
- Local solar integrators
- Local engineers
- Local project developers
- Local mowing and washing crews
- Local electricians
- Architects
- PPA provider
- Solar manufacturers

1 MW DC will create roughly 100 man hours of work per year and approximately 150 hours of labor per year per MW DC. This is several more times the number of workers than if you use a straight purchase system.

The importance of using some of your stimulus money for solar projects **on government buildings** (Item 13 under Eligible Uses of Stimulus Money):

- Helps establish the solar industry in your community
- Allows the community to become familiar with solar
- Builds job skills for solar projects



COST SAVINGS PER DOLLAR INVESTED

When you leverage each project using a PPA, the energy savings is maximized on a per stimulus dollar basis.

As an example, one of our customers with a 1.2 MW system saw an energy savings of $2 million over twenty years.

(Each project savings will vary based on a variety of factors that your PPA provider will disclose.)

Additional considerations: less environmental impact statements for rooftop systems.

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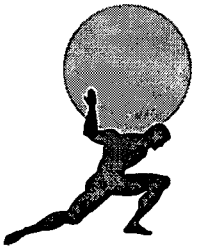
American Recovery and Reinvestment Act (ARRA)/ Stimulus Bill Funds and Solar Financing:

Making Your Funding Go Further

Information about using your funding to pay down solar financing and making the most of solar energy projects



SOLAR POWER PARTNERS

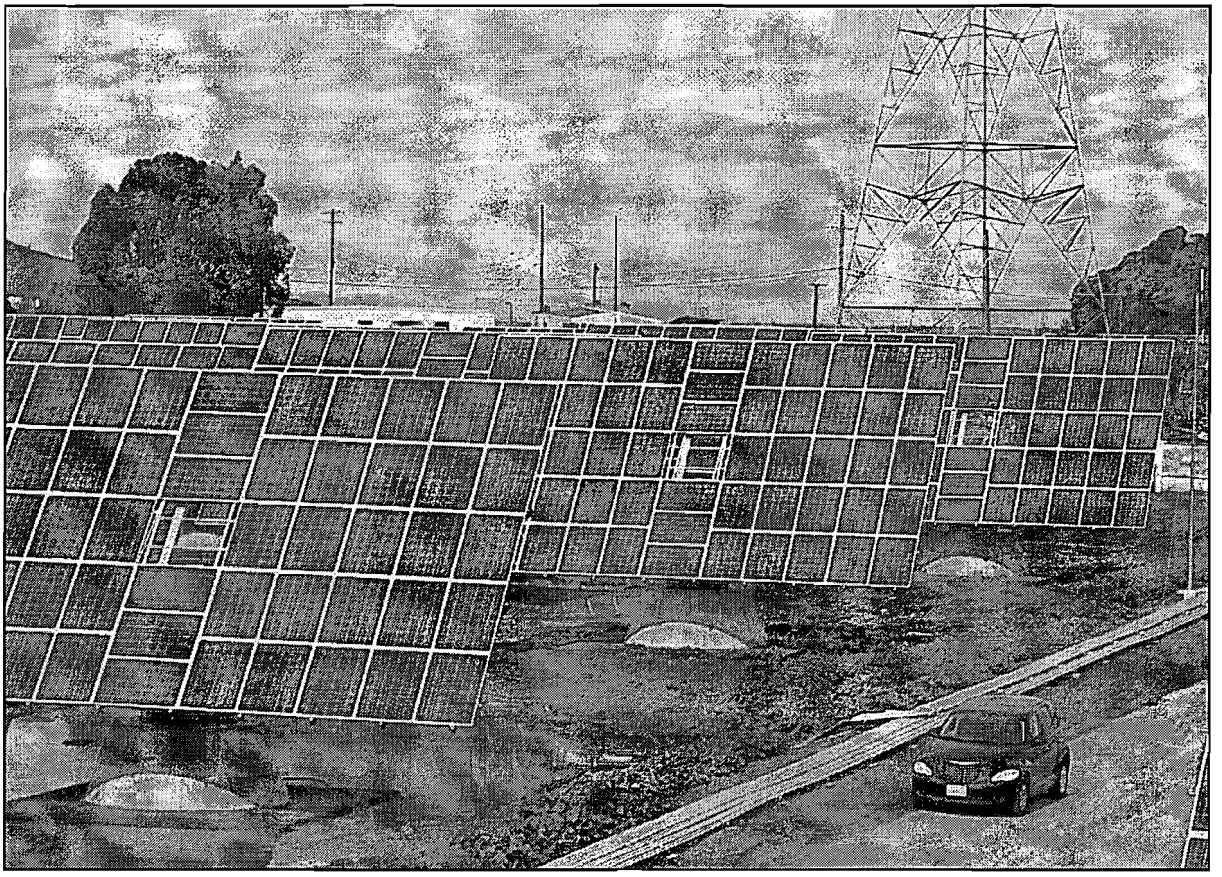
Summary

Congratulations on receiving funding from the American Recovery and Reinvestment Act (ARRA)/ Stimulus Bill! You can use this funding for renewable energy projects (such as a solar energy facility on your site) that will not only create jobs and help the environment, but most importantly reduce your future energy costs.

This document was put together to give you information about how to make your funding go as far as possible. It contains the following important pieces of information:

- Solar energy facilities not only create jobs and help the environment, but **reduce your future energy costs.**
- Use a part of the Stimulus Bill funding to **pay down a small portion of the distributed generation solar projects cost** by signing power purchase agreement (PPA) for 15-20 years.
- Use solar project financing to leverage your stimulus funds to provide the greatest environmental benefits and job creation (you'll get **three to more than ten times** the amount of solar than if you purchased a solar system outright).
- You have **a limited amount of time** to spend these funds. **Distributed solar is a proven technology that enjoys fast permitting** (1-2 months— can request financing same time as permitting), ready available product and no dependence on transmission infrastructure.
- Jobs can be generated immediately.

Contents



West County Wastewater District, 1.014 MW, Solar Power Partners

1. Information About Leveraging Your Stimulus Funding

How it Works

You can use a part of the Stimulus Bill funding to pay down a portion of the distributed generation solar projects cost of buildings by signing a solar Power Purchase Agreement (PPA) for 15-20 years. Stimulus Bill grants are a good opportunity to leverage the impact of public funds in combination with private equity, outside funding, and tax credits not available to non profits, thereby increasing your overall return on investment.

Timing

You have a limited amount of time to spend these funds. It is important to begin preliminary site assessment and financial modeling as soon as possible. Distributed solar is a proven technology that uniquely enjoys fast permitting (1-2 months— can request financing same time as permitting), ready available product, and no dependence on transmission infrastructure.

Solar Power Partners' process is to commence construction immediately once we receive financing, and upon engineering and design approval. Projects usually take 3-6 months to complete. This is a huge advantage of distributed generation for economic stimulus; you will create jobs right away.

Job Creation Benefits

Power Purchase Agreements leverage your stimulus funds to provide the greatest environmental benefits and job creation. With a solar Power Purchase Agreement, systems can be three to ten times larger with the same amount of Stimulus funding, which in turn creates that multiplier of jobs. For distributed generation solar, on average a projects will employ 100 PT workers per MW (the length of time depends on the employee's role). These jobs are usually local.

In addition, substantial job creation comes from manufacturing and other support services such as financing and suppliers.

Environmental Benefits

Larger systems offset more carbon-based energy.

A solar system sized 115 kW might have an estimated annual output of 165,307 kWh. That is equivalent to 119 metric tons of carbon dioxide offset, or 13,507 gallons of consumed gasoline.

By comparison, a solar system sized at 1.1 MW might have an estimated annual output of 2,101,925 with an equivalent 1,510 metric tons of carbon dioxide offset, or 171,396 gallons of consumed gasoline.

(Calculation source: Greenhouse Gas Equivalency Calculator, US Environmental Protection Agency, www.epa.gov. System sizes are taken from actual Solar Power Partners systems.)

2. About Solar Financing

Solar Power Purchase Agreements (PPAs) are an excellent way to take advantage of Stimulus Bill funding. They are discussed below.

What is a solar Power Purchase Agreement?

A solar Power Purchase Agreement (PPA) is a long-term agreement to buy power from a company that produces electricity, and serves as an excellent alternative to leasing or owning the system. Using our own source of funds, we build a solar energy facility on our customer's site and operate and maintain the facility for 20 years or longer.

Simply put, solar PPAs have become the de-facto standard for how more than 70% of all commercial solar is completed today.

Features and benefits of a solar PPA:

■ **Predictable rate of electricity.** Your PPA rate is preset over a 20+ year period and is immune to utility rate hikes. This acts as a strong hedge against rising energy costs and is a terrific way to save money on your electricity bill. For example, our Fresno Yosemite International Airport (2.4 MW) system expects to save about $13 million in electricity costs over the 20-year term.

■ **You can take advantage of the solar Investment Tax Credit (ITC).** Especially for government and non-profit organizations, the added benefit of the federal ITC of 30% of the system cost, which we can monetize on the tax-exempt entity's behalf in the form of a reduced PPA rate. Such entities cannot otherwise utilize the ITC on their own, which means even on a 0% interest loan or grant, they would be paying 40% more for the system (w/o ITC + associated depreciation)

■ **Unlike a lease, no risk or cost of operation and maintenance.** Solar PPAs remove all of the hassle associated with large solar systems: operations, maintenance, and long-term management. SPP shoulders all of the the operations costs and performance risk. If the system does not produce energy, you do not pay.

How does a solar PPA increase the stimulus bill funding cash?

You can use a part of the Stimulus Bill funding to pay down a portion of the solar project costs when using a solar PPA, which in turns creates lower energy rates for you than you would normally have.

With a solar PPA, you are entering into an agreement with an experienced, knowledgeable PPA provider, who can commence construction immediately after receiving financing and engineering and design approval. This means that you will get jobs right away. Projects usually take 3-6 months to complete depending on size and application type.

3. Choosing a Solar Finance Provider

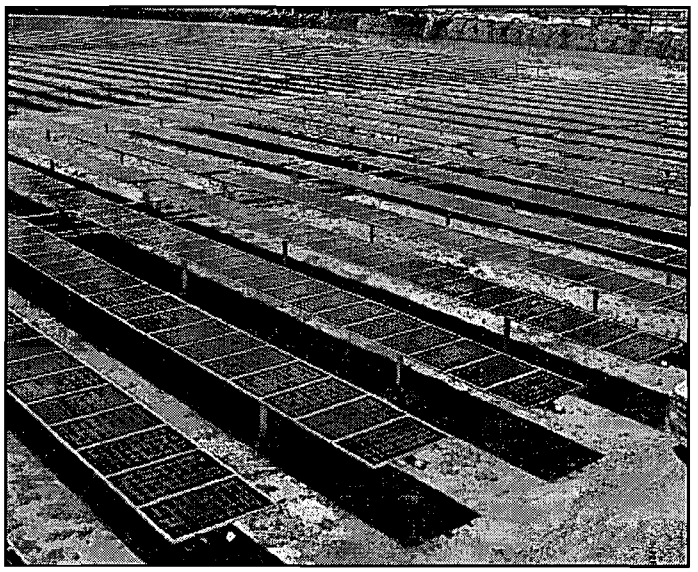
The benefit to adopting a solar PPA is that the system will not be owned or operated by you. You will need to work with a solar PPA provider that:

1. Has a track record of successful projects, particularly with the type of system you require.
2. Has installation expertise and knowledge, and is confident that every step of the process will be technologically the best possible.
3. Will work with you for twenty or more years (long term stability).
4. Provides assurance that they are committed to you and your needs.
5. Partners with top-tier banks and installation partners.

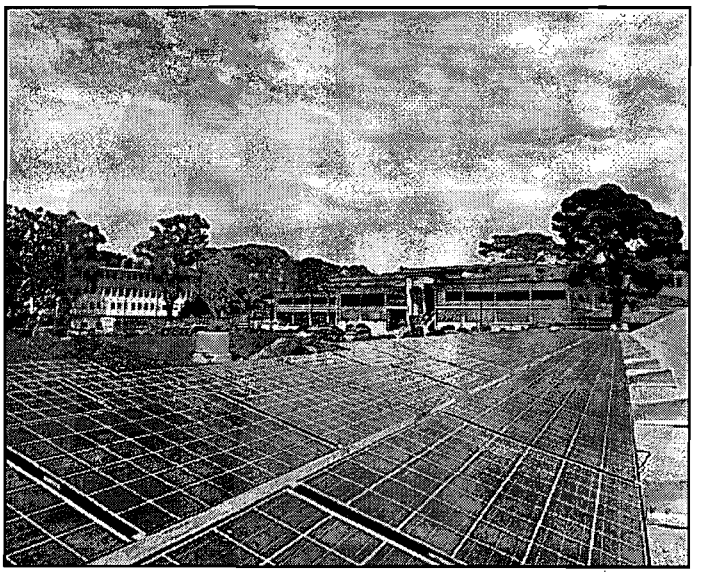
A solid proposal and track record of completed projects will indicate a solid solar PPA provider.

Working with a solar financing company and PPA provider means that you will partner with the company for twenty or more years. Make sure the company has:

- **A proven track record with your type of project**
- **Easy, streamlined processes**
- **In-house knowledge and expertise**
- **Willingness to negotiate and manage any part of the process you need**
- **Completed, successful similar projects in operation**



Fresno Yosemite International Airport, 2.4 MW, Solar Power Partners



Point Loma Nazarene University, San Diego, 357.32 kW, Solar Power Partners

Download a copy of our paper, Questions to Ask a Solar PPA Provider, at:

http://www.solarpowerpartners.com/PDFs/QuestionstoAsk.pdf

4. Overview of the Typical Process

The following six process steps to modeling, financing, and building a solar system are taken from Solar Power Partners' general processes. SPP stands by their thorough and meticulous methodology, which has successfully worked for over 37 solar systems in operation.

1 Customer and Site Qualification

- Initial customer engagement
- Feasibility assessment
- Energy, credit, property profiling
- Financial modelling and preliminary solar PPA

2 Financing

- Negotiate PPA terms
- Finalize and sign PPA
- Rebate application

3 Engineering

- Construction planning
- Engineering, Procurement and Construction (EPC) Agreement

4 Construction

- Complete construction management
- Documentation control

5 Test

- Building code inspection
- Utility grid connection approval
- Acceptance testing
- Installer deliverable verification

6 Operate

- Commissioning
- Ongoing monitoring
- Detailed asset management (see below)

Information about Asset Management

Asset management is one of the most important components of a large-scale solar energy facility. The solar provider should have the resources, technology, and track record of total management for the facility. The following abilities make up the core competencies and policies of the Solar Power Partners Asset Management team.

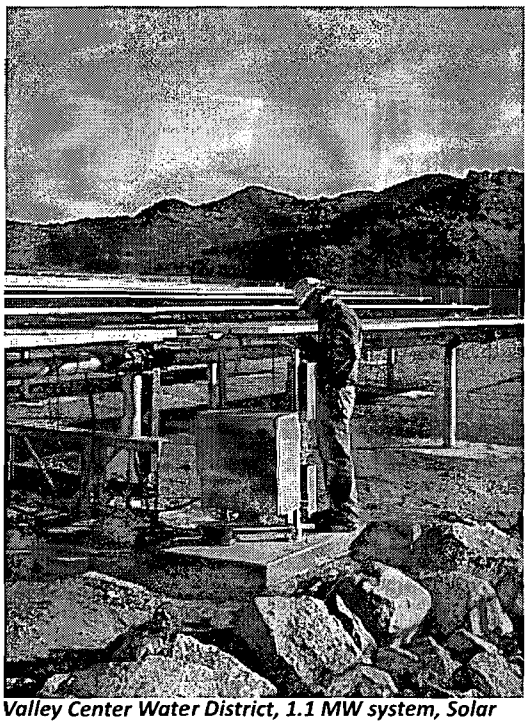
- Commitment to optimized energy performance and system life in order to maximize long-term asset value

- State-of-the-art, string-level monitoring solutions for fine-grained operational facility reported at regular intervals during daylight hours

- Tailored preventive maintenance and array cleaning solutions for each facility

- Assets within the facility are carefully tracked, including warranties, maintenance intervals, repair history, soft ware versioning, and overall component performance characteristics

- Minimized investor risk, maximize system uptime and kWh production, and eliminate host operational responsibilities



Valley Center Water District, 1.1 MW system, Solar Power Partners

5. About Solar Power Partners

Solar Power Partners, Inc. (SPP) is a renewable energy company that helps businesses, institutions, municipalities and agricultural customers embrace solar energy. SPP develops, owns, and operates distributed solar energy facilities (SEFs) and sells solar-generated electricity through solar Power Purchase Agreements (PPA), long-term energy financing solutions that help customers go green without the hassles or costs of solar facility ownership and maintenance.

SPP serves the continental United States and Hawaii and teams with the nation's best solar integrators for customized, renewable energy installations. SPP's customers include water districts, schools, colleges and universities, hospitals and healthcare facilities, airports, detention centers, commercial facilities, agricultural facilities, and municipalities.

SPP is one of the few companies that have substantial PPA experience; we have experience and in-house expertise to navigate a variety of goals and situations.

Your Long-term Partner

We've maintained the same core team and strategy from company inception. We're committed to relationships through the twenty year terms of the agreements and beyond. We're a bankable company with premier corporate and project energy investors who ensure our short term execution capability and long term viability.

A Provider with Proven and Reliable Modeling

Part of our core mission is to provide honest, accurate modeling. We back this up by sharing details of our analyses and providing line by line walkthroughs of our calculations if needed. We price projects based on today's figures, not forecasts, and are committed to sharing that information with the industry. If costs come down before product is paid for, we share the savings with you. Likewise, we'll never inflate or overstate equipment performance or site analysis.

Experts in our Field

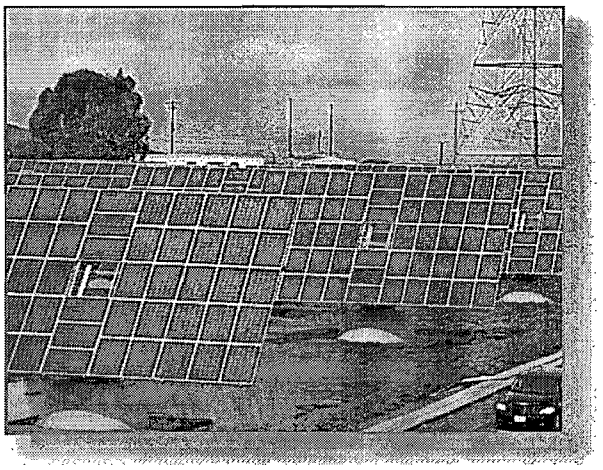
With specialists on the team in engineering, construction, tax equity relations, government affairs, and financial modeling, we deliver a knowledgeable, personalized, and detailed level of care at every step of the process.

Experienced Solar Owners and Managers

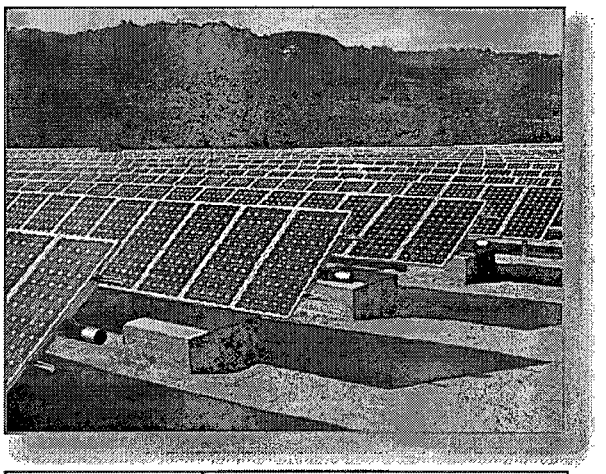
With a large portfolio of successful, completed projects in operation, we're prepared to take on a variety of sites, technology, and deployment. Our solar Power Purchase Agreement (PPA) is streamlined and easy, and we are ready to assist with rebate and REC credit application and management.

Solar Power Partners Representative Projects

Water Districts

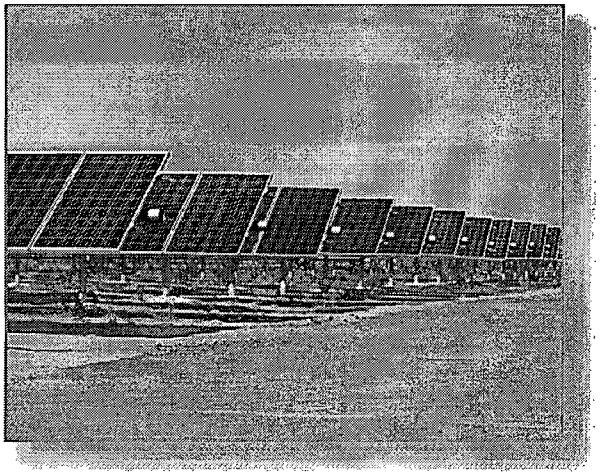


PROJECT	**West County Waste Water**
LOCATION	Richmond, CA
SIZE	1.4 MW DC
TYPE	Ground tracking
COMPLETION	December 2008

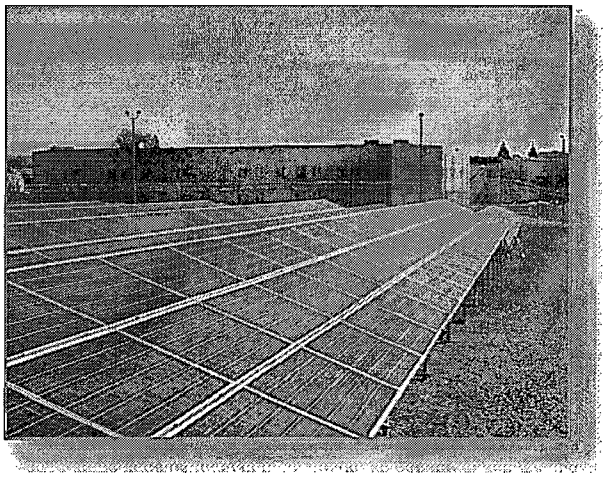


PROJECT	**Valley Center Water District**
LOCATION	Valley Center, CA
SIZE	1.1 MW DC
TYPE	Ground tracking
COMPLETION	December 2008

Municipalities

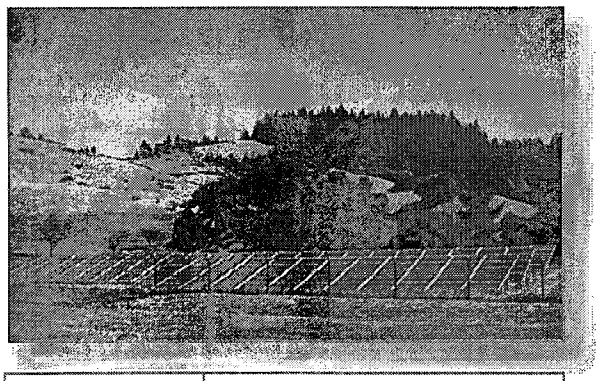


PROJECT	**Fresno International Airport**
LOCATION	Fresno, CA
SIZE	2.4 MW DC
TYPE	Ground tracking
COMPLETION	September 2008

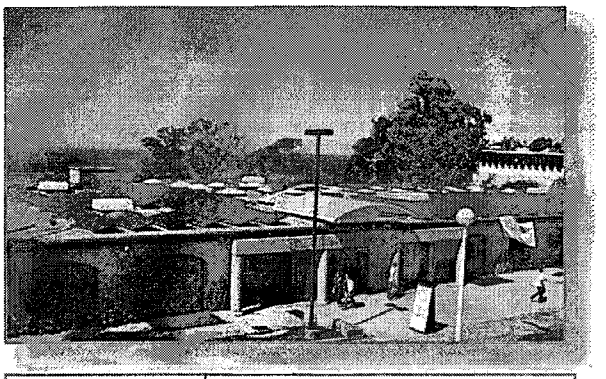


PROJECT	Placer County Detention Center
LOCATION	Auburn, CA
SIZE	399.96 kW DC
TYPE	Ground fixed
COMPLETION	March 2008

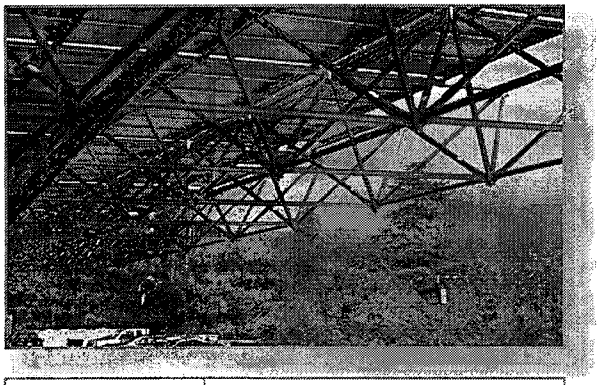
Schools and Universities



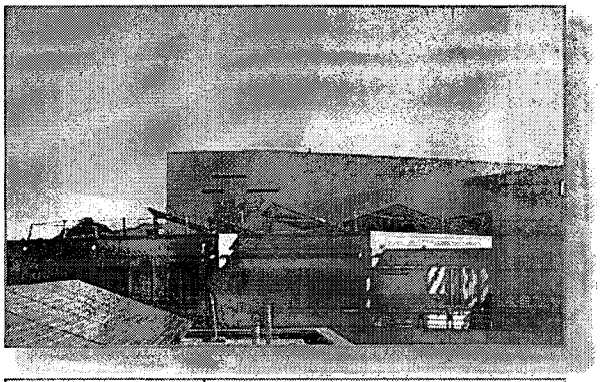
PROJECT	**Lagunitas School District**
LOCATION	Lagunitas, CA
SIZE	57.00 kW DC
TYPE	Rooftop fixed
COMPLETION	December 2008



PROJECT	**Point Loma Nazarene University**
LOCATION	San Diego, CA
SIZE	534.64 kW DC
TYPE	Roof fixed
COMPLETION	December 2008

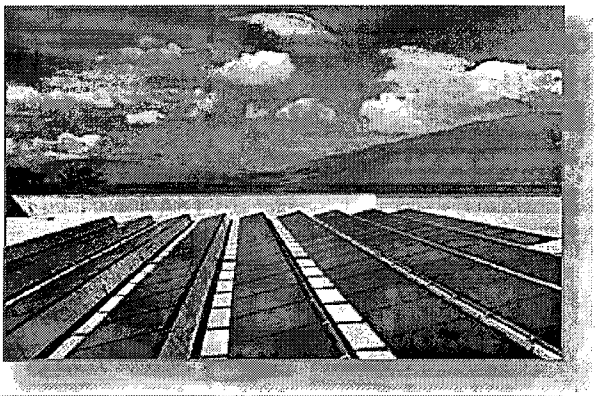


PROJECT	**CalTech**
LOCATION	Pasadena, CA
SIZE	238.68 kW DC
TYPE	Raised fixed
COMPLETION	December 2008

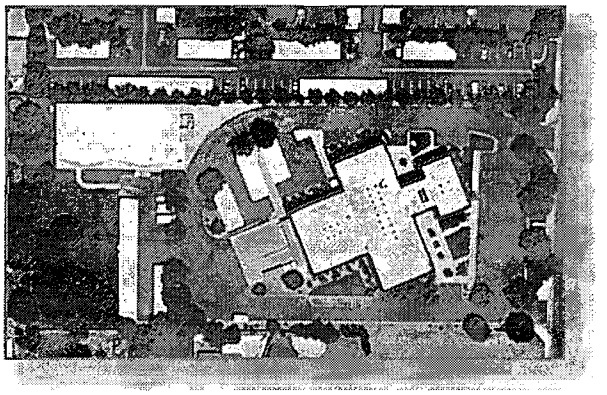


PROJECT	**UC San Diego**
LOCATION	San Diego, CA
SIZE	1.2 MW DC
TYPE	Raised and roof fixed
COMPLETION	Dec 2008 and Jan 09

Nonprofits

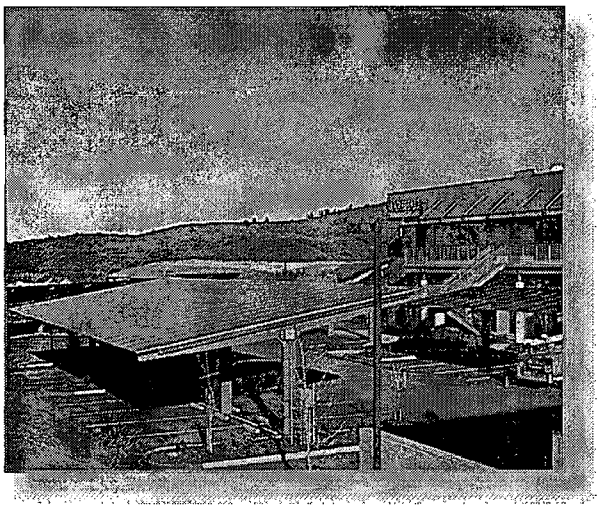


PROJECT	**Maui Economic Dev Board**
LOCATION	Maui. HI
SIZE	65.00 kW DC
TYPE	Roof fixed
COMPLETION	November 2008

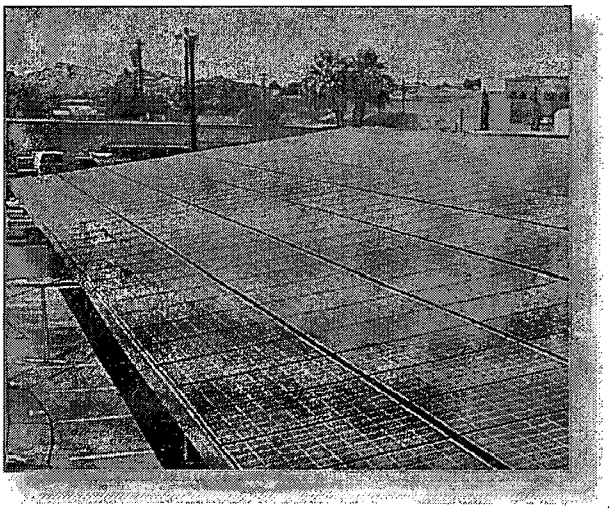


PROJECT	**Seventh Day Adventist**
LOCATION	Clovis, CA
SIZE	103.71 kW DC
TYPE	Rooftop fixed
COMPLETION	May 2008

Healthcare Facilities

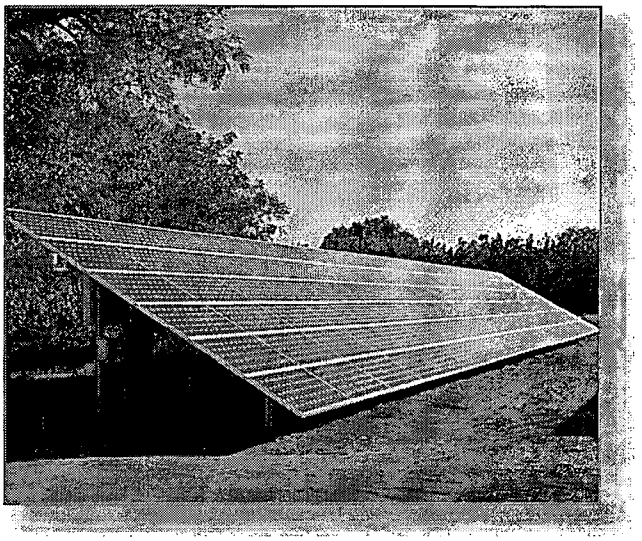


PROJECT	**Marshall Medical**
LOCATION	Cameron Park, CA
SIZE	669 kW DC
TYPE	Raised fixed
COMPLETION	December 2008

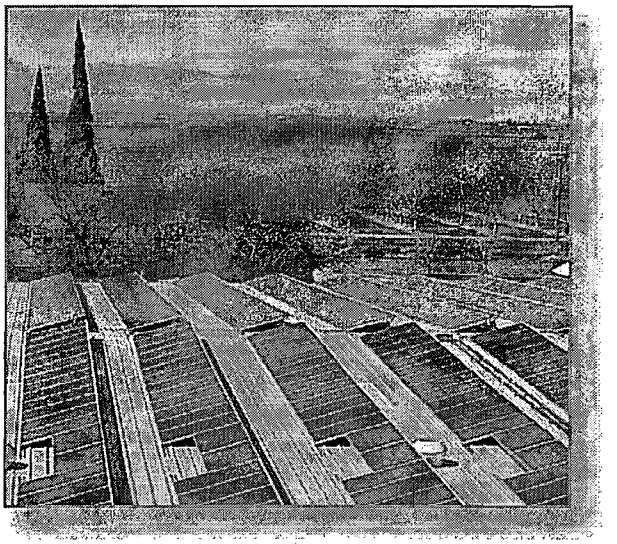


PROJECT	**St. Mary's Hospital**
LOCATION	Apple Valley, CA
SIZE	226.80 kW DC
TYPE	Raised fixed
COMPLETION	December 2008

Agricultural Facilities



PROJECT	**Abbey Ranch Winery**
LOCATION	Vina, CA
SIZE	59.40 kW DC
TYPE	Ground fixed
COMPLETION	March 2008



PROJECT	**Borges of California**
LOCATION	Glenn, CA
SIZE	269.78 kW DC
TYPE	Rooftop fixed
COMPLETION	April 2008

Solar Power Partners References

The following references for completed Solar Power Partners projects are available:

Municipalities

Fresno Yosemite International Airport
Contact: Kevin Meikle, Airports Planning Manager
Phone: (559) 621-4536
E-mail: kevin.meikle@fresno.gov

Contact: Russell C. Widmar, Director of Aviation
Phone: (559) 621-4600
E-mail: russ.widmar@fresno.gov
Project: 2.4 MW single-axis tracking array, ground-mount

Water Districts

West County Waste Water District Project
Contact: EJ Shalaby
Phone: (510) 222-6700
E-mail: eshalaby@wcwd.org
Project: 1 MW dual-axis tracking array, ground-mount

Valley Center Municipal Water District
Contact: Gary Arant
Phone: (760) 749-1603
E-mail: Garant@vcmwd.org
Project: 1.1 MW single-axis tracking array, ground-mount

Redwood Valley Water District
Contact: Bill Koehler, General Manager
Phone: (707) 485-0679
E-mail: gmrvcwd@pacific.net
Project: 99.2 kW ground-mount array

Schools

California Institute of Technology (CalTech)
Contact: Bill Irwin, Senior Director of Facility Manager
E-mail: bill.irwin@caltech.edu
Project: 240 kW raised fixed parking structure

Point Loma Nazarene University
Contact: Richard A. Schult, Director, Physical Plant
Phone: (619) 849-2571
Project: 534.64 kW Roof array

University of California, San Diego (USCD)
Contact: Dave Weil, Assistant Director, USCD Facilities Management
Phone: (858) 534-1778
Project: 1.2 MW mixed parking and roof arrays

Next Steps

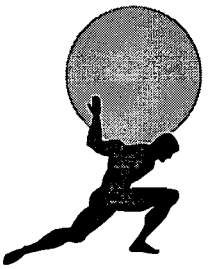
We would be happy to model energy/electricity savings for you. We can structure a solar PPA several ways to meet specific policy goals and are ready to discuss them with you.

For specific financial analysis on your project please contact:

Todd Michaels
SVP of Project Development
todd@solarpowerpartners.com
(415) 259-3605

For more information on your stimulus funding please contact:

Genevieve Nowicki
Director of Government Relations
gnowicki@solarpowerpartners.com
(415) 389-8981 x740.



SOLAR POWER PARTNERS

Solar Power Partners
100 Shoreline Highway Suite 210B
Mill Valley, CA 94941
415.389.8981
info@solarpowerpartners.com
www.**solarpowerpartners**.com

NOTE: REGISTRATION REQUIREMENTS

Registration Requirements

There are several one-time actions you must complete in order to submit an application in response to this Announcement (e.g., obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number, register with the Central Contractor Registration (CCR), and register with FedConnect). Applicants who are not registered with CCR and FedConnect, should allow at least 10 days to complete these requirements. It is suggested that the process be started as soon as possible.

Applicants must obtain a DUNS number. DUNS website: http://www.dnb.com/US/duns_update/

Applicants must register with the CCR. CCR website: http://www.ccr.gov/

Applicants must register with FedConnect to submit their application. FedConnect website: www.fedconnect.net

Questions

Questions relating to the **system requirements or how an application form works** must be directed to Grants.gov at 1-800-518-4726 or **support@grants.gov**.

Questions regarding the **content** of the announcement must be submitted through the FedConnect portal. You must register with FedConnect to respond as an interested party to submit questions, and to view responses to questions. It is recommended that you register as soon after release of the FOA as possible to have the benefit of all responses. More information is available at **http://www.compusearch.com/products/fedconnect/fedconnect.asp**. DOE/NNSA will try to respond to a question within 3 business days, unless a similar question and answer have already been posted on the website.

Questions pertaining to the **submission** of applications through FedConnect should be directed by e-mail to support@FedConnect.net or by phone to FedConnect Support at 800-899-6665.

Comprehensive Application Preparation and Submission

Applicants must download the application package, application forms and instructions, from Grants.gov. Grants.gov website: http://www.grants.gov/
(Additional instructions are provided in Section IV A of this FOA.)

Applicants must submit their application through the FedConnect portal. FedConnect website: www.fedconnect.net
(Additional instructions are provided in Section IV H of this FOA.)

TABLE OF CONTENTS

PART I – FUNDING OPPORTUNITY DESCRIPTION

SUMMARY

American Recovery and Reinvestment Act of 2009.

The American Recovery and Reinvestment Act of 2009, Public Law 111-5, appropriates funding for the Department of Energy (DOE) to issue/award formula-based grants under the State Energy Program. Program Guidance for administering Recovery Act funds under the State Energy Program is included as Attachment 1 to this announcement.

Projects under this FOA will be funded, in whole or in part, with funds appropriated by the American Recovery and Reinvestment Act of 2009, Pub. L. 111-5, (Recovery Act or Act). The Recovery Act's purposes are to stimulate the economy and to create and retain jobs. The Act gives preference to activities that can be started and completed expeditiously, including a goal of using at least 50 percent of the funds made available by it for activities that can be initiated not later than June 17, 2009. Accordingly, special consideration will be given to projects that promote and enhance the objectives of the Act, especially job creation, preservation and economic recovery, in an expeditious manner.
Be advised that special terms and conditions may apply to projects funded by the Act relating to:

- Reporting, tracking and segregation of incurred costs;
- Reporting on job creation and preservation;
- Publication of information on the Internet;
- Access to records by Inspectors General and the Government Accountability Office;
- Prohibition on use of funds for gambling establishments, aquariums, zoos, golf courses or swimming pools;
- Ensuring that iron, steel and manufactured goods are produced in the United States;
- Ensuring wage rates are comparable to those prevailing on projects of a similar character;
- Protecting whistleblowers and requiring prompt referral of evidence of a false claim to an appropriate inspector general; and
- Certification and Registration.

These special terms and conditions will be based on provisions included in Titles XV and XVI of the Act. The exact terms and conditions will be provided as soon as available.

The Office of Management and Budget (OMB) has issued Initial Implementing Guidance for the Recovery Act. See M-09-10, Initial Implementing Guidance for the American Recovery and Reinvestment Act of 2009. OMB will be issuing additional guidance concerning the Act in the near future. Applicants should consult the DOE website, www.energy.gov, the OMB website http://www.whitehouse.gov/omb/, and the Recovery website, www.recovery.gov regularly to keep abreast of guidance and information as it evolves.

Recipients of funding appropriated by the Act shall comply with requirements of applicable Federal, State, and local laws, regulations, DOE policy and guidance, and instructions in this FOA, unless relief has been granted by DOE. Recipients shall flow down the requirements of applicable Federal, State and local laws, regulations, DOE policy and guidance, and instructions in this FOA to subrecipients at any tier to the extent necessary to ensure the recipient's compliance with the requirements.

Be advised that Recovery Act funds can be used in conjunction with other funding as necessary to complete projects, but tracking and reporting must be separate to meet the reporting requirements of the Recovery Act and related OMB Guidance. Applicants for projects funded by sources other than the Recovery Act should plan to keep separate records for Recovery Act funds and ensure those records comply with the requirements of the Act. Funding provided through the Recovery Act that is supplemental to an existing grant is one-time funding.

Applicants should begin planning activities for their first tier subawardees, including obtaining a DUNS number (or updating the existing DUNS record) and registering with the Central Contractor Registration (CCR). The extent to which subawardees will be required to register in CCR will be determined by OMB at a later date.

BACKGROUND

The goals established for the State Energy Program (SEP) are:

1. Increase energy efficiency to reduce energy costs and consumption for consumers, businesses and government.
2. Reduce reliance on imported energy.
3. Improve the reliability of electricity and fuel supply and the delivery of energy services.
4. Reduce the impacts of energy production and use on the environment.

The American Recovery and Reinvestment Act (ARRA) was enacted to preserve and create jobs and promote economic recovery; to assist those most impacted by the recession; to provide investments needed to increase economic efficiency by spurring technological advances in science and health; to invest in transportation, environmental protection, and other infrastructure that will provide long-term economic benefits; and, to stabilize State and local government budgets, in order to minimize and avoid reductions in essential services and counterproductive state and local tax increases.

APPROPRIATIONS

On February 17, 2009, the President signed the American Recovery and Reinvestment Act, which provided funding to the State Energy Program for Fiscal Year 2009 at $3.1 Billion. The final State allocations are included in the State Energy Program Notice 09-01, PY 2009 State Energy Program Formula Grant Guidance for American Recovery and Reinvestment Act. States should develop their 2009 State Plans based on these allocations.

PART II – AWARD INFORMATION

A. TYPE OF AWARD INSTRUMENT

DOE anticipates awarding grants under this program announcement.

B. ESTIMATED FUNDING

Approximately $3.1 Billion is expected to be available for new awards under this announcement.

PY 2009 American Recovery and Reinvestment Act (ARRA) allocations consists of Federal funds appropriated with the American Recovery and Reinvestment Act (ARRA). State allocations are listed within Attachment 1, State Energy Program Notice 09-01 for American Recovery and Reinvestment Act (ARRA) Funding.

C. EXPECTED NUMBER OF AWARDS

DOE anticipates making approximately 56 grant awards under this announcement.

D. PERIOD OF PERFORMANCE

DOE anticipates making grant awards that will have a three (3) year period of performance.

E. TYPE OF APPLICATION

DOE will accept only new applications under this announcement.

PART III - ELIGIBILITY INFORMATION

ELIGIBLE APPLICANTS

In accordance with 10 CFR 600.6(b), and DOE Program Rule 10 CFR Part 420, State Energy Program, eligibility for award is restricted to States, Territories and the District of Columbia (hereinafter "States") applying for formula grant financial assistance under the Department of Energy's (DOE's) State Energy Program (SEP).

COST MATCHING

The State Energy Program's (SEP) 20 percent cost match is not required for grants made with Recovery Act funds. DOE encourages plans that achieve a high degree of leveraging, and/or projects that extend the impact of the funds.

PART IV – APPLICATION AND SUBMISSION INFORMATION

A. INITIAL APPLICATION

Initial Application Package includes a Standard Form 424, Governor's Assurance, and Planned Activities. **The Initial Application shall be submitted to the following email address: sep-recovery@netl.doe.gov no later than March 23, 2009.**

1. SF 424 – Application for Federal Assistance

Applicants must complete the Standard Form 424 (SF 424). Complete all required fields in accordance with the instructions on the form. The list of certifications and assurances referenced in Field 21 can be found on the DOE Financial Assistance Forms Page at http://management.energy.gov/business_doe/business_forms.htm under Certifications and Assurances. The SF 424 can be downloaded from http://www.netl.doe.gov/business/forms.html#FUNDING.

PLEASE NOTE: By signing the SF 424, Applicants are providing their written assurance that they will comply with ALL requirements set forth in the American Reinvestment and Recovery Act.

2. Governor's Assurance

Prior to receiving Recovery Act funds, the Governor of each state is required to certify in writing their compliance with the assurances set forth in Section 410 of the Recovery Act. To meet this requirement States must submit one of the following with their initial application: a) a signed Governor's Assurance Certification contained in Attachment 3 to this announcement or b) or a written assurance by the Governor covering materially the same requirements. This information shall be saved in a file named "GovernorsAssurance(State Identifier).pdf". SEP ARRA funds cannot be provided to a state until a signed certification has been received.

3. Planned Activities

Consistent with applicable regulations and Program Guidance, please provide a preliminary list of planned project activities that will be conducted using SEP Recovery Act funds. This information shall be saved in a file name: "Activities.pdf"

B. ADDRESS TO REQUEST COMPREHENSIVE APPLICATION PACKAGE

Application forms and instructions are available at Grants.gov. To access these materials, go to http://www.grants.gov, select "Apply for Grants," and then select "Download Application Package." Enter the CFDA and/or the funding opportunity number located on the cover of this announcement and then follow the prompts to download the application package. Once you have SAVED the application package and completed all the required documentation, you will submit your application via the Fedconnect portal. **DO NOT use the Save & Submit selection in Grants.gov.**

C. CONTENT AND FORM OF COMPREHENSIVE APPLICATION – SF 424

You must complete the mandatory forms and any applicable optional forms (e.g., SF-LLL- Disclosure of Lobbying Activities) in accordance with the instructions on the forms and the additional instructions below. **Files that are attached to the forms must be in Adobe Portable Document Format (PDF) unless otherwise specified in this announcement.**

1. **SF 424 - Application for Federal Assistance**
   Complete this form first to populate data in other forms. Complete all required fields in accordance with the pop-up instructions on the form. To activate the instructions, turn on the "Help Mode" (Icon with the pointer and question mark at the top of the form). The list of certifications and assurances referenced in Field 21 can be found on the DOE Financial Assistance Forms Page at http://management.energy.gov/business_doe/business_forms.htm under Certifications and Assurances.

2. **Project/Performance Site Location(s)**

   Indicate the primary site where the work will be performed. If a portion of the project will be performed at any other site(s), identify the site location(s) in the blocks provided.

   Note that the Project/Performance Site Congressional District is entered in the format of the 2 digit state code followed by a dash and a 3 digit Congressional district code, for example VA-001. Hover over this field for additional instructions.

   Use the Next Site button to expand the form to add additional Project/Performance Site Locations.

3. **Other Attachments Form**
   Submit the following files with your application and attach them to the Other Attachments Form. Click on "Add Mandatory Other Attachment" to attach the Project Narrative. Click on "Add Optional Other Attachment," to attach the other files.

- **State Plan File - Mandatory Other Attachment**

  The State Plan file consists of a Master File, covering items that generally do not change from year to year, which would need to be updated only when a change occurs, and an Annual File covering the activities the State intends to undertake during the year of the grant, which must be updated each year to reflect the current activities.

  Save the information in a file named "StatePlan.pdf," and click on "Add Mandatory Other Attachment" to attach.

  Master File – The Master File should include, wherever practicable, an explanation of how implementing the plan will conserve energy, how the State will measure progress toward attaining the goal, how the program activities represent a strategy to achieve these goals; an explanation of how the plan satisfies the minimum criteria for the required (mandatory) activities; and a plan for State monitoring that describes how the State conducts the administrative and programmatic oversight for programs implemented by other agencies within the State, contractors employed by the State, or subrecipients of financial assistance from the State. If a State has completed certain mandatory activities, this may also be indicated in the Master File. A description of how the State will achieve the new energy efficiency goal of 25 percent by 2012 shall be included here. Key elements of the States Strategic Plan, if available, should be included.

  Annual File – The Annual File section of the State Plan describes each market area and program activity for which the State requests financial assistance for a given year, including budget information and milestones for each activity, and the intended scope and goals to be attained either qualitatively or quantitatively. For States using WinSAGA, the SEP Narrative Information Worksheets capture this information.

  (See 10 CFR Part 420.13 for more specific requirements on State Plans)

  For additional State Plan requirements/information, see Section 9.0 of the Grant Guidance.

- **Recovery Ramp Up File**

  Applications shall include a discussion which clearly addresses the Recipient's and Subrecipient's ability to

stimulate the creation or retention of jobs; saving energy; increase energy generation from renewable sources; and reduce greenhouse gas emissions with Recovery Act funds on an expedited schedule. The Recovery Ramp Up File must also include a discussion of the following as outlined in the SEP Guidance under Section 9.2B:

- A commitment that SEP funding will be used to create new programs or expand existing programs, including ratepayer-funded programs, and not to supplant or replace existing state, ratepayer or other funding;
- A list of the existing efficiency and renewable energy programs which the State plans to expand, including programs funded by ratepayer-funded programs operated by both investor-owned and consumer-owned utilities;
- The 2008 funding level for each existing program, including ratepayer-funded programs;
- The 2009 and 2010 planned funding level for each existing energy efficiency and renewable energy program, to demonstrate that the State is planning to use additional SEP ARRA funding for the expansion of existing programs

Save the information in a file named "RecoveryRampUp.pdf," and click on "Add Mandatory Other Attachment" to attach.

- **Governor's Assurance File**

You must provide a discussion on the progress you have made in meeting the assurances set forth in Section 410 of the Recovery Act and referenced in Section 5.0 of the attached Program Guidance. Please address in detail how each of these assurances are to be implemented by the State. Discuss plans that have been initiated and/or adopted, timelines with implementing assurance, and results/status to date. Save the information in a file named "Assurances.pdf" and click on "Add Mandatory Other Attachment" to attach.

- **SF 424 A Excel, Budget Information – Non-Construction Programs File**

You must provide a separate budget for each year of support requested and a cumulative budget for the total project period. Use the SF 424 A Excel, "Budget Information – Non Construction Programs" form on the DOE Financial Assistance Forms Page at http://management.energy.gov/business_doe/business_forms.htm. You may request funds under any of the Object Class Categories as long as the item and amount are necessary to perform the proposed work, meet all the criteria for allowability under the applicable Federal cost principles, and are not prohibited by the funding restrictions in this announcement (See PART IV, G). Save the information in a single file named "SF424A.xls," and click on "Add Optional Other Attachment" to attach.

- **Budget Justification File**

You must justify the costs proposed in each Object Class Category/Cost Classification category (e.g., identify key persons and personnel categories and the estimated costs for each person or category; provide a list of equipment and cost of each item; identify proposed subaward/consultant work and cost of each subaward/consultant; describe purpose of proposed travel, number of travelers, and number of travel days; list general categories of supplies and amount for each category; and provide any other information you wish to support your budget). Provide the name of your cognizant/oversight agency, if you have one, and the name and phone number of the individual responsible for negotiating your indirect rates. If cost sharing is required, you must have a letter from each third party contributing cost sharing (i.e., a party other than the organization submitting the application) stating that the third party is committed to providing a specific minimum dollar amount of cost sharing. In the budget justification, identify the following information for each third party contributing cost sharing: (1) the name of the organization; (2) the proposed dollar amount to be provided; (3) the amount as a percentage of the total project cost; and (4) the proposed cost sharing – cash, services, or property. By submitting your application, you are providing assurance that you have signed letters of commitment. Successful applicants will be required to submit these signed letters of commitments. Save the budget justification information in a single file named "Budget.pdf," and click on "Add Optional Other Attachment" to attach.

ARRA 2009 Additional Budget Justification Information

Applications shall provide information which validates that all laborers and mechanics on projects funded directly by or assisted in whole or in part by and through funding appropriated by the Act are paid wages at rates not less than those prevailing on projects of a character similar in the locality as determined by subchapter IV of Chapter 31 of title 40, United States Code (Davis-Bacon Act). For guidance on how to comply with this provision, see http://www.dol.gov/esa/whd/contracts/dbra.htm.

Save the information in a file named "DavisBacon," and click on "Add Mandatory Other Attachment" to attach.

- **Subaward Budget File(s)**

You must provide a separate budget (i.e., budget for each budget year and a cumulative budget) for each subawardee that is expected to perform work estimated to be more than 25 percent of the total work effort. Use the SF 424 A Excel for Non Construction Programs or the SF 424 C Excel for Construction Programs. These forms are found on the DOE Financial Assistance Forms Page at http://management.energy.gov/business_doe/business_forms.htm. Save each Subaward budget in a separate file. Use up to 10 letters of the subawardee's name (plus .xls) as the file name (e.g., ucla.xls or energyres.xls), and click on "Add Optional Other Attachment" to attach.

- **NEPA**

All Projects receiving financial assistance from DOE must be reviewed under the National Environmental Policy Act (NEPA) of 1969 – 42 U.S.C. Section 4321 et seq. The first step in DOE's NEPA review process requires financial assistance recipients to submit information to DOE regarding the potential environmental impacts of the project receiving DOE funds. Applicants must complete the Environmental Checklist (DOE PMC EF-1) on-line at the following site: https://www.eere-pmc.energy.gov/NEPA.asp

3. **SF-LLL Disclosure of Lobbying Activities**
If applicable, complete SF- LLL. Applicability: If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the grant/cooperative agreement, you must complete and submit Standard Form – LLL, "Disclosure Form to Report Lobbying."

Summary of Required Forms/Files

Your application must include the following documents:

Name of Document	Format	File Name
Application for Federal Assistance – SF424	Form	N/A
Project Performance Site Locations	Form	N/A
Other Attachments Form: Attach the following files to this form:	Form	N/A
State Plan	PDF	StatePlan.pdf
Recovery Ramp Up file	PDF	RecoveryRampUp.pdf
Governor's Assurance File	PDF	Assurance.pdf
SF 424A File – Budget Information for Non-Construction Programs	Excel	SF424A.xls
Budget Justification File	PDF	Budget.pdf
Davis Bacon file	PDF	DavisBacon.pdf
Subaward Budget File(s) *Optional*	Excel	See Instructions

NEPA Information (EF-1) – You must complete and submit this information on-line		This information is available at: https://www.eere-pmc.energy.gov/NEPA.asp
SF-LLL Disclosure of Lobbying Activities, if applicable.	Form	N/A

D. SUBMISSIONS FROM SUCCESSFUL APPLICANTS

If selected for award, DOE reserves the right to request additional or clarifying information for any reason deemed necessary, including, but not limited to:

- Indirect cost information
- Other budget information
- Name and phone number of the Designated Responsible Employee for complying with national policies prohibiting discrimination (See 10 CFR 1040.5)
- Commitment Letter from Third Parties Contributing to Cost Sharing, if applicable

E. SUBMISSION DATES AND TIMES

1. Initial-application Due Date

Initial-applications must be received by 03/23/2009, not later than 8:00 PM Eastern Time.

2. Comprehensive Application Due Date

Comprehensive applications should be received by 05/12/2009, not later than 8:00 PM Eastern Time. You are encouraged to transmit your application well before the deadline.

F. INTERGOVERNMENTAL REVIEW

This program is subject to Executive Order 12372 (Intergovernmental Review of Federal Programs) and the regulations at 10 CFR Part 1005.

One of the objectives of the Executive Order is to foster an intergovernmental partnership and a strengthened federalism. The Executive Order relies on processes developed by State and local governments for coordination and review of proposed Federal financial assistance.

Applicants should contact the appropriate State Single Point of Contact (SPOC) to find out about, and to comply with, the State's process under Executive Order 12372. The names and addresses of the SPOCs are listed on the Web site of the Office of Management and Budget at http://www.whitehouse.gov/omb/grants/spoc.html.

G. FUNDING RESTRICTIONS

Cost Principles: Costs must be allowable in accordance with the applicable Federal cost principles referenced in 10 CFR part 600. The cost principles for commercial organization are in FAR Part 31.

H. OTHER SUBMISSION AND REGISTRATION REQUIREMENTS

1. Where to Submit

Initial Application: The Initial Application is to be submitted to the following email address: sep-recovery@netl.doe.gov no later than March 23, 2009.

Comprehensive Application: MUST BE SUBMITTED THROUGH FEDCONNECT TO BE CONSIDERED FOR AWARD. Submit electronic applications through the FedConnect portal at: www.fedconnect.net. Information regarding how to submit applications via Fed Connect can be found at: https://www.fedconnect.net/FedConnect/PublicPages/FedConnect_Ready_Set_Go.pdf Further, it is the responsibility of the applicant, prior to the offer due date and time, to verify successful transmission.

NOTE: In addition to FedConnect, applications must also be loaded into WinSAGA.

2. Registration Process

There are several one-time actions you must complete in order to submit an application in response to this Announcement (e.g., obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number, register with the Central Contract Registry (CCR), and register with FedConnect). Applicants, who are not registered with CCR and FedConnect, should allow at least 10 days to complete these requirements. It is suggested that the process be started as soon as possible.

Part V - APPLICATION REVIEW INFORMATION

A. REVIEW AND AWARD PROCESS

Applications under this funding opportunity will be reviewed and awarded in accordance with the final 2009 American Recovery and Reinvestment Act (ARRA) allocations as set forth in the State Energy Program Notice 09-01, included as Attachment 1 to this announcement.

Part VI - AWARD ADMINISTRATION INFORMATION

A. AWARD NOTICES

1. Notice of Award

A Notice of Financial Assistance Award or Assistance Agreement issued by the contracting officer is the authorizing award document. It normally includes either as an attachment or by reference: (1). Special Terms and Conditions; (2). Applicable program regulations, if any; (3). Application as approved by DOE; (4). DOE assistance regulations at 10 CFR part 600; (5). National Policy Assurances to Be Incorporated As Award Terms; (6). Budget Summary; and (7). Federal Assistance Reporting Checklist, which identifies the reporting requirements.

B. ADMINISTRATIVE AND NATIONAL POLICY REQUIREMENTS

1. Administrative Requirements

The administrative requirements for DOE grants and cooperative agreements are contained in 10 CFR part 600 and 10 CFR part 420 (See: http://ecfr.gpoaccess.gov).

ARRA 2009 Award Administration Information
Special Provisions relating to work funded under American Recovery and Reinvestment Act of 2009, Pub. L. 111-5 shall apply. Also, the Office of Management and Budget may be promulgating additional provisions or modifying existing provisions. Those additions and modifications will be incorporated into the Special Provisions as they become available. A draft of these Special Provisions are located at http://management.energy.gov/business_doe/business_forms.htm

2. Special Terms and Conditions and National Policy Requirements

The DOE Special Terms and Conditions for Use in Most Grants and Cooperative Agreements are located at http://management.energy.gov/business_doe/business_forms.htm.
The National Policy Assurances to Be Incorporated as Award Terms are located at DOE http://management.energy.gov/business_doe/business_forms.htm.

Intellectual Property Provisions
The standard DOE financial assistance intellectual property provisions applicable to the various types of recipients are located at http://www.gc.doe.gov/techtrans/sipp_matrix.html.

C. REPORTING

Reporting requirements are identified on the Federal Assistance Reporting Checklist, DOE F 4600.2. A sample checklist is included as Attachment 2 to this announcement. Financial and progress reports will be used to adhere to the transparency and oversight requirements detailed in the Recovery Act and posted on http://www.recovery.gov. Please note that the due date of certain reports may change.

PART VII - QUESTIONS/AGENCY CONTACTS

A. QUESTIONS

Questions regarding the content of the announcement must be submitted through the FedConnect portal. You must register with FedConnect to respond as an interested party to submit questions, and to view responses to questions. It is recommended that you register as soon after release of the FOA as possible to have the benefit of all responses. More information is available at http://www.compusearch.com/products/fedconnect/fedconnect.asp. DOE will try to respond to a question within three (3) business days, unless a similar question and answer have already been posted on the website.

Questions regarding program requirements must be directed to:

States	Project Officer	E-Mail	Phone Number
Colorado, Kansas, Louisiana, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, Utah, Wyoming	Barbara Alderson	Barbara.Alderson@go.doe.gov	303-275-4816
Alabama, Arkansas, Georgia, Kentucky, Mississippi, Virgin Islands	Vicki Duvall	Vicki.Duvall@netl.doe.gov	304-285-4512
Alaska, American Samoa, Arizona, California, Guam, Hawaii, Idaho, Nevada, Northern Marianas, Oregon, Washington	Molly Dwyer	Molly.Dwyer@go.doe.gov	303-275-4828
Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, Vermont	Teresa Jones	Teresa.Jones@netl.doe.gov	304-285-4057
Florida, North Carolina, South Carolina, Tennessee, Puerto Rico	Otis Mills	Otis.Mills@netl.doe.gov	412-386-5890
Delaware, District of Columbia, Maryland, New Jersey, Pennsylvania, Virginia, West Virginia	Darren Stevenson	Darren.Stevenson@netl.doe.gov	412-386-4746
Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, Wisconsin	Stephanie Sung	Stephanie.Sung@go.doe.gov	303-275-4889

B. AGENCY CONTACT

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PART VIII - OTHER INFORMATION

A. MODIFICATIONS

Notices of any modifications to this announcement will be posted on Grants.gov and the FedConnect portal. You can receive an email when a modification or an announcement message is posted by registering with FedConnect as an interested party for this FOA. It is recommended that you register as soon after release of the FOA as possible to ensure you receive timely notice of any modifications or other announcements. More information is available at http://www.fedconnect.net and http://www.compusearch.com/products/fedconnect.asp.

B. GOVERNMENT RIGHT TO REJECT OR NEGOTIATE

DOE reserves the right, without qualification, to reject any or all applications received in response to this announcement and to select any application, in whole or in part, as a basis for negotiation and/or award.

C. COMMITMENT OF PUBLIC FUNDS

The Contracting Officer is the only individual who can make awards or commit the Government to the expenditure of public funds. A commitment by other than the Contracting Officer, either explicit or implied, is invalid.

APPENDICES/REFERENCE MATERIAL

- Attachment 1, State Energy Program Notice 09-01, 2009 State Energy Program Formula Grant Guidance for American Recovery and Reinvestment Act (ARRA) Funding and Regular Program Appropriations.
- Attachment 2, Reporting Requirements Checklist.
- Attachment 3, Governor's Assurance Certification

Department of Energy
Washington, DC 20585

STATE ENERGY PROGRAM NOTICE 09-01

EFFECTIVE DATE: _____

SUBJECT: 2009 STATE ENERGY PROGRAM FORMULA GRANT GUIDANCE FOR AMERICAN RECOVERY AND REINVESTMENT ACT (ARRA) FUNDING AND REGULAR PROGRAM APPROPRIATION

TABLE OF CONTENTS

1.0 PURPOSE

To establish grant guidance and management information for the State Energy Program (SEP) formula grants for Program Year (PY) 2009 for funds provided under the American Recovery and Reinvestment Act, Pub. L. 111-5, (ARRA) and through the regular appropriations process. At this time, this guidance provides as Attachment A the State formula allocations for the SEP ARRA funds. Formula allocations for the FY 2009 regular appropriation will be provided when available at a later date.

2.0 SCOPE

The provisions of this guidance apply to States, Territories and the District of Columbia (hereinafter "States") applying for formula grant financial assistance under the Department of Energy's (DOE's) State Energy Program. Much of the information in this guidance is summarized from the volumes of the Code of Federal Regulations (CFR) applicable to SEP, namely 10 CFR part 420 and 10 CFR part 600 (the DOE Financial Assistance Rules). These regulations are the official sources for program requirements. The CFR can be accessed at: http://www.gpoaccess.gov/cfr/index.html. Impacts of ARRA on SEP regulations are noted throughout this Guidance.

3.0 FUNDING OPPORTUNITY ANNOUNCEMENT (FOA) COVERAGE

Application information for the SEP Recovery Act funds will be included in FOA No. DE-FOA-0000052.

Application Information for the SEP funds provided under the regular program appropriation will be included in FOA No. DE-FOA-0000039.

4.0 PROGRAM PRIORITIES

4.1. AMERICAN RECOVERY AND REINVESTMENT ACT (ARRA) OVERVIEW

The purposes of the American Recovery and Reinvestment Act of 2009 are: "To preserve and create jobs and promote economic recovery; to assist those most impacted by the recession; to provide investments needed to increase economic efficiency by spurring technological advances in science and health; to invest in transportation, environmental protection, and other infrastructure that will provide long-term economic benefits; and, to stabilize State and local government budgets, in order to minimize and avoid reductions in essential services and counterproductive state and local tax increases." Title III, Energy Policy and Conservation Act, as amended, authorizes the DOE to administer the SEP. DOE is responsible for overseeing and managing the allocation and use

of $3.1 billion in ARRA funds distributed to the states, territories and the District of Columbia (hereinafter "states") through the SEP for the purpose of:

- Stimulating the creation or increased retention of jobs;
- Saving energy (kwh/therms/gallons/BTUs/etc.);
- Increasing energy generation from renewable sources; and
- Reducing greenhouse gas (GHG) emission

- Under these primary objectives, states should plan for and maximize efforts toward achieving the specific goal of reducing per capita energy consumption by at least 25 percent of the State's 1990 per capita energy use by 2012. This corresponds closely to the EPACT 2005 requirement described in Section 9.1B below. This is a minimum goal; higher or more stringent goals are encouraged.

- States will submit a SEP plan for the expenditures of the ARRA funds within 60 days of the release of the FOA. In choosing the specific programs or projects that make up this plan, states should choose those which will make the maximum contribution to achieving this overall goal. (A separate SEP plan for the PY 09 SEP appropriation will be required according to the regular application schedule.)

- States are encouraged to use their ARRA funding not only to support current energy efficiency and renewable energy projects but also to seed sustainable programs and put in place long-term funding mechanisms such as revolving loans and energy savings performance contracting that will provide lasting benefits and lead to long-term market transformation.

- States are required to commit to using SEP ARRA funding to expand existing programs, including ratepayer-funded programs, or to create new programs consistent with SEP regulations (10 CFR 420), and not to supplant or replace existing state, ratepayer or other funding. See section 9.2B for compliance requirements

- States will be required to report regularly on the activities carried out with ARRA funding. States will be required to report quarterly on progress, in terms of specific activities and amounts of funding obligated and expended. States should also expect to participate in the evaluation of these programs as part of the overall SEP national evaluation.

- The 50 percent limitation described in Section 9.7 of this guidance on the purchase and installation of equipment and materials for energy efficiency and renewable energy measures does not apply to ARRA SEP funds.

- There is no match requirement for ARRA SEP funds.

Further detail regarding metrics, reporting, timelines and procedures that govern the use of SEP ARRA funds are included below in Section 10.

4.2 SEP GOALS AND OBJECTIVES

- **Alignment with national goals**: DOE continues to encourage states to develop strategies that align their goals and objectives to national goals. By aligning with national goals – increasing jobs, reducing US oil dependency through increases in energy efficiency and deployment of renewable energy technologies, promoting economic vitality through an increase in "green jobs," and reducing green house gas emissions – States and DOE demonstrate SEP leadership in successfully addressing national needs at the State and local level. These national goals are included in the Energy Policy Act of 2005, the Energy Independence and Security Act and the American Recovery and Reinvestment Act of 2009.

- **Market Transformation**: DOE requests that states continue to focus their program efforts on market transformation initiatives and actions that align with national goals. Market transformation is defined as:

  > "Strategic interventions that cause lasting changes in the structure or function of a market or the behavior of market participants, resulting in an increase in adoption of energy efficiency and renewable energy products, services, and practices."

- **SEP Strategic Plan:** The SEP Strategic Plan establishes the following four goals for SEP:

  - Increase energy efficiency to reduce energy costs and consumption for consumers, businesses and government.
  - Reduce reliance on imported energy.
  - Improve the reliability of electricity and fuel supply and the delivery of energy services.
  - Reduce the impacts of energy production and use on the environment.

  The SEP Strategic Plan is available at:
  http://apps1.eere.energy.gov/state_energy_program/pdfs/strategic_plan_0207.pdf.

- **DOE Objectives:** DOE has established the following objectives that complement program goals articulated in the SEP Strategic Plan:

  - Transform energy markets in partnership with states to accelerate near-term deployment of energy efficiency and renewable technologies.

- Promote an integrated portfolio of energy efficiency and renewable energy solutions to meet U.S. energy security, economic vitality, and environmental quality objectives.

- Strengthen core state energy programs to develop and adopt leading market transformation initiatives.

This strategic direction builds on SEP successes and promotes a stronger SEP national effort. DOE will continue to enhance the effectiveness of state programs to promote and support market transformation, while maintaining support for formula grants. DOE's plans are guided by the following principles:

- Target strategic market intervention that can cause permanent structural change.
- Identify opportunities for better integration of SEP and state energy initiatives to other EERE technology deployment and market transformation activities.
- Replicate state innovation and best practices.
- Promote collaboration across public and private agencies.
- Foster regional cooperation among state and Federal agencies.
- Improve the way we measure program performance and communicate success.

4.3 SEP NATIONAL EVALUATION

The ARRA sets strict accountability and transparency requirements for DOE and the states. Evaluation is a strong component of these requirements and will assist in determining the role of SEP in future energy focused initiatives. States should expect to participate in the national SEP evaluation to be implemented in FY 2009-2010. Detailed information will be provided in separate guidance.

5.0 AMERICAN RECOVERY ACT AND REINVESTMENT ACT

5.1 Conditions to be Met to Receive ARRA Funding

Section 410 of the Conference Report accompanying ARRA provides that a State will receive SEP funding under ARRA only if the governor notifies the Department in writing that the Governor has obtained necessary assurances as outlined in sections 1-3 below. SEP ARRA funds cannot be provided to a state until such notification in writing has been received.

(1) The applicable State regulatory authority will seek to implement, in appropriate proceedings for each electric and gas utility, under its rate-making authority a general policy that ensures that utility financial incentives are aligned with helping their customers use energy more efficiently and that provide timely cost recovery and a timely earnings opportunity for utilities associated with cost-effective measurable and verifiable efficiency savings, in a way that sustains or enhances utility customers' incentives to use energy

more efficiently.

(2) The State, or the applicable units of local government that have authority to adopt building codes, will implement the following:

(A) A residential building energy code (or codes) that meets or exceeds the most recent International Energy Conservation Code, or achieves equivalent or greater energy savings.

(B) A commercial building energy code (or codes) throughout the State that meets or exceeds the ANSI/ASHRAE/IESNA Standard 90.1–2007, or achieves equivalent or greater energy savings.

(C) A plan to achieve 90 percent compliance with the above energy codes within eight years. This plan will include active training and enforcement programs and annual measurement of the rate of compliance.

(3) The State will to the extent practicable prioritize the grants toward funding energy efficiency and renewable energy programs, including—

(A) the expansion of existing energy efficiency programs approved by the State or the appropriate regulatory authority, including energy efficiency retrofits of buildings and industrial facilities, that are funded by the State or through rates under the oversight of the applicable regulatory authority, to the extent applicable;

(B) the expansion of existing programs, approved by the State or the appropriate regulatory authority, to support renewable energy projects and deployment activities, including programs operated by entities which have the authority and capability to manage and distribute grants, loans, performance incentives, and other forms of financial assistance; and

(C) cooperation and joint activities between States to advance more efficient and effective use of this funding to support the priorities described in this section.

5.2 Obligation and Expenditure Timeline for ARRA Grants

To expedite availability of ARRA funds States must submit an initial application package prior to the comprehensive application package which must be submitted within 60 days after the FOA is issued.

The ARRA gives preference to activities that can be started and completed expeditiously.

DOE will monitor closely the expenditure rate of Recovery Act funding by the states to ensure the targets and purposes set by the Administration and outlined by OMB are met. Funds will be provided to States according to the following schedule:

- 10% of total allocation at time of initial award of Recovery Act Funds
- 40% of total allocation upon DOE approval of the State Plan
- 20% of total allocation upon demonstration by Grantee that it has obligated under its procurement system at least 50% of the Recovery Act Funds awarded previously, is complying with all reporting requirements, and that jobs are being created.
- Remainder of total allocation upon demonstration by the Grantee that Grantee is making continued progress in obligating the funds previously provided, complying with all reporting requirements and creating jobs. If progress reviews reveal deficiencies, such as funds not obligated, jobs not created, insufficient project progress, or failure to meet reporting requirements, no further funds will be provided until deficiencies are corrected.

5.3 Priority Uses of Funds

SEP ARRA funds may be obligated and expended on programs, projects or initiatives as provided in the authorizing legislation. Historical evaluations, however, have demonstrated that the following programs and projects have the greatest potential to readily achieve the overall goals specified above, and we encourage States to consider them when developing their plan for SEP ARRA funds:

- Establishment and enforcement of energy efficient building codes and standards, and implementation of voluntary programs that impact new design.
- Loans, grants and incentives for energy efficiency and renewable energy measures.
- Building retrofits.
- Traffic signal synchronization and replacement with LEDs.
- Industrial retrofits.

No limits are placed on capital expenditures associated with these projects

5.4 Cost of Energy Saved or Generated

For purposes of selecting projects and programs to be implemented with these funds, DOE encourages States, in calculating cost effectiveness, to go beyond traditional utility metrics and cost tests which could constrain the amount of energy efficiency or renewable energy generation that could otherwise be achieved. The cost effectiveness of measures, projects and programs included in State Plans will be evaluated by DOE when approving State Plans. DOE will provide additional information regarding calculations of cost effectiveness.

5.5 Cost Sharing and Resource Leveraging

SEP's 20 percent cost sharing requirement is waived for ARRA funds. To increase the impact of these stimulus funds, DOE encourages plans which achieve a high degree of leveraging, and/or projects that extend the impact of the funds. Examples of programs which provide high leverage are revolving loan programs and performance contracting.

5.6 SEP Performance Metrics

President Obama has committed to transparency and accountability in the use of the funds provided through ARRA. It is important therefore that the activities carried out and the results achieved with those funds are tracked carefully and reported clearly and quantifiably. The results achieved with SEP ARRA funding will be assessed according to the following performance metrics:

1. Jobs created
2. Energy (kwh/therms/gallons/BTUs/etc.)saved
3. Renewable energy installed capacity and generated
4. GHG emissions reduced (CO2 equivalents)
5. Energy cost savings
6. Funds leveraged (refer to Section 5.9)

5.7 Energy Savings

To ensure the effective use of funds, DOE will evaluate State Plans based on the energy savings per dollar invested that are projected to result from the programs and measures proposed by the State in its Plan. DOE strongly encourages States to propose measures that will achieve no less than 10 million source BTUs saved per $1,000 spent. DOE may provide additional guidance to states regarding the measurement and calculation of energy savings.

Turbo pot can save about 18 therms/month for commercial applications, and 216 therms per year. $1000 of incentive will have 20 pots in the field if a rebate of $30 on a pot, will save 5400 therms. This is way above the government's goal target for 100 therms.

Residential Use:			
Cook time each day		0.5	hr
BTU of burner		15000	Btu/hr
Efficiency improvement		30%	
BTU saved		2,250	BTU /day
BTU saved		67,500	BTU/month
Therm saved		0.7	Therm/month
Therm saved/year		8.10	therm/year
rebate amount	$	30	each pot
total pots for $1000		33	
total saving		270	therm/year

Total saving is 2.7 times Government's target of 100therm/year

Commercial Case			
Cooking each day		5	hr

BTU of burner		30000	Btu/hr
Efficiency improvement		30%	
BTU saved		45,000	BTU /day
BTU saved		1,350,000	BTU/month
Therm saved		13.5	Therm/month
Therm saved/year		162.00	therm/year
rebate amount	$	30	each pot
total pots for $1000		33	
total saving		5400	therm/year

Total saving is 50 times the Government's target of 100therm/year

Another word, for commercial use, if the operator use the one week in a year, they will satisfy the government requirement. If the rebate level is $20, then the saving per dollar is even bigger.

5.7A Further Description of Energy Savings Goal:

Each state portfolio of projects funded by SEP ARRA grants should seek to achieve annual energy savings of at least 10 million source BTUs for each $1,000 of total investment. This number is based on savings estimates documented in the 2005 evaluation of SEP's program year 2002 activities[1]. This goal applies to the entire portfolio of projects being funded. As such, there may be individual projects that do not meet this standard and others that exceed it.

Moreover, DOE expects that there will be approaches that were not evaluated in the SEP evaluation (or which have been substantially improved since the evaluation) that are designed to create in permanent, transformational changes in the way energy decisions and energy financing are made, that require a different time frame for analysis. For example, strategies such as revolving funds and on-bill financing may achieve more net energy reductions or renewable capacity than other strategies, but fail to meet the standard of 10 MBTUs (source) in any single year. For these kinds of strategies, DOE would accept a demonstration extending projected savings over a longer time frame.

DOE recognizes that it may be more difficult for States with a mature and effective energy efficiency and renewable energy program to meet this standard than it would be for a State that has not implemented aggressive energy efficiency measures over time. DOE believes that these States have an effective and experienced staff, a well developed administrative and regulatory infrastructure, and an effective field presence, that should allow the State to achieve the minimum levels of energy savings.

5.8 ARRA Progress and Reporting Metrics

[1] Schweitzer, M. and B.E. Tonn, 2005. *An Evaluation of State Energy Program Accomplishments: 2002 Program Year*, ORNL/CON-492. Oak Ridge National Laboratory, Oak Ridge, TN, June.

As in the past, States will be required to report quarterly on project expenditures, and also on specific activities and achievements, such as square feet of buildings retrofitted. These items tend to be outputs (actions taken by grant recipients) but also include some short-term outcomes (results achieved relatively soon after project outputs occur that lead toward attainment of ultimate project objectives). A list of metrics required for reporting is included in Section 10.

5.9 Expenditures

Accurate records should be kept on project expenditures for all SEP ARRA funded efforts. The specific expenditure information to be gathered and tracked is listed below. It will be the same for all project types:

- Expenditures for project activities.
- Expenditures for administration.
- Amount of funding spent on project activities that was leveraged from other sources. Leveraged funds are defined as non-federal funds added to an SEP activity that would not otherwise have been spent for energy efficiency and/or renewable energy programs, and are not included in the grant budget.

6.0 LEGAL AUTHORITY:

SEP is authorized under PL 94-385, PL 94-163, PL 95-619, PL 94-580, PL 101-440, PL 102-486, PL 109-58 , and PL-111-5. All grant awards made under this program must comply with applicable legislation.

SEP is governed by program regulations (10 CFR part 420) published in the Federal Register on July 8, 1996, and amended in the Federal Registers dated May 14, 1997, August 24, 1999, and May 1, 2000, and the DOE Financial Assistance Rules (10 CFR part 600). DOE published a Final Rule on October 2, 2006, which amends 10 CFR 420 to incorporate the provisions of the Energy Policy Act of 2005, as described above.

7.0 FUNDING

7.1 General Funding

PY 2009 funding for SEP, requiring DOE approval for expenditure, can come from three sources: (1) Federally appropriated funds; (2) Warner, EXXON, and similar petroleum violation escrow funds; and (3) Stripper Well and other oil overcharge funds (including Texaco) which are subject to Stripper settlement rules.

7.2 Formula Allocations

Formula allocations for SEP ARRA consist of $3,069,000,000 in Federal funds appropriated in PY 2009. State

formula allocations are provided in the table attached to this guidance. Formula allocations for SEP funds provided through the regular federal appropriation process will be provided in FOA No. DE-FOA-0000039.

In keeping with the intent of this funding, Congressional and Department goals are for all Recovery funds to be obligated by September 30, 2010.

(See 10 CFR Part 420.11 for the allocation process.)

7.3 Match

States must contribute (in cash, in kind, or both) an amount no less than 20 percent of their total Federal formula award. **This requirement does not apply to SEP ARRA funds**.

(See 10 CFR Part 420.12 regarding match.)

7.4 New and Modified Activities Funded Under SEP

Any new and modified SEP initiatives, including those funded through the use of Petroleum Violation Escrow (PVE) funds, must be approved in writing prior to implementation by the appropriate Contracting Officer via amendment to the current State Plan. Recipients must ensure that all proposed use of Stripper Well funds have prior review and approval by DOE Headquarters.

8.0 APPLICATIONS FOR SEP GRANTS

The application package for SEP grants consists of the State Plan and all required forms. The State Plan is the critical element of the application package. It is divided into two sections - the Master File and the Annual File (see section 9.0 below).

Applications must be submitted in accordance with the 2009 SEP Funding Opportunity Announcement. Detailed information on the application package and application due dates can be found in Part IV of the Funding Opportunity Announcement, Application and Submission Information.

9.0 STATE PLAN

The State Plan consists of a Master File, covering items that generally do not change from year to year, which would need to be updated only when a change occurs, and an Annual File, covering the activities the State intends to undertake during the year of the grant, which must be updated each year to reflect the current year's activities. *For the sake of simplicity and the expeditious award of SEP ARRA grants, the Master File portion of the State Plan need not include SEP ARRA funds.*

9.1 Master File **(This portion of the State Plan is not required for SEP ARRA funds)**

9.1A Overview: The Master File should include, wherever practicable, information on the State's overall strategic energy plan and its key elements, its strategic goals and objectives, and how its SEP activities fit into that overall plan. It should explain how implementing the plan will conserve energy; how the State will measure progress toward attaining its goals; an explanation of how the plan satisfies the minimum criteria for the required (mandatory) activities; and a plan for State monitoring that describes how the State conducts the administrative and programmatic oversight for programs implemented by other agencies within the State, contractors employed by the State, or subrecipients of financial assistance from the State. If a State has completed certain mandatory activities, this may also be indicated in the Master File.

9.1B EPACT

The Energy Policy Act of 2005 (EPACT), PL 109-58, Title I, Subtitle B, Section 123, made two revisions to the legislation governing SEP.

- The first amends the provisions regarding State Plans by adding a subsection, as follows:

> "(g) The Secretary shall, at least once every 3 years, invite the Governor of each State to review and, if necessary, revise the energy conservation plan of such State submitted under subsection (b) or (e) [*the annual State Plan*]. Such reviews should consider the energy conservation plans of other States within the region, and identify opportunities and actions carried out in pursuit of common energy conservation goals."

With the issuance of this program guidance, States are invited to review their SEP State Plans with a view toward regional/multi-state collaboration. DOE will continue to work with the National Association of State Energy Officials (NASEO), the National Governors Association, regional governors associations and regional initiatives designed to foster and support regional/multi-State cooperation and collaboration.

- The second EPACT revision amended the provisions regarding the energy efficiency goals established by the States, as follows:

> "Each State energy conservation plan with respect to which assistance is made available under this part on or after the date of enactment of the Energy Policy Act of 2005 shall contain a goal, consisting of an improvement of 25 percent or more in the efficiency of use of energy in the State concerned in calendar year 2012 as compared to calendar year 1990, and may contain interim goals."

Each state must describe within the Master File in their 2009 State Plan how it intends to achieve 25 percent (or more) along with any initial/preliminary progress toward achieving the improvement goal cited above.

DOE realizes that many States have developed State Energy Strategic Plans that include energy efficiency and renewable energy goals. Goals that are less than EPACT's 25 percent requirement may be considered interim goals for meeting that requirement. States that are in the process of developing such plans may submit information addressing when the plans will be completed. States that have not received state government or legislative direction to develop such plans should provide information in the WinSAGA Master File on their strategies to involve state leadership in developing such plans to address this goal.

9.2 Annual File

9.2A Overview

The Annual File section of the State Plan describes each market area and program activity for which the state requests financial assistance for a given year, including budget information and milestones for each activity, and the intended scope and goals to be attained either qualitatively or quantitatively. The SEP Narrative Information Worksheets capture this information. We encourage states to structure the activities within the market areas broadly and inclusively. This will streamline the reporting and approval process, afford the states additional flexibility and reduce the number of plan amendments required during the year.

9.2B Compliance with Section 410 Requirements

Section 410 of the Conference Report accompanying ARRA requires in section (a)(3) that funds be used for the expansion of existing energy efficiency and renewable energy programs. To ensure that this requirement is met, each state's application should include the following as part of the Annual File, Recovery Ramp Up document (refer to FOA, Part IV, Section C):

- A commitment that SEP funding will be used to create new programs or expand existing programs, including ratepayer-funded programs, and not to supplant or replace existing state, ratepayer or other funding;
- A list of the existing efficiency and renewable energy programs which the State plans to expand, including programs funded by ratepayer-funded programs operated by both investor-owned and consumer-owned utilities;
- The 2008 funding level for each existing program, including ratepayer-funded programs;
- The 2009 and 2010 planned funding level for each existing energy efficiency and renewable energy program, to demonstrate that the State is planning to use additional SEP ARRA funding for the expansion of existing programs.

(See 10 CFR Part 420.13 for more specific requirements on State Plans.)

9.3 State Plan Activity Codes

States should identify program activities under the market areas and topic categories developed in preparation for Grants.gov. Use of the markets and topic categories assists DOE in tracking grant-funded activities and gathering information on SEP regionally and nationwide. DOE is often required to provide analyses, justifications and recommendations based on the information provided by the states. The use of these categories, which are included in the Narrative Information Worksheet, also assists in developing performance metrics for each activity. Definitions of the markets and topic areas can be found on the SEP website at: http://www.eere.energy.gov/state_energy_program/topic_definitions.cfm

9.4 Mandatory Requirements

The following activities and details on compliance are required in each State Plan:

- establish mandatory lighting efficiency standards for public buildings;
- promote carpools, vanpools, and public transportation;
- incorporate energy efficiency criteria into procurement procedures;
- implement mandatory thermal efficiency standards for new and renovated buildings, or in states that have delegated such matters to political subdivisions, adopt model codes for local governments to mandate such measures;
- permit right turns at red traffic lights and left turns from a one-way street onto a one-way street at a red light after stopping; and
- ensure effective coordination among various local, state, and Federal energy efficiency, renewable energy and alternative transportation fuel programs within the state. This requirement is especially important in light of the substantial ARRA funding that will be provided to local governments under the EECBG. State Plans should detail how SEP and EECBG funding will be coordinated.

- How about implement rolling stop sign?

(See 10 CFR Part 420.15 for more specific requirements on mandatory activities.)

9.5 Optional Program Activities

States may wish to consider the following program areas for inclusion in their State Plans:

- Programs of public education to promote energy conservation.
- Programs to increase transportation energy efficiency, including programs to accelerate the use of alternative transportation fuels and hybrid vehicles for state government fleets, taxis, mass transit, and privately owned vehicles.
- Programs that encourage the introduction of energy saving technologies in the industry, buildings, transportation and utility sectors and encourage state and industry partnerships that develop and demonstrate advances in energy efficiency and clean technologies.
- Programs for financing energy efficiency and renewable energy capital investments, and programs, which may include loan programs and performance contracting programs for leveraging additional public and private sector funds, and programs that allow rebates, grants, or other incentives for the purchase and installation of eligible energy efficiency and renewable energy measures in public or nonprofit buildings owned and operated by a state, a political subdivision of a state or an agency or instrumentality of a state, or an organization exempt from taxation under section 501(c)(3) of the Internal Revenue Code of 1986, including public and private non-profit schools and hospitals, and local government buildings.
- Programs for encouraging and for carrying out energy audits with respect to buildings and industrial facilities (including industrial processes) within the state.
- Programs to promote the adoption of integrated energy plans which provide for periodic evaluation of a state's energy needs, available energy resources (including greater energy efficiency) and energy costs; and utilization of adequate and reliable energy supplies, including greater energy efficiency, that meet applicable safety, environmental, and policy requirements at the lowest cost.
- Programs to promote energy efficiency in residential housing, such as programs for development and promotion of energy efficiency rating systems for newly constructed housing and existing housing so that consumers can compare the energy efficiency of different housing; and programs for the adoption of incentives for builders, utilities, and mortgage lenders to build, service, or finance energy efficient housing.
- Programs to identify unfair or deceptive acts or practices which relate to the implementation of energy efficient and renewable resource energy measures and to educate consumers concerning such acts or

practices.

- Programs to modify patterns of energy consumption so as to reduce peak demands for energy and improve the efficiency of energy supply systems, including electricity supply systems.
- Programs to promote energy efficiency as an integral part of economic development and environmental planning conducted by state, local, or other governmental entities or by energy utilities.
- Programs to provide training and education to building designers and contractors to promote building energy efficiency.
- Programs for the development of building retrofit standards and regulations.
- Programs to provide support for feasibility studies for the utilization of renewable energy and energy efficiency resource technologies.
- Programs to encourage the use of renewable energy technologies.
- Programs that partner with other state agencies to leverage additional funds, such as public benefits funds and state and local investments in Clear Air Act compliance.
- Collaborative programs for energy efficiency and renewable energy technologies that link a state's energy and environmental objectives. In order to meet the state air quality priorities, these programs could leverage air quality funding to invest in air quality measures such as energy efficiency and renewable energy technologies.

(See 10 CFR Part 420.17 for more specific requirements on optional activities.)

9.6 State Energy Emergency Plans

In conjunction with the SEP State Plan, States are required to file, for information only, an energy emergency plan detailing implementation strategies for dealing with energy emergencies. DOE encourages states to make sure their plans are up to date, given today's environment, and especially in view of recent natural disasters. For states that desire to update their plan, model guidelines have been developed for incorporating energy efficiency and renewable energy technologies into a state's energy emergency plan. These guidelines can be viewed at: http://www.oe.netl.doe.gov/docs/prepare/EAGuidelines.pdf

9.7 Expenditure Prohibitions and Limitations

NOTE: The 50% limitation on use of funds for purchase and installation of equipment and materials for energy efficiency and renewable energy measures does not apply to ARRA funds.

9.7A Prohibitions: States are prohibited from using SEP financial assistance:

- for construction, such as construction of mass transit systems and exclusive bus lanes, or for the construction or repair of buildings or structures;
- to purchase land, a building or structure or any interest therein;
- to subsidize fares for public transportation;
- to subsidize utility rate demonstrations or State tax credits for energy conservation or renewable energy measures; or
- to conduct or purchase equipment to conduct research, development or demonstration of energy efficiency or renewable energy techniques and technologies not commercially available.

9.7B Limitations:

- No more than 20 percent of the financial assistance awarded to the State for this program shall be used to purchase office supplies, library materials, or other equipment whose purchase is not otherwise prohibited.

- Demonstrations of commercially-available energy efficiency or renewable energy techniques and technologies are permitted and are not subject to the construction prohibition or the 20 percent on equipment and direct purchase limitations.

- A State may use regular or revolving loan mechanisms to fund SEP services that are consistent with the SEP rule and that are included in the approved State Plan. Loan repayments and interest on loan funds may be used only for activities which are consistent with the rule and are included in the State's approved plan.

- A State may use funds for the purchase and installation of equipment and materials for energy efficiency measures and renewable energy measures, subject to the following:

    - such use must be included in the State's approved plan (and if PVE funds are used, the use must be consistent with any judicial or administrative terms and conditions imposed upon State use of such funds).

    - such use is limited to no more than 50 percent of all funds allocated by the state to SEP in any given year, regardless of source, except that this limitation shall not include regular and revolving loan programs funded with PVE funds. States may request a waiver of the 50 percent limit from DOE for good cause. For regular and

- revolving loan funds, loan documents shall ensure repayment of principal and interest within a reasonable period of time, and shall not include provisions for loan forgiveness. **The 50% limitation does not apply to SEP ARRA funds.**

- Funds may be used to supplement and no funds may be used to supplant weatherization activities under the Weatherization Assistance Program for Low-Income Persons.

(See 10 CFR Part 420.18 for more detailed expenditure prohibitions and limitations.)

9.8 Expenditures Within a Grant Period. **(This section does not apply to SEP ARRA funds.)**

States are encouraged to expend all obligated funds within the annual grant cycle. If a state has estimated unobligated funds to be carried forward from one year to the next within the grant period, they must amend the subsequent program year State Plan and budget to include activities associated with those unobligated funds. When a State's grant is closed out, any remaining unobligated funds are subject to reauthorization approval by the Office of Management and Budget.

9.9 Program Income

DOE encourages states to earn income in connection with SEP activities to defray

program costs. If the State Plan includes such activities, states should include an estimated amount of earned income in the budget portion of the Grant Application. Program income is defined in Federal regulations as gross income earned by the recipient that is directly generated by a supported activity or earned as a result of the award. Program income includes but is not limited to:

- Income from fees for services performed.
- The use or rental of real or personal property acquired under Federally-funded projects.
- The sale of commodities or items fabricated under an award.
- License fees and royalties on patents and copyrights.
- Interest on loans made with award funds.

Except as otherwise provided in this subpart, program regulations, or the terms and conditions of the award, program income does not include the receipt of principal on loans, rebates, credits, discounts, etc., or interest earned on any of them. Interest earned through loan fund programs generated by grant-supported activities is treated as program income.

9.10 Revolving Loan

When a state proposes to use funds for an established revolving loan fund, they are treated as obligated or

encumbered. Once such a program is in place, returned principal and interest collected may be used to make additional loans or to fund the operations of the revolving loan program. During this time, returned principal is not accounted for as program income.

When DOE approves funds for a revolving loan, the state assumes responsibility for the stewardship and ultimate recapture of the principal and any interest at the end of the approved life of the program. These funds must eventually be closed out and a final accounting submitted to DOE. The report should include the amounts of interest collected and principal repayment. The state must apply the remaining principal and interest to restitution (in the case of PVE funds) or to other uses in the program for which they were originally authorized, including a decision on a reasonable timeframe for expenditure. Re-authorization of funds used in the revolving program will be based on State proposals and program rules and regulations along with court orders in effect at that (later) time. The interest would be considered program income when the program ends, and the final accounting report would reflect the balance of funds remaining over and above the original principal after subtracting any operating expenses.

Program regulations govern all funds assigned to SEP activity use, whatever their source. Appropriated funds, PVE funds, an estimated amount for program income, and the state share must all be listed in the budget portion of the Grant Application. All funds must then be spent on the activities described in the Grant Application and addressed in the financial and performance reports required under the grant.

(See 10 CFR Part 600.225[b] and 10 CFR Part 600.101 for further information.)

9.11 State Match Timeframe **(This section does not apply to SEP ARRA funds)**

The 20 percent State match requirement must be met each year, not over the 5-year grant period.

10. METRICS AND REPORTING

10.1 Background

DOE, NASEO and the states, supported by the National Renewable Energy Laboratory, have worked together during the past 18 months to develop a new system for reporting outcomes of various SEP activities. DOE and NASEO surveyed the states regarding the feasibility of reporting various energy use and cost data, and formulated a list of metrics that should be used in reporting the results and/or outcomes of SEP activities. Use of these metrics will provide standard, clear, quantifiable information on the results of all SEP program activities, whether funded through ARRA or regular appropriations.

- Some activities funded by SEP formula grants cannot be measured meaningfully by the metrics outlined here (e.g. emergency preparedness or quick-response analysis for legislators, state executives, stakeholders, etc.). These activities are an important part of SEP and should definitely continue to be funded. To be clear, *the new metrics discussed in this Guidance are not intended to restrict or change state activities funded by SEP.* Rather, they are intended to aid states so that, where possible, activity outcomes may be standardized so that they are more readily understood by Congress, by state executives and legislators, and by the public.

10.2 Information to be Reported Quarterly

The key activities and achievements to be reported by states will vary by program type. DOE will provide additional guidance on reporting requirements. Following is the information, by program type, that should be included in quarterly Program Status reports:

10.2A Activities

Building Codes and Standards

- Name of new code adopted
- Name of old code replaced
- Percentage of new construction in state covered by new code

Building Retrofits

- Number of buildings retrofitted, by sector
- Square footage of buildings retrofitted, by sector

Clean Energy Policy

- Number of state alternative energy plans developed
- Number of state renewable portfolio standards established
- Number of state interconnection standards established

Building Energy Audits

- Number of audits performed, by sector
- Floor space audited, by sector
- Auditor's projection of energy savings, by sector

Energy Efficiency Rating and Labeling

- Types of energy consuming devices for which energy-efficiency rating and labeling systems were endorsed by the State government, schools, or institutional procurement
- Number of units purchased, by type (e.g., vehicles, office equipment, HVAC equipment, streetlights, exit signs)

Industrial Retrofit Support

- Number of buildings retrofitted, by industry type
- Square footage of buildings retrofitted, by industry sector

Loans, Grants, and Incentives

- Number and monetary value of loans given
- Number and monetary value of grants given
- Number and monetary value of incentives provided

Renewable Energy Market Development

- Number and size of solar energy systems installed
- Number and size of wind energy systems installed
- Number and size of other renewable energy systems installed

Tax Credits

- Monetary value of tax credits given, by sector

Technical Assistance

- Number of contacts in which energy efficiency or renewable energy measures were recommended, by sector

Transportation

- Number of alternative fuel vehicles purchased
- Number of conventional vehicles converted to alternative fuel use
- Number of new alternative refueling stations emplaced
- Number of new carpools and vanpools formed
- Number of energy-efficient traffic signals installed
- Number of street lane-miles for which synchronized traffic signals were installed

Workshops, Training, and Education

- Number and type of workshops, training, and education sessions held
- Number of people attending workshops, training, and education sessions

10.2B Outcomes:

Job Creation

- Number
- Type
- Duration

10.3 Information to be Reported Annually (DOE will provide standard calculation methodology in future guidance)

10.3A Critical Annual Reporting Metrics

Energy Savings (kwh equivalents)

- Annual reduction in natural gas consumption (mmcf)
- Annual reduction in electricity consumption (MWh)
- Annual reduction in electricity demand (MW)
- Annual reduction in fuel oil consumption (gallons)
- Annual reduction in propane consumption (gallons)
- Annual reduction in gasoline and diesel fuel consumption (gallons)

Renewable Energy Capacity and Generation

- Amount of wind-powered electric generating capacity installed (MW)
- Amount of electricity generated from wind systems (MWh)
- Amount of photovoltaic generating capacity installed (MW)
- Amount of electricity generated from photovoltaic systems (MWh)
- Amount of electric generating capacity from other renewable sources installed (MW)
- Amount of electricity generated from other renewable sources (MWh)

Emissions Reductions (tons) (CO2 equivalents)

- Carbon
- Sulfur dioxide
- Nitrogen oxide
- Carbon monoxide

SEP activities that do not fit well into these metrics should be reported as they have in the past.

10.3B Measuring Progress Toward the EPACT 2005 Goal

The metrics listed above should be adapted to measure progress toward the energy efficiency goal set forth in Section 123 of EPAct 2005 of "an improvement of 25 percent or more in the efficiency of use of energy in the State concerned in calendar year 2012 as compared to calendar year 1990."

10.3B1 Data to be Reported Annually Related to EPACT Goal: States should measure and report annually the change since 1990 in:

- Total energy use per capita;
- Residential energy use per capita;
- Commercial energy use per capita;
- Transportation energy use per capita;
- Total energy intensity of production (Btu per dollar of state real GDP);
- Industrial energy intensity of production.

In addition, where feasible states should include the following measures with their EPACT reporting:

- the change in the sectoral distribution of energy use since 1990 (percentage of total energy use by residential, industrial, commercial and transportation sectors), and
- the change in real GDP per capita.

The recommendations in this section are based on the EPACT requirement that activities contained in each state's energy conservation plan must be linked to a state energy efficiency goal. By providing an assortment of goals rather than one single metric, it will be easier for states to link activities with appropriate interim goals as well as ultimate goals for 2012. For example, a state that has already significantly reduced its energy intensity of production may decide to focus its energy conservation plan on residential energy use, therefore its EPACT activities would be better measured by residential energy use per capita.

While the last two metrics do not measure the reduction in energy use, they may indicate whether changes in energy use may be related to broader economic transformations rather than energy efficiency measures. For example, an apparent improvement in industrial energy intensity may result less from successful conservation efforts and more from recession, if the economic downturn has resulted in the loss of heavy manufacturing. States should report changes in all of the recommended indices, and should indicate to DOE which are most pertinent to its state energy conservation plan.

10.3B2 Information Sources:

- The Energy Information Administration (EIA) State Energy Data System (SEDS) database provides a common data source for all States working toward the EPACT goal. A state should use the relevant SEDS data for 1990 as a baseline to calculate its goals, and then link each element of its State Plan to the appropriate goal.

  There is currently a three-year lag in the SEDS data, which make current "snapshots" problematic but would not affect calculation of a state target nor affect planning toward the target. A state should develop its own "snapshot" methodology based on its best available information, but should update the SEDS time series as additional years become available in SEDS.

- A series of reference tables will be posted on the SEP website within 30 days of the issuance of this guidance, forecasting current energy trends to 2012 for each state, showing total and by sector energy use.

- One set will show trends in energy use per capita and the other, energy use per unit of GDP. Each set will provide energy use for the 1990 baseline year, current energy use as of the most recent year available and a multi-year trend. The tables will reflect the most current information from EIA.

CONCLUSION

The ARRA provides States an unprecedented opportunity to continue to demonstrate why they are considered the "laboratories of change" when it comes to energy policy and programs. The funding also represents the most significant opportunity States have had to collaborate regionally with neighboring States and locally with city and county governments that receive
Energy Efficiency and Conservation Block Grant funding. The SEP grant funds that will be provided through the regular FY 2009 Federal appropriation will further this opportunity.

DOE looks forward to a tremendous record of accomplishment by the States and an equally outstanding performance with respect to the transparency and accountability provisions of the ARRA.

Gilbert P. Sperling

Program Manager

Office of Weatherization and Intergovernmental Program

Energy Efficiency and Renewable Energy

Attachment

State/Territory	State Formula Allocations FY 2009 Recovery Act Funds
Alabama	$55,570,000
Alaska	$28,232,000
Arizona	$55,447,000
Arkansas	$39,416,000
California	$226,093,000
Colorado	$49,222,000
Connecticut	$38,542,000
Delaware	$24,231,000
District of Columbia	$22,022,000
Florida	$126,089,000
Georgia	$82,495,000
Hawaii	$25,930,000
Idaho	$28,572,000
Illinois	$101,321,000
Indiana	$68,621,000
Iowa	$40,546,000
Kansas	$38,284,000
Kentucky	$52,533,000
Louisiana	$71,694,000
Maine	$27,305,000
Maryland	$51,772,000
Massachusetts	$54,911,000
Michigan	$82,035,000
Minnesota	$54,172,000
Mississippi	$40,418,000
Missouri	$57,393,000
Montana	$25,855,000
Nebraska	$30,910,000

Nevada	$34,714,000
New Hampshire	$25,827,000
New Jersey	$73,643,000
New Mexico	$31,821,000
New York	$123,110,000
North Carolina	$75,989,000
North Dakota	$24,585,000
Ohio	$96,083,000
Oklahoma	$46,704,000
Oregon	$42,182,000
Pennsylvania	$99,684,000
Rhode Island	$23,960,000
South Carolina	$50,550,000
South Dakota	23,709,000
Tennessee	$62,482,000
Texas	$218,782,000
Utah	$35,362,000
Vermont	$21,999,000
Virginia	$70,001,000
Washington	$60,944,000
West Virginia	$32,746,000
Wisconsin	$55,488,000
Wyoming	$24,941,000
American Samoa	$18,550,000
Guam	$19,098,000
Northern Marianas	$18,651,000
Puerto Rico	$37,086,000
Virgin Islands	$20,678,000
Total	**$3,069,000,000**

DOE F 4600.2
(2/09)
All Other Editions Are Obsolete

ATTACHMENT 2 -- Reporting Requirements Checklist

U.S. Department of Energy
FEDERAL ASSISTANCE REPORTING
CHECKLISTAND INSTRUCTIONS

1. Identification Number: FOA DE-FOA-0000052	2. Program/Project Title: State Energy Program Formula, Grant, American Recovery and Reinvestment Act (ARRA)
3. Recipient:	

4. Reporting Requirements:	Frequency	No. of Copies	Addressees
A. MANAGEMENT REPORTING ☒ Progress Report ☐ Special Status Report	Q, F	Electronic Version	See Note 1
B. SCIENTIFIC/TECHNICAL REPORTING (Reports/Products must be submitted with appropriate DOE F 241. The 241 forms are available at www.osti.gov/elink) Report/Product — Form ☐ Final Scientific/Technical Report — DOE F 241.3 ☐ Conference papers/proceedings* — DOE F 241.3 ☐ Software/Manual — DOE F 241.4 ☐ Other (see Special Instructions) — DOE F 241.3 ** Scientific and technical conferences only*			
C. FINANCIAL REPORTING ☒ SF-425, Federal Financial Report	Q, F	Electronic Version	See Note 1
D. CLOSEOUT REPORTING ☐ Patent Certification ☒ Property Certification ☐ Other (see Special Instructions)	F	Electronic Version	See Note 2
E. OTHER REPORTING ☒ Annual Indirect Cost Proposal ☐ Annual Inventory Report of Federally Owned Property, if any ☒ Other	A A	Electronic Version Electronic Version	See Text See Notes 1 & 3

FREQUENCY CODES AND DUE DATES:

A - Within 5 calendar days after events or as specified.

F - Final; 90 calendar days after expiration or termination of the award.

Y - Yearly; 90 days after the end of the reporting period.

S - Semiannually; within 30 days after end of reporting period.

Q - Quarterly Progress Reports; due within 30 days after end of the reporting period.

5. Special Instructions: Forms are available at https://www.eere-pmc.energy.gov/forms.asp.
   1. Submit Reports (or provide email notification of WinSAGA entry) to the DOE Project Officer.
   2. The Recipient must provide the Property Certification, including the required inventories of non-exempt property, located at: https://grants.pr.doe.gov. A signed copy of the Property Certification shall be submitted in PDF format to the NETL Property Administrator at the following address: Property.Administrator@netl.doe.gov.

OTHER REPORTING

3. ARRA – Performance Progress Report. This report shall be submitted quarterly; 10 days after the end of the reporting period.

Federal Assistance Reporting Instructions (2/09)

A. MANAGEMENT REPORTING

Progress Report

The Progress Report must provide a concise narrative assessment of the status of work and include the following information and any other information identified under Special Instructions on the Federal Assistance Reporting Checklist:

1. The DOE award number and name of the recipient

2. The project title and name of the project director/principal investigator.

3. Date of report and period covered by the report.

4. A comparison of the actual accomplishments with the goals and objectives established for the period and reasons why the established goals were not met.

5. A discussion of what was accomplished under these goals during this reporting period, including major activities, significant results, major findings or conclusions, key outcomes or other achievements. This section should not contain any proprietary data or other information not subject to public release. If such information is important to reporting progress, do not include the information, but include a note in the report advising the reader to contact the Principal Investigator or the Project Director for further information

6. Cost Status. Show approved budget by budget period and actual costs incurred. If cost sharing is required break out by DOE share, recipient share, and total costs.

7. Schedule Status. List milestones, anticipated completion dates and actual completion dates. If you submitted a project management plan with your application, you must use this plan to report schedule and budget variance. You may use your own project management system to provide this information.

8. Any changes in approach or aims and reasons for change. Remember significant changes to the objectives and scope require prior approval by the contracting officer.

9. Actual or anticipated problems or delays and actions taken or planned to resolve them.

10. Any absence or changes of key personnel or changes in consortium/teaming arrangement.

11. A description of any product produced or technology transfer activities accomplished during this reporting period, such as:

a. Publications (list journal name, volume, issue); conference papers; or other public releases of results. Attach or send copies of public releases to the DOE Project Officer identified in Block 11 of the Notice of Financial Assistance Award.
b. Web site or other Internet sites that reflect the results of this project.
c. Networks or collaborations fostered.
d. Technologies/Techniques.
e. Inventions/Patent Applications.

f. Other products, such as data or databases, physical collections, audio or video, software or netware, models, educational aid or curricula, instruments or equipment.

C. FINANCIAL REPORTING

Recipients must complete the SF-425 as identified on the Reporting Checklist in accordance with the report instructions. A fillable version of the form is available at http://www.whitehouse.gov/omb/grants/grants_forms.aspx.

D. CLOSEOUT REPORTS

Property Certification

The recipient must provide the Property Certification, including the required inventories of non-exempt property, located at http://grants.pr.doe.gov.

E. OTHER REPORTING

Annual Indirect Cost Proposal and Reconciliation

Requirement. In accordance with the applicable cost principles, the recipient must submit an annual indirect cost proposal, reconciled to its financial statements, within six months after the close of the fiscal year, unless the award is based on a predetermined or fixed indirect rate(s), or a fixed amount for indirect or facilities and administration (F&A) costs.

Cognizant Agency. The recipient must submit its annual indirect cost proposal directly to the cognizant agency for negotiating and approving indirect costs. If the DOE awarding office is the cognizant agency, submit the annual indirect cost proposal to the address on the Reporting Requirements Checklist.

ARRA Performance Progress Report

Progress Report

The Progress Report must be submitted not later than 10 days after the end of each calendar quarter, each recipient shall submit a report to the grantor agency that contains:

- The total amount of American Recovery and Reinvestment Act of 2009, Pub. L. 111-5, covered funds received from that agency;
- The amount of American Recovery and Reinvestment Act of 2009, Pub. L. 111-5, covered funds received that were expended or obligated to project or activities;
- A detailed list of all projects or activities for which American Recovery and Reinvestment Act of 2009, Pub. L. 111-5, covered funds were expended or obligated including:
    - Name of project or activity
    - Description of project or activity
    - Evaluation of the completion status of project or activity
    - Estimate of number of jobs created and retained by project or activity *in the manner and*

form prescribed by DOE

- Infrastructure investments made by State and local governments, purpose, total cost, rationale or agency for funding infrastructure investment, name of agency contact.
- Information on subcontracts or subgrants awarded by recipient to include data elements required to comply with the Federal Accountability and Transparency Act of 2006 (Pub. L. 109-282).

- Compliance: As a condition of receipt of funds under this Act, no later than 180 days of enactment, all recipients shall provide the information described above.

Failure to comply with this reporting requirement may result in termination of that part of the award funding by Recovery Act.

ATTACHMENT 3 -- GOVERNOR'S ASSURANCE CERTIFICATION

By signing below, the State Governor is providing their written certification that they will comply with and obtain the following assurances in accordance with Section 410 of the Recovery Act.

(1) The applicable State regulatory authority will seek to implement, in appropriate proceedings for each electric and gas utility, under its rate-making authority a general policy that ensures that utility financial incentives are aligned with helping their customers use energy more efficiently and that provide timely cost recovery and a timely earnings opportunity for utilities associated with cost-effective measurable and verifiable efficiency savings, in a way that sustains or enhances utility customers' incentives to use energy more efficiently.

(2) The State, or the applicable units of local government that have authority to adopt building codes, will implement the following:

(A) A residential building energy code (or codes) that meets or exceeds the most recent International Energy Conservation Code, or achieves equivalent or greater energy savings.

(B) A commercial building energy code (or codes) throughout the State that meets or exceeds the ANSI/ASHRAE/IESNA Standard 90.1–2007, or achieves equivalent or greater energy savings.

(C) A plan to achieve 90 percent compliance with the above energy codes within eight years. This plan will include active training and enforcement programs and annual measurement of the rate of compliance.

(3) The State will to the extent practicable prioritize the grants toward funding energy efficiency and renewable energy programs, including—

(A) the expansion of existing energy efficiency programs approved by the State or the appropriate regulatory authority, including energy efficiency retrofits of buildings and industrial facilities, that are funded by the State or through rates under the oversight of the applicable regulatory authority, to the extent applicable;

(B) the expansion of existing programs, approved by the State or the appropriate regulatory authority, to support renewable energy projects and deployment activities, including programs operated by entities which have the authority and capability to manage and distribute grants, loans, performance incentives, and other forms of financial assistance; and

(C) cooperation and joint activities between States to advance more efficient and effective use of this funding to support the priorities described in this section.

_____ _____

State Governor Signature Date

From: Paul Marshall
To: Cheryl Closson; Richard Latteri
Date: 9:44 AM 7/7/09
Subject: Potential Impacts of Climate Change in the West2 water unit edits 070709.pptx
Attachments: Potential Impacts of Climate Change in the West2 water unit edits 070709.pptx

I have added edits and changes to slides 10, 15, 17, and 19. Please let me know if I have provided accurate info and if you have additional info we can add. My review of the presentation suggests it is high level and we don't need to get into too much detail. Thanks

Testimonials:

... I have had the KVAR energy saver unit for the past four (4) months, and the electric bills...average $89.89. My first electric bill ... in February with a savings of $25.50 over the same period last year.
Walter H. Thomas

I am extremely satisfied with the results from your KVAR energy saver. Our electric consumption speaks for itself. We have been saving 15% on our three main A/C units which are five tons each. On our pool pumps (4 at one horsepower each) we are saving 10% in electricity. In addition it's comforting to have surge protection on these expensive compressors and motors. Thank you for introducing us to your product and I would recommend this device to anyone concerned with saving money on their electric bill.
Mark E. Applegate, CHA
General Manager, Palm Plaza

Centex Homes (Southeast Florida Division) recently installed the KVAR energy saving device on our Emerald Bay Model at our premier community in Wellington, Florida. Our decision to install the KVAR unit was based on a need to reduce power consumption at our model. We conducted a test of the revolutions of the electric meter and found,... a reduction in power consumption of six (6) percent. This is a significant savings when you consider that our model air conditioners run twenty four (24) hours a day, seven (7) days a week... At present, we are sizing a unit to be installed at our Corporate Headquarters in West Palm Beach, Florida and we will be installing additional KVAR units in our remaining models...
David P. Staffa
Warranty Manager – Southeast Florida Division

- Extend Motor and Appliance Life
- 6 month 100% Money Back Guarantee* in Writing (*conditions may apply)
- Know How Much You'll SAVE Prior to Installation
- Reduce Your Carbon Footprint
- Reduce the Need for Fossil Fuels
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- Will not damage any equipment
- We are NOT an "Energy Auditor" You DON'T have to turn off equipment

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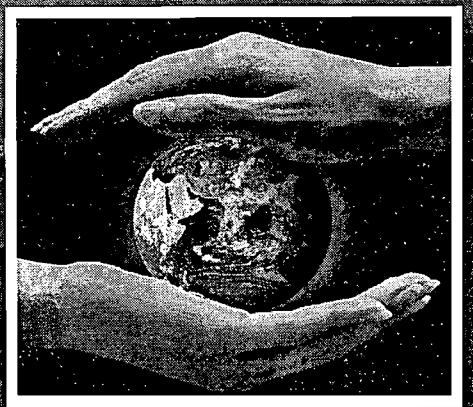


STOP **Paying for Electricity You're NOT Using**

Energy efficiency is a commitment that will pay you back in more ways than one and quicker than you had ever imagined.

We can reduce the amount of lost and wasted power in your electrical system, minimizing your maintenance costs and increase motor life.

Save up to **25%** on your electric bill

While doing your part to help our planet.

According to the Dept. of Energy "Over $16 billion dollars of billed electricity is unusable energy".

We can help make it usable again by fine tuning your electrical system.

Power Factor (PF) Optimization

The total power required by an inductive devise (such as transformers, electric motors and high-intensity lighting) is composed of two different sides of electricity;

- Real Power (measured in kilowatts, kW)
- Reactive Power (measured in kilovars kVA) nonworking power caused by magnetic current

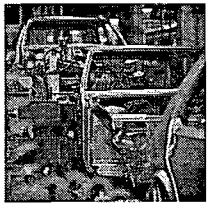
These inductive loads cause a low Power Factor (PF) by increasing the need for Real Power instead of just using the Reactive Power.

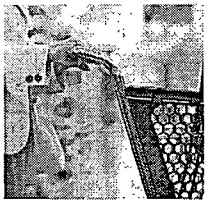
In addition to paying for electricity that you are not using, many utility companies also charge you an additional fee if your PF is less than 95%, and in some cases it is knowingly delivered that way.

We use patented sizing equipment to determine the exact amount of capacitance needed to optimize all your inductive motors, thereby bringing them to "unity". Then an Energy Control unit is custom made for your exact needs, at our US based manufacturing facility (that's right **Made in the USA**).

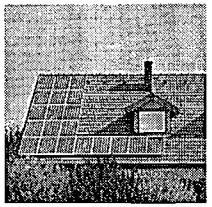
These units reclaim and store the reactive power that currently exists in your electrical system. Then it is redistributed to all the inductive motors in the system. Motors like those found in A/C systems, pools, spas, washers, dryers, refrigerators, freezers, furnaces, elevators, fans, chillers and more.


Residential


Industrial


Retail / Commercial


Improve Resale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Works with 100, 200 & 400 amp., single or 3 phase systems up to 600 volts and it also offers surge protection.

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Power savings average 8% to 25% but have been recorded higher.

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Green Builder Certified

RoHS COMPLIANT

FINANCIAL ASSISTANCE
FUNDING OPPORTUNITY ANNOUNCEMENT

U. S. Department of Energy

National Energy Technology Laboratory

State Energy Program Formula Grants
American Recovery and Reinvestment Act (ARRA)
Funding Opportunity Number: DE-FOA-0000052

Announcement Type: Initial

CFDA Number: 81.041, State Energy Program

Issue Date:	**03/12/2009**
Initial Application Due Date:	**03/23/2009 at 8:00:00 PM Eastern Time**
Comprehensive Application Due Date:	**05/12/2009 at 8:00:00 PM Eastern Time**

CPPA **Calaveras Public Power Agency**

Mailing Address:
Government Center
San Andreas, CA 95249-9709

Phone: (209) 293-7211
Fax: (209) 755-5700
Email: dda@volcano.net

June 10, 2009

California Energy Commission
Attn: EECBG Program
1516 Ninth Street, MS-42
Sacramento, CA 95814

Dear Mr. Sugar:

It was a pleasure talking with you before the June 8th EECBG Workshop held in Modesto.

CPPA is a joint-powers-agency comprised of 31 local public agencies including the County of Calaveras and the City of Angels. CPPA purchases federal power and arranges for delivery of that power on behalf of its members. Public agencies in Calaveras and Tuolumne Counties were granted an Entitlement to federal power by the 1962 U.S. Congress. This Entitlement was granted in part to mitigate the negative impacts the New Melones Project has on the counties of origin such as the loss of taxable land and loss of water resources. The entitlement allows us to deliver power to our members at attractive rates.

We are concerned that we maybe disadvantaged under the EECBG Program if the CEC defines cost-effective efficiency projects based upon simple paybacks. We would encourage the CEC to rather use an energy savings approach, which would not disadvantage us and other municipal utilities, which often have lower power rates than those cities and counties in IOU service territories. One possible approach the CEC could take to remedy this situation is to apply a formula based allocation for cities and counties served by municipal utilities and a competitive grant program in the IOU service territories.

CPPA has recently completed a preliminary assessment of energy conservation opportunities for all of its members including the County of Calaveras and City of Angels. We are prepared to move forward with these projects and are hopeful to receive funding through the EECBG Program. CPPA also has its own loan program for energy conservation projects, which could be used to leverage the grant funds obtained.

Sincerely,

Dennis Dickman

Dennis Dickman, General Manager

San Joaquin Valley
Clean Energy Organization
REPRESENTING THE CALIFORNIA PARTNERSHIP FOR THE SAN JOAQUIN VALLEY

April 27, 2009

Special Projects Office, MS-23
Re: Energy Block Grant Workshop
1516 Ninth Street
Sacramento, CA 95814-5512

SUBJECT: Activities to be Funded by the California Energy Commission through its Energy Efficiency and Conservation Block Grant Program and State Energy Program Funding Allocation

The San Joaquin Valley Clean Organization (SJVCEO) submits this letter in accordance with the California Energy Commission (CEC) request for public comment related to funding guidelines and priorities on Energy Efficiency and Conservation Block Grant (EECBG) Program and State Energy Program (SEP) Funding Allocations from the American Recovery and Reinvestment Act of 2009 (ARRA).

Background
The SJVCEO is a 501c(3) organization created in 2007 to help the eight county region of the San Joaquin Valley significantly increase its use and reliance on clean energy (that is, energy efficiency and renewable energy sources). A key strength of the organization is our large and diverse Board, which contains senior representatives from Federal, State, regional and local governments, the private sector, utilities, nonprofits and colleges and universities from all counties in the region. Our Board has a strong united vision for a clean energy future for the region. Another source of our strength is our close working relationship with the California Partnership for the San Joaquin Valley -- an unprecedented public/private partnership focused on improving the region's quality of life. To significantly increase the level of clean energy activities in the Valley, the SJVCEO has established three priority areas of focus and is supporting work to:

- Help "green" the 62 cities and eight counties in the Valley
- Develop a strong and viable green workforce in the San Joaquin Valley
- Support increased production of fuels from renewable energy sources in the Valley, and support efforts to ensure that future electric power needs in the Valley are met through renewable resources.

On behalf of the California Partnership and the California Department of Agriculture, SJVCEO signed an Memorandum of Understanding agreeing to be the demonstration region for the State in achieving the national 25 by '25 goal (25% renewables by 2025) endorsed by the US and California State legislature.

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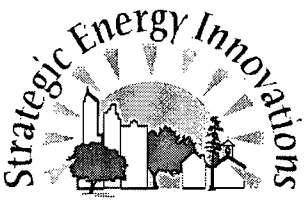

Helping Communities
Embrace Sustainability

California Energy Commission
Special Projects Office, MS-23
Re: Energy Block Grant Workshop
1516 Ninth Street
Sacramento, CA 95814-5512

April 27, 2009

RE: Strategic Energy Innovations Comments on Energy Efficiency and Conservation Block Grant Program Funding Allocation from the American Recovery and Reinvestment Act of 2009

I. SUMMARY

Strategic Energy Innovations (SEI) respectfully submits this letter in accordance with the California Energy Commission (the Commission) request for public comment related to funding guidelines and priorities on Energy Efficiency and Conservation Block Grant Program Funding Allocation from the American Recovery and Reinvestment Act of 2009. Informed by over 10 years of designing and launching programs focused on training and locally employing youth and community members within jobs and internships tied to energy efficiency and conservation, we feel strongly that the Commission should consider the following points when developing its guidelines for funding:

- Locally sourced, persistent green sector jobs won't materialize solely through ad hoc project funding.
- Critical to area job creation are regional/statewide public-private partnerships dedicated to this objective.
- Once in place, these partnerships are positioned to best design, develop and distribute the programs and tools that support guided training and career/job placement.

Within California, we are blessed with a host of progressive academic, nonprofit and public agency partners committed to green workforce development, in combination with private industry employers motivated to inform and support training and placement of a qualified workforce. The Commission should consider leveraging these long-term

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partnership program opportunities when allocating funds being made available under the unprecedented American Recovery and Reinvestment Act of 2009.

II. EXPLANATION

A.) Locally sourced, persistent green sector jobs won't materialize solely through ad hoc project funding.

In light of the temporary and time-sensitive nature of the Recovery Act funds, it's easy to understand why most of these resources will be funneled to discreet projects. The temporary nature of such 'shovel ready' projects, by default, runs a risk of providing near term employment at the expense of longer-term workforce training and job readiness. Within the energy efficiency sector alone, the State expects that qualified workers will have to engage in significant training over time, both on-the-job and in the classroom *(See Figure 1.)*

Figure 1: Projected Job Growth, Wages and Training Required for Energy Efficiency Related Occupations, Nine County Bay Region, 2004-2014

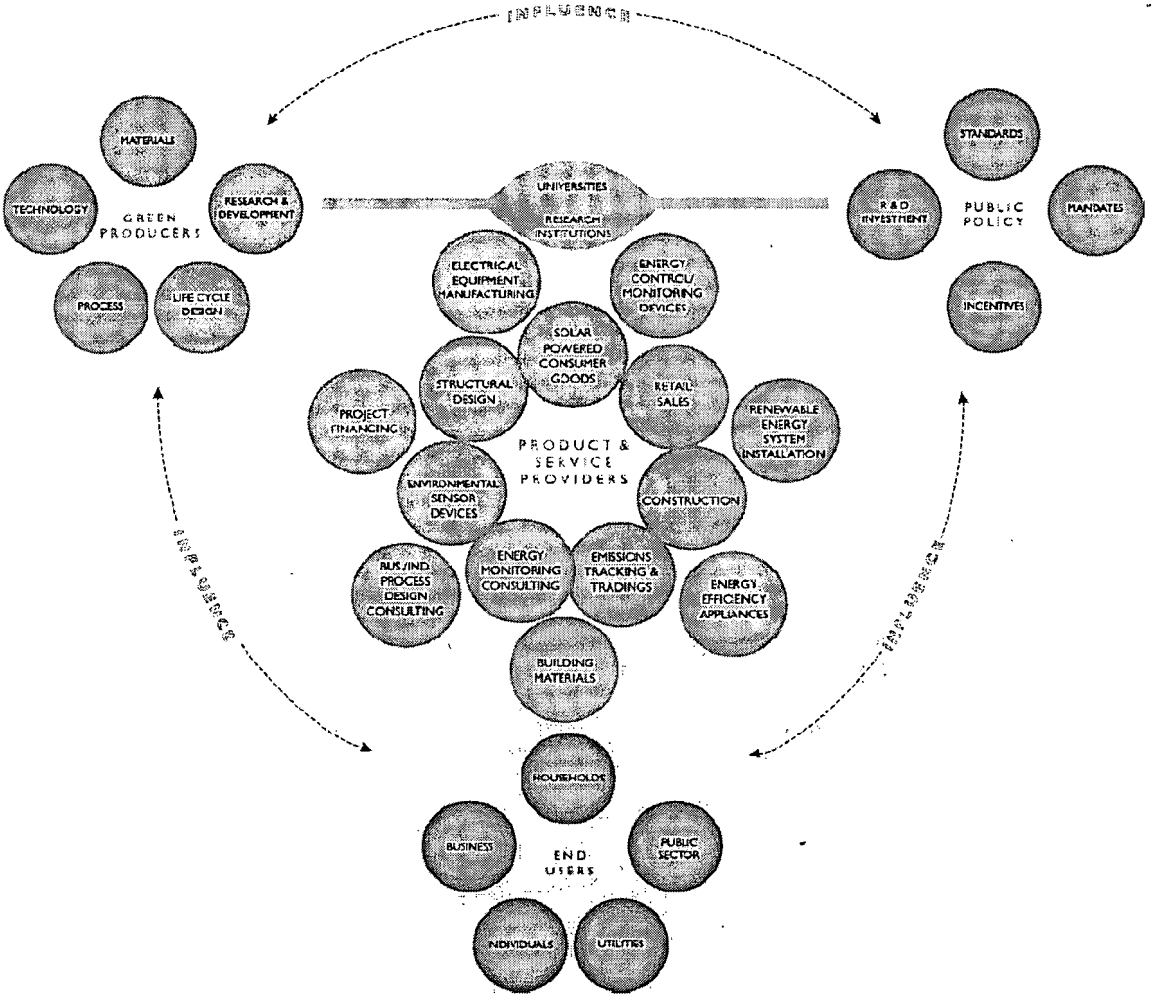
Occupation	*2005 Jobs*	*2016 Jobs*	*New Jobs*	*Replacement Jobs*	*Total Job Openings*	*Avg. Wage*	*Education & Training Level*
Heating, Air Conditioning and Refrigeration Mechanics/Installers	*6,025*	*7,093*	*1,068*	*853*	*1,921*	*$22.19*	*Long-term OJT*
Control and Valve Installers & Repairers	*623*	*633*	*10*	*171*	*181*	*$25.51*	*Moderate-term OJT*
Plumbers, Pipefitters, and Steamfitters	*11,186*	*12,550*	*1,364*	*2,771*	*4,135*	*$26.97*	*Long-term OJT*
Electricians	*15,437*	*16,552*	*1,115*	*3,312*	*4,427*	*$29.28*	*Long-term OJT*
Insulation Workers – Floor, Ceiling, Wall	*744*	*821*	*77*	*247*	*324*	*$19.12*	*Moderate-term OJT*
Sheet Metal Workers	*4,947*	*5,170*	*223*	*1,270*	*1,493*	*$24.35*	*Long-term OJT*
Electrical and Electronic Engineering Technicians	*8,361*	*7,633*	*0*	*1,923*	*1,923*	*$26.60*	*Associates Degree*
Totals	***47,323***	***50,452***	***3,857***	***10,547***	***14,404***	***$24.86***	

Source: California Employment Development Department and CC Benefits

B.) Critical to area job creation are regional/statewide public-private partnerships dedicated to this objective.

The State cannot reasonably expect individual employers or contractors to provide for the infrastructure and networks required to support such widespread worker training and development. Moreover, effective worker training and placement benefits from a cohesive approach that leverages the knowledge, connections and resources of multiple partners, pulling from a collective public (policy, incentives and education) and private (technical and job placement) tool chest *(See Figure 2: California Green Economy Value Network.)*

FIGURE 2:
CALIFORNIA GREEN ECONOMY VALUE NETWORK



Source: The California Economic Strategy Panel

C.) Once in place, these partnerships are positioned to best design, develop and distribute the programs and tools that support guided career training and job placement.

Public partners, academic institutions and nongovernmental organizations have the connections in the community required to reach youth and underemployed professionals, engage and provide them with the required instruction and oversight necessary to land technical internships and part-time/full-time employment in the green economy. Private industry offers active input on workforce skills and training needs, in addition to providing the critical internships and jobs for these newly trained workers. It takes both the supply and demand sides of the workforce training and placement to sustain a regular flow of new and local green jobs for area economies.

III. CONCLUSION

The California Energy Commission should strongly consider setting aside some portion of the State's American Recovery and Investment Act funding to support regional and statewide workforce education and training initiatives and related resource development. Successful design and rollout of these training and placement programs must include appropriate public, nonprofit and academic partners focused on participant engagement, instruction and oversight, in addition to including technical input and commitments to providing area internships and jobs by green employers and industry representatives.

Regards,

Cyane Dandridge
Executive Director
Strategic Energy Innovations

DATE April 27, 2009

TO: California Energy Commission Commissioners and Staff

FROM: John Boesel, President and CEO

RE: Energy Efficiency and Conservation Block Grants

Thank you for the opportunity to provide comments in advance of the upcoming Energy Commission workshop on the Energy Efficiency and Conservation Block Grants (EECBG). It is our understanding that the majority of the funds from this program have been used for building efficiency and electricity programs in the past. However, we believe that there are a number of valuable transportation sector opportunities that deserve consideration. In particular, we recommend that the Energy Commission allocate some funds to projects that can capture and use methane from California landfills, dairies, and wastewater treatment plants.

The original authorization and Funding Opportunity Announcement for this program specifically list reduction, capture, and use of methane as an appropriate use of EECBG funds: *Entities may use grant funds to purchase and implement technologies to reduce, capture, and, to the maximum extent practicable, use methane and other greenhouse gases generated by landfills or similar waste related sources, such as wastewater treatment plants, operations producing food waste, dairy farms and other animal operations.* There is existing technology that can capture this methane and use it to generate electricity and natural gas for use in stationary and mobile applications. We believe that the transportation applications are particularly exciting, and will focus on biomethane as a transportation fuel for the remainder of our comments.

Biomethane from landfills, dairies, and wastewater treatment plants stands out as one of the most promising next-generation alternative fuels. Biomethane is a clean fuel from an air quality standpoint, with criteria emissions nearly identical to those from natural gas. It is also an extremely low carbon fuel. The California Air Resources Board's (CARB) latest analysis for the recently adopted State's Low Carbon Fuel Standard shows biomethane to have the lowest carbon intensity of any fuel analyzed to date. Electricity, the next lowest carbon fuel, has a carbon intensity roughly three times as high as that of biomethane.

Perhaps most importantly from an economic stimulus standpoint, biomethane is a "shovel-ready" technology. While the U.S. biomethane industry is currently rather limited, Sweden has demonstrated the enormous potential of this fuel in a commercial scale, real-world setting. Within the U.S., there are natural gas vehicles on the road today that can run on biomethane, and original equipment manufacturers are now starting to produce natural gas trucks. The State of California already has several planned and permitted biomethane plants that are being held back by their inability to secure financing in this tough financial market. Targeted investment through the EECBG program could help bring four to five new biomethane production plants on line within the first year, jumpstarting this industry and contributing to our economic and environmental goals. Developing this industry and using the fuel in heavily impacted agricultural areas such as the San Joaquin Valley can also contribute to environmental justice goals by reducing smog and providing local economic benefits.

The Energy Commission has already recognized the value of this technology, and the recently adopted AB 118 Investment Plan included $10 million for biomethane production facilities. However, the efforts to coordinate the State's AB 118 funding with the federal American Recovery and Reinvestment Act (ARRA) funds puts this investment at risk, as there is currently no federal solicitation for biomethane projects. The initial AB 118

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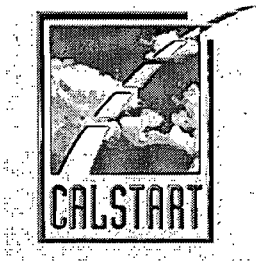
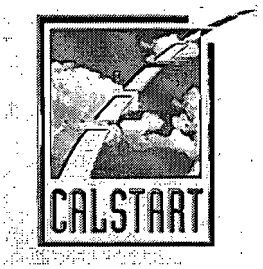


solicitation is limited to projects that are also eligible for ARRA funding, and the State's AB 118 funds could be depleted before a broader solicitation is released.

CALSTART appreciates the opportunity to provide these comments and we hope this is useful as the Energy Commission develops priorities for this program.



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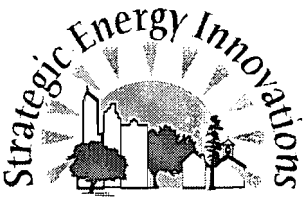

Helping Communities
Embrace Sustainability

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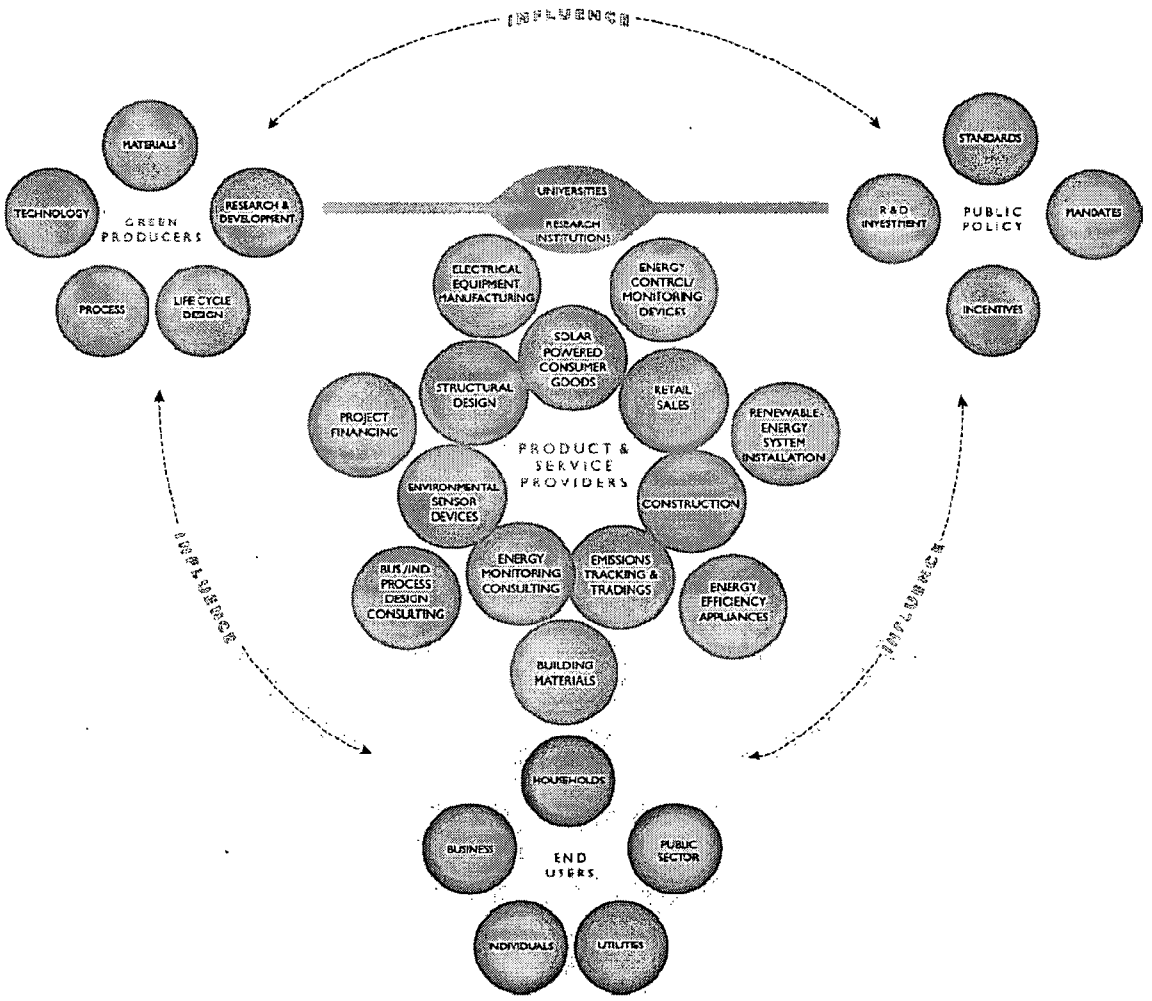

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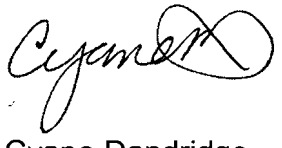

Cyane Dandridge
Executive Director
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San Joaquin Valley
Clean Energy Organization

REPRESENTING THE CALIFORNIA PARTNERSHIP FOR THE SAN JOAQUIN VALLEY

Recommendations

Over the past couple of years, we have: 1) established our regional energy organization, 2) listened and gained a keen understanding of our unique regional needs and assets; and 3) designed and launched programs focused on the three areas described above. As a result of this work, we recommend that the CEC consider the following factors when developing its guidelines for funding:

- *Funding provided through these programs should balance both short term and long-term needs and interests of the state and its residents.* We need to both create jobs and positive economic activity through increased investments and develop mechanisms that will enable us to continue to do this work after the ARRA money has been spent. This funding is a once in a lifetime opportunity and we need to make best use of this opportunity.

- *Regional approaches and organizations are well positioned to achieve the balance between these short-term and long-term needs and interests.* As a regional energy organization, the SJVCEO is positioned as an unbiased resource that supports clean energy projects at the local level and larger scale projects covering the entire region. Our relationship with the California Partnership gives us a unique regional perspective and connection to the state. We have close ties with Federal, state, and local agencies and utilities through our Board that allows us to leverage resources and provide ongoing support to our residents. We have investor owned and municipal utilities on our Board and are the lead implementer for a utility local government partnership in Tulare County, which provides a great opportunity to leverage resources and continue work after ARRA funding has been spent. We are also linked to Valley universities to connect Research and Development to local communities and businesses.

- *The San Joaquin Valley should be a focal point for the State's efforts to demonstrate how this ARRA funding can be used to achieve this balance between short-term and long-term needs and interests.* Our region is geographically large and culturally and economically diverse. About 25% of our cities and counties will receive direct EECBG funding from DOE, the rest will be supported the CEC portion of ARRA funding. The region faces significant air quality and economic challenges and has been hit hard by the recent mortgage foreclosure crisis. We are blessed with significant renewable energy assets and have been designated as a demonstration region for the national 25 x 25 Initiative designed to significantly increase our country's use of renewable energy use for fuels and power production.

  The Valley has the infrastructure through the CA Partnership and SJVCEO, and the interest and capability to play a key role in helping the CEC support implementation of the EECBG program and serve the 45 cities and 6 counties not directly funded by DOE. We also have a similar capacity to support implementation of the SEP. One possible role that we could play is to aggregate and oversee the retrofit of a diverse array of shovel ready, energy efficiency projects from diverse underserved portion of the region. This would provide short-term project implementation with positive economic impacts while strengthening an infrastructure that could provide ongoing services to meet a region's clean energy needs.

We look forward to continuing to work with the CEC to share our thoughts on how best to utilize EECBG and SEP funding and will share additional thoughts with CEC staff at the workshops in Fresno on May 6th.

Sincerely,

Paul Johnson

Paul Johnson
Executive Director
San Joaquin Valley Clean Energy Organization

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Why not green infrastructure?

Thomas Doran, P.E.
Vice President/Principal
Hubbell, Roth & Clark, Inc.
Grand Rapids, Michigan

When most people think about making something more environmentally friendly, "low impact," sustainable, or green, the first things that come to mind are cars and buildings. Energy efficiency reduces the use of fossil fuels and the by-products that are generated when these fuels are burned. Cars and buildings are highly visible so these are the things that occupy the public's radar.

"Green" is sometimes narrowly defined to mean energy efficiency, rather than reflecting the broad range of factors that affect the environment. Though energy and its effect on climate are important, there are many other things that impact the environment for good or ill. Shouldn't all these things be considered?

"Out of sight, out of mind" is a familiar adage. Few people think of roads, sewers, drains, water mains, and the mostly-invisible water and wastewater treatment plants, as candidates for "greening," despite the fact that there are tens of millions of miles of these utilities and roads, and thousands of these treatment systems, in operation in America. The fact is that designing sustainability and lower environmental impact into infrastructure is experiencing a golden age. It may be invisible but the breadth of these longer term efforts is worthy of notice.

In the early 1970s, flood control on the Rouge River in southeastern Michigan was accomplished by paving stretches of the river to achieve a uniform cross section and better carrying capacity. While this was an effective flood relief strategy, it was less than desirable environmentally, even in that era. The measures we would take today differ substantially from those earlier practices. Current approaches include channel design which attempts to mimic natural streams and rivers.

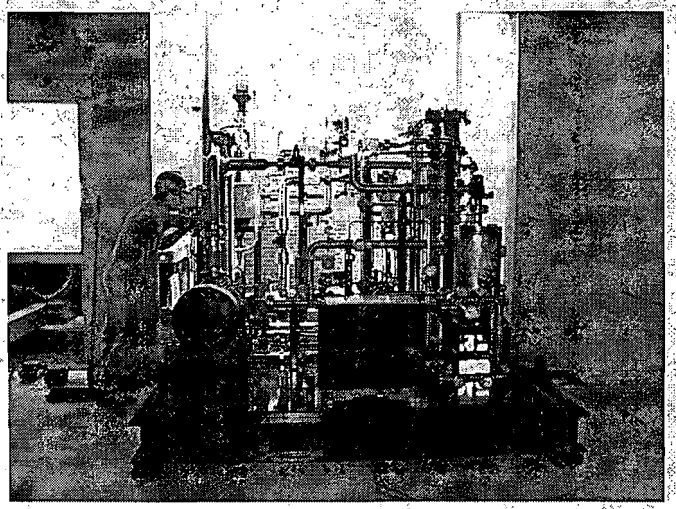
At one time, little was done when roads were designed and built with respect to stormwater, except for making sure it was quickly carried away. As a result, sediment and pollutants were rapidly transported to sewers or receiving waters. Today, it's not uncommon to include passive treatment and retention systems as an element of road design, creating habitats in the vicinity of roads and delivering higher quality water to receiving streams. These systems can be adjacent to a roadway and visible, or below ground and invisible. From an energy standpoint, there have been many recent developments in road design. Traffic modeling and optimization, and intelligent transportation systems, seek to maximize road and driving efficiency and reduce the wasting of fuels and the generation of the associated by-products. Intersection enhancements, including the replacement of traditional signalized intersections with roundabouts, and signal optimization at traditional intersections, also improve traffic flow, thereby reducing fuel usage and combustion by-products accelerated by traffic congestion. Traffic signal retiming and optimization rank among the most cost-effective transportation actions, increasing mobility, reducing fuel consumption, and reducing impacts on the environment.

The City of Sterling Heights, Michigan, and the Road Commission of Macomb County alleviated traffic congestion and reduced traffic accidents at an intersection of Utica and Dodge Park Roads with design and construction of the first concrete roundabout in Michigan.

Sewers and water mains can often be constructed or rehabilitated using trenchless technologies like horizontal directional drilling, pipe bursting, micro-tunneling, and in situ lining. When these techniques are appropriate, they can greatly reduce the impact on the environment through which these utilities pass. Trees and habitats can be saved or disruption prevented. Furthermore, fewer materials are consumed by avoiding trench construction and restoration. Water supply for heating and cooling also provides opportunities. For instance, installing one well for a water source and another well for recharging of the water to the ground, allows for removing heat or adding heat to the water to do the entire building without having to purchase make-up water. This produces significant energy savings by not having to heat and cool water, as there is no transferring from the heating cycle to the air conditioning cycle.

In recent years, significant planning and resources have been applied to separating sewers or providing retention

for older communities that had combined storm/sanitary sewers. In the past, when these systems received too much water during a storm event, overflows containing untreated sewage occurred. By separating sanitary and storm flows and/or by building storage to retain a portion of the storm flow, the impact on receiving streams and public health can be significantly reduced. In conjunction with these programs or simply to enhance the quality of runoff from developed property, retention has been incorporated into many building projects. This creates multiple benefits: reducing peak storm flows to downstream sewers so that they can be smaller or less heavily loaded, providing improved water quality as a result of the treatment that occurs in the retention system, and, often, by creating or expanding habitats in these developed areas. One can better understand this approach by visiting neighborhoods or commercial developments that were built in the 1960s and 2000s, and comparing them. The differences are readily apparent. A step beyond these practices is the active use of untreated or filtered stormwater for certain site activities, such as irrigation, in lieu of using potable water, as potable water is unnecessary for site needs that don't require a higher quality water.



The US EPA award-winning Delhi Charter Township Publicly Owned Treatment Works Class A Biosolids Stabilization and Combined Heat and Power System project features state-of-the-art biogas processing and uses microturbines to generate electrical power for the plant.

Water and wastewater treatment plants can be significant energy users; thus, measures to reduce energy at these facilities can be beneficial to the environment and reduce operating costs. Adding oxygen to biological treatment units using finer bubbles is more energy efficient that the older coarse bubble devices. Since pumps are some of the biggest energy users in treatment systems, higher efficiency pumps can make a difference. Creating an environment conducive to organisms that absorb more nutrients than conventional wastewater treatment organisms reduces chemical usage and sludge production requiring disposal. Waste solids (biomass) from wastewater treatment processes can be treated in an oxygen-free and warm environment that promotes methane gas production. This gas can be used to produce electric power to run processes at the plant. Residual solids from the treatment processes, after pathogens are destroyed, can often be used to condition soils. There are even communities that are exploring the use of dried residuals as sources of fuel, as well as wind turbines to provide energy for the treatment systems. It goes without saying that none of these measures can be implemented unless an equivalent, or better, effluent is produced.

For some time, industrial systems that treat process wastewaters containing significant oil have incorporated reclamation processes to reuse or sell as much of the waste oil as possible. Today, these reclamation processes are more often located at the source of the waste—at the manufacturing/production processes where it is more conducive to recovery—than at an end of pipe treatment system. This reduces the amount of product that leaves the site in the wastewater stream and the corresponding environmental impact of offsite production of chemicals to replenish those lost from the manufacturing process.

What's below the ground, under our tires, or out of sight, the infrastructure of our country, can have a big impact on the environment. Greening of our infrastructure began decades ago but has only recently been recognized as such. Increasingly, designs are building in even more features that protect and even enhance the environment. This trend will probably increase as technology improves and awareness expands.

It's important to note that the net cost of these green measures can be positive rather than negative. This can be the case even when the cost of local or regional environmental deterioration and associated remediation isn't taken into account. Reducing peak storm flows via local retention systems can result in smaller downstream sewers, or preclude the need to build bigger sewers in areas where infrastructure is already in place. Conversion from coarse bubble to fine bubble aeration at wastewater plants often has a quick payback period, a matter of a few years. In certain situations, trenchless technologies can be less expensive than traditional open cut methods. Optimizing road systems may preclude the need for road expansion and the associated cost. It isn't unprecedented for cost economy and environmental improvement to go hand in hand.

While the measures that have been described are often the intended project outcome, engineering these environmental features just as often requires careful consideration at the beginning of a project where green outcomes have not been explicitly defined. In these situations, defining costs, savings, benefits, and risks in a disciplined manner is important to reach a prudent and defensible decision. This disciplined process approach, drawing on experience from other projects, viewing the project as an integrated whole rather than separate pieces, and balancing costs, benefits, and risks, is an effective way to ensure that outcomes meet expectations.

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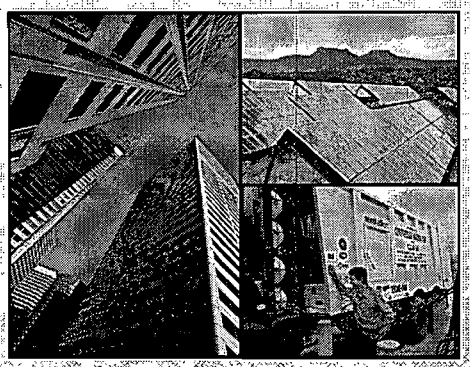
ICF INTERNATIONAL

Public-Private Partnerships



ICF has supported many of today's major PPPs since their inceptions. We understand how these programs came to take their present-day shape, and helped identify and explore the alternative designs that each considered over the years. This gives us critical insight into the factors that contribute to PPP success. ICF currently is the largest PPP service provider in the world, providing comprehensive support to more than 20 PPPs that address a broad scope of policy issues. These programs are changing the world for the better, and changing the way that government and the private sector interact.

Passion. **Expertise. Results.**

Public-Private Partnerships (PPPs) are voluntary programs in which government and the private sector agree, usually in writing, to work together to solve important public policy problems. PPPs can be effective tools to address policy issues in the absence of regulatory authority. ICF International has worked with public and private organizations to implement PPPs that respond to a wide range of policy challenges: energy efficiency, critical infrastructure protection, renewable energy, transportation, greenhouse gas reduction, and healthy housing.

Our Approach

The roots of a successful PPP can be found in a program design tailored to the issues, audiences and economics that the program will one day transform. ICF's disciplined PPP design methodology – refined over 15 years of experience – reveals the challenges that the program will one day confront, identifies the specific actions and incentives the program will need to offer, and weighs the expected benefits of the program against the expected costs.

During the program design phase, we conduct market research with private sector entities, trade associations, suppliers of enabling technologies and services, and policy researchers to identify the drivers and restrainers of desired action and the most effective point of intervention for the PPP. Next, we pilot the program to fine-tune the value proposition, identify technical tools and services that will be needed during implementation, and gather an early, committed group of partners to help implement the full-scale program. After program launch, ICF provides core operational support by recruiting new members, training existing members, developing technical tools, managing program communications and reporting, and evaluating the program to improve efficiency and impact.

Featured Solutions

ENERGY STAR®, U.S. Environmental Protection Agency (EPA), State and Utility Clients

ICF has been a lead contractor to EPA in the development and implementation of the ENERGY STAR programs, including labeled products, homes, commercial buildings, and industrial operations, since their inception in the early 1990s. To support these programs, ICF has delivered technical assistance, training, and market transforming outreach to thousands of partners throughout the United States. In addition to directly supporting EPA, ICF provides support to state and utility clients sponsoring local implementation of the ENERGY STAR program, which is one of the largest and most successful PPPs ever implemented.

Featured Solutions

Clean Cities Program, U.S. Department of Energy (DOE)
ICF manages several different projects that support the operations of the Clean Cities program and DOE's broader alternative fuels mandate. Since 1997, ICF has managed the daily operations of the Clean Cities Program Technical Response Service (previously the National Alternative Fuels and Clean Cities Hotlines), which includes expanding and updating a 200,000 entry Oracle database and responding to an average 150 technical alternative fuels inquiries per month via phone and e-mail. In related efforts, ICF updates and maintains a database of alternative fuel industry experts, and collects and analyzes data on alternative fuel and fuel blend use in U.S. transportation applications. ICF updates and expands a comprehensive database of alternative fuel filling stations, which includes detailed information for more than 6,000 individual alternative fuel refueling stations representing all 50 states and the following fuel types: ethanol (E85), compressed natural gas, liquefied natural gas, liquefied petroleum gas, biodiesel, electricity, and hydrogen. ICF also updates an online database of state alternative fuel laws and incentives, and identifies new laws and incentives that apply to alternative fuel vehicles purchased by private consumers and fleet managers.

Green Power Partnership, EPA.
ICF has supported EPA's Green Power Partnership since the program's inception in 2001. The Partnership is a voluntary program that reduces greenhouse gas emissions by increasing market demand for renewable energy products. ICF provides ongoing assistance to EPA in establishing the value proposition for the program, marketing the program, providing account management services to Partners, and supporting the Partnership's annual Green Power Marketing Conference and the accompanying Green Power Leadership Awards. In addition, ICF plays a major role in the program's communications strategy with external stakeholders. Our team writes and publishes the bimonthly newsletter sent to more than 2,500 program participants and interested stakeholders. ICF also managed the selection and implementation of the program's online recruitment and tracking database, which drives all comprehensive reporting and automatically generates reports to update the program's Web site with the latest information about Partners.

Carbon Management Programme, UK Carbon Trust
In October 2003, the Carbon Trust (a quasi-governmental organization in the United Kingdom) launched an innovative carbon management program to accelerate and optimize the UK's progress toward a less carbon-intensive economy. ICF provided strategic advice in the initial design of the program; the Carbon Trust subsequently commissioned ICF to develop a set of analytical tools and workbooks for program participants to aid their analysis of carbon issues and options. ICF also played a key role in the recruitment of the program's 50 pilot participants. ICF assisted the recruitment effort by test-marketing various program concepts with potential participants, conducting on-site interviews, drafting program announcements and advertisements, and directly contacting large UK companies to encourage them to join the program. Recruitment was far more successful than the Carbon Trust initially anticipated, which allowed it to double the size of the pilot program.

Performance Track Program, EPA.
ICF supports several key areas of work within EPA's Performance Track program. The ICF recruiting team develops and implements an integrated recruiting strategy which enables the program to meet its goal of a 25 percent growth in applications received per year. ICF provides significant communications support to the program, including developing numerous materials, communications campaigns, and media support, and manages the Performance Track Web site. ICF supports the Performance Track Assistance Project by partnering with organizations such as trade associations, federal departments, and state agencies to develop or improve tailored Environmental Management System guidelines. ICF assisted EPA in hosting the charter event that launched Performance Track, and has supported all subsequent annual members' events. ICF also has supported EPA in writing, editing, designing, and producing the National Environmental Performance Track's first five annual progress reports.

About ICF International

ICF International (Nasdaq: ICFI) partners with government and commercial clients to deliver consulting services and technology solutions in the energy, environment, transportation, social programs, defense, and homeland security markets. The firm combines passion for its work with industry expertise and innovative analytics to produce compelling results throughout the entire program life cycle, from analysis and design through implementation and improvement. Since 1969, ICF has been serving government at all levels, major corporations, and multilateral institutions. More than 2,000 employees serve these clients worldwide. ICF's Web site is http://www.icfi.com.

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Rapid Deployment Energy Efficiency (RDEE) Program Planning Guide

April 3, 2009

The Rapid Deployment Energy Efficiency (RDEE) Program Planning Guide is designed to help state and local authorities and energy efficiency program administrators choose successful programs as they advance energy efficiency program funding opportunities through the American Recovery and Reinvestment Act of 2009.

The RDEE Planning Guide was developed through a joint effort of the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Energy (DOE), building upon technical information provided by the Leadership Group of the National Action Plan for Energy Efficiency. It was prepared by Peter Lemoine, Tyler Huebner, David Pickles, and Bill Prindle of ICF International.

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I. Introduction and Purpose

The American Recovery and Reinvestment Act (ARRA) contains over $18 billion in energy efficiency funding that qualifying entities (primarily states, cities, and counties) can pursue. The primary objectives of this funding are to build jobs, save energy, and build energy efficiency infrastructure for the longer-term. To accomplish these objectives, the Administration and Congress have placed heavy emphasis on transparency and accountability in the use of ARRA funds.[1] At the same time, funds must be obligated and expended rapidly, to have a significant effect on economic recovery in the near future.

The **Rapid Deployment Energy Efficiency (RDEE) Program Toolkit** is being provided to help recipients of ARRA funding meet these objectives and challenges. The toolkit provides information on 10 different programs across the residential, commercial and industrial sectors, drawn from the experience of hundreds of federal, state, local, private, and utility organizations.[2] In many cases, these programs have undergone years of scrutiny by diverse groups of stakeholders in both their design and implementation, and have been used to distribute hundreds of millions of dollars in training, support, marketing, administration, and customer incentives. And, in some cases, these programs present opportunities for leveraging field-tested, pre-existing infrastructure. The programs included in this Toolkit are:

1. Home Performance with ENERGY STAR
2. ENERGY STAR Labeled Products
3. Residential Efficient Heating and Cooling
4. Residential Energy Audit and Direct Installation
5. Non-Residential On-Site Energy Manager
6. Non-Residential Prescriptive Rebates
7. Non-Residential Retro-commissioning
8. Non-Residential Benchmarking and Performance
9. Non-Residential Custom Incentives
10. Commercial Food Service Efficiency

[1] See http://www.recovery.gov/?q=content/accountability-and-transparency.
[2] This includes the experience of the participants in the National Action Plan for Energy Efficiency, a public private initiative to pursue all cost-effective energy efficiency by 2025, www.epa.gov/eeactionplan.

Planning Guide

The first portion of the toolkit is this Planning Guide. The Planning Guide provides the information recipients of ARRA funding need to **plan** the early stages of these programs, both individually and as part of a portfolio of programs. This information includes:

- Program summary
- Target market
- Evaluation, monitoring, and verification requirements
- Infrastructure requirements
- Training requirements
- Staffing requirements
- Implementation timeline
- Energy savings
- Participation rates
- Total Budget
- Job creation estimates
- Cost-effectiveness
- Resources and assistance

This document also provides a brief overview of the energy efficiency related funding opportunities set forth in the ARRA. This document does not attempt to address the planning process and potential for renewable programs.

This planning guide is organized as follows:

II. Overview of the stimulus package. This section provides a summary of the key stimulus package provisions along with the total funding levels available, the recipients, and major features for each provision.

III. Considerations in Program selection and budgeting. This section outlines the key factors to consider in program selection and budgeting, including job impact, collaboration/leverage of funds, significance of savings, cost of savings, and sustainability and market transformation.

IV. Overview of the RDEE Programs. This section briefly describes each of the 10 programs in the Toolkit including the target market and major program elements.

V. Framework for Program Selection and Budgeting. This section outlines how to use the program-specific information presented in the planning guide to select and budget for one or more of the 10 RDEE programs.

VI. Program Snapshots. This section provides more detailed information on each program, along with links to additional resources.

Complete Toolkit

The complete RDEE Toolkit, including additional information for implementing each of the 10 RDEE programs, will be available in the near future. In particular, the complete Toolkit will include more extensive information and additional resource materials such as example Requests for Proposals (RFPs), program plans, training modules, evaluation methods, and similar resources to make it easier for states, local governments, and other program administrators to design and implement effective programs.

II. Overview of Stimulus Package

Most of the ARRA funds will flow through the State Energy Program (SEP), the Weatherization Assistance Program (WAP), and the new Energy Efficient Community Block Grant program. The Department of Energy (DOE) Office of Electricity Delivery and Energy Reliability will program $4.5 billion in "smart grid" funding, including $100 million in training funds. The Labor Department's Employment and Training Administration will also program $500 million for training and workforce development. These programs are summarized in Table 1. The rest of this section describes these programs in greater detail, with an emphasis on those funding opportunities most relevant to the energy efficiency opportunities discussed herein (EE Block Grants, SEP, and ENERGY STAR appliances). For more information, visit www.energy.gov/recovery.

Table 1. Summary of ARRA Funding

Provision (Agency)	Dollar Amount	Notes
Energy Efficiency and Conservation Block Grants (DOE-EERE-OWIP) www.eecbg.energy.gov/grantalloc.html	$3.2 Billion	• $2.8 billion by formula • $400 million competitive • Wide range of eligible uses
Weatherization Assistance Program (DOE-EERE-OWIP)	$5 Billion	• Per "dwelling unit" limit raised to $6,500 • Training/Tech Assist 10 to 20% • Income level raised from 150 to 200% of poverty level • Matching funding waived

Provision (Agency)	Dollar Amount	Notes
State Energy Program (DOE-EERE-OWIP)	$3.1 Billion	• Uses current SEP program; requires assurance of utility regulatory reform and better building codes • Matching funding waived
Smart Grid (DOE-OE)	$4.5 Billion	• Includes "demand-responsive equipment" • Includes $100 m for training
ENERGY STAR Appliance Rebate Program (DOE-EERE-OWIP)	$300 Million	• Based on EPAct 2005 authorization • Allocated to states on a formula, 50% match basis • Any residential ENERGY STAR product
Grants for EE-RE Workforce Development (Labor) http://www.dol.gov/recovery/	$500 Million	• Competitive grants • Grants can cover research, labor exchange, and job training

Energy Efficiency and Conservation Block Grants (EE Block Grants)
The formal Funding Opportunity Announcement (FOA) has been issued by DOE for EE Block Grants; over $2.6 billion in formula grants are now available to U.S. states, territories, local governments and Indian tribes. To obtain a copy of the FOA, which contains complete information for grantees on the Program and application process, go to www.eecbg.energy.gov/grantalloc.html, and search for Reference Number DE-FOA-0000013.

The authorizing legislation in the Energy Independence and Security Act of 2007 (EISA) contains the following provisions for EE Block Grants:

1. The overall purpose is to reduce fossil fuel emissions through energy efficiency improvements in buildings, transportation, and other sectors.
2. Eligible uses include a long list of activities, from developing an energy strategy to installing specific technologies.
3. The authorizing formula calls for sixty eight percent of the funds to go to local governments, defined as cities of 35,000 or larger, and counties of 200,000 or larger. Twenty eight percent goes to states, at least sixty percent of which is to be distributed as sub-grants to local jurisdictions smaller than the formula threshold. Two percent is targeted for Indian tribes, and two percent for competitive grants.

4. Local government grantees must submit a plan and strategy for use of the funds within one year of award. DOE must review the plan within 120 days; if rejected, the plan can be resubmitted until accepted. Reports are due at the end of each subsequent year. DOE is anticipated to elaborate on planning and reporting requirements in its forthcoming ARRA FOA guidance.
5. State grantees must submit a plan for their use of funds to DOE. The authorizing legislation calls for plans to be submitted within 120 days of enactment (EISA was enacted in December 2007). DOE will have to interpret and provide guidance on states' submission dates under ARRA. States will also have to file annual reports on expenditures and energy savings; DOE is anticipated to elaborate on plan and reporting requirements in its upcoming FOA guidance.
6. Limitations on expenditures include:
    - Administrative costs—greater of 10% or $75,000 (applies to state and local recipients)
    - Revolving loan funds—greater of 20% or $250,000 (applies to local recipients)
    - Grants to NGO for program implementation—greater of 20% or $250,000 (applies to local recipients)
7. EE Block Grant funds may not be used to supplant funds provided under the SEP or WAP programs

Weatherization Assistance Program (WAP)

DOE has issued an FOA, downloadable from http://www.epa.gov/cleanenergy/energy-resources/ee_toolkit.html). Key elements of this guidance include:

1. Initial applications were due March 23, 2009, with complete applications due May 12, 2009
2. WAP grantees are defined by longstanding law and program rules as designated state agencies. WAP sub-grantees are also defined in the program, and serve as the primary delivery agents for program services. These definitions and associated rules have not changed, except that matching fund requirements have been waived for ARRA funds. The FOA does acknowledge that a state may add new sub-grantees, as long as they are Community Action Agencies, public agencies, or nonprofit groups that meet program rules.
3. The WAP allocation formula was modified slightly, to ensure a more even distribution of funds, such that warmer states will receive somewhat higher amounts than under the previous formula.
4. Three significant WAP rule changes were included in ARRA: (1) eligibility threshold income was raised from 150% to 200% of the poverty level; (2) training and technical assistance funds can account for 20% of total funds, up from 10%; and (3) average per-home spending limits were raised from $2500 to $6500.

More information on the Weatherization Assistance Program is available at http://apps1.eere.energy.gov/weatherization.

Smart Grid

DOE will distribute the $4.5 billion in ARRA funds in this category primarily through competitive grants. No detailed guidance has been issued, although an RFP has been posted for a Smart Grid Clearinghouse. Uses of these funds could go towards advanced utility metering, demand-response technologies, advanced transmission, distribution, and control technologies, planning and analysis efforts, and other purposes.

ENERGY STAR Appliance Rebates

ARRA provides $300 million for a program authorized in the Energy Policy Act of 2005 (EPAct 2005). The authorizing language calls for states to receive funds on a formula basis, and use them to provide rebates or other incentives for ENERGY STAR-certified residential products. DOE has yet to issue detailed guidance on this program, including any specifications for eligible products, product performance levels, preferred methods for program administration or coordination, or other details. It is also unclear whether states are encouraged to program these funds through existing programs

Green Jobs

Department of Labor's Employment and Training Administration will program $500 million for "green jobs" training and workforce development. While it is expected that these funds will be allocated mostly as grants, little additional detail has yet been issued, including definitions of green job categories, criteria for training programs, or other features.

State Energy Program (SEP)

State energy offices will receive supplemental grants under the terms of ARRA. These entities have received SEP funds for many years under existing law and program rules. DOE has issued a FOA for SEP grants, downloadable from http://www.epa.gov/cleanenergy/energy-resources/ee_toolkit.html. Under the terms of ARRA, funds are subject to some additional conditions, including:

1. Governors must submit assurances that:

    A. The applicable State regulatory authority will seek to implement, in appropriate proceedings for each electric and gas utility, under its rate-making authority a general policy that ensures that utility financial incentives are aligned with helping their customers use energy more efficiently and that provide timely cost recovery and a timely earnings opportunity for utilities associated with cost-effective measurable and verifiable efficiency savings, in a way that sustains or enhances utility customers' incentives to use energy more efficiently.

B. The State, or the applicable units of local government that have authority to adopt building codes, will implement the following:

   i. A residential building energy code (or codes) that meet or exceed the most recent International Energy Conservation Code, or achieve equivalent or greater energy savings.

   ii. A commercial building energy code (or codes) throughout the State that meets or exceeds the ANSI/ASHRAE/IESNA Standard 90.1–2007, or achieves equivalent or greater energy savings.

   iii. A plan to achieve 90 percent compliance with the above energy codes within eight years. This plan will include active training and enforcement programs and annual measurement of the rate of compliance.

2. States are guided to prioritize grants toward funding energy efficiency and renewable energy programs, including—

   A. expansion of existing energy efficiency programs run by state agencies or utilities

   B. expansion of existing state or utility renewable programs

   C. cooperation and joint activities between States to advance more efficient and effective use of ARRA funding

3. As with WAP, SEP Comprehensive Applications must be filed by May 12, 2009, with Initial Applications due March 23.

4. States have substantial flexibility in program funds, notwithstanding the guidance to build on existing programs above. In addition, the FOA encourages priority focus on the following kinds of activities:

   A. Establishment and enforcement of energy efficient building codes and standards, and implementation of voluntary programs that impact new design.

   B. Loans, grants and incentives for energy efficiency and renewable energy measures.

   C. Building retrofits.

   D. Traffic signal synchronization and replacement with LEDs.

   E. Industrial retrofits.

5. DOE encourages states to go beyond typical utility metrics of cost-effectiveness in selecting measures and programs to fund, and DOE promises further guidance in this area. The FOA also, however, suggests that SEP-funded activities produce (as a portfolio) at least 10 million Btu (source energy) in annual energy savings per $1,000 spent.

6. Recommended performance metrics in the FOA are:

   A. Jobs created

B. Energy (kwh/therms/gallons/BTUs/etc.)saved

C. Renewable energy installed capacity and generated

D. GHG emissions reduced (CO2 equivalents)

E. Energy cost savings

F. Funds leveraged

Most states have energy plans under their current SEP program umbrellas. ARRA funded initiatives should be consistent with these plans' goals. To the extent the state energy office programs funds through existing programs, consultation may be needed with the relevant agencies or regulatory authorities, to ensure consistency with these institutions' policies and practices.

III. Considerations in Program Selection and Budgeting

Recipients face a formidable challenge in allocating their resources and potential stimulus funding across a broad array of potential programs, both existing and new. The SEP FOA identifies many of the criteria and considerations that DOE has outlined as important in the SEP grant process. Some criteria are explicit and quantifiable, and others are more general in nature, emphasizing the need for the programs to be consistent with the requirements of the ARRA and with DOE's guiding principles for the State Energy Plans. While many of the criteria are addressed in multiple sections of the FOA, and are expressed in slightly different terms, many of the primary considerations are captured in the following five prioritization criteria[3].

1. **Job Impact**. The ARRA and SEP FOA are clear in their guidance that the funding should have a significant impact on creating new or sustaining existing jobs. The FOA emphasizes the urgency of this need by preferring programs that can be initiated prior to June 17, 2009, and that can be completed expeditiously. Tracking and reporting of the nature and duration of jobs created by the funds is also required.
2. **Collaboration/Leverage of Funds**. The SEP FOA requires states to commit to using funding to expand existing programs, including ratepayer-funded (utility or public-benefit fund) programs, or to create new programs, and not to supplant or replace existing funding. Collaboration among Federal and state agencies, and across public and private agencies, is explicitly encouraged, as is use of best practices from other states. Given the need to expend funds quickly and the need to mitigate the risks associated with "greenfield" start up of new programs, the use of existing programs and infrastructure is also encouraged.

[3] Note that these criteria include a mix of pass/fail criteria, as well more ordinal criteria (e.g., where the project can satisfy the criteria to varying degrees.) Note also that the FOA and related documents should be consulted for the specific criteria and requirements This document does not modify, limit, or change in any way the requirements of the FOA

3. **Significance of Savings**. The SEP FOA reinforces that states should pursue a minimum goal of reducing per capita energy consumption at least 25 percent relative to a 1990 base year, by 2012. Combined with the goal of a significant increase in jobs and a reduction in environmental impacts, the FOA anticipates that the programs and resulting energy impacts will be large.
4. **Cost of Savings**. The SEP FOA strongly encourages state portfolios of SEP programs to achieve at least 10 million annual source Btus in savings for every $1,000 spent. While individual programs may, for good reason, provide lesser savings, the relative cost of the programs will be an important consideration. Note that this standard of cost effectiveness equates to approximately $1/kWh for electric utilities, whose program portfolios often achieve energy savings for one-fourth this cost.
5. **Sustainability and Market Transformation**. The SEP FOA anticipates preservation of the jobs and activities initiated by the ARRA even after the funds have been expended. States are requested to focus program efforts on market transformation activities which cause lasting changes in the function of markets or behavior of participants. Programs which can continue to provide value by leveraging other sources of funds (such as ratepayer or private sector funds) or by having permanently changed behavior (such as teaching quality installation and maintenance practices) are appropriate.

Note that these are not the only criteria. Other important criteria (such as the Governor's Assurance) also apply. These criteria may, however, prove very useful to recipients in the analysis, prioritization, and funding of programs.

Although these criteria are designed to reflect the key considerations of DOE during the award process, states may also wish to overlay their own additional requirements. While these criteria will be situation specific, they might include:

- Alignment with the mission and statutory authority of the state agency and previously filed SEP plans
- Availability of tracking systems for program funds, QA/QC of work conducted with the funds, and accounting and anti-fraud controls
- Electric system requirements (e.g., timing of future capacity or energy driven additions)
- Availability of programs for all taxpayers and a broad based opportunity to participate in at least one program
- Special accommodations for low-income customers
- Sensitivity to competitive market operations and a desire not to create programs that compete with or provide inappropriate competitive advantage to individual market participants
- Ability of the program to integrate with plans by regional utilities to introduce an Advanced Metering Infrastructure or Smart Grid

- The impact on the ability to reach goals that may have been established for existing energy efficiency program providers, especially utilities

IV. Overview of the RDEE Programs

The **Rapid Deployment Energy Efficiency Program Toolkit** provides information on 10 energy efficiency programs. These programs each have a proven track record and are consistent with the criteria and considerations outlined by DOE. Each of these programs typically,

- Addresses broad target audiences
- Creates jobs
- Saves significant amounts of energy
- Is cost-effective
- Has established measurement and evaluation methods
- Leverages existing infrastructure
- Is sustainable, at least in part, and results in long-term market transformation
- Is comparatively low-risk
- Has manageable complexity
- Has available extensive design support and case study information

The programs span energy efficiency options across the residential, commercial, and industrial sectors. The programs are:

1. **Home Performance with ENERGY STAR (HPwES)**. This residential sector program offers whole home retrofits using qualified contractors, established home assessment protocols, and incentives from the program sponsor. This program can be a good strategy particularly for older pre-code constructed homes. The program is estimated to reduce home energy bills by 20 percent on average.

2. **ENERGY STAR Labeled Products.** This residential and small commercial sector program promotes efficient lighting (CFLs and fixtures) and appliances through a variety of incentive structures including direct rebates to the customer as well as upstream incentives. This program generally targets the broad residential and small commercial market place. Particular products may be selected for inclusion in this program such as lighting or one or more appliances; savings depend upon the products included. Typical savings range from approximately 0.5 to 3.0 Mbtu per participant

3. **Residential Efficient HVAC** . This program targets HVAC contractors and homeowners to increase sales and proper installation of ENERGY STAR qualified HVAC equipment, such as air conditioners, furnaces, and split systems. Savings are very sensitive to weather, but the minimum savings range per participant is approximately 5 to 20 Mbtu.

4. **Residential Energy Audit and Direct Installation**. This program targets the same market and works with the same set of contractors as HPwES; the key difference is a more basic audit and less extensive and lower cost set of measures, such as CFLs, hot water heater wraps, pipe insulation, and low flow showerheads. Typical savings are approximately 3 to 6 Mbtu per participant.

5. **Non-Residential On-Site Energy Manager**. This program assists businesses by hiring and training an On-Site Energy Manager (OEM) to work with them for a six-month period. During their tenure with a business, the OEM will evaluate facilities' energy use and work with maintenance staff to reduce energy usage and costs. Long-term energy and cost savings of 10 to 15 percent are achievable, largely through behavioral changes.

6. **Non-Residential Prescriptive Rebates**. This program provides incentives to the commercial, institutional, and industrial market for upgrade or retrofit of equipment with new, more energy efficient equipment, such as lighting, HVAC equipment, and products like motors and refrigerators. Particular equipment and products may be selected for inclusion in this program, such as lighting; savings depend upon the equipment and products included. Generally, a large percentage of program savings come from lighting retrofits.

7. **Non-Residential Retrocommissioning**. Retrocommissioning offers building owners a systematic process for evaluating a structure's major energy-consuming systems and identifying opportunities to optimize equipment operation. Retrocommissioning tunes-up existing buildings, improving their energy efficiency and operational procedures. Retrocommissioning is typically carried out through local networks of commissioning providers. Typical savings range from approximately 4,000 to 20,000 Mbtu per participant.

8. **Commercial Benchmarking and Performance**. This program works with commercial facility operations staff and owners to benchmark and monitor building energy performance using tools such as ENERGY STAR Portfolio Manager and building sub-metering equipment, as well as to recommend energy efficiency upgrades based on analyses of building performance data. This program is estimated to reduce building energy use by 10 to over 30%

9. **Non-Residential Custom Incentives**. A commercial and industrial (C&I) Custom Program supports C&I customers in identifying and implementing site-specific and unique cost-effective energy efficiency opportunities, which often require calculations to determine energy savings. A typical project may involve industrial process efficiency, chillers/boilers, data center efficiency, or electric motor retrofits,

10. **Commercial Food Service Efficiency**. This program rebates energy-efficient commercial food service equipment such as refrigerators, freezers, steamers, fryers, hot food holding cabinets, ice machines, dishwashers, ovens, and other technologies, primarily aiming to influence the buyer to purchase more efficient equipment when their existing equipment has failed. Typical savings range from approximately 20 to 60 Mbtu per participant.

This Planning Guide includes the following information for each of these programs, as presented in Section VI.

Summary of Information Provided for Energy Efficiency Programs in RDEE Planning Guide

- Program summary
- Target market
- Evaluation, monitoring, and verification requirements
- Infrastructure requirements
- Training needs
- Staffing requirements
- Implementation timeline
- Energy savings
- Participation rates
- Total Budget
- Job creation estimates
- Cost-effectiveness
- Resources and assistance
- Leveraging opportunities

V. Framework for Program Selection and Budgeting

This **Planning Guide** presents information that can be used to select and plan for any one of these programs or for the development of a portfolio of these programs. To assist in determining which of these programs may be appropriate for use of SEP and EECBG funding in a particular area, the Planning Guide presents the following basic program information and planning assumptions:.[4]

- Target audience
- Likely near-term annual penetration rates
- Average energy savings per participant
- Annual program costs per participant, and
- Jobs created

This program planning information permits interested parties to scale the numbers up or down based on population, location, or other specific information.[5] Potential program sponsors are encouraged to consult the resources identified and/or contact EPA for assistance in identifying appropriate planning assumptions for their own states/cities/counties and anticipated program designs (more detailed implementation guides will be available between May 15th and June 15th.).

The use of this information is illustrated below for various hypothetical residential and non-residential populations. Based upon assumptions for participation rates, average costs per participant, average savings per participant, and estimated jobs created the following program planning information can be developed (as illustrated in Table 2)

- Total annual program costs
- Total annual energy saved
- Jobs created
- Source Btu saved per $1,000 invested

[4] These are initial planning assumptions based on the experience of a number of organizations implementing these programs. However, recipients are encouraged to evaluate these assumptions as their plans are developed to address local circumstances that could be different from the circumstances of past program implementers due to different climate conditions, economic activity levels, incentive strategies, and market infrastructure, etc.

[5] The information provided is by necessity somewhat generic, and may not reflect individual program design approaches or be achievable under all circumstances.

Table 2. Illustrative Program Metrics 2009-2012

		Eligible Population	Participation Rate	Participants	Average Cost per Participant	Program Cost	Jobs per $1M	Jobs Created	Per Unit Source MBtu Saved	MBtu Saved	Source Mbtu Saved per $1,000
Residential	ENERGY STAR Products	1,000,000	23.4%	235,530	$ 26	$ 34,700,000	9	296	3	3,029,000	87
	Easy Audit and Direct Install	250,000	3.5%	8,700	$ 993	$ 8,636,000	21	184	5	43,500	5
	HPwES	250,000	1.0%	2,500	$ 5,850	$ 14,625,000	20	297	60	150,000	10
	Efficient HVAC	1,000,000	3.2%	31,818	$ 399	$ 12,709,091	15	187	5	159,091	13
C&I	Prescriptive	100,000	1.8%	1,820	$ 3,610	$ 6,571,000	9	57	400	722,500	110
	Custom	100,000	0.3%	261	$ 20,000	$ 5,220,000	16	81	1,500	391,500	75
	Retrocommissioning	20,000	0.5%	100	$ 48,100	$ 4,810,000	12	58	5,500	495,000	103
	Benchmarking + Building Performance	20,000	0.2%	45	$ 40,000	$ 1,800,000	12	21	2,800	126,000	70
	On-Site Energy Manager	20,000	0.5%	105	$ 47,631	$ 5,001,250	8	39	4,500	472,500	94
	Commercial Food Service	40,000	7.7%	3,075	$ 1,400	$ 4,307,750	7	29	56	172,000	40

Allocation of Funds among Programs

Applicants will likely need to make decisions as to which programs should be pursued in their areas and how large a budget to allocate to each selected program, as implementation of all attractive programs will likely more than exhaust allocated ARRA and other available funds,. This section outlines a framework for making these decisions. These decisions will likely be based on both quantitative and qualitative considerations. These considerations are addressed in turn below.

A primary goal of a portfolio of programs should be to maximize its value, subject to applicable constraints. In this case, the value could encompass several metrics, including number of jobs created and total energy saved. Constraints might include the available budget, cost per Mbtu saved, and the perceived riskiness of the projects.

There are many approaches to this challenge, some founded in mathematical scoring models, and others based on qualitative assessments. Given that the criteria established above are both quantitative and qualitative, a hybrid approach may be most appropriate for allocating ARRA funds.

As primary goals of the ARRA are to create jobs and save energy, this guide provides the information necessary to estimate these benefits, in particular. While there is some uncertainty in these estimates, ranges of probable impacts have been established and are provided. The energy savings estimates are derived from past program experience. The process used to develop ranges for the jobs created from the programs is outlined in Appendix A.

Similarly, estimates of the cost-effectiveness of the programs, expressed in terms of the MBtu per $1,000 spent should be developed. Again, these can reasonably be expressed in terms of ranges using the information in the Toolkit and other sources.

In addition to these quantitative items, each program should be evaluated relative to the qualitative criteria that are of significance to each applicant. Examples of these criteria might include:

1. The applicability of the program to broad range of constituents. Equity across taxpayers may have different facets depending upon individual circumstances, but will generally require that, over time, all taxpayers have the opportunity to participate in the programs, or will at least share materially in their benefits.
2. The comparative simplicity and risk level of the program. Relative risk of individual programs, and of the portfolio as a whole, is difficult to judge since there is often a lack of reliable information and projections regarding future performance by the programs. Therefore, concepts that should be considered in assessing risk include: the quality and reliability of information used in determining the quantitative metrics; track record of the program and/or its implementer in hitting goals and maintaining budgets; and dependence of the program on factors outside the recipient's direct control.
3. The sustainability of the program after ARRA funding has been expended, which in part depends upon the degree to which the program permanently increases the supply of energy efficiency (for example, by training contractors in efficient methods or changing the stocking practices of distributors), or increases the demand for energy efficiency by educating users on the importance of energy efficiency in their purchases and habits.
4. The degree to which the program leverages other funding sources or programs. Opportunities for leverage are in part a function of the existence of other programs, or entities willing and able to introduce such programs. Utilities, both public and private, as well as cities, counties, environmental and planning agencies, and regional transmission organizations may all serve as potential sources of funds.

The evaluation process might include a ranking of each program from "low" to "high" relative to these criteria, as illustrated in Table 3.

Table 3. Illustrative Metrics of Potential Programs

Program	Mbtu per $1, 000 Range	Jobs per $M Range	Applic-ability	Simplicity & Lack of Risk	Sustain-ability	Leverage
RESIDENTIAL						
Home Performance with ENERGY STAR	5-15	18-25	High	Moderate	High	Moderate
Residential Energy Audit and Direct Installation	5-12	18-25	High	Moderate	High	Moderate
Residential Efficient Air-Conditioning	10-20	11-20	High	High	Moderate	High
ENERGY STAR Labeled Products	80-100	8-10	High	High	Moderate	High
NON-RESIDENTIAL						
Non-Residential Custom Incentives	50-150	15-18	Moderate	Moderate	Moderate	Moderate
Non-Residential Retro-commissioning	80-120	11-15	Moderate	Moderate	Moderate	Moderate
Non-Residential Benchmarking & PCx	20-40	11-15	Moderate	Moderate	High	Moderate
Non-Residential Prescriptive Rebates	80-130	8-11	Moderate	High	Moderate	High
Commercial Food Service Efficiency	25-40	6-8	Moderate	Moderate	Moderate	Moderate
Non-Residential On-Site Energy Manager	80-120	5-11	Low	Moderate	High	Moderate

Recipients should consider the environment in their own jurisdictions when assigning

rankings. For example, a state with utilities who are actively promoting similar programs might provide "high" opportunities for leverage. In contrast, states with few or no such programs might have a "moderate" or "low" opportunity for leverage. Details about the attributes of each program are provided in Section VI, and support the evaluation of each program.

States and local governments can use the information in Table 3 to prioritize the programs based on a combination of their qualitative and quantitative rankings. This framework would be appropriate to apply holistically to all programs under consideration, both existing and new, as well as to all existing SEP and potential ENERGY STAR or other programs. Of course, each situation is unique and the above may not be a complete or relevant list of considerations for every applicant. Section VI provides additional information regarding each program.

VI. Program Snapshots

PROGRAM	Home Performance with ENERGY STAR (HPwES)
Program Summary	Together, the Tier 1 Energy Audit and Direct Install and the Tier 2 Audit program (Home Performance with ENERGY STAR, or HPwES) comprise the Residential Retrofit initiative. These programs work with the same pool of contractors and population of homeowners. The primary differences between HPwES and Energy Audit and Direct Install are the level of the audit (the Tier 1 program offers a basic, visual home energy checkup whereas the HPwES audit is comprehensive and involves diagnostic tools) and the measures available for incentives (Tier 1 only offers inexpensive, direct install measures whereas HPwES offers a wide range of measures for all end-uses, and at many price points). This market-based program motivates homeowners to use highly skilled home energy analysts and contractors that offer a whole-house approach for reducing energy use. These contractors provide comprehensive energy audits for qualified homeowners and provide incentives from the state/utility program sponsor (often either rebates and/or low-interest loans) for qualifying energy efficiency projects. Typical projects might include: insulation, duct sealing and repair, high-efficiency HVAC systems, windows, lighting, and appliances. The energy analysts are usually free to establish their own pricing for the audits and subsequent work and to determine their own basic business model (e.g., just providing audits, or also providing installation of the efficiency improvements). However, they are required to adhere to strict training, engineering, reporting, quality assurance, and other requirements set forth by the EPA, DOE, and the program sponsor. Incentives to homeowners typically have a value of approximately 10%-20% of the value of the improvements, or between $300 and $1,500 (including cash incentives and low-interest financing) depending on the measures installed, though some programs have paid much high rebates for projects, on the order of $5,000 or more. A variation of the program called "Assisted Home Performance" provides greater levels of incentives for low and moderate income participants. Incentives and other support to contractors typically include items such as job completion bonuses, and cost-sharing for training with existing nationally recognized building performance associations. Other key elements of the program include contractor recruitment, training and mentoring, and independent verification of a sample of homes to verify quality of the work and data collected. Extensive support in the design and implementation of this program is available from the EPA and DOE in the form of a sponsor guide, template program outline, financing guidebook, marketing materials, case studies, and other information. Note: Some program sponsors elect to roll-out HPwES first as a pilot in selected areas; then, based on their leanings from the pilot, expand the program to their entire eligible population. However, running a pilot is an option, not a requirement of becoming an HPwES sponsor.
Target Market	HPwES typically targets homes 15 years or older – this constitutes approximately 80 percent of the housing stock, nationwide.[6] Program sponsors may elect to target participants with certain demographic characteristics, or whose energy consumption exceeds established metrics.
EM&V	Basic accounting for the impacts of the program includes tracking of the number of participants, the measures installed and their anticipated savings, the field measurements taken by contractors before and after the work, as well as the basic characteristics of the home where the work was performed. In some cases, additional measurement and verification may be required by the program sponsor or regulators, and typically focuses on establishing the kW, kWh, and Btu saved by the program through an evaluation of the existing baseline conditions of a sample of homes, the nature of the energy efficiency improvements installed, actual usage characteristics and utility consumption of the home, and whether or not the owner would have undertaken the work even in the absence of the program. Methods used vary widely based upon the need for precision in the estimates and the perspective of the program sponsor or regulators. In general, EM&V costs range between 1% and 8% of the overall program budget, and are most typically around 3-4%.

[6] U.S. Census Bureau, "American Housing Survey: 2007," www.census.gov/hhes/www/housing/ahs/ahs07/tab1a-1.xls

PROGRAM	Home Performance with ENERGY STAR (HPwES)
Infrastructure Requirements	The primary infrastructure required to deliver this program includes: • A process for recruiting and screening qualified contractors to participate in the program • A process for training, certifying, and monitoring the performance of contractors • A standardized process for conducting the audit and calculating and reporting energy savings to the homeowner and to the program • A process for marketing the program to homeowners • A process for disbursing incentives • A process for ensuring that work performed and contractor business practices meet the quality standards of the program • A system for tracking and accounting for program results • A process for conducting EM&V • Customer support, including a call center and a program website
Staffing Requirements & Job Creation	Program Administration Depending on the size of the program, HPwES requires at least 2-4 full-time employees. At a minimum, the program requires one manager, one part-time staff member for conducting contractor trainings (typically available from existing consultants), and one staff member for providing contractor mentoring and verifying projects. Initial phases of the program may require an additional 2-3 staff for a period of 6 months to perform start-up activities. As the program grows over time the need for additional technical staff for quality assurance purposes and administrative staff for processing jobs and incentives will increase. Participating Contractors Initial roll-out of the program (0-6 months) typically involves recruitment of 3-5 contractors, ideally who have or can quickly attain the appropriate certifications from the program. While implementation models vary, it might be expected that by the end of the first program year, approximately 15 certified contractors will be needed (experience suggests that approximately one third of contractors will be very active, a third moderately active, and a third relatively inactive) for each million dollars of program budget. However, this assumption is sensitive to the scale of individual contracting organizations and the size of the market. Job Creation In addition to the direct jobs associated with implementing the program, additional jobs are created for contractors and others through the incremental equipment, supplies, and installation induced by the program, as well as through economic effects resulting from homeowner spending of those dollars that would otherwise go toward utility bills. In total, it is estimated that approximately 18 to 25 jobs will result per million dollars spent by the program.

PROGRAM	Home Performance with ENERGY STAR (HPwES)
Implementation Timeline	Approximately seven months is needed to design and introduce an HPwES program, although this may be sensitive to the local infrastructure, training needs, and the time of year. Spring and fall are typically attractive times to secure contractors and provide training. An illustrative program ramp-up schedule is shown below.

Task	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7
Project kick-off							
Review draft program plans with ENERGY STAR							
Recruit home performance contractors							
Contractor training							
Initiate marketing							
First Job Completed							

PROGRAM

Home Performance with ENERGY STAR (HPwES)

Illustrative Program Performance

Savings

Energy savings per home varies widely by climate zone, measures installed, incentive levels, and average job size. Annual source energy savings reported by program sponsors are in the range of 34 MBtu to 66 MBtu per average home[7], as illustrated in the table below.

Census Region	Savings		
	Electricity kWh	Gas Therms	Source MBtu
Northeast	1,400	400	54
Midwest	1,700	400	57
South	4,600	200	66
West	1,400	200	34

Participation

An aggressive HPwES program could reach approximately 1% of eligible homes after three years, depending upon the degree of marketing and the ratio between audits conducted and projects completed. Under a less aggressive scenario, participation after three years may be closer to 0.025%.

Budget

Illustrative program implementation costs are expected to decline from approximately $7,500 per completed home in the initial year to $5,000 per completed home after three years. Reported costs vary depending upon the implementation approach taken and degree of participation. An *illustrative* participation schedule and budget are shown in the table below; this budget reflects an early emphasis on market conditioning, including contractor recruitment and training, as well as marketing. *[Potential program sponsors are encouraged to consult the resources identified below and/or contact the EPA/DOE for assistance in identifying appropriate planning assumptions for their own states/cities/counties and anticipated program designs]*

	Year			
	1	2	3	Cumulative
Population of Eligible Homes	250,000	250,000	250,000	250,000
Participation rate	0.10%	0.30%	0.60%	1.0%
Participants	250	750	1,500	2,500
Average Cost per Participant	$7,500	$7,000	$5,000	$ 5,850
Program Cost	$ 1,875,000	$ 5,250,000	$ 7,500,000	$ 14,625,000
Jobs per $1M	25	22	18	20
Jobs Created	**47**	**116**	**135**	**297**
Per Unit Source MBtu Saved	60	60	60	60
MBtu Saved	15,000	45,000	90,000	150,000
Source Mbtu saved per $1,000	**8.0**	**8.6**	**12.0**	**10.3**

[7] Source Btus assuming an average electric generation heat rate of 10,000 Btu/kWh.

PROGRAM	Home Performance with ENERGY STAR (HPwES)
Resources and Assistance	• HPwES program sponsor support website: www.energystar.gov/hpwessponsors -EPA's HPwES program implementation plan outline: www.energystar.gov/ia/home_improvement/Program_Implementation_Plan.pdf -Current HPwES programs: www.energystar.gov/index.cfm?c=home_improvement.hm_improvement_hpwes_partners • Federal Tax Credits for Energy Efficiency: www.energystar.gov/taxcredits • Building Performance Institute: www.bpi.org • Residential Energy Services Network: www.natresnet.org Contact: homeperformance@energystar.gov or Chandler von Schrader at EPA (202-343-9096; vonschrader.chandler@epa.gov) Patricia Plympton at Navigant Consulting (for DOE) (202-481-7397; patricia.plympton@navigantconsulting.com)

PROGRAM

Home Performance with ENERGY STAR (HPwES)

Program Characteristics Summary

HPwES is a strong candidate for stimulus funding. Its characteristics relative to the key criteria identified previously include:

1. **Impact on Jobs**. Given the relative fragmentation of the home contracting industry and the comparatively small size of each job, HPwES is a training and labor intensive program. It therefore results in a comparatively large number of jobs created. Per dollar spent, HPwES results in perhaps more new job opportunities than any other program. These are skilled jobs that include significant exposure to engineering and building performance science, as well as skills required by the HVAC industry and related trades. Leveragable training staff and curricula for this program exist in many parts of the country. Further, these jobs often entail skills that prepare the employee for a broad range of potential future opportunities in the fields of home services and energy efficiency. In addition, bill savings by residences tend to recirculate in the economy to a greater degree than do savings by commercial or industrial customers, and therefore have a greater multiplier effect on jobs and economic activity.
2. **Collaboration and Leverage of Funds**. HPwES provides an excellent opportunity to collaborate with EPA/DOE, utility companies, state and local agencies, local trade allies and their associations, as well as the building science and consulting communities. EPA and DOE have completed considerable research and design regarding HPwES and provide a large library of implementation support and other materials. The program also benefits from the considerable brand recognition and value associated with the ENERGY STAR program. EPA and DOE also support regular conferences demonstrating best practices and peer experience. EPA and DOE provide selective marketing funding and other support for qualifying programs, and utilities (both municipal and investor owned). With increasing regional energy efficiency goals in many portions of the country, utilities may provide an excellent opportunity for collaboration, funding, and/or direct implementation of HPwES programs. Finally, homeowners implementing projects with the help of HPwES can also leverage Federal tax credits for energy efficiency investments (see, www.energystar.gov/index.cfm?c=products.pr_tax_credits).
3. **Significance of Program Savings**. On a "per job" basis, HPwES provides a lesser impact on energy and environmental emissions than many commercial or industrial programs. However, the potential participant base is very large, consisting of all owner-occupied dwellings older than just a few years, and the measures installed by the program typically have long lives and persist even if home ownership changes. Not only does this large base provide an opportunity for large impacts, it also provides an equitable and highly visible opportunity for the largest single group of tax-payers to participate in a program and benefit from ARRA stimulus dollars. In addition, the program can accommodate the needs of lower-income individuals with increased incentive levels and other support functions. Further, the potential impact of the program is (after the initial introduction) largely scalable and a function of the budget dedicated to the program.
4. **Cost of Savings**. HPwES is a relatively expensive program due to its extensive requirements for training and verification of the work, as well as the need for public education. However, these expenses are also the key drivers of the program's strong performance relative to job creation, quality, and accountability. Despite being comparatively expensive on a $/Btu saved basis, a typical program is still anticipated to be less expensive than the 10 Mbtu per $1,000 guidance provided in the FOA.
5. **Sustainability and Market Transformation**. Through its broad outreach and education components, HPwES creates a more educated and aware public. The need to be sensitive to energy issues and the basic understanding of energy systems and financial payback principles will be retained by participants long after their initial contact with the program. This will result in spillover benefits to other energy investments or behavioral changes they may consider in the future, even if they are not elements of the HPwES program. Similarly, an HPwES program seeds a competitive market of contractors who develop a variety of business models and approaches. Through competitive innovation, these contractors often integrate the HPwES services with other services such as HVAC service and repair, insulation, and window replacement. The training regarding proper analysis and installation of efficient measures, as well as customer education and sales techniques, remains with the contractors even in the absence of the program. Indeed, as the market matures and as the general public comes to understand and demand efficient and properly installed products, the level of incentive offered by the program can be reduced or eliminated while the benefits are expected to persist.

PROGRAM	Non-Residential Prescriptive Program
Program Objective	Prescriptive programs encourage non-residential customers to upgrade or retrofit working equipment with new, energy efficient equipment. This program has been run cost-effectively in nearly every region of the country, and provides an opportunity to quickly deploy energy efficient technologies into a state's businesses, industries, and schools. Focusing on easy opportunities to produce verifiable energy savings, such as lighting upgrades from T12 to T8 linear fluorescent lamps, efficient HVAC equipment, and products like motors and refrigerators, this program will provide a simple, expedited solution for non-residential customers to save energy. The majority of incentives are geared towards customers who are in the market for new equipment when their old equipment burns-out. In some instances, such as for T12 lighting, the program should also encourage the replacement of working but inefficient technologies with newer and more energy efficient technologies (retrofit opportunities).
Target Market	The program is targeted at commercial, institutional, and industrial customers. Program sponsors may elect to target participants with certain demographic characteristics, or whose energy consumption exceeds established metrics.
EM&V Support	Basic accounting for the impacts of the Prescriptive program include a unique participant ID, a business SIC and/or NAICS code, participant contact information, contractor name and contact information; and, for each project, a unique project ID, measures installed, the project incentive amount, anticipated project savings, as well as project audit/verification status and date. In some cases, additional measurement and verification may be required by the program sponsor or regulators and typically focuses on establishing the kW, kWh, and Btu saved by the program through an evaluation of the existing baseline conditions of a sample of facilities, the nature of the energy efficiency improvements installed usage characteristics of the facility, and whether or not the business owner would have undertaken the projects. Due to the well-researched assumptions surrounding the products in this program, deemed savings values will be used for most measures. Methods used vary widely based upon the need for precision in the estimates and the perspective of the program sponsor or regulators. In general, EM&V costs range between 1% and 8% of the overall program budget, and are most typically around 3-4%.
Infrastructure Requirements	The primary infrastructure required to deliver this program includes: • Processes for trade ally recruiting, training, and account management. • Processes for participant marketing, recruiting, training, and account management. • A process calculating and disbursing incentives • A process for inspecting projects • A process for ensuring that work performed and contractor business practices meet the quality standards of the program • A system for tracking and accounting for the program, and for reporting to the program sponsor • A process for conducting EM&V • Customer Support including a call center and online help

PROGRAM	Non-Residential Prescriptive Program
Staffing Requirements & Job Creation	Program Administration Depending on the size of the program, a prescriptive initiative requires 3-5 full-time employees. At a minimum, the program requires one manager, and two staff engineers for reviewing project documentation and inspecting projects. As the program grows over time the need for additional staff will increase. Participating Contractors Participating contractors are required to sign a participation agreement with the program. Although many contractors may sign a participation agreement, typically only about a third are very active in the program. By the end of the second year, you can expect to have about 150 contractors signed up per million in program spending, although this is very sensitive to the scale of individual contracting organizations and the size of the market. Job Creation This program helps develop the market for installation contractors and associated trade allies. Additional jobs will be created in related fields as a result of program spending. In total, expect from 8 to 11 jobs to result per million dollars spent on this program.
Implementation Timeline	Approximately four months are required to introduce a Prescriptive program. The key to rapid deployment is timely recruitment of installation contractors. An illustrative program ramp-up schedule is shown below.

Task	Month 1	Month 2	Month 3	Month 4
Project kick-off				
Develop program processes, policies and procedures				
Recruit equipment contractors and vendors				
Contractor and vendor training				
Initiate marketing				
First rebates disbursed				

PROGRAM

Non-Residential Prescriptive Program

Illustrative Program Performance

Energy Savings

Energy savings will vary considerably by state/industry. One Prescriptive program in the Midwest (see table below) verified energy savings of about 400 MBtu per participant. A similar program, also in the Midwest, verified 600 MBtu per participant. In general, a large percentage of program savings come from lighting retrofit projects.

Participation

An illustrative three year participation schedule for a Prescriptive program run in a large metropolitan area in the Midwest with a million electric customers is shown below. Note that in the first program year, participation is relatively low – this is because the program started later in the year than expected.

Budget

Reported costs vary depending upon the implementation approach taken and degree of participation. Illustrative program implementation costs are shown below.

	Year			
	1	2	3	Cumulative
Population of Eligible C&I Customers	100,000	100,000	100,000	100,000
Participation rate	0.1%	0.9%	0.8%	1.8%
Participants	110	880	830	1,820
Average Cost per Participant	$2,700	$4,300	$3,000	3,610
Program Cost	$ 297,000	$ 3,784,000	$ 2,490,000	$ 6,571,000
Jobs per $1M	11	9	8	9
Jobs Created	**3**	**34**	**20**	**57**
Per Unit Source MBtu Saved (elec)	350	400	400	400
Per Unit Source MBtu Saved (gas)	0.3	0.3	3.4	3.4
MBtu Saved	39,000	352,000	335,000	726,000
Source Mbtu saved per $1,000	**131.3**	**93.0**	**134.5**	**110.5**

Incentive levels

Illustrative incentive levels for some C&I prescriptive measures are listed below.

- T12 upgrade to HP-T8 lamps and electronic ballast - $10/fixture
- New High efficiency troffer fixture with HP-T8/T5 - $20/fixture
- New High efficiency low glare troffer fixture with HP-T8/T5 - $25/fixture
- New indirect low glare troffer fixture with HP-T8/T5 - $35/fixture
- New 4' strip fixture with reflector with HP-T8/T5 - $20/fixture
- New 8' strip fixture with reflector with HP-T8/T5 - $20/fixture
- Hard-wired compact fluorescent fixture, new or retrofit kit - $10/fixture
- New compact fluorescent fixture with dimmable ballast - $40/fixture
- Occupancy sensor
  - Wall mount - $25/sensor
  - Remote mount - $75/sensor
  - High/low control - $40/ballast
  - Daylight dimming - $40/ballast
- LED Exit signs - $25/sign
- LED Traffic signals – $50-$75
- Premium efficiency 1 – 200 HP motors - $45 – $700 depending on motor size
- Rooftop/Unitary AC: $60/ton
- Split System A/C (< 5.4 tons) – 14 SEER $100, 15 SEER $150, 16 SEER $200
- Furnace – 92 AFUE $200, 94 AFUE $300
- Variable frequency drives in HVAC applications - $900 - $9,500 depending on horsepower of controlled motor
- Vending machine occupancy controls
- Refrigerated beverage machine - $75/control
- Snack machine - $30/control

PROGRAM	Non-Residential Prescriptive Program
Resources and Assistance	• EPA's ENERGY STAR Products page: www.energystar.gov/products. • Federal Tax Credits for Energy Efficiency: www.energystar.gov/taxcredits
Program Characteristics Summary	Prescriptive is a strong candidate for stimulus funding. Its characteristics relative to the key criteria identified previously include: 1. **Impact on Jobs.** The main employment benefit of the Prescriptive program is stimulating the market for installation contractors. Unlike some programs, Prescriptive does not involve skilled training, or direct employment with the program. However, Prescriptive is a contractor-driven initiative, and experience shows that contractors active in similar programs see significant increases in business. 2. **Collaboration and Leverage of Funds.** Prescriptive provides an excellent opportunity to leverage EPA/DOE resources for ENERGY STAR rated products rebated through the program, and to collaborate with utility companies, state and local agencies, and local trade allies and their associations. 3. **Significance of Program Savings.** The Prescriptive program should be one of the first programs off the block, and will also yield significant savings over a relatively short timeframe. The best-run Prescriptive programs do this by keeping participation simple and picking low-hanging fruit, such as T-12 to T-8 retrofits. 4. **Cost of Savings.** This program tends to be very cost effective because it requires low overhead while paying incentives for a large volume of projects. Prescriptive incentives are attractive to a wider range of commercial customers than other C&I programs because participation is relatively simple, and does not require a significant upfront investment on the part of business owners. 5. **Sustainability and Market Transformation.** In terms of market penetration, the Prescriptive program will reach more nonresidential customers across more customer segments than any other C&I program. Research shows that C&I customers who experience the benefits of energy efficiency through a relatively simple program, such as Prescriptive, are more likely to participate in other programs that require more significant investments.

PROGRAM	Retrocommissioning (RCx)
Program Summary	Retrocommissioning offers building owners a systematic process for evaluating a structure's major energy-consuming systems and identifying opportunities to optimize equipment operation. Retrocommissioning tunes-up existing buildings, improving their energy efficiency and operational procedures. Retrocommissioning is typically carried out through local networks of commissioning providers. Each customer goes through a five-phase process: 1. *Application*: Building owners or managers apply for RCx program assistance. 2. *Planning*: An analysis of the entire building, including a study of past utility bills and interviews with facility personnel. 3. *Investigation*: Use of benchmarking tools, such as ENERGY STAR Portfolio Manager (can be used to develop Building Energy Performance rating) to assess overall performance against peer buildings. 4. *Implementation*: Diagnostic monitoring and functional tests of building systems are then conducted, leading to system adjustments and maintenance actions. ENERGY STAR Portfolio Manager can be used to identify under-performing buildings to target for energy efficiency improvements, and establish baselines to set goals and measure progress for energy efficiency improvement projects over time. 5. *Verification*: Building systems are then retested and re-monitored to fine-tune improvements. ENERGY STAR Portfolio Manager can be used to provide a level of transparency and accountability to help demonstrate strategic use of ARRA 2009 funding by generating a Statement of Energy Performance (SEP) for each building, and summarizing important performance indicators, including energy use intensity and greenhouse gas emissions associated with building energy use. A final report, retrocommissioning plan, and operations and maintenance schedule are given to the building owners and operators. Each commissioning provider should develop a pre-and post-commissioning Energy Performance Rating using ENERGY STAR Portfolio Manger and submit the results in its final report for each building. In many cases, building operators receive additional training in keeping systems operating at optimum levels, and monitoring methods are established to track performance on an ongoing basis. Incentives typically include cost sharing for planning and investigation up to a per-project cap of $10,000-15,000. Implementation incentives are offered on a dollar per kWh basis covering some of the incremental cost of implementing recommended energy efficiency measures.
Target Market	RCx is typically performed only on large commercial and industrial facilities. Facility qualification criteria may include: 1. A size minimum, i.e. 100,000 sqft. 2. A funding commitment (i.e. of $15,000) from the building owner for completing the project plan and implementing measures. The facility must have an existing building or system energy management system (EMS) with direct digital control (DDC). 3. The facility must be free of major problems requiring costly repairs or replacements and have no planned major system renovations or retrofits. 4. The facility must have accessible and up-to-date building documentation and records. 5. The facility owner and O&M staff must express a commitment to be actively involved in the RCx process with a commitment of at least 40 hours by the O&M staff. 6. The facility owner and O&M staff must deliver a persistence plan prior to project completion demonstrating strategies for maintaining energy savings identified as part of the RCx process.

PROGRAM	Retrocommissioning (RCx)
EM&V	Basic accounting for the impacts of the RCx program includes a unique participant ID, a business SIC and/or NAICS code, participant contact information, commissioning provider name and contact information along with the current commissioning phase and date; facility baseline energy consumption; pre-and post-commissioning ENERGY STAR Energy Performance Rating; for any projects completed, a unique project ID, contractor name and contact information, measures installed, the project incentive amount and anticipated project savings. In some cases, additional measurement and verification may be required by the program sponsor or regulators and typically focuses on establishing on establishing the kW, kWh, and Btu saved by the program through an evaluation of the existing baseline conditions of a sample of commissioned facilities, the nature of the energy efficiency improvements installed, usage characteristics of the facility, and whether or not the business owner would have undertaken the projects in the absence of the program. Typical savings verification techniques include spot-metering, detailed engineering calculations, and billing analysis. The evaluator should also estimate the persistence of savings from RCx activities. Methods used vary widely based upon the need for precision in the estimates and the perspective of the program sponsor or regulators. In general, EM&V costs range between 1% and 8% of the overall program budget, and are most typically around 3-4%.
Infrastructure Requirements	The primary infrastructure required to deliver this program includes: • A standardized process for screening applications • A process for recruiting and training commissioning providers • Processes for conducting the planning, investigation, implementation and verification stages of RCx • A process for marketing the program to business owners and building managers • A process for calculating and disbursing incentives • A process for ensuring that work performed and commissioning provider business practices meet the quality standards of the program • A system for tracking and accounting for the program, and for reporting to the program sponsor • A process for conducting EM&V • Customer support, including a call center and on the program website
Staffing Requirements & Job Creation	Program Administration Depending on the size of the program, RCx requires 3-5 full-time employees. At a minimum, the program requires one manager (an individual with significant commissioning experience), and two staff engineers with commissioning experience who can handle both supervising and conducting the planning, investigation, implementation, verification stages of RCx, conducting program trainings with commissioning providers, as well as additional education of building owners and operators. As the program grows over time the need for additional engineers for will increase. Participating Contractors During the first 6 months as RCx rolls out, you will need to recruit 3-5 commissioning providers per million program dollars spent. As the program grows over time the need for additional providers for will increase, although this is very sensitive to the scale of individual contracting organizations and the size of the market. Job Creation This program helps develop the market for commissioning providers and associated trade allies. Additional jobs will be created in related fields as a result of program spending. In total, expect from 5 to 15 jobs to result per million dollars spent on this program.

PROGRAM

Retrocommissioning (RCx)

Implementation Timeline

Approximately five months are needed to introduce an RCx program, although this may be sensitive to the availability of local commissioning providers. An illustrative RCx program ramp-up schedule is shown below.

Task	Month 1	Month 2	Month 3	Month 4	Month 5
Project kick-off					
Develop program processes, policies and procedures					
Recruit commissioning providers					
Initiate marketing					
First RCx project					

Illustrative Program Performance

Savings

Savings for RCx projects vary widely depending on the baseline efficiency of the facility, as well as facility size and type, the types of measures installed, and incentive levels. Generally, savings of 4,000 to 20,000 Mbtu per RCx project are realistic.

Participation

An aggressive RCx program could reach about 0.5% of eligible facilities after three years. An illustrative three year participation schedule is shown below. Under a non-aggressive scenario, participation after three years may be closer to 0.1-0.2%.

Budget

RCx projects tend to be expensive, as they involve extensive on site analysis and training. One program reported average per participant costs of about $200,000, though the savings were commensurately higher, around 20,000-25,000 Mbtu per project. An illustrative RCx program participation schedule with implementation costs is shown below.

	Year			
	1	2	3	Cumulative
Population of Eligible C&I Customers	20,000	20,000	20,000	20,000
Participation rate	0.13%	0.18%	0.20%	0.5%
Participants	25	35	40	100
Average Cost per Participant	$50,000	$48,000	$47,000	$ 48,100
Program Cost	$ 1,250,000	$ 1,680,000	$ 1,880,000	$ 4,810,000
Jobs per $1M	15	11	11	$ 12
Jobs Created	**19**	**18**	**21**	**$ 58**
Per Unit Source MBtu Saved (elec)	4,000	5,000	5,500	4,950
Per Unit Source MBtu Saved (gas)	500	800	1,100	845
MBtu Saved	112,500	203,000	264,000	579,500
Source Mbtu saved per $1,000	**90**	**121**	**140**	**120.5**

Resources and Assistance

- ENERGY STAR Portfolio Manager: www.energystar.gov/benchmark
- ENERGY STAR Guidelines for Energy Management: www.energystar.gov/guidelines
- ENERGY STAR Building Upgrade Manual: www.energystar.gov/bldgmanual
- Federal Tax Credits for Energy Efficiency: www.energystar.gov/taxcredits
- Building Commissioning Association: www.bcxa.org

PROGRAM	Retrocommissioning (RCx)
Program Characteristics Summary	RCx is a strong candidate for stimulus funding. Its characteristics relative to the key criteria identified previously include: 1. **Impact on Jobs.** An RCx program requires expertise in building commissioning--these jobs require a higher skill level and pay than is required for some programs. Further, these jobs often entail skills that prepare the employee for a broad range of potential future opportunities in the fields of building science, facility management and energy efficiency. 2. **Collaboration and Leverage of Funds.** RCx offers an excellent opportunity to collaborate with the EPA/DOE through the use of its Building Portfolio Manager, and with utility companies, state and local agencies, and local commissioning providers. 3. **Significance of Program Savings.** RCx programs tend to yield very high energy savings per customer, which translates into real cost savings for participating businesses. Lowering operational costs increases profit; this can be reinvested in additional energy saving opportunities and/or human resources. 4. **Cost of Savings.** RCx is an expensive program due to the comprehensive and time-consuming nature of the commissioning process, as well as the level of expertise required to complete it. However, these expenses are also the key drivers of the program's strong performance relative to job creation, quality, and accountability. The program is very cost-effective because it takes a whole-facility approach to reducing energy use, and sustains savings by training building owners and operators to maintain optimal building performance after the program has pulled out. 5. **Sustainability and Market Transformation.** Retrocommissioning helps create sustained energy savings because it goes well beyond reducing prices on efficient equipment. The program teaches building owners and operators how run to their facilities more efficiently, and that by doing so they are also reducing operating costs, as well as improving building health and safety.

PROGRAM	Residential Efficient Heating and Cooling
Program Objective	The objectives of this program are to increase sales of efficient (ENERGY STAR qualified, or better) heating and cooling equipment in replace-on-burnout, retrofit, and new construction opportunities, and to improve the operating efficiency of equipment through tune-ups of existing units, and quality installation of new units. HVAC contractors are the main vehicle for deployment of this program. Contractors must complete trainings for AC tune-ups (refrigerant charge, coil cleaning, filter change, and a blower speed test), AC quality installation (proper sizing, refrigerant charge, and air flow test), furnace quality installation (proper sizing, air flow adjustment, furnace on-rate check) and other program requirements. Since the measures in this program are weather sensitive, savings vary by climate region and so do incentives. Contractors receive incentives for performing AC tune-ups (typically $50-75) and quality installations ($70-100). Homeowners receive incentives for installing efficient equipment (typically 50-75% of incremental cost). The measure mix (the technologies that are cost-effective for the program to rebate) of HVAC programs varies largely based on weather and primary fuel (electric or gas). For example, in some areas of the country measures such as ground source heat pumps and hydronic heating systems are cost-effective and have been incorporated into residential HVAC programs.
Target Market	This program targets HVAC contractors, and homeowners with CACs and furnaces.
EM&V Support	Basic accounting for the impacts of the HVAC program includes a unique participant ID, a business SIC and/or NAICS code, participant contact information, HVAC contractor name and contact information; and, for each project: A unique project ID, measures installed, the project incentive amount, anticipated project savings, as well as project audit/verification status and date. In some cases, additional measurement and verification may be required by the program sponsor or regulators and typically focuses on establishing the kW, kWh, and Btu saved by the program through an evaluation of the existing baseline conditions of a sample of homeowners, the nature of the energy efficiency improvements installed usage characteristics of the home, and whether or not the homeowner would have undertaken the projects in the absence of the program. For this program, evaluators will also interview a sample of HVAC contractors to see how the program influenced their practices. Methods used vary widely based upon the need for precision in the estimates and the perspective of the program sponsor or regulators. In general, EM&V costs range between 1% and 8% of the overall program budget, and are most typically around 3-4%.
Infrastructure Requirements	The primary infrastructure required to deliver this program includes: • A process for recruiting contractors • A process for training contractors to perform tune-ups and quality installs • A process for ensuring that work performed and contractor business practices meet the quality standards of the program (including a quality installation verification process) • A process for marketing the program • Customer Support including a call center and online help • A process for calculating and disbursing incentives • A process for inspecting projects • A system for tracking and accounting for the program, and for reporting to the program sponsor • A process for conducting EM&V

PROGRAM

Residential Efficient Heating and Cooling

Staffing Requirements & Job Creation

Program Administration

Depending on the size of the program, a residential HVAC initiative requires 2-4 full-time employees. At a minimum, the program requires one manager (a seasoned HVAC expert), and two staff engineers for assisting with tune-up and quality install training, quality installation verifications, project documentation review, and other administrative tasks. As the program grows over time the need for additional engineers for will increase.

Participating Contractors

Although many contractors may sign a participation agreement, typically about a third is very active in the program. By the end of the second year, you can expect to have about 15 contractors signed up per million in program spending (expect about five to be very active in the program). Note this is very sensitive to the scale of individual contracting organizations and the size of the market.

Job Creation

This program helps develop the market for HVAC contractors and associated trade allies. Additional jobs will be created in related fields as a result of program spending. In total, expect from 11 to 20 jobs to result per million dollars spent on this program.

Implementation Timeline

Approximately four months are required to introduce an HVAC program. A key challenge for this program is motivating HVAC contractors to conduct tune-ups, especially during the cooling season when they are usually focused on replacing units – this will be a particular challenge for 2009, as you will not have much opportunity to train contractors prior to the cooling season. For this reason, if resources and timing are constrained, you should start quality install training before your start tune-up training. Furnaces have fewer installation issues than ACs so less training for contractors is required prior to the heating season than prior to the cooling season.

Task	Month 1	Month 2	Month 3	Month 4
Project kick-off				
Develop program processes, policies and procedures				
Recruit HVAC contractors				
Start quality install training				
Start HVAC tune-up training				
Initiate marketing				
First quality install completed				

PROGRAM

Residential Efficient Heating and Cooling

Illustrative Program Performance

Energy Savings

Energy savings are very sensitive to weather, primary heating fuel type, and technology, as shown in the table below, which includes illustrative savings for the minimum level of heating and cooling upgrade typically required for centrally cooled/heated homes (upgrade to SEER 14 AC and/or 90 AFUE furnace) in "warm" and "cool" climates. Savings in hotter climates on efficient ACs can be considerably higher. In addition, AC Tune-Up savings typically range from 200 kWh in cooler climates, to almost 700 kWh in hotter regions.

Warm Climates			Cool Climates		
Electricity kWh	Gas Therms	Source MBtu	Electricity kWh	Gas Therms	Source MBtu
400	35	8	250	200	23

Illustrative savings for quality installation (QI) procedures are shown below.

	Energy Savings	
QI Procedure Element	Cooling	Heating
Refrigerant Charge	2-6%	
Airflow	2-5%	
Sizing	3-7%	11-18%
Duct sealing	11-18%	11-18%

Participation

An aggressive program could reach about 3% of eligible homes after 3 years, though this is very sensitive to the climate zone and local infrastructure of HVAC contractors. An illustrative three year participation schedule from a residential HVAC program run in a large metro area on the East Coast (with about a million residential customers) is shown below.

Budget

Illustrative program implementation costs are shown below. This is very sensitive to the degree of participation, the nature of the HVAC contractor network, and the measures that are cost-effective for the program to offer for rebates

	Year			
	1	2	3	Cumulative
Population of Eligible Residential Customers	1,000,000	1,000,000	1,000,000	1,000,000
Participation rate	1.0%	1.2%	1.8%	4.0%
Participants*	10,000	12,000	18,000	40,000
Average Cost per Participant	$ 330	$ 280	$ 280	$ 290
Program Cost	$ 3,300,000	$ 3,360,000	$ 5,040,000	$ 11,700,000
Jobs per $1M	20	14	11	14
Jobs Created	**66**	**47**	**55**	**168**
Per Unit Source MBtu Saved (elec-AC)	5	5	5	5
Per Unit Source MBtu Saved (gas-Furnace)	20	20	20	20
MBtu Saved	250,000	300,000	450,000	1,000,000
Source Mbtu saved per $1,000	**75.8**	**89.3**	**89.3**	**85.5**

*Assumes 50% AC installs, 50% furnance installs

PROGRAM	Residential Efficient Heating and Cooling
Resources and Assistance	• ENERGY STAR HVAC Contractor Resources: www.energystar.gov/index.cfm?c=contractors.cont_prod_installcheck • ENERGY STAR HVAC Quality Installation Program contact Ted Leopkey at EPA (202-343-9659; leopkey.ted@epa.gov) • Federal Tax Credits for Energy Efficiency: www.energystar.gov/taxcredits
Program Characteristics Summary	HVAC is a strong candidate for stimulus funding. Its characteristics relative to the key criteria identified previously include: 1. **Impact on Jobs**. Given the relative fragmentation of the HVAC contracting industry and the comparatively small size of each job, HVAC is a training and labor intensive program (it involves specialized training in both HVAC tune-ups and quality installation for *all* participating contractors). It therefore results in a comparatively large number of jobs created. These jobs gain exposure to skills required by the HVAC industry and related trades. Leveragable training staff and curricula for this program exist in many parts of the country. Further, these jobs often entail skills that prepare the employee for a broad range of potential future opportunities in the HVAC and energy efficiency industries. In addition, bill savings by residences tend to recirculate in the economy to a greater degree than do savings by commercial or industrial customers, and therefore have a greater multiplier effect on jobs and economic activity. 2. **Collaboration and Leverage of Funds**. HVAC provides an excellent opportunity to collaborate with EPA/DOE, utility companies, state and local agencies, and local HVAC trade allies and their associations, as well as the building science and consulting communities. The program also benefits from the considerable brand recognition and value associated with the ENERGY STAR program. With increasing regional energy efficiency goals in many portions of the country, utilities may provide an excellent opportunity for collaboration, funding, and/or direct implementation of HVAC programs. 3. **Significance of Program Savings**. On a "per job" basis, HVAC provides a lesser impact on energy and environmental emissions than some programs. However, the potential participant base is very large, consisting of all owner-occupied dwellings with a central AC or furnace, and the measures installed by the program typically have long lives and persist even if home ownership changes. Not only does this large base provide an opportunity for large impacts, it also provides an equitable and highly visible opportunity for the largest single group of tax-payers to participate in a program and benefit from ARRA stimulus dollars. Although it is not a focus here, this program can have a considerable impact on peak demand – ENERGY STAR Central ACs save around 0.3-1.0 kW, depending on the efficiency of the unit. 4. **Cost of Savings**. HVAC requires a significant investment due to its extensive requirements for training and verification of the work, as well as the need for public education. However, these expenses are also the key drivers of the program's strong performance relative to job creation, quality, and accountability. Despite being comparatively expensive on a $/Btu saved basis, a typical program is still anticipated to be less expensive that the 10 Mbtu per $1,000 guidance provided in the FOA. 5. **Sustainability and Market Transformation**. Through its outreach and training components, this program helps transform the HVAC contractor market. Most HVAC contractors are focused on replacing burned-out equipment during the heating and cooling seasons, and research shows that more often than not, these units are both oversized and improperly installed. This program changes contractor behavior by teaching HVAC personnel to properly size units and to perform quality installations. The program also helps build demand for these contractors by teaching them how to properly tune-up functioning equipment, and by marketing tune-ups to homeowners. As the market matures and homeowners come to understand and demand efficient and properly installed HVAC equipment, the level of incentive offered by the program can be reduced or eliminated while the benefits are expected to persist.

PROGRAM	Commercial Food Service Program
Program Summary	A Commercial Food Service (CFS) program rebates energy-efficient commercial food service equipment such as refrigerators, freezers, steamers, fryers, hot food holding cabinets, ice machines, dishwashers, ovens, and other technologies, primarily aiming to influence the buyer to purchase more efficient equipment when their existing equipment has failed. The existing ENERGY STAR specifications should be utilized to denote efficient equipment that would be eligible for rebates, and will help with marketing the product to the supply chain and the end-users. States with advanced codes for some equipment types may also wish to offer incentives at CEE (Consortium for Energy Efficiency levels. The food service network is complicated, consisting of manufacturers, manufacturers reps, dealers, dealer reps, equipment stores, and often cash-strapped end-users including restaurants, schools, hotels and motels, and hospitals. The network varies locally and regionally. Best practices include cultivating the food service network, providing identifiable point of purchase marketing with eligible rebate amounts at the distributors' warehouses, actively training and offering incentives to equipment distributors and dealers to market the program, and leveraging ENERGY STAR marketing and resources.
Target Market	The program is targeted at commercial food service equipment distributors, and dealers who are the key access points for delivery of efficient products to restaurants, schools, hotels and motels, and hospitals. Independent restaurant chains are also a good target for direct outreach as influencing the way they specify equipment in their franchising requirements can result in a large number of installations over the long-term.
EM&V	Basic accounting for the impacts of the program includes tracking of the number of participants, the measures installed and their anticipated savings, and verification of measure installation for a sample of projects. In some cases, additional measurement and verification may be required by the program sponsor or regulators, and typically focuses on establishing the kW, kWh, and Btu saved by the program through a more rigorous evaluation of the equipment installed, verification of installation and satisfaction with the energy-efficient equipment, and actual usage characteristics and utility consumption of the business, Methods used vary widely based upon the need for precision in the estimates and the perspective of the program sponsor or regulators. In general, EM&V costs range between 1% and 8% of the overall program budget, and are most typically around 3-4%.
Infrastructure Requirements	The primary infrastructure required to deliver this program includes: • Processes for trade ally recruiting, training, and account management • Processes for participant marketing, recruiting, training, and account management. • A process for calculating and disbursing incentives • A process for inspecting projects • A system for tracking and accounting for the program, and for reporting to the program sponsor • A process for conducting EM&V • Customer Support including a call center and online help

PROGRAM

Commercial Food Service Program

Staffing Requirements & Job Creation

Program Administration

A CFS program requires one program manager and at least two support staff for training, materials development, incentive application verification, and project inspection and verification, for programs with budgets of $250,000 to $1 million annually. Typically one additional administration employee is needed per $1 million expended by the program.

Incentives for CFS programs can also be included as part of an existing C&I Standard Offer Program. This approach has reduced overhead expenses and offers quicker deployment. However, it likely results in fewer equipment installations due to lack of sector-specific education and marketing; and it does not offer the same potential for creating lasting change in the demand for energy efficient products and services in the marketplace., so is best used as a bridge strategy to an eventual full-scale CFS program.

Trade Allies

Trade allies, such as equipment distributors, dealers, manufacturers, and manufacturer reps will largely be re-trained and re-oriented to focus effort on manufacturing, distributing, and selling energy efficient equipment, instead of standard equipment.

Job Creation

Additional jobs will be created through program administration as well as indirect and induced effects such as the additional design and manufacture of new, more energy-efficient equipment and the reduced operating costs of restaurants. The latter effect can be particularly significant as utility costs are a major operating expense for the CFS industry, which operates on slim profit margins. [8]In total, expect from 6 to 10 jobs to result per million dollars spent on this program.

Implementation Timeline

This program typically requires significant relationship building with trade allies. This schedule assumes an aggressive roll-out.

Task	Month 1	Month 2	Month 3	Month 4	Month 5
Program kick-off					
Develop program processes, policies, and procedures					
Recruit equipment distributors, dealers reps, manufacturers					
Trade ally training					
Initiate Marketing					
First rebates administered					

[8] National Restaurant Association, 2008. 2007/2008 Restaurant Industry Operations Report, as cited in the National Restaurant Association, 2008 Restaurant Industry Forecast.

PROGRAM

Commercial Food Service Program

Illustrative Program Performance

Energy Savings

Energy savings will vary based on the equipment and its use from one participant to the next, and the types of equipment needed varies in the local markets. An illustrative program, run by a large utility in the West, saved about 40 million source Btu per $1000 over three years.

Participation

An illustrative three year participation schedule is shown below for a CFS Program run in a region with 90,000 independent and chain restaurant locations. This example shows an aggressive and well-funded program that was able to reach over 3% of new equipment sales by the third year. Under a less aggressive program, perhaps 1% of new equipment sales could be reached in that time frame.

Budget

Illustrative program implementation costs are expected to range from $1,000 to $1,500 per piece of equipment. Experience shows that 50-60% percent of the budget is expected to be spent on incentives and rebates, while 40-50% is spent on program administration, training, marketing, and other costs. An illustrative participation schedule and budget are shown in the table below.

	Year			
	1	2	3	Cumulative
Eligible Equipment	40,000	40,000	40,000	40,000
Participation rate	1.7%	2.5%	3.5%	7.7%
Participants	675	1,000	1,400	3,075
Average Cost per Participant	$ 1,250.00	$ 1,420.00	$ 1,460.00	1,400
Program Cost	$ 843,750	$ 1,420,000	$ 2,044,000	$ 4,307,750
Jobs per $1M	8	7	6	7
Jobs Created	**7**	**10**	**12**	**29**
Per Unit Source MBtu Saved (elec)	23	49	39	39
Per Unit Source MBtu Saved (gas)	10	22	17	17
MBtu Saved	22,000	71,000	79,000	172,000
Source Mbtu saved per $1,000	**26**	**50**	**39**	**40**

Resources and Assistance

- ENERGY STAR Commercial Food Service: http://www.energystar.gov/cfs
- Federal Tax Credits for Energy Efficiency: www.energystar.gov/taxcredits
- Consortium for Energy Efficiency Commercial Kitchens Initiative: http://www.cee1.org/com/com-kit/com-kit-main.php3

PROGRAM

Commercial Food Service Program

Program Characteristics Summary

Commercial Food Service is a strong candidate for stimulus funding, but due to its more complex implementation nature and relatively smaller employment impact is a better candidate in areas with established efficiency infrastructure and experience and larger budgets. Its characteristics relative to the key criteria identified previously include:

1. **Impact on Jobs.** A commercial food service program, because it is primarily based on the purchase of energy-efficient equipment instead of standard efficiency equipment upon the failure of a unit, does not create as many jobs as other rapid deployment programs that require contractors to inspect homes or businesses and install retrofit equipment. Direct employment occurs with the program administrators and implementation contractors. Indirect and induced benefits occur at the participant level, as their energy bills are reduced giving them more operating capital to sustain and grow their business, and for manufacturers and distributors who can make higher profits off of more expensive energy-efficient equipment.
2. **Collaboration and Leverage of Funds.** Commercial food service provides an excellent opportunity to leverage EPA/DOE resources for ENERGY STAR rated products rebated through the program, and to collaborate with utility companies, state and local agencies, and local trade allies and their associations, both local and national. ENERGY STAR provides marketing materials, case studies, a restaurant guidebook, product calculators, and a quarterly newsletter to support program administrators and share best practices. National associations, including NAFEM (the National Association of Food Equipment Manufacturers) and SEFA (Supply & Equipment Foodservice Alliance) host annual conferences that are well-attended by energy efficiency program administrators..
3. **Significance of Program Savings.** On a per dollar and per equipment basis, commercial food service provides a lesser impact on energy savings than other programs. However, typical participants such as restaurants, hospitals, and hotels/motels can achieve significant and long-lasting savings for equipment purchases. If funding allows for an aggressive program to be implemented, many participants can achieve significant energy savings by getting incentives on multiple pieces of equipment that they otherwise could not afford.
4. **Cost of Savings.** Commercial food service is moderately cost-effective compared with other rapid deployment options. Compared with similar programs offering simple cash-back rebates on new equipment, such as a Commercial and Industrial Sector Standard Offer Program this program is a less cost-effective avenue to energy savings. Increased cost-effectiveness comes through reducing overhead while paying incentives for a larger volume of projects. Participation is relatively simple due to the straightforward rebate. Despite being comparatively expensive, experience with this program shows it does exceed the FOA's guidance for 10 MBtu per $1,000.
5. **Sustainability and Market Transformation.** Commercial food service is an excellent program for sustainable energy savings and market transformation. Initial rebates that encourage participants to purchase more efficient equipment opens the door to understanding the long-term energy savings available to them. The long life of food service equipment ensures that reduced energy costs will persist. Over time, as the food service program grows, a participant could obtain huge energy savings by adopting multiple pieces or complete kitchens full of more efficient equipment. Sustained programs could also persuade restaurant chains to specify energy efficient products in their franchise agreements resulting in more widespread market transformation.

PROGRAM	C&I Custom
Program Summary	A C&I Custom Program supports C&I customers in identifying and implementing site-specific and unique cost-effective energy efficiency opportunities, which often require engineering calculations to determine energy savings. A typical project may involve industrial process efficiency, chillers/boilers, data center efficiency, or electric motor retrofits, or projects that otherwise fall outside of the Prescriptive program. The strategy is to minimize market barriers to energy efficiency implementation for C&I customers, which include higher first costs, lack of customer understanding about measure payback, and lack of awareness of energy efficient technologies. The program provides energy audits, co-funding for feasibility studies, best practices training (sometimes in collaboration with DOE), and calculated (custom) incentives for energy efficiency projects. A feasibility study investigates a proposed energy efficiency project or process improvement. Custom programs co-fund studies up to a maximum percentage or funding cap. Incentive levels vary widely depending on the size and nature of local industries. The program should develop an estimated pre-and post-project Energy Performance Rating using ENERGY STAR's Portfolio Manager. Energy savings per project can be very large, on the order of 100,000 to 200,000 kWh. It is up to participating businesses to implement projects. In some regions, water pumping and water treatment represent a large portion of total energy end-use. Targeting these end-uses for custom projects could result in substantial savings. ENERGY STAR Portfolio Manager can also be used by both program sponsors and participants for tracking progress over time (monitoring energy efficiency improvements compared to baseline; tracking reductions in greenhouse gas emissions; and monitoring energy cost savings) and verifying and documenting results (to provide a level of transparency and accountability to help demonstrate strategic use of ARRA 2009 funding by generating a Statement of Energy Performance for each building, and summarizing important performance). Key elements of the program include technical support of customer facility owners and managers, comprehensive facility energy audits, and project QA/QC.
Target Market	Custom projects tend to be implemented by businesses with large industrial facilities, but the program should be available to all medium and large commercial, industrial, and institutional customers.
EM&V	Basic accounting for the impacts of the Custom program includes a unique participant ID, a business SIC and/or NAICS code, participant contact information, contractor name and contact information; and, for each project, a unique project ID, measures installed, the project incentive amount, anticipated project savings, pre- and post-project ENERGY STAR Energy Performance Rating, as well as project audit/verification status and date. In some cases, additional measurement and verification may be required by the program sponsor or regulators and typically focuses on establishing the kW, kWh, and Btu saved by the program through an evaluation of the existing baseline conditions of a sample of facilities, the nature of the energy efficiency improvements installed usage characteristics of the facility, and whether or not the business owner would have undertaken the projects in the absence of the program. Methods used vary widely based upon the need for precision in the estimates and the perspective of the program sponsor or regulators. In general, EM&V costs range between 1% and 8% of the overall program budget, and are most typically around 3-4%.

PROGRAM	C&I Custom
Infrastructure Requirements	The primary infrastructure required to deliver this program includes: • A standardized process for conducting facility audits • A standardized process fro calculating and reporting energy savings to the business owner and to the program • A standardized process for selecting feasibility studies for co-funding • A process for marketing the program to business owners • A process calculating and disbursing incentives • A process for inspecting projects • A process for ensuring that work performed and contractor business practices meet the quality standards of the program • A system for tracking and accounting for the program, and for reporting to the program sponsor • A process for conducting EM&V • Customer support, including a call center and on the program website
Staffing Requirements & Job Creation	Program Administration Depending on the size of the program, a Custom Program requires 3-5 full-time employees. At a minimum, the program requires one manager, and two staff engineers for conducting facility audits, reviewing project documentation and inspecting projects. As the program grows over time the need for additional engineers will increase. Participating Contractors Although the program conducts audits, co-funds feasibility studies, reviews project documentation and inspects projects, it is up to the participant to implement projects. As such, the program does not directly recruit installation contractors. By the end of the second year, you can expect to have about 50 contractors implementing energy efficiency projects for Custom participants per million in program spending, although this is very sensitive to the scale of individual contracting organizations and the size of the market. Job Creation This program helps develop the market for industrial engineers, on-site energy managers and associated trade allies. Additional jobs will be created in related fields as a result of program spending. In total, expect from 15 to 18 jobs to result per million dollars spent on this program.
Implementation Timeline	Approximately four months is needed to design and introduce a Custom program, although this may be sensitive to the local infrastructure and training needs. An illustrative program ramp-up schedule is shown below.

Task	Month 1	Month 2	Month 3	Month 4
Project kick-off				
Develop program processes, policies and procedures				
Initiate marketing				
First facility audit				

PROGRAM

C&I Custom

Illustrative Program Performance

Energy Savings

Energy savings will vary considerably by state/industry. One Custom program in the Midwest verified energy savings of about 2,450 Mbtu per participant.

Incentives for Custom projects are typically calculated on a per kWh and/or per kWh and/or per Therm basis. See below for examples of incentive calculations for projects carried out by two customers. Savings estimates for Custom projects are sometimes deemed (i.e. for lighting measures), but many are also based on engineering calculations (i.e. process steam, some HVAC measures, etc.).

A	B	C	D	E	F	G	H
Customer	**Project**	**Incentive**	**Unit**	**Savings (kW)**	**Savings (kWh)**	**Calculated Incentive (C*E)**	**Total Incentive**
1	Lighting upgrades	$ 480	per kW	3.5	15,300	$ 1,700	$ 1,810
	Refrigeration upgrades	$ 410	per kW	0.3	2,320	$ 110	
2	HVAC upgrades	$ 325	per kW	66.2	457,000	$ 21,500	$ 81,500
	Lighting upgrades	$ 480	per kW	125.0	937,000	$ 60,000	

Participation

An illustrative three year participation schedule for a C&I Custom Program run in a large Midwestern metropolitan area with a million electric customers is shown in the table below.

Budget

Implementation costs can vary widely by state/industry. Illustrative program implementation costs are shown below. A different Custom program in the Northeast spends about $750,000 per year, and acquires about 40 Mbtu/$1000.

	Year			
	1	**2**	**3**	**Cumulative**
Population of Eligible C&I Customers	100,000	100,000	100,000	100,000
Participation rate	0.05%	0.11%	0.10%	0.3%
Participants	48	111	102	261
Average Cost per Participant	$20,000	$20,000	$20,000	$ 20,000
Program Cost	$ 960,000	$ 2,220,000	$ 2,040,000	$ 5,220,000
Jobs per $1M	18	15	15	$ 16
Jobs Created	**17**	**33**	**31**	**$ 81**
Per Unit Source MBtu Saved (elec)	1,500	1,500	1,500	1,500
Per Unit Source MBtu Saved (gas)	950	950	950	950
MBtu Saved	117,600	271,950	249,900	639,450
Source Mbtu saved per $1,000	**122.5**	**122.5**	**122.5**	**122.5**

Resources and Assistance

- DOE Industrial Technologies Program: www1.eere.energy.gov/industry/
- ENERGY STAR Portfolio Manager: www.energystar.gov/benchmark
- ENERGY STAR Guidelines for Energy Management: www.energystar.gov/guidelines
- ENERGY STAR Building Upgrade Manual: www.energystar.gov/bldgmanual
- EPA' ENERGY STAR Products page: www.energystar.gov/products
- Federal Tax Credits for Energy Efficiency: www.energystar.gov/taxcredits

PROGRAM	C&I Custom
Program Characteristics Summary	C&I Custom is a strong candidate for stimulus funding. Its characteristics relative to the key criteria identified previously include: 1. **Impact on Jobs.** A Custom program requires expertise in industrial and energy engineering, so while the actual number of jobs created may not be that large relative to some programs, the jobs do require a high skill level and higher pay (i.e. for conducting industrial energy audits). Further, these jobs often entail skills that prepare the employee for a broad range of potential future opportunities in the fields of industrial engineering and energy management. 2. **Collaboration and Leverage of Funds.** Custom provides an excellent opportunity to collaborate with utility companies, state and local agencies, local trade allies and their associations, as well as the industrial engineering and consulting communities. It also offers a great opportunity to collaborate with the US DOE on industrial best practice trainings, and the EPA through the use of ENERGY STAR Portfolio Manager. 3. **Significance of Program Savings.** Custom programs tend to yield very high energy savings per customer, which translates into real cost savings for participating businesses, making them more competitive on the global market. The Custom program helps businesses increase production, make higher quality products, and lower operational costs. 4. **Cost of Savings.** The lead time for Custom projects can be long, causing the program, especially in its first years, to expend considerable resources before realizing significant savings. But because of the scale of most projects, Custom programs also tend to be very cost-effective, reaching upwards of 100 Mbtu per $1000. Industrial customers also tend to constitute a large share of system peak load; therefore the avoided capacity benefits of Custom programs are also large. 5. **Sustainability and Market Transformation.** Custom programs work with the largest energy users in the country to not only install projects that yield substantial energy savings, but fundamentally change the way these industry views energy by conducting energy audits, co-funding feasibility studies, and training businesses in best practices.

PROGRAM	ENERGY STAR Labeled Products
Program Objective	The objective of this program is to increase awareness and sales of efficient lighting and appliances to residential and small commercial customers. The program offers customers the opportunity to purchase, largely through retail locations, a variety of discounted products that are ENERGY STAR qualified or better. The most effective programs involve either retailer/supplier mark-downs, where an agreement is reached with retailers to stock reduced-priced products and rebates are paid after the product is purchased, and/or manufacturer buy-downs, where bulk product is purchased directly from manufacturers and delivered to retailers/suppliers at reduced prices. Financial incentives should be targeted to efficient products where there is a price premium over the standard efficiency counterpart, where incremental efficiency benefits can justify incentive payments, and where market saturation for the efficient product is low relative to the standard efficiency options. Lighting fixtures, water heaters, commercial solid state lighting, and commercial food service equipment are good candidates for incentives. In the near future, the ENERGY STAR specification for servers will go into effect offering another good target. Incentives for products such as refrigerators, clothes washers, and CFLs need to be evaluated carefully based on local market conditions and may require advanced targeting strategies. For example, the Energy Independence and Security Act of 2007 established minimum efficiency requirements for general service lamps effective in 2012, which will essentially phase out general service incandescent lighting for most applications. In addition, in some localities and customer segments market saturation may already be quite high, Strategies such as targeting certain market channels (e.g. grocery) and hard to reach sockets that require specialty CFLs, such as dimmable and three-way bulbs, should be considered. Leveraging national ENERGY STAR campaigns such as Change the World Start with ENERGY STAR promotion boosts program participation and cost-effectiveness. This program should also leverage the ENERGY STAR Appliance Rebate Program, the details of which will be made available at www.energy.gov/recovery.
Target Market	This program is targets all residential and commercial customers, though program sponsors may elect to target participants with certain demographic characteristics, or whose energy consumption exceeds established metrics.
EM&V Support	Basic accounting for the impacts of the program includes tracking of the number of products that receive incentives and anticipated savings. Tracking the products is completed through agreements reached with manufacturers and suppliers, and savings is often based on deemed savings values, as the savings impacts of products in this program are well-researched and are not weather sensitive. In some cases, additional measurement and verification may be required by the program sponsor or regulators, and typically focuses on establishing the kW, kWh, and Btu saved by the program through a more rigorous evaluation of the equipment purchased, its installation rate, actual usage characteristics, and whether or not the owner would have undertaken the work even in the absence of the program. Methods used vary widely based upon the need for precision in the estimates and the perspective of the program sponsor or regulators. In general, EM&V costs range between 1% and 8% of the overall program budget, and are most typically around 3-4%.

PROGRAM

ENERGY STAR Labeled Products

Infrastructure Requirements

The implementation of this program will require additional infrastructure including:

- A process for recruiting retailers/suppliers and manufacturers
- A process for allocating upstream rebates to retailers/suppliers and manufacturers
- A customer rebate process for any consumer direct incentives
- A system for tracking and accounting for the program, and for reporting to the program sponsor
- Processes for marketing and education, including mass-market television, radio, and internet, point-of-purchase and in-store displays, bill inserts, an informational website, product demonstrations, and on-site events (e.g. bulb exchanges) among other activities
- A process for conducting EM&V
- A process for handling proper disposal of CFLs (to avoid mercury ending up in landfills)
- Customer support including a call center and online help

Staffing Requirements & Job Creation

Program Administration

ENERGY STAR Products programs are often a large part of a program sponsor's portfolio. Accordingly, they require a significant staff. At a minimum, one program manager is required, plus 4-5 FTEs to assist with retailer/supplier and manufacturer recruitment, training, and sales, customer support, program tracking, and other administrative tasks.

Job Creation

This program develops jobs in the manufacturing and retail/supplier sectors. Additional jobs will be created in related fields as a result of program spending through direct and indirect jobs as well economic effects resulting from homeowners' and businesses having additional money that would otherwise go toward utility bills. In total, expect from 5 to 11 jobs to result per million dollars spent on this program

Implementation Timeline

This program can be ramped up quickly and scaled appropriately to available funding levels.

Task	Month 1	Month 2	Month 3	Month 4	Month 5
Program kick-off					
Develop program processes, policies, and procedures					
Recruit manufacturers and retailers					
Allocate CFLs to retailers					
Initiate marketing					
Discounted ENERGY STAR products on retailer floors					

PROGRAM

ENERGY STAR Labeled Products

Illustrative Program Performance

Energy Savings

All the lighting products and most of the appliances rebated through this program have negligible sensitivity to weather in terms of performance. However, saturation of ENERGY STAR products is highly variable across the country. Therefore, incremental savings will also be highly variable. In order to develop deemed savings values for ENERGY STAR products in your area, we recommend conducting a comprehensive market saturation and baseline use study. This need not delay program implementation, however. For planning purposes, the numbers in provided in this guide may be used as a starting place, or you can contact EPA/ENERGY STAR for assistance in determining appropriate planning values for incremental measure costs and savings.

Participation

Aggressive upstream CFL programs show that about 350,000 to 450,000 bulbs can be distributed per million dollars of program expenditure. The illustrative impacts below contains rebates for CFLs and lighting fixtures, the latter of which have a higher cost per unit. The program impacts below are drawn from recently developed quick-start programs n the east coast and Northeast. CFLs are typically purchased in multi-packs, so the number of individual CFL units sold exceeds the number of households (participants) in many cases.

Budget

Program budgets are very sensitive to market size and the types of products rebated, and the program delivery strategy (downstream/customer coupons, midstream/retailer, or upstream/manufacturer). Incentives vary considerably as well; CFL rebates are generally about $1-$2 CFL bulb (for a 60W equivalent), $20 per fixture, and between $30 and $100 per appliance. Budgets for an ENERGY STAR products program are easily scaled to meet demand. An illustrative program budget is shown below

	Year			
	1	2	3	Cumulative
Lighting Products (CFLs, Fixtures)	1,000,000	1,000,000	1,000,000	1,000,000
Lighting Participation rate	3%	7%	14%	23.6%
New ES Appliances	10,000	20,000	30,000	60,000
New Appliance Participation Rate	7%	14%	20%	20.0%
Avg Cost per Lighting Participant	$13	$17	$16	$16
Avg Cost per Appliance Participant	$83	$67	$61	$67
Program Cost	$ 3,700,000	$ 10,800,000	$ 20,200,000	$34,700,000
Jobs per $1M	10	9	8	9
Jobs Created	**37**	**97**	**162**	**296**
Per Unit Source MBtu Saved	0.4	0.9	1.7	2.9
MBtu Saved	359,000	893,000	1,777,000	3,029,000
Source Mbtu saved per $1,000	**97**	**83**	**88**	**87**

(Note that the lighting products are primarily retrofit products, so the participation rate is cumulative; the appliance participation rate is based on the number of new appliances purchased each year, therefore is not cumulative.)

Resources and Assistance

- ENERGY STAR Lighting: http://www.energystar.gov/lighting
- CFLs and mercury: www.energystar.gov/index.cfm?c=cfls.pr_cfls_mercury
- ENERGY STAR Appliances: www.energystar.gov/products
- ACEEE's Compendium of Champions, Lighting and Appliances category. (Publication U081): http://aceee.org/pubs/u081/res-light-app.pdf

PROGRAM

ENERGY STAR Labeled Products

Program Characteristics Summary

ENERGY STAR Products is an extremely strong candidate for stimulus funding. Its characteristics relative to the key criteria identified previously include:

1. **Impact on Jobs.** An ENERGY STAR products program provides moderate employment benefits when weighed against other energy efficiency program options. It does not employ contractors to perform retrofit or installation work or entail significant training. Increased jobs come through direct employment of program administrators and implementation contractors, and the increased marketing, training, and sales activity that they generate. Indirect and induced benefits are seen at manufacturers and retailers, and through economic multipliers as individuals and businesses have reduced utility bills.
2. **Collaboration and Leverage of Funds.** An ENERGY STAR products program provides an excellent opportunity to leverage EPA/DOE resources for ENERGY STAR rated products rebated through the program, and to collaborate with utility companies, state and local agencies, retailers, manufacturers, and consulting communities. In almost every location in the country where energy efficiency programs exist, an ENERGY STAR products, or similar, program exists, and these programs should be leveraged for expansion and incorporation of additional funding. ENERGY STAR has developed significant resources to aid in program design, implementation, and marketing, has developed relationships with the major retailers and manufacturers that are leveraged by energy efficiency programs nationwide, convenes one major lighting conference and one major appliances conference each year, and the program significantly benefits from the strong recognition of the ENERGY STAR brand.
3. **Significance of Program Savings.** ENERGY STAR products programs yield significant savings over a relatively short timeframe. This program is very easy to ramp-up quickly to significant scale. For states that are newer to energy efficiency, this program is a must-do to achieve quick energy savings and stimulate the market for other energy efficiency offerings.
4. **Cost of Savings.** ENERGY STAR products programs are typically among the most cost-effective in an energy efficiency portfolio. The program requires low overhead while paying incentives for a large volume of projects. There are many examples of best practices and experienced implementation firms that have implemented large quick-start products programs in the past few years, and that competition has driven the implementation costs down. Participation is very simple for customers, and requires relatively little up-front cost on their behalf.
5. **Sustainability and Market Transformation.** Through broad marketing, outreach, and education components, the ENERGY STAR products program creates a more educated and aware public. The purchase of a relatively inexpensive product such as a CFL can open those participants to more opportunities through other programs. The manufacturers and retailers, who are participating in these programs where they are being offered, transform their purchasing and stocking patterns to benefit from the incentives that will drive customers to their stores. In areas with energy efficiency programs, experience shows that retailers will stock ENERGY STAR models for up to 50% of each rebated product (refrigerators, clothes washers, room air conditioners for example).

PROGRAM	Commercial Benchmarking and Performance
Program Summary	This program works with commercial facility operations staff and owners to benchmark and monitor building energy performance using tools such as ENERGY STAR Portfolio Manager and building sub-metering equipment, as well as to recommend energy efficiency upgrades based on analyses of building performance data. Commercial Benchmarking and Performance (CBP) involves eight program technical and educational services to achieve savings: 1. Collection of key facility and operational characteristics and contacts 2. Ongoing collection of interval energy consumption, sub-metering, data logging, and activity or output metrics as appropriate to the facility. The extent of metering equipment installed depends on the program's budget, however all CBP programs can use tools such as ENERGY STAR Portfolio Manager to identify under-performing buildings to target for energy efficiency improvements, and establish baselines to set goals and measure progress for energy efficiency improvement projects over time. 3. Development of building performance metrics 4. Ongoing calculation and updating of metrics 5. Communication of metrics to participants 6. Identification of building system drift (from optimal performance) and alerts (to participants) where appropriate 7. Analysis of facility performance and root cause assessment and communication 8. Recommendations for energy efficiency upgrades based on analysis and root cause assessment Tools such as ENERGY STAR Portfolio Manager can be used to provide a level of transparency and accountability to help demonstrate strategic use of ARRA 2009 funding by generating a Statement of Energy Performance (SEP) for each building, and summarizing important performance indicators, including energy use intensity and greenhouse gas emissions associated with building energy use. When the program pulls out, facility staff should be able to continue competently conducting building benchmarking, monitoring, analysis and performance upgrades on their own.
Target Market	This program is open to all commercial customers that meet certain criteria. Such criteria may include: 1. A size minimum, i.e. 100,000 sqft. 2. The facility must be free of major problems requiring costly repairs or replacements and have no planned major system renovations or retrofits. 3. The facility must have accessible and up-to-date building documentation and records.

PROGRAM	Commercial Benchmarking and Performance
EM&V	Basic accounting for the impacts of the CBP program includes a unique participant ID, a business SIC and/or NAICS code, participant contact information; facility baseline energy consumption; ENERGY STAR Energy Performance Rating; for any projects completed, a unique project ID, contractor name and contact information, measures installed, the project incentive amount and anticipated project savings. In some cases, additional measurement and verification may be required by the program sponsor or regulators and typically focuses on establishing on establishing the kW, kWh, and Btu saved by the program through an evaluation of the existing baseline conditions of a sample of commissioned facilities, the nature of the energy efficiency improvements installed usage characteristics of the facility, and whether or not the business owner would have undertaken the projects in the absence of the program. Evaluators can use the interval data and facility data collected by the program to estimate building baselines and energy savings. Methods used vary widely based upon the need for precision in the estimates and the perspective of the program sponsor or regulators. In general, EM&V costs range between 1% and 8% of the overall program budget, and are most typically around 3-4%.
Infrastructure Requirements	The primary infrastructure required to deliver this program includes: • A process for estimating facility baselines • A process for selecting and installing the appropriate metering equipment (if using) • A process for developing building performance benchmarks • A standardized process for alerting participants and program staff when a building system drifts (from optimal performance) • A standardized process for transmitting and tracking interval meter data (if available through submetering) • A standardized process for reporting building performance on a monthly, quarterly and annual basis to the program sponsor • A process for marketing the program to business owners and building managers • A process for calculating and disbursing incentives • A process for transitioning program services to participants • A process for conducting EM&V
Staffing Requirements	Program Administration Depending on the size of the program, CBP requires 2-4 full-time employees. At a minimum, the program requires one manager (an individual with significant building performance and/or building sub-metering experience), and a staff engineer. Building operator education is key to this program's success, so program staff will spend a significant amount of time with participants reviewing data, and recommending efficiency improvements based on data analysis. As the program grows over time the need for additional engineers for will increase. Participating Contractors If the CBP program sponsor opts to use building sub-metering equipment, the program will need to select at least one metering equipment provider/company to assist with meter installation, interval data storage, reporting and analysis. Job Creation This program helps develop the market for building performance specialists, metering equipment, building operators and managers, and installation contractors. Additional jobs will be created in related fields as a result of program spending. In total, expect from 5 to 15 jobs to result per million dollars spent on this program.

PROGRAM

Commercial Benchmarking and Performance

Implementation Timeline

Approximately five months are required to introduce a CBP program, though this may be sensitive to the availability of building metering/submetering providers (and to whether the program opts to use sub-meters). An illustrative CBP program ramp-up schedule is shown below.

Task	Month 1	Month 2	Month 3	Month 4	Month 5
Project kick-off					
Develop program processes, policies and procedures					
Recruit submetring provider (if using)					
Initiate marketing					
First CBP project					

Illustrative Program Performance

Savings

Energy savings of existing CBP programs vary widely (depending largely on facility type, size, and baseline efficiency, and whether or not gas savings are verified), but generally CBP savings tend to be in the range of 1,000-3,000 Mbtu per participant.

Participation

A moderately aggressive CBP program could reach about 0.5% of eligible facilities after three years. An illustrative three year participation schedule is shown below. Under a non-aggressive scenario, participation after three years may be closer to 0.25%.

Budget

CBP program costs vary widely depending on whether the program sponsor has sufficient budget to sub-meter facilities, and the extent of sub-metering implemented. The illustrative CBP program implementation costs shown below contain the minimum per participant cost required if the program uses sub-metering equipment; more extensive sub-metering, along with associated analysis and support services from a sub-metering contractor, can cost upwards of $90,000-100,000 per participant. If the program opts to not use sub-metering equipment, per participant costs are closer to $20,000-25,000.

	Year			
	1	2	3	Cumulative
Population of Eligible C&I Customers	20,000	20,000	20,000	20,000
Participation rate	0.10%	0.15%	0.20%	0.5%
Participants	20	30	40	90
Average Cost per Participant	$40,000	$40,000	$40,000	$ 40,000
Program Cost	$ 800,000	$ 1,200,000	$ 1,600,000	$ 3,600,000
Jobs per $1M	15	11	11	12
Jobs Created	**12**	**13**	**18**	**43**
Per Unit Source MBtu Saved (elec)	2,000	2,500	2,750	2,475
Per Unit Source MBtu Saved (gas)	250	400	550	420
MBtu Saved	45,000	87,000	132,000	260,550
Source Mbtu saved per $1,000	**56**	**73**	**83**	**72**

PROGRAM	Commercial Benchmarking and Performance
Resources and Assistance	• ENERGY STAR Portfolio Manager: www.energystar.gov/benchmark • ENERGY STAR Guidelines for Energy Management: www.energystar.gov/guidelines • ENERGY STAR Building Upgrade Manual: www.energystar.gov/bldgmanual • Federal Tax Credits for Energy Efficiency: www.energystar.gov/taxcredits • Building Operator Certification: http://www.theboc.info • BOMA Building Energy Efficiency Program: www.BOMA.org/BEEP
Program Characteristics Summary	CBP is a strong candidate for stimulus funding. Its characteristics relative to the key criteria identified previously include: 1. **Impact on Jobs**. The CBP program requires expertise in building performance and building submetering--these jobs require a higher level of skill and pay than is required for some programs. Further, these jobs often entail skills that prepare the employee for a broad range of potential future opportunities in the fields of building science, facility management, building metering and energy efficiency. 2. **Collaboration and Leverage of Funds**. CBP is also an excellent opportunity to collaborate with the EPA/DOE through the use of its Building Portfolio Manager, and with utility companies, state and local agencies, and local commercial building contractors. 3. **Significance of Program Savings**. CBP programs tends to yield high energy savings per customer, which translates into real cost savings for participating businesses. Lowering operational costs increases profit; this can be reinvested in additional energy saving opportunities, including human resources. 4. **Cost of Savings**. CBP results in very cost effective savings, but may require significant upfront investment in both equipment and personnel required to carry-out building sub-metering, system benchmarking and facility owner and operator education. However, these expenses are also the key drivers of the program's strong performance relative to job creation, quality, and accountability. The program is very cost-effective because it takes a whole-facility approach to reducing energy use, and sustains savings by training building owners and operators to maintain optimal building performance after the program has pulled out. 5. **Sustainability and Market Transformation**. Commercial Benchmarking and Performance helps create sustained energy savings because it goes well beyond reducing prices on efficient equipment. The program works closely with building owners and operators to optimize building performance by teaching them how to analyze and respond to building energy performance data. Buildings that undergo the CBP process not only have efficient equipment, but efficient equipment that runs optimally over the long haul.

PROGRAM	Tier 1 Energy Audit and Easy Direct Install
Program Summary	Together, the Tier 1 Energy Audit and Direct Install and the Tier 2 Audit program (Home Performance with ENERGY STAR, or HPwES) comprise the Residential Retrofit initiative. These programs work with the same pool of contractors and population of homeowners. The primary differences between HPwES and Energy Audit and Direct Install are the level of the audit (the Tier 1 program offers a basic, visual home energy checkup whereas the HPwES audit is comprehensive and involves diagnostic tools) and the measures available for incentives (Tier 1 only offers inexpensive, direct install measures whereas HPwES offers a wide range of measures for all end-uses, and at many price points). One important goal for Tier 1 Energy Audit and Easy Direct Install is for participants to realize the benefits of energy efficiency at little to no cost to them, and consequently for them to participate in programs such as HPwES or Residential HVAC, and realize even greater levels of savings. This market-based program introduces homeowners to using a whole-house approach for reducing energy consumption and helps establish and train a network of skilled and credible home energy analysts and contractors. These contractors provide quick (visual) home energy checkups for qualified homeowners and directly install low-cost measures, such as CFLs, hot water heater wraps, pipe insulation, and low-flow showerheads. Some homeowners may follow-up with more comprehensive energy efficiency improvements, such as air and duct sealing or appliance retrofits, or request a more comprehensive energy audit; these customers should be referred to the HPwES program The cost of completing a checkup, including the checkup delivery, measure cost and measure installation labor is $200-300. Checkups are offered to homeowners at a subsidized rate of $35-50, with the option that the fee will be waived if the direct install measures are accepted by the customer for installation. Programs typically pay contractors $100-150 per checkup. Key elements of the program include contractor recruitment, training, and independent verification of a sample of homes to verify quality of the work and data collected.
Target Market	This program typically targets homes 15 years or older – this constitutes approximately 80 percent of the housing stock, nationwide.[9] Program sponsors may elect to target participants with certain demographic or geographic characteristics, or whose energy consumption exceeds established metrics.
EM&V	Basic accounting for the impacts of the program includes tracking of the number of participants, the measures installed and their anticipated savings, the field measurements taken by contractors before and after the work, as well as the basic characteristics of the home where the work was performed. In some cases, additional measurement and verification may be required by the program sponsor or regulators, and typically focuses on establishing the kW, kWh, and Btu saved by the program typically consists of an evaluation of the existing baseline conditions of a sample of homes, the nature of the energy efficiency improvements installed, usage characteristics of the home, and whether or not the homeowner would have undertaken some of the efficient actions even in the absence of the program. Due to the well-researched assumptions surrounding the direct install measures, pre-calculated "deemed savings" values will be used. Methods used vary widely based upon the need for precision in the estimates and the perspective of the program sponsor or regulators. In general, EM&V costs range between 1% and 8% of the overall program budget, and are most typically around 3-4%.

[9] U.S. Census Bureau, "American Housing Survey: 2007," www.census.gov/hhes/www/housing/ahs/ahs07/tab1a-1.xls

PROGRAM	Tier 1 Energy Audit and Easy Direct Install
Infrastructure Requirements	The primary infrastructure required to deliver this program includes: • A process for recruiting and screening qualified performance contractors to participate in the program • A process for training, certifying, and monitoring the performance of contractors • A standardized process for conducting the checkup and calculating and reporting energy savings to the homeowner and to the program • A process for marketing the program to homeowners • A process for disbursing incentives • A process for ensuring that work performed and contractor business practices meet the quality standards of the program • A system for tracking and accounting for the program, and for reporting to the program sponsor • A process for conducting EM&V • Customer support, including a call center and on the program website
Staffing Requirements & Job Creation	Program Administration Depending on the size of the program, a Tier 1 Audit program requires 2-4 full-time employees. At a minimum, the program requires one manager, and one field staff technician for conducting contractor trainings, providing contractor mentoring and verifying projects. Initial phases of the program may require an additional 2-3 staff for a period of 6 months to perform start-up activities. As the program grows over time the need for additional technical staff for quality assurance purposes and administrative staff for processing jobs and incentives will increase. Participating Contractors Initial roll-out of the program (0-6 months) typically involves recruiting 3-5 contractors, ideally who have or can quickly attain the appropriate certifications from the program (unlike the HPwES program, a certified individual does not need to perform the quick energy audits – but the contractor does need to have at least one certified individual on staff). While implementation models vary, it might be expected that by the end of the first program year, approximately 15 certified contractors will be needed (about a third of contractors will be very active, a third moderately active, and a third relatively inactive) for each million dollars of program budget, although this is very sensitive to the scale of individual contracting organizations and the size of the market. Job Creation This program helps develop the market for performance contractors and associated trade allies. Additional jobs will be created in related fields as a result of program spending. In total, expect from 18 to 25 jobs to result per million dollars spent on this program.

PROGRAM

Tier 1 Energy Audit and Easy Direct Install

Implementation Timeline

Approximately four months is needed to design and introduce a Tier 1 Audit program, although this may be sensitive to the local infrastructure, training needs, and the time of year. Spring and fall are typically attractive times to secure contractors and provide training. An illustrative program ramp-up schedule is shown below.

Task	Month 1	Month 2	Month 3	Month 4
Project kick-off				
Develop program processes, policies and procedures				
Recruit home performance contractors/trade allies				
Contractor/trade ally training				
Initiate marketing				
First Energy Checkup				

PROGRAM

Tier 1 Energy Audit and Easy Direct Install

Illustrative Program Performance

Energy Savings

Energy savings per home varies widely by climate zone, measures installed, and incentive levels. Annual source energy savings reported by program sponsors are in the range of 4 MBtu to 8 MBtu per average home[10], as illustrated in the table below.

Weather Zone	Warm Climates			Cool Climates		
	Electricity kWh	Gas Therms	Source MBtu	Electricity kWh	Gas Therms	Source MBtu
Gas Heated Home	260	30	5.6	260	20	4.6
Electrically Heated Home	9,000,000	0	8.0	6,300,000	0	6.3

Participation

An aggressive program could reach about 3.5% of eligible homes after three years. An illustrative three year participation schedule for a Tier 1 Audit program run in a metro area on the East Coast with about 250,000 eligible homes is shown below. Under a non-aggressive scenario, participation after three years may be closer to 1-1.5%.

Budget

Illustrative program implementation costs are expected to decline from approximately $1200 per completed home in the initial year to $880 per completed home after three years. Costs are dependent on a variety of factors, including the fraction of participants that elect to install the direct install measures and contractor costs for performing checkups. An illustrative participation schedule and budget are shown in the table below.

	Year			
	1	2	3	Cumulative
Population of Eligible Homes	250,000	250,000	250,000	250,000
Participation rate	0.7%	1.2%	1.5%	3.5%
Participants	1,900	3,100	3,700	8,700
Average Cost per Participant	$1,200	$1,000	$880	$ 990
Program Cost	$ 2,280,000	$ 3,100,000	$ 3,256,000	$ 8,636,000
Jobs per $1M	25	22	18	21
Jobs Created	**57**	**68**	**59**	**184**
Per Unit Source MBtu Saved	5	5	5	5
MBtu Saved	9,500	15,500	18,500	43,500
Source Mbtu saved per $1,000	**4.2**	**5.0**	**5.7**	**5.0**

Resources and Assistance

- EPA ENERGY STAR Resources for Contractors page: www.energystar.gov/index.cfm?c=home_contractors.hm_improvement_contractors_resources
- Building Performance Institute: www.bpi.org
- Residential Energy Services Network: www.natresnet.org

[10] Source Btus assuming an average electric generation heat rate of 10,000 Btu/kWh.

PROGRAM	Tier 1 Energy Audit and Easy Direct Install
Program Characteristics Summary	Tier 1 Audit is a strong candidate for stimulus funding. Its characteristics relative to the key criteria identified previously include: 1. **Impact on Jobs.** Given the relative fragmentation of the home contracting industry and the comparatively small size of each job, Tier 1 Audit is a training and labor intensive program. It therefore results in a comparatively large number of jobs created. Per dollar spent the Residential Retrofit initiative (Tier 1 Audit and HPwES, combined) results in more new job opportunities than any other program. The level of skill required to perform a home checkup is less than that required to perform a comprehensive home audit for HPwES. However, these jobs often entail skills that prepare the employee for a broad range of potential future opportunities in the fields of home services and energy efficiency. In addition, bill savings by residences tend to recirculate in the economy to a greater degree than do savings by commercial or industrial customers, and therefore have a greater multiplier effect on jobs and economic activity. 2. **Collaboration and Leverage of Funds.** Tier 1 Audit provides an excellent opportunity to collaborate with EPA/DOE, utility companies, state and local agencies, local trade allies and their associations, as well as the building science and consulting communities. With increasing regional energy efficiency goals in many portions of the country, utilities may provide an excellent opportunity for collaboration, funding, and/or direct implementation of Tier 1 Audit programs. 3. **Significance of Program Savings.** Savings from Tier 1 Audit is not as significant as other Residential initiatives, however, the potential participant base is very large, consisting of all owner-occupied dwellings older than just a few years, and the home energy checkup spurs homeowner interest in larger energy efficiency investments. Further, the program also provides an equitable and highly visible opportunity for the largest single group of tax-payers to participate in a program and benefit from ARRA stimulus dollars. The program can also accommodate the needs of low-income individuals with increased incentive levels and other support functions. Further, the potential impact of the program is (after the initial introduction) largely scalable and a function of the budget dedicated to the program. 4. **Cost of Savings.** Tier 1 Audit is a relatively expensive program due to its requirements for training and verification of the work, as well as the need for public education. However, these expenses are also the key drivers of the program's strong performance relative to job creation, quality, and accountability. 5. **Sustainability and Market Transformation.** Through its broad outreach and education components, Tier 1 Audit creates a more educated and aware public. The need to be sensitive to energy issues, and the basic understanding of energy systems and financial payback principles will be retained by participants long after their initial contact with the program. This will result in spillover benefits to other energy investments or behavioral changes they may consider in the future, even if they are not elements of the Tier 1 Audit program. Similarly, a Tier 1 Audit program seeds a competitive market of contractors who develop a variety of business models and approaches. Through competitive innovation, these contractors often integrate the Tier 1 Audit services with other services such as HVAC service and repair, insulation, and window replacement.

PROGRAM	On-Site Energy Manager
Program Summary	This program assists businesses by hiring and training an On-Site Energy Manager (OEM) to work with them for a six-month period. During their tenure with a business, the OEM will evaluate facilities' energy use and work with maintenance staff to reduce energy usage and costs. Long-term energy and cost savings of 10 to 15 percent are achievable, largely through behavioral changes. ENERGY STAR recommends a seven step process for instituting efficient energy management: • STEP 1: Make Commitment • STEP 2: Assess Performance • STEP 3: Set Goals • STEP 4: Create Action Plan • STEP 5: Implement Action Plan • STEP 6: Evaluate Progress • STEP 7: Recognize Achievements Incentives for businesses include a sign-up bonus grant (a % of the OEM's salary), performance based incentives (for achieving savings targets), free energy resource accounting software, and ongoing OEM training and technical support.
Target Market	A typical participant is a business with a large facility portfolio (1+ million square feet of conditioned space).
EM&V	Basic accounting for the impacts of the program includes a unique participant ID, a business SIC and/or NAICS code, participant contact information, the On-Site Energy Manager name; facility baseline energy consumption; for any projects completed, a unique project ID, contractor name and contact information, measures installed, the project incentive amount and anticipated project savings. In some cases, additional measurement and verification may be required by the program sponsor or regulators and typically focuses on establishing on establishing the kW, kWh, and Btu saved by the program through an evaluation of the existing baseline conditions of a sample of participant facilities, the nature of the energy efficiency improvements installed usage characteristics of the facility, and whether or not the business owner would have undertaken behavioral changes in the absence of the program. Evaluators can use the interval data and facility data collected by the program to estimate building baselines and energy savings. Methods used vary widely based upon the need for precision in the estimates and the perspective of the program sponsor or regulators. In general, EM&V costs range between 1% and 8% of the overall program budget, and are most typically around 3-4%.
Infrastructure Requirements	The primary infrastructure required to deliver this program includes: • A process for screening applicants • A process for hiring and training OEMs • A standardized energy management process or manual for OEMs to implement • A standardized process for reporting building performance • A process for marketing the program to business owners and building managers • A process for calculating and disbursing incentives • A process for conducting EM&V

PROGRAM

On-Site Energy Manager

Staffing Requirements

Program Administration

This program requires, at a minimum, one manager and a staff building energy engineer. As the program grows over time the need for additional engineers will increase.

Participating Contractors

This program requires one full time OEM per participant for a 6 month interval. If you have 40 participants in your first program year, for example, you will need at least 20 OEMS (assuming the OEM will work with 2 participants per year).

Job Creation

This program helps build the market for energy managers, building operators and managers, and installation contractors. Additional jobs will be created in related fields as a result of program spending. In total, expect from 5 to 11 jobs to result per million dollars spent on this program.

Implementation Timeline

Approximately six months are required to introduce and OEM program, although this may be sensitive to the local infrastructure and training needs. An illustrative OEM program ramp-up schedule is shown below.

Task	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6
Project kick-off						
Develop program processes, policies and procedures						
Recruit OEMs						
Start OEM training						
Initiate marketing						
First OEM placement						

Illustrative Program Performance

Savings

Energy savings of existing OEM programs vary widely depending largely on facility type, size, and baseline efficiency, and other factors, but are generally in the range of 10-15% (of annual energy).

Participation

An aggressive OEM program could reach about 0.5% of eligible facilities after three years. An illustrative three year participation schedule is shown below. Under a non-aggressive scenario, participation after three years may be closer to 0.1%.

Budget

Illustrative OEM program implementation costs are shown below. Per participant costs are high because of the OEM income assistance provided by the program.

	Year			
	1	2	3	Cumulative
Population of Eligible C&I Customers	20,000	20,000	20,000	20,000
Participation rate	0.10%	0.20%	0.23%	0.5%
Participants	20	40	45	105
Average Cost per Participant	$50,000	$48,000	$46,250	$ 47,600
Program Cost	$ 1,000,000	$ 1,920,000	$ 2,081,250	$ 5,001,250
Jobs per $1M	11	9	5	8
Jobs Created	**11**	**17**	**10**	**39**
Per Unit Source MBtu Saved	4,500	4,500	4,500	4,500
MBtu Saved	90,000	180,000	202,500	472,500
Source Mbtu saved per $1,000	**90**	**94**	**97**	**94.5**

PROGRAM	On-Site Energy Manager
Resources and Assistance	• ENERGY STAR Guidelines for Energy Management: www.energystar.gov/guidelines • Federal Tax Credits for Energy Efficiency: www.energystar.gov/taxcredits
Program Characteristics Summary	OEM is a strong candidate for stimulus funding. Its characteristics relative to the key criteria identified previously include: 1. **Impact on Jobs.** The OEM program requires expertise in building energy management; these jobs require a higher level of skill and pay than is required for some programs. Further, these jobs often entail skills that prepare the employee for a broad range of potential future opportunities in the fields of building science, facility management, and energy efficiency. 2. **Collaboration and Leverage of Funds.** OEM provides an excellent opportunity to collaborate with utility companies, state and local agencies, and local commercial energy managers. OEM is also a strong opportunity to EPA's expert resources in energy management. 3. **Significance of Program Savings.** OEM programs tends to yield very high energy savings per customer, which translates into real cost savings for participating businesses. Lowering operational costs increases profit; this can be reinvested in additional energy saving opportunities, including human resources. 4. **Cost of Savings.** OEM is an expensive program because it places a full time employee on each job site. However, this expense is the key drivers of the program's strong performance relative to job creation, quality, and accountability. The program is very cost-effective because it takes a whole-facility approach to reducing energy use, and sustains savings by training building owners and operators to maintain optimal building performance after the program has pulled out. 5. **Sustainability and Market Transformation.** OEM helps create sustained energy savings because it goes well beyond reducing prices on efficient equipment. The program works closely with building owners and operators to optimize building performance, creating lasting savings and transforming the market from the inside-out.

Appendix A. Estimating the Employment Effects of Energy Efficiency Programs

Methodology

Investment in energy efficiency programs results in direct, indirect and induced employment increases in energy efficiency and related fields during the program life and thereafter. Examples of direct jobs include program staff and contractors required for measure installation. Indirect jobs include manufacturing and service positions that supply technologies rebated and installed by programs, and induced jobs result when the utility bill savings that accrue to participants are either saved or spent.

Forecasts of employment effects vary widely based on program designs and employment model framework and input assumptions. As a result, it is prudent to consider a range of potential job impacts for planning purposes. The methodology used herein centers on four studies. The first study developed comparatively conservative estimates for total (direct, plus indirect and induced) job impacts (ACEEE, 2008)[11] ~ around 5 jobs per million dollars in energy efficiency spending. The second study developed moderate estimates for direct and indirect job impacts (Bezdek, 2007)[12] ~ 8 jobs per million. A third study developed larger impacts ~ around 20 jobs per million, which includes induced job effects in addition to direct and indirect effects (PERI, 2008)[13]. A fourth study, published by the International Monetary Fund (IMF) in 2002[14], is a meta-study of 16 empirical macroeconomic models that each estimated induced economic effects of various Federal monetary policies. The output of these types of models are economic multipliers, i.e. for every dollar of Federal expenditure, how many induced dollars are "created" in the economy? These multipliers were used to calculate a range of induced job estimates resulting from energy efficiency funding, based on the direct and indirect job estimates published by Bezdek and PERI.[15]

Using this methodology, the range of job creation estimates shown in Column G below was developed. The actual, published ACEEE, Bezdek and PERI estimates are on rows 1, 2 and 5, respectively. The remaining estimates use the non-induced Bezdek and PERI job numbers (Column D), times a multiplier (Column E) to estimate induced jobs (Column F); the total jobs estimate is then the sum of Column D and Column F.

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[11] Ehrhardt-Martinez, Karen, and Laitner, John A., "The Size of the U.S. Energy Efficiency Market: Generating a More Complete Picture," American Council for an Energy-Efficiency Economy, Report #E083, May 2008.

[12] Bezdek, Roger, "Renewable Energy and Energy Efficiency: Economic Drivers for the 21st Century," Management Information Services, Inc., for American Solar Energy Society, 2007.

[13] Pollin, Robert et al., "Green Recovery: A Program to Create Good Jobs and Start Building a Low-Carbon Economy," Department of Economic and Political Economy Research Institute, University of Massachusetts-Amherst (Prepared under commission with the Center for American Progress), September 2008.

[14] Hemming, Richard et al., "The Effectiveness of Fiscal Policy in Stimulating Economic Activity-A Review of the Literature," International Monetary Fund, WP/02/08, December 2002.

[15] The authors of the PERI report consulted the IMF meta-study and opted to use a multiplier of 0.3, which they considered relatively conservative.

Table 1: Employment effect estimates

	A	B	C	D	E	F	G
	Estimate	Direct Jobs/$M	Indirect + Induced Jobs/$M	B + C	IMF Induced Effects Multipler	Induced Jobs/$M	Total Jobs/$M
1	ACEEE	3.8	1.6	5.4	NA	NA	5.4
			Indirect Jobs/$M				
2	Bezdak (published)	3.8	4.9	8.6	NA	NA	8.6
3	Bezdak + Induced	3.8	4.9'	8.6	0.3	2.6	11.2
4	PERI, low	9.4	5.9	15.2	0.1	1.5	16.7
5	PERI, mid (published)	9.4	5.9	15.2	0.3	5.0	20.2
6	PERI, high	9.4	5.9	15.2	0.6	9.1	24.3

A value of 0.1 was used as the "low" multiplier because this was the lowest published value in the IMF meta-study. A value of 0.6 was used as the "high" multiplier (the 25th percentile amongst all the values published in the meta-study; that is, 75% of the multiplier estimates were higher than 0.6) to be conservative and not overestimate the employment effects of SEP dollars. By way of reference, the median and average multiplier values were both 0.9 and the highest value was 2.0.

Application to Programs

The programs in this guide vary considerably in size (budget), scalability, target market and delivery mechanism. As a result, the number of jobs created by each program will also vary considerably. Some programs require people with advanced engineering or building science backgrounds (Custom, Persistence Commissioning), while others require people with trade skills to whom the program will provide additional training (HPwES). Below, we illustrate how different job estimates were developed for two programs in the portfolio.

- **HPwES**. Given the relative fragmentation of the home contracting industry and the comparatively small size of each job, Home Performance with ENERGY STAR is a training and labor intensive program. It therefore results in a comparatively large number of jobs created, on average between the "PERI, low" and "PERI, high," we estimate approximately 25 jobs/$M in the first year, trailing to 18 jobs/$M by the end of the third year.
- **Retrocommissioning.** An RCx program requires expertise in building commissioning; these jobs require a higher skill level and pay than is required for some programs. They therefore result in a comparatively low number of jobs created; on average between "ACEEE" and the "PERI, low" estimate, or about 15 jobs/$M in the first year, trailing to about 5 jobs/$M by the end of third year.

Because of the considerable uncertainty around any job creation estimate, we used the values in the table above as guideposts, not rules, for estimating the employment effects of each program as illustrated in the table below.

Table 2: Recommend ranges of employment effects

		Jobs/$M Estimate	
Average job type required by program	**Example**	**Low**	**High**
Skilled trade	HVAC contractor or Home Performance contractor	8.6	24.3
Advanced technical or managerial	Commissioning provider or On-site Energy Manager	5.4	16.7

Finally, the table below shows the range of job impacts developed for each program in the program snapshots.

Table 3: Employment effect assumptions, RDEE Program Snapshots

	Program	Jobs/$M, Low	Jobs/$M, High
Residential	ENERGY STAR Products	8	10
	Easy Audit and Direct Install	18	25
	HPwES	18	25
	Efficient AC	11	20
C&I	Prescriptive	8	11
	Custom	15	18
	Retrocommissioning	11	15
	Persistence Commissioning	11	15
	On-Site Energy Manager	5	11
	Commerical Food Service	6	8

The County of Yuba

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May 8, 2009

Mr. Pat Perez
Assistant Executive Director
California Energy Commission - EECBG
1516 Ninth Street
Sacramento, California 95814-5512

Re: Yuba County's Agency Response to American Recovery and Reinvestment Act (ARRA) Energy Efficiency - Conservation Block Grant (EECBG) Workshops

Dear Mr. John Sugar:

Yuba County appreciates this opportunity to respond to your recent workshop regarding the American Recovery and Reinvestment Act (ARRA) Energy Efficiency - Conservation Block Grant (EECBG) program. As you know, the EECBG program is part of the Energy Independence and Security Act of 2007 and specifically includes strategies to reduce fossil fuel consumption and improve energy efficiency in transportation. Projects we feel may be eligible include:

- Roundabout Planning Studies (General Plan level policy documents)
- Roundabout Design/Construction
- Traffic Signal Coordination
- LED Signal and Lighting Upgrades
- Intersection improvements to enhance traffic flows
- Bike lanes/paths to encourage alternative travel modes
- Transportation/land use modeling to reduce overall VMT and GHG emissions

However, based upon the information we received that was presented at the May 4th workshop we are concerned that these potentially eligible projects may not be considered for funding under the small Cities and Counties portion of this program. In your workshop presentation you mentioned that transportation related project would be receiving stimulus money through other programs, and as such are not the focus of spending under the small Cities and Counties portion of the EECBG program. We strongly disagree with this statement.

We encourage you to include transportation related energy saving projects in the eligible list of projects available to small Cities and Counties, similar to the large Cities and Counties program. We believe that the planning, design and/or construction of modern roundabouts is perfect use of these funds, and matches the intent of the program (ie., reducing fossil fuel consumption and improving energy efficiency in transportation). Not only do roundabouts result in energy savings (up to 60% fuel savings vs. traditional intersections), they reduce vehicle emissions, increase capacity, reduce delay and significantly improve overall safety (especially fatal accidents).

Sincerely yours,

Van A. Boeck

Van A. Boeck, Principal Engineer
Yuba County Public Works
(530) 749-5420

ICLEI Resource Guide

Revolving Energy Fund

Winter 2008

Generously Funded by the Kendall Foundation as a Product of the New England Cities Project

Table of Contents

Introduction

A revolving energy fund is a sum of money dedicated to energy efficiency, clean energy, or other energy reduction measures, that is loaned out to qualified applicants. Money borrowed from the fund is replenished via loan and interest (if relevant) repayments for a predetermined set of time. Revolving energy funds (REFs) can be structured in a variety of ways with an array of overarching objectives. Regardless of their structure, REFs provide a unique opportunity for municipalities to guarantee a continual stream of funds for energy efficiency, conservation, and clean energy work without tapping into existing capital cycles.

This Resource Guide strives to provide municipalities with key information necessary to determine if creating a revolving energy fund (REF) is appropriate for their jurisdiction. This Guide contains valuable information regarding what a REF is, various ways that REFs can be structured and funded, and obstacles to avoid when creating a REF. The Guide serves as a comprehensive companion both for those interested in learning more about REFs and those ready to begin designing a municipal or community REF.

The structure of the Guide follows a common REF implementation trajectory – beginning with an overview of what a REF is and ending with information on how to verify and monitor the results of REF financed projects. Wherever possible, the Guide makes an effort to highlight specific examples from existing REFs currently in operation. We recognize that not every section and point identified within the Guide will be relevant to all jurisdictions. As such, the Guide was written so that sections can be read in isolation. However, we recommend that those not familiar with REFs view the Guide in order.

Chapter Overviews

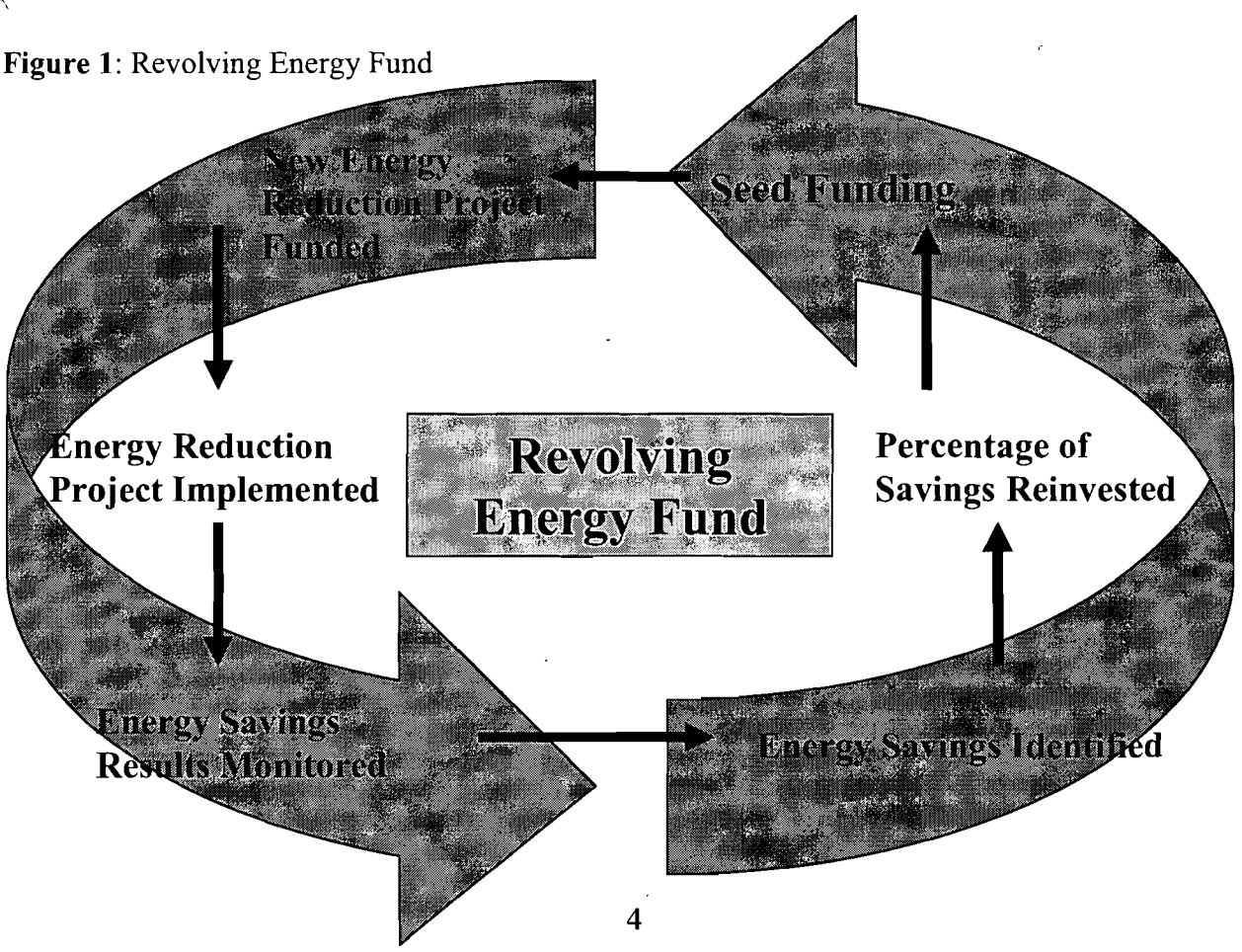
Section I

Overview of a Revolving Energy Fund

A revolving loan fund is a pool of money designated for a specific purpose that is loaned out to qualified applicants. The fund is replenished via loan and interest repayments (if relevant) for a predetermined set of time – known as the payback period or repayment period. The revolving fund model has been utilized in a variety of areas, such as community development, business enhancement, environmental conservation and restoration, and energy efficiency. Revolving funds are often set up to support projects that require seed money initially, but will generate additional revenues over time.

A revolving energy fund (REF) is an example of a revolving loan fund that is specifically focused on funding energy efficiency, clean energy, or energy reduction measures – projects that are able to reduce operating costs and energy consumption. It is up to the REF creators to determine who and what types of projects will be financed by the REF, based upon the identified goals and objectives of the Fund. As soon as a loan recipient has been identified, terms are established regarding the loan amount and the timeframe for repayment – including interest rate if applicable. Once projects are implemented, energy and cost savings are monitored for a pre- and post- implementation comparison. A percentage of these savings, as identified in the loan terms, are repaid by the loan recipient to the REF operators, and then reinvested into the fund. This process enables the REF to become a self-sustaining source of funding, creating a cycle whereby monies are constantly replenished by the repayment of old projects, allowing new loans to be given (Figure 1).

Figure 1: Revolving Energy Fund



The specific nuances of a REF can vary depending on the needs of the municipality as well as the identified goals and objectives of the REF. For example, it will be up to the discretion of the municipality whether to apply interest rates to loans, allowing the REF to grow, or whether repayments will be exactly equal to the initial loan amount, creating a cap on the REF. Another very important consideration when creating a REF is whether you will require cost and energy savings to be determined based on estimated savings or based on monitored savings. This particular issue is explored in further detail in Section VII.

Determining the appropriate grantees is another important consideration when developing a REF. A REF can be designed to support municipal operations only, community operations, private entities, or some combination thereof. Determining which strategy works best for your municipality will depend upon the identified goals and objectives of your fund. Section IV of the Guide delves deeper into this topic and other components you should begin considering as you start structuring your REF.

Best Practices

Toronto, Canada

In Toronto, their revolving energy fund, known as the Toronto Atmospheric Fund, provides loans to all interested parties in the Toronto community, including municipal agencies, private businesses, school districts, and private residents.

Ann Arbor, Michigan

In contrast to the community-level REF approach, Ann Arbor's municipal energy fund provides financing only for operations in municipal departments.

As demonstrated within this Guide, establishing a revolving energy fund is a great way for a municipality or community to begin implementing small-scale energy efficiency measures. Creating a REF also provides an opportunity to lay the foundation for the establishment of large scale energy efficiency projects. This strategy has recently been highlighted given the creation of the Cambridge Energy Alliance – an effort by the City of Cambridge, Massachusetts, to reduce greenhouse gas emissions and energy use through a large scale, community-wide efficiency initiative. While the Cambridge Energy Alliance is still in the pilot phase, local governments interested in embracing a similar large scale energy efficiency project can use REFs to begin their energy efficiency efforts, eventually utilizing the expertise they have gained to bolster their REF into a much larger energy efficiency initiative. This concept is explored further in Section VI.

Section II

Defining the Goals and Objectives of Revolving Energy Funds

Once you have determined that your municipality would like to move forward with the creation of a REF, the first step is the identification of goals and objectives for your fund. By identifying the purpose of your REF early, you will be able to strategically structure your REF to support projects that align with your mission and reduce the possibility that your REF will be used for alternative purposes.

As you begin thinking about the specific goals and objectives for your REF, it is important to consider some broad, overarching concepts such as the focus and the scope of your REF. Consideration should be given to whether you want your REF to be focused on achieving one specific objective, or if you want a broad focus that encourages innovation. You should also consider whether your target funding audience is the entire community or municipal operations. Below is a short description of the benefits associated with narrow and broad focuses and with community and municipal audiences. Take time to consider which of these options more closely aligns with the needs of your respective community.

Narrow Focus:

1. Achieves measurable progress toward objectives *or* completely accomplishes the objective over set period of time
2. Prevents use of REF that is outside intended objectives or supplants funding that is normally provided from another source
3. Limits resources needed to administer REF by soliciting an appropriate number and diversity of applications

Broad Focus:

1. Allows for innovative projects or approaches that match REF objectives
2. Improves project quality by soliciting a wider variety of applicants
3. Provides for long-term use of REF in the future even if primary goals have been reached

Community Focus:

1. Allows for community-wide results in achieving energy efficiency
2. Allows for municipal and community projects to be implemented in tandem, allowing exchange of best practices

Municipal Focus:

1. Allows municipality to demonstrate its leadership and commitment to energy efficiency and environmental initiatives
2. Reduces the amount of resources, both capital and man hours, that are needed to manage the REF

Objective: Why Are You Creating a REF?

Now that you have thought through the focus and target audience for your REF, and before moving forward with its creation, it is important to identify *why* your municipality wants to create a REF. Why is a REF the right step for your community and what, more generally, are you striving to achieve with a REF? To help identify these pointers, consider hosting stakeholder dialogues to help flush out both the appropriate goals and the objectives for your REF. To help guide you through this process, below are some (common) objectives for existing REFs:

- To facilitate energy management and/or energy retrofits
- To demonstrate a municipality's commitment to environmental stewardship and/or energy conservation
- To internalize energy conservation into existing operations
- To make operations more resilient to rising energy costs
- To help finance the installation of energy savings measures
- To promote the implementation of innovative environmental projects
- To promote the use of and further promote renewable resources
- To reduce operating expenses by installing more energy efficient measures

Goals: What Do You Want Your REF to Accomplish?

Once you have identified the objective(s) of your REF, it is important to begin identifying *what* you want your REF to accomplish. In other words, you need to identify the goals of your REF. Do you want to achieve a set cost savings? Is the REF meant to assist in attainment of your Climate Action Plan? If so, do you have a specific emissions reduction or energy saving goal? Are you concerned with institutionalizing climate and sustainability work into your various municipal departments? Or perhaps this REF is viewed as an opportunity to engage and educate the community about the benefits associated with energy efficiency. Whatever your goals are, it is important to identify them early in the REFs creation in order to avoid misuse of REF monies.

Below are a few of the most commonly identified goals for REFs. Use this list to help facilitate your stakeholder discussions on appropriate goals for your community or municipal REF.

- Achieve a predetermined level of costs savings
- Achieve a predetermined level of energy savings
- Achieve a predetermined reduction of eCO2 emissions
- Build to predetermined financial level (i.e. cap at $500,000)
- Use REF to finance innovative projects that would traditionally be unfunded
- Obtain a predetermined level of Department Head buy-in
- Fund a predetermined level of projects from all municipally run Departments
- Use the REF to educate the public about energy and climate
- Use the REF to educate municipal employees about energy and climate
- Use the REF to help institutionalize climate and energy work into existing Departments

Having your objectives and goals predetermined will help you as you move forward with obtaining seed money for and begin structuring your REF.

Section III

Identifying Seed Money for REF

While the idea of a self-perpetuating energy fund may be appealing, initial financing for the fund can prove to be a significant hurdle. Experience has shown, however, that this hurdle can be overcome through a combination of both creative and traditional financing structures. From existing REFs, we know that unique financial opportunities in municipalities are one of the most common ways REF capital is obtained. Many existing REFs have capitalized on opportunities such as a budget surplus, cost reductions from competitive bidding on energy-related products or services, or already achieved energy savings from existing efficiency projects as the initial seed capital for their REFs. Other REFs are funded through direct allocation of internal municipal funds thanks to a prioritization of sustainability within the municipality. We also know that most existing REFs use a combination of funding sources and grow the fund through annual investments over a period of time.

It is also important to remember that the success of your REF is not directly proportional to your initial seed money. This is epitomized in the REF currently in operation in Phoenix, Arizona, which was established with a small pot of start-up capital, and now achieves annual energy savings of over $1 million[1]. Success stories like this emphasize why a municipality should not be frustrated if an REF starts with a smaller pool of money than originally envisioned. By identifying focused goals and objectives and structuring your REF to allow for future growth, you can still ensure creation of a successful REF no matter how much start up capital you begin with.

To help you identify opportunities for seed financing, the remainder of this section explores existing REF funding mechanisms. The ideas listed below should be viewed as possible starting points for REF financing, and not as an exhaustive list of possible financing sources.

Budget-Related Options

Budgeting new funds

The simplest and most direct method of creating a REF is to allocate funds through your annual budget. This approach may also be the most difficult to implement, especially where available funds or political will are limited. However, discretionary funds or an unexpected budget surplus may provide a unique opportunity for financing a REF.

Best Practices

Nashua, NH

The City of Nashua, New Hampshire, was able to create their Fund with a $20,000 surplus due to energy savings from a lighting conversion.

Newcastle & Rockingham, Australia

The City of Newcastle, Australia, set up a REF using $300,000 from the Council's reserve fund. Similarly, the City of Rockingham, Australia, created their REF and allocated an annual contribution of $10,000 as part of a five-year strategic budgetary planning process.

[1] ICLEI – Best Municipal Practices for Energy Efficiency – see case study on Newcastle, Australia, http://ccp.iclei.org/ruralvic/pdf/REF.pdf

Maintaining an expired budget line item

Limited-term budget items, such as municipal bond payments, have a natural end point and provide a great opportunity for establishing a REF. Because a large cost has been incorporated into the municipal budget for a number of years, it is often easier to maintain that budget line after the expense has been fully paid than it would have been to budget funds where no expense previously existed.

Best Practices

Ann Arbor, MI

Ann Arbor, Michigan, created their REF by maintaining repayment for a recently repaid bond in their operating budget. The amount retained in the budget was only 50% of the original repayments but still provided $100,000 a year for the REF, for a five year period. This allowed Ann Arbor to create a Fund with seed capital of $500,000 without making drastic alterations to their municipal budget.

Falmouth, ME

Starting in fiscal year 2007-2008, the Town of Falmouth allocated $50,000, extra capital from defunct accounts, to a special reserved account to be used explicitly for financing energy efficiency and other energy saving measures. The reserved account is structured to run through the Town's Capital Improvement Process and decision about funding are made by an internal energy committee consisting of the Town Manager, Sustainability Coordinator, Facilities, Purchasing, and Fire Departments. Allocated funds to date have helped finance boiler upgrades, the Town's first hybrid, lighting changes, and part of the Sustainability Coordinator's salary. All grantees that have quantifiable savings associated with proposed measures, are required to repay their loan amount back to the fund.

Capitalizing on existing energy savings and other cost reductions

Existing efficiency projects provide an instant opportunity to finance an REF. Instead of reducing the appropriate budget item after an energy efficiency project is completed, municipalities can channel a portion of the savings into a REF to help fund additional projects.

Another option for the financing of REFs involves reducing traditional budget line items. For example, in a low snow fall year, the Department of Public Works may have excess funds due to decreased snow removal costs. In this case, the DPW could allocate the excess monies in their budget to the REF. When using this option, it is important to ensure that the DPW's budget for the next fiscal year is not cut as a reflection of this years' low snow plow operating costs.

Cost Reductions from Competitive Bidding

Changes in market factors, energy regulation, or procurement can often provide opportunities for saving money on energy-related expenditures. These changes traditionally provide costs savings to municipalities, but also afford an opportunity to create an REF. This can be done by maintaining the existing budget level for the service in question for a period of time and using the cost reduction to establish a REF. Some municipalities have used this strategy to create REFs in the wake of public utility decoupling - where consumers are given the option to purchase gas or electricity from a provider other than the local distribution company. Several Australian municipalities, including Manly Council and the City of Moreland, created REFs between 1999 and 2001 when contestability had temporarily lowered electricity costs.

Private Foundations & Government Grants

Private foundations and government grants can be a great source of initial seed capital for your REF. The most common obstacles to overcome with obtaining this type of funding include fierce competition and the tendency

for very specific requirements on how grants can be used. Most grants require that the capital awarded be used for one of a number of specific projects, and few allow funds to be recycled into a REF. You may be able to overcome this obstacle by meeting with the institution or foundation in question and explaining how a REF will ultimately accomplish the goals of the grant program by financing *multiple* projects that meet their objectives.

If you are seeking government grants, one possible way to implement specific projects and to create seed capital for your REF is to use the grant to invest in energy efficiency measures and use the cost savings accrued as a result of those measures as the seed money needed to start your REF. This long-term impact from a single grant may even be a winning feature of your application. Note that this approach will ultimately delay the full development of the REF as other loans cannot be made until the initial project is completed and begins yielding energy saving revenues.

Bonds

Most municipalities are familiar with and utilize bonds as a way to finance components of their operations. One possible funding option for your REF is to issue a bond, especially where low- or no-interest energy conservation bond financing is available. If you choose to do this, however, you need to ensure that you structure your REF to include an interest rate and/or repayment structure that will both pay the bond interest and generate enough additional funding to continue and/or grow your REF. The risk of using bonds for seed capital for your REF is that even an average interest rate can cause significant erosion of REF monies as loan repayments will often be paying interest rather than replenishing principal. This risk is especially high if repayments are based on actual energy savings and projects fall short of expectations.

This option should be carefully considered in the context of your REFs timeframe. If your REF will be in operation for the same time period as the Bond, applying an interest rate comparable to the Bond rate will cover all expenses. However, if you want your REF to continue in operation after the Bond has been repaid, you will need to find additional seed monies and/or apply a larger interest rate than the Bond rate to allow the growth of the REF, ensuring capital for future loans. The latter option may lead to larger interest rates than the national average which will decrease participation and significantly hurt your REFs chances of success.

Utility Surcharge and/or Rate Increase

If a municipality has the authority, levying a utility surcharge can provide a quick and easy means of providing substantial funding for a REF. The utility can also directly institute a small rate increase, with the incremental cost difference being deposited into the REF. These two approaches are most common in situations where the utility is municipally owned and operated. The size of the surcharge can vary depending on the target REF size, but traditionally it's less than one cent per kilowatt hour. In Oslo, Norway, an energy efficiency fund grew substantially due to a US dollar equivalent of .01¢ / kilowatt hour surcharge by the electrical utility.

This approach, however, can be controversial or politically unappealing depending on the size of the surcharge. Any effort that places additional cost on the public is challenging to institute without creating tension. If you choose to move forward with this funding mechanism, it will be critical to hold open forums to discuss with utility users why this method is being adopted and what benefit the REF can have for stakeholder's daily lives. Additionally, this type of funding most commonly accompanies a community-wide REF as opposed to a municipally focused fund.

Sale of Unused Municipal Assets

Some municipalities find themselves with excess assets that they are looking to liquidate. In these circumstances, sale of the unused or unneeded assets can provide the start up capital for a REF. Unused assets

include land, vehicles, and other equipment that are either not needed or are in need of being replaced. This approach was used in the city of Toronto where the Toronto Atmospheric Fund was created after a surplus of city property was sold. The resulting C$23 million was placed directly into the Fund, providing the one-time financial contribution necessary to begin Fund operations.

Regional Greenhouse Gas Initiative Allowances

For those municipalities residing in the Northeast, the creation of the Regional Greenhouse Gas Initiative (RGGI) has the potential to create economic opportunities for the financing of REFs. Most states have indicated they will auction their emissions allocations to utilities. These auctions will generate a substantial amount of revenue for States, providing a pool of money that could easily be reinvested in energy efficiency efforts. To ensure that a portion of these monies are available for municipalities, you should begin dialogue with your State legislators, encouraging them to consider creating grants for municipalities to establish REFs.

Municipal Lease Purchase Agreements

A municipal lease purchase agreement is an installment purchase contract used to finance the purchase of property for a governmental unit. This agreement is a short-term obligation of three to seven years and usually calls for level payments of principal and interest at a fixed interval (monthly, quarterly, semi-annually, or annually). During the term of the lease, the municipality holds the title to the leased equipment while the lessor holds the security interest. Municipal lease purchase agreements may be an alternative way to finance specific projects or acquisitions or be used in tandem with over financing options to establish seed financing for a REF.

Hiring of Energy/Sustainability Officer

One unique strategy that could be employed to create a REF would be the hiring of an energy and/or sustainability officer. This individual would then be responsible for undertaking energy efficiency efforts that create energy savings equal to or above their total salary, thereby ensuring their position is financed for the future year. If they achieve savings above their salary, excess monies can be placed into a municipal REF and used to finance future initiatives.

Partnerships with Financial Institutions

Opportunities to obtain seed financing for a REF may be available through a partnership with a financial institution. The two most common ways that municipalities can partner with a private financial institution are by applying for direct loans or using energy bank programs.

Direct Loans

Direct loans are often the least advisable of all funding choices as interest rates are traditionally higher than the other options and most municipalities are hesitant to take on any additional debt. The important thing to remember about applying for a loan directly is that you will need to require that all REF applicants pay an interest rate on their loans equal to or greater than the interest rate you are being charged from the bank. This creates a situation where REF applicants are paying equal to or more interest for your loan than they would if they went directly to the private lender, therefore providing a disincentive to use the REF.

Energy Bank Programs

Energy Bank programs are situations where a regional lending institution provides a pool of capital for energy retrofits. Individual schools, hospitals, and local government facilities repay the bank through a flexible lease

Best Practices

The State of Iowa created the School Energy Bank to make loans to state and municipal facilities, with structured repayment schedules that align with estimated energy savings.

purchase agreement.

Identifying Other Funding Opportunities

Other funding opportunities may be more applicable to your community than the aforementioned options. The three identified funding strategies highlighted in this section include direct financing from capital budgets, use of oil overcharge funds, and the sale of carbon offsets. There may be additional opportunities for funding that are unique to your community and a conversation with your budget office may identify options that may be more appropriate for your REF.

Direct Financing from Capital Budget

For some municipalities, energy efficiency has been a long-term priority. If this is the case, it may be possible to obtain seed financing for your REF directly by appealing to your City Council or Board of Alderman. Even if your municipality does not have a long-term commitment to energy efficiency or environmental initiatives, you may find that enough interest exists in this idea for a pot of money to be allocated for creation of your REF.

Oil Overcharge Funds

A number of state and a few municipal REFs were set up using funds allocated by the federal Department of Energy as a result of federal court action requiring certain oil producers to pay restitution for violation of federal oil price and allocation controls that occurred between 1973 and 1981. While the deadline for filing claims and obtaining refunds has passed, individual states may have set up programs using their portion of the funds that could benefit your municipality. You may want to contact your state representatives or state energy offices to see if any of these monies are still in circulation and if so, what you can do to obtain them.

Selling Carbon Offsets

One of the newest ways to raise funds is to monetize the greenhouse gas emissions reductions that you have saved as a result of implementing energy efficiency measures, and selling them as carbon offsets. This innovative approach has yet to be completely formulated, but if you are interested in exploring this option, consider teaming up with a known carbon offset program such as the Chicago Climate Exchange, Ecosecurities, or Natsource. The benefit of a scheme such as this is that it allows for constant growth of REF monies while providing a continual incentive for embracing energy efficiency measures.

Alternatives to Creating a REF

Funding options other than a REF may be more appropriate for your municipality depending on the quantity and nature of the projects you are interested in implementing. Below is a list of alternative funding options to consider in lieu of creating a REF.

Energy Service Contractor

Energy Service Contractors, or ESCOs, are contractors that provide an energy audit of existing operations in an attempt to identify areas where significant energy savings may be obtained. ESCOs then offer to finance the identified energy upgrades on a contract basis with the stipulation that the money spent on the upgrades will be repaid through the resulting savings. The benefit of using an energy service contractor is that no upfront monies are necessary to undertake the projects. However, ESCOs typically limit their focus to buildings and absorb much or all of the initial financial savings until the terms of their repayment are met. In comparison, a REF provides greater flexibility and immediate energy savings for the municipality, and depending on the design of the repayment process, may offer immediate cost savings for the project implementer.

Grants for specific projects

If your municipality has a specific project that you are keen on implementing, it may be most beneficial to directly seek grants specific to your needs. Grants are a great way to finance individual projects, whether they are large or small scale. However, if your municipality or community is interested in moving forward with an array of projects, a REF will provide greater flexibility and opportunities.

Loans / Bonds

If your municipality has identified a specific project that you want to implement, but have not been able to identify grant opportunities for financing, you may want to consider financing it with a loan or a municipal bond. The largest obstacle to loan or bond financing for energy efficiency projects is that the associated interest costs will negate much of the energy savings benefits. If your community has multiple energy efficiency projects planned, a REF will provide opportunities to fund these projects while retaining much of the energy savings.

Section IV

Structure of REF

After identifying the best sources of seed money for your REF, it is time to think about the structure for your fund. For some municipalities it will be appropriate to define the structure of the REF while simultaneously securing seed funding. For others, seed funding will be obtained prior to determining the specifics of the REF. Regardless of which path you follow, the information below should help you in thinking through the nuances of establishing your REF.

It is important to note that some of the items mentioned below may not be relevant for your REF. However, please take care to review those sections which are applicable to your jurisdiction's needs.

Who is Your Target Grantee

The first thing to consider is who is your target grantee? This topic was briefly touched upon in Section II but is further elaborated upon here. The two most common grantees/audiences for REFs are municipal departments or the entire community. Having identified the goals and objectives for your REF and the source of seed money, you should now be in a better position to make a final decision on your ideal audience.

Municipally Focused

Creating a REF that is focused on municipal departments can have a number of benefits over creating a community-wide fund. A municipally-oriented REF traditionally requires less seed money than a community-wide fund and is less challenging to manage. A municipally-focused REF allows the municipality to demonstrate its leadership and commitment to energy efficiency and can eventually be scaled up into a community-level fund.

However, if you decide to create a municipally-oriented REF, you need to identify whether you are interested in opening funding to all departments within the city/town operations, or if you would rather target specific departments. In certain cases, there may be priority departments that you want to direct funding towards, such as your school department or department of public works. If this is the case, you REF can be structured to provide support solely or largely for projects in identified focal areas.

Determining whether or not your municipally focused REF is open to all departments or to specific focal departments should be a decision made by invested stakeholders. In considering which option is best for you, ICLEI's Clean Air and Climate Protection Software (CACPS) can help you identify which departments have the highest emissions and energy expenditures. If a disproportionate amount of energy is being consumed inefficiently in a number of departments, it may be in your city or town's best interest to target a portion or all of REF funding towards projects in those departments. On the other hand, leaving funding available to all departments allows room for innovation and provides an opportunity for department leadership on energy efficiency.

Community Focused

Community REFs are great for jurisdictions that have an engaged citizenry and have identified a number of projects they are interested in implementing. Community-level REFs provide the unique opportunity to bring all or a number of local groups into the city/town's energy efficiency work. From ICLEI's experience, municipal

operations traditionally account for 1-7% of total community-wide emissions. Therefore, an effort to engage energy efficiency work at the community-level would likely lead to larger overall emissions reductions. However, community-level REFs often need substantially more initial seed funding than municipally-operated funds. They can also be slightly more complicated to construct than municipally-focused REFs and require substantially more overall management as well as stakeholder dialogue throughout their creation and implementation.

If your jurisdiction chooses to proceed with a REF that has a community-level focus, you will need to identify whether your REF will be open to all interested community members or if there is a subsection within the community that you are most interested in targeting. For example, a community-level fund can work with local schools, businesses, churches, the local government, and private citizens. However, your jurisdiction may find that you are not ready to work with all identified stakeholders and would instead initially target your REF towards a limited number or a subsection of the aforementioned groups. Knowing your stakeholders and the level of climate and sustainability work already underway in your community is a great way to gauge who your community-level REF should target for financing.

Legal Holder of REF

After you have identified your target audience, the next thing to consider is who will be the legal operator of your REF. There are various options to consider as well as various levels of ownership that the fund operator can retain. Utilizing a private institution, creating a new entity, or embedding your REF in municipal operations are the three most common ways that REFs are structured. Each option has associated pros and cons and may be more appropriate depending on whether your REF is community or municipally focused. Below are short descriptions of the 3 most common REF structures, followed by a section on REF management.

Municipally Operated

Most REFs that are municipally-focused will be managed by city/town administration. In cases such as this, an existing energy manager, sustainability officer, or environmental official often takes responsibility for managing the day to day operations of the REF. These primary managers are frequently supported by a REF Managerial team or Operating Board, who assist in identifying projects worthy of receiving REF monies.

If a municipality is interested in having their REF operate internally but is constrained by staffing needs, one option is to have different components of the REF handled by different departments. For example, someone in the environmental department can be responsible for accepting all REF applications while all billing and financial components are handled via the billing office. The benefit of having the billing office participate in management of the REF is that they can ensure that timely invoicing and payments are sent and received. They can also assist in creating a separate account for REF monies and help departments with budgeting issues, ensuring that REF monies and repayments are structured so that no department is financially penalized by budget reductions due to implementation of REF financed energy reduction measures.

Another option to consider if a municipality is constrained by staffing obstacles is to utilize initial REF monies to hire an energy and/or sustainability coordinator. This individual would then be responsible for identifying and implementing energy efficiency measures throughout the jurisdiction in order to save enough money to finance their salary. Any additional monies generated by the individual could go directly into the REF account, allowing the REF to increase while also financing the energy and/or sustainability manager who would ultimately be responsible for REF management.

Private Institution

Depending on the size or your seed funding and the scope of your audience, a bank or other formal institution may be the most logical holder and distributor of REF monies. If this is the most appropriate path for your REF, it is critical that you begin dialogue with your financial institution early in the REF creation and structuring

process. Private institutions are often strong choices if your REF is going to be community-focused, particularly if you are interested in approving loans from the private sector and the public. The disadvantage of this approach is that very little to no ownership of the REF is retained by the municipality, leading to the possibility of low-risk loans being approved more frequently than high quality, higher-risk loans.

Economic Development Corporations

An economic development corporation is an organization, normally a non-profit, whose mission is to promote economic development within a specific geographical area. If you have an economic development corporation in your jurisdiction, they may be a logical entity to legally house your REF, especially if it has a community-wide focus.

Create New Entity

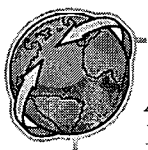
Another option is for the REF to be legally held and operated by a newly established corporation or non-profit. This is the strategy embraced by the Cambridge Energy Alliance – a massive energy efficiency project that seeks to reduce energy consumption in Cambridge, Massachusetts by 15% community-wide. The benefit of establishing a separate entity is that it can remove political barriers and operate outside of traditional municipal operations. A major obstacle, however, is that enormous time and resources need to be invested in the new entity to ensure that staff are properly trained to not only manage REF monies, but advertise REF projects, find appropriate projects for funding, and educate necessary stakeholders about the benefit of the REF.

REF Management

When deciding who or what entity will be the legal holder of your REF, it is also important to consider whether or not this entity will have authority over REF management. If you choose to have the legal operator serve as a stakeholder in determining fund allocation, you need to consider whether or not they are the sole REF manager or whether you want fund management to be the responsibility of a number of individuals. As you begin contemplating these questions, you should also start asking what authority you want your fund managerial committee to have. Most managerial committees have control over project approval and REF allocations as well as determining the appropriate payback periods. If you are structuring your REF in a way that makes the aforementioned responsibilities inappropriate for your managerial committee you will want to decide who should hold authority for making these decisions.

Fund Manager

From existing REFs, we know that having a dedicated individual responsible for supporting and coordinating fund operations drastically increases the REFs chances of success. In many cases this person becomes the "Fund Manager" and is supported by a team of individuals who assist in making decisions regarding the allocation of REF monies. In this strategy, a diverse array of stakeholders come together during application approval to determine which projects are most appropriate given the overall goals and objectives of the REF. The stakeholders may also retain some responsibility for encouraging REF applications, but the daily operations, such as monitoring REF monies, advertising the REF application period, verifying results, and report writing will be the responsibility of the "Fund Manager".



Best Practices

Ann Arbor, MI

In Ann Arbor, Michigan the REF is administered by the City's Energy Office, which is responsible for collecting and tracking applications (among other things) and relaying them to a three-person board which is responsible for reviewing applications and making final decisions on which projects to finance.

Designating a 'fund manager" is beneficial regardless of whether your REF is municipally- or community-focused. Depending on the size and overall structure of your REF, you may find that daily support and

coordination for your REF is a full-time job, requiring the acquisition of a new employee. However, for many REFs, the daily support of fund operations is taken on by existing employees, and factored in as part of their daily work-plans.

Stakeholder Managerial Group

The composition of the stakeholder-managerial groups can range in size from three individuals, as in Ann Arbor, to a small group of five to seven individuals, to a large committee of municipal department heads. Who the key stakeholders are depends on the target audience of your REF. Regardless of whether your REF is oriented towards municipal or community operations, experience has shown that managerial groups should be kept small enough to have the ability to generate consensus but large enough to have appropriate buy-in.

For municipally operated and oriented REFs, it is important to have representation from a variety of departments. Choosing which departments should serve on the committee depends on the specific political dynamics in your jurisdiction, but whomever and however they are chosen, it should be done in an unbiased manner to avoid affecting the REF approval process. One way to balance out the REF managerial committee is to have representation from someone outside of municipal operations. If your community has a climate or sustainability group, asking a representative to serve on the managerial board can help alleviate internal political obstacles.

If you are creating a community-focused REF, you will want to make sure that your managerial committee has representation from the major community stakeholders. Before creating your managerial board, however, you should refer to your decision on target audience. If your REF has a large focus on the private sector, it is important to have individuals on the managerial board that understand private sector operations and constraints. If your REF is open to all community members, you should consider having a diverse managerial board with representation from all major sectors. Included in this list should be someone from municipal operations, someone from the school department, someone from the private sector, and someone from a community-led organization. Additional members could include someone from your local or regional utility, someone from the faith based community, and/or someone from a development agency.

Regardless of whether your REF is municipally – or community – focused, experience has shown that successful REFs operate at a distance from politics. This important point highlights the necessity of creating a REF managerial committee that is aligned with the goals and the objectives of your REF, and one that is not constrained by political issues. While this is often a challenging thing to bring to fruition, having a diverse and yet focused managerial board can help alleviate some of the complications associated with political infusion.

Existing REF managers have also noted that having or creating a close partnership with local utilities can be enormously beneficial as you move through identifying and implementing projects. If your municipality already has close relationships with your local utility, consider asking one of their staff to serve on your REFs managerial committee. If you do not have a close relationship with someone from your local utility, consider holding a series of meetings to talk to them about your REF and opportunities for their involvement.

What Your REF Finances

This section attempts to distinguish the different types of project components your REF monies can cover. It starts by looking at broad considerations regarding the various components of projects and ends with a discussion on specific project eligibility. Both the Project Components and the Project Eligibility sections are structured to optimize your municipality's thinking about how best to utilize your funding resources. Concepts and ideas listed are not all-inclusive but represent structures utilized in existing municipal, community, and state REFs.

Project Components

It is important for your REF to have a clearly defined set of parameters, or project components that it will invest in. Without identifying the project components for your REF, you run the risk of having all or a portion of your fund-allocated monies being used for purposes other than what was originally intended. For example, if you allocate funds for a window replacement in City Hall, you will want to know what portion of your allocated funding is being used to purchase the new windows, what portion is being used for labor costs, and what portion is going towards any additional fees such as installation equipment, caulking, or paint. If you discover that a large portion of the funding was spent on obtaining new equipment that will have very little use in the future, you may feel your resources were used ineffectively. Considerations such as these depend on the unique circumstances in your community as well as the amount of money in your REF.

Below are some of the most commonly used project components to help you begin considering what you want REF monies directed towards. You can structure your REF to focus on one or a combination of components depending on the identified goals and objectives of your REF.

All project costs: includes the cost of equipment, personnel, administration, and additional, unforeseen charges.
Non-personnel costs: covers "hard" costs such as the equipment and materials necessary to implement projects. This strategy does not cover overhead expenses.
Incremental costs: covers the cost difference between the purchase of an energy-efficient item over a similar purchase that lacks the energy efficiency benefits (e.g., EnergyStar equipment, hybrid vehicles, etc.)
Training costs: covers fees associated with training personnel on how to use and operate any new systems that require additional knowledge. REFs that highlight this as an important component often set aside a portion of fund monies to be directed towards training costs. In the Phoenix, Arizona, REF model, 8-15% of any energy efficiency project must be reserved for maintenance and operator training. This is done in recognition that attempting efficiency gains without having properly-trained personnel responsible for running new systems can counter balance the positive gains from the measure.
Research costs: covers the expenses associated with research and development of new technologies.
Special considerations: when additional monies are left in the Ann Arbor, Michigan REF, the fund management team can elect to pick an "innovative" project to fund with no requirement of repayment. This allows for projects of interest that lack the required short-term payback to receive the financing necessary to move forward.

Project Eligibility

Depending on the nature of your REF, you may or may not want to identify specific categories and types of projects that are eligible for funding. For example, some REFs promote the broad umbrella of energy efficiency, meaning any project that will achieve a higher level of energy efficiency once implemented is eligible to apply. Other REFs have specific priority areas for financing and, instead of having a general energy efficiency requirement, require that projects fall within predetermined fields, such as heating and cooling improvements and new installations, lighting upgrades, or the purchase of alternative fueled vehicles.

If you decide to identify specific projects eligible for funding, determining which projects will be eligible will depend on an array of factors. Consideration should be given to the emissions profile for your community – which you can obtain via ICLEI's Clean Air and Climate Protection Software (CACPS). The emissions profile will help you identify areas where inefficiencies exist, allowing for focused application of REF monies in areas where they can have the greatest impact. You will also want to ensure that the projects you select to receive REF monies align with the goals and objectives of your REF as well as have the support of your fund manager(s).

Below is a list of some of the most commonly identified priority project eligibility areas in existing state-, community-, and municipally-focused REFs.

- Any project that increases energy efficiency in the community and/or in municipal operations
- Virtually any retrofit project that reduces energy use and costs. The applicant must be the owner or the manager of the building or associated system for which the application for funds applies

- Energy project costs for design, costs for material acquisition, and costs for installation and commissioning
- The incremental costs of the energy-conservation measure for new construction or appliances
- Lighting upgrades
- Cooling and/or heating plants
- District cooling, heating, and energy systems
- Ground and air source heat pumps
- Window replacement and/or reduction
- Alternative fueled vehicle purchase
- Alternative fuel purchase
- Maintenance and operator training
- Energy management units
- Retrofit measures, as well as the design of new buildings to higher lighting, heating, and ventilation standards
- Planning regulations to promote energy efficiency in new developments (LEED certification)
- Incremental differences between piece of equipment and energy efficient piece
- Co-generation and thermal cool storage
- LED traffic lights and LED streetlights
- Solar and wind energy
- Boilers and parking garage lighting

Payback Period

Another important consideration when structuring your REF is how much loan grantees are expected to payback and in what time period. This is effectively known as the loan payback period. This section explores various options for payback periods in an attempt to help you identify which approach is most useful for your REF.

Loan interest rates

The first consideration is whether or not your REF will utilize interest rates. Applying an interest rate will allow your REF monies to grow, leading to a large pool of money that can be used to finance additional projects. However, applying an interest rate means that applicants will have to repay more funds than originally borrowed, which may be a deterrent for qualified applicants. Determining whether to apply an interest rate will be reliant on the quantity of seed money you have in place and the ideal longevity of REF operations.

If you do decide to apply an interest rate to loans you need to determine what rate is most appropriate. Most REFs in operation do utilize an interest rate and apply rates that are under the national average. Having interest rates below the national average still provides an incentive for interested parties to apply for REF monies as opposed to seek funding from financial institutions.

When applying interest rates, you will want to determine if your rates are flexible or set. If you have flexible rates, you need to identify if they are going to be set on a project-by-project basis or if they are adjusted per application period. If they are flexible based on a project-by-project comparison, you should work to identify the range of possible interest rates that can be applied (i.e., 0-5%). While this methodology is not frequently used by existing REFs, it may be appropriate for your REF if you are promoting a broader energy efficiency objective and are anticipating receiving high-risk projects.

If you choose to establish a set interest rate, you should contemplate whether or not your interest rates can be adjusted on an annual basis. Annual adjustable interest rates may be of use in ensuring that your REF is not susceptible to drastic shifts in the economy.

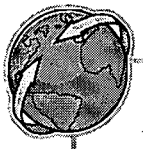
Payback Period

When determining how to structure your applicants' repayment, one of the most common systems is to have repayments made based on energy savings. In this system, applicants must project their anticipated energy savings when completing applications. If the project is funded, the applicant is tasked with paying a percentage of their annual energy savings back to the REF. What varies in regards to repayment is the repayment structure. The two most common types of repayment structures are fixed repayments and adjustable repayments. Before you determine whether or not to utilize a fixed or an adjustable repayment schedule, you need to determine what percentage of energy savings each project will be charged.

Percentage of Energy Savings

Some REFs require that 100% of energy savings be repaid annually until the original loan amount is repaid. In other REFs, a percentage of energy savings are applied to the loan amount, with the rest of the savings being realized by the individual department.

Both systems – 100% energy savings repayment and a percentage of energy savings repayment – are frequently utilized in existing REFs. The benefit of having 100% of energy savings being repaid to the fund is that it accelerates the growth of the REF and allows for more projects to be funded in a shorter period of time. The benefit of having only a percentage of energy savings repaid to the REF is that it allows project implementers to retain a portion of their savings, thereby providing an incentive for implementers to continue undertaking energy efficiency efforts.



Best Practices

Ann Arbor, MI

In Ann Arbor, Michigan's municipal REF, loan grantees are responsible for repaying 80% of energy savings to the Fund for a 5-year period of time. By only requiring 80% of energy savings to be repaid, the Fund allows 20% of the savings to be retained by the department implementing the reduction measures. This allows the departments to immediately realize a portion of the energy savings attained via implementation of the identified efficiency measure, thereby creating an incentive for departments to continue implementing energy efficiency efforts. After the 5-year payback period, 100% of the energy savings are retained by the implementer.

Fixed Payments

A fixed payment system is one that requires that payments be made for a predetermined period of time. In this structure, a percentage of energy savings are repaid to the loan for a period of time which may or may not correspond to the time necessary to repay the initial loan. For example, a project may be required to make repayments of 100% of energy savings for five years, regardless of whether their loan would have been repaid in three years or seven years. Fixed payment structures are a great way to fund projects of varying payback periods and risk levels.

One of the important considerations to make in a fixed repayment structure is how long you want repayments to be made. Your decision will depend on the nature of the projects applying for REF financing and the overall objective of your REF. If your initial seed funding is minimal, you may not be able to justify granting loans with longer payback periods. A fixed payment structure affords the flexibility of approving varying levels of projects, thereby increasing the portfolio of energy efficiency projects your REF can support. In this system, projects with a shorter payback period help to support projects that have longer paybacks.

Establishing a fixed payment plan can seem unfair at first, particularly for facilities that install three-year payback measures, since they will have repaid their loans in only three years. However, fixed payment plans allow REF's to build resilience and allow for a wider portfolio of projects to be funded. Also, given that project implementers will continue to maintain the same level of energy savings after paying back their fixed payment loan their operating costs will still be lower than had they not implemented the identified measure. The fixed payment system is in operation in Ann Arbor, Michigan's REF. In this system, loan grantees are responsible for

repaying 80% of energy savings to the fund over a five-year period of time. Ann Arbor feels that this system of sharing "is important to the overall accountability of the organization.[2]"

Adjustable Payments – with or without Interest

Adjustable repayment schedules are those that require project applicants to make repayments to the REF only for a time period that would equate to the time necessary to allow their original loan to be repaid – with or without interest. Adjustable payment schedules allow for project repayment to more accurately represent the energy efficiency gains of the projects implemented. This system allows for energy savings to be internalized by the project implementer more quickly for short-term projects.

If you choose to apply an adjustable payment schedule, you will also need to consider what percentage of energy savings you will charge applicants. For ideas on how best to structure your repayment schedule, please see the section above.

Loan Amount

Once you have obtained your seed money, you will need to consider how much of your REF monies are going to be loaned out at one time. It is a good idea to always keep a portion of your seed money in-house, in case of unforeseen defaults on repayment. For some REFs, a minimum of 50% of fund monies are always kept in the bank. Depending on the amount of seed money you have and the timeframe you have established for your REF (see growth of funds section below), you may find that establishing a maximum and minimum on the monies retained in your REF is an appropriate approach for your municipality.

You should also begin thinking about how much of your REF monies will be allocated to any individual project. For example, you may want to establish a policy that no project will be approved that uses more than 25% of total REF monies in the year of application. If your REF will be used to support a small number of extremely large projects, you may want to have a higher percentage of REF monies available for individual projects. If, however, you are interested in encouraging a diverse array of projects, having a smaller percentage of overall REF monies available to any one project may be appropriate. Before you make your final decision on the maximum grant amount for individual projects, you should review the financial size of your REF as well as your growth plan for the fund.

Ensuring Department Budgets are not Reduced

As you structure your REF, you want to ensure that you set-up a system that does not cut applicants' budgets by implementing energy efficiency projects. During the repayment of the original loan, this can be accomplished by replacing energy payments with payments to the REF. To do this, it is useful to have support from the financial and/or billing department within your municipal operations, which can allow you to create a new budget line for your REF. This is more applicable for municipally-focused and -operated REFs. For community-level REFs, this problem is normally not of consequence as project implementers will traditionally be able to retain all energy savings without experiencing financial penalties.

Growth of REF Funds

As you continue through the structuring of your REF you need to identify what your timeframe of fund operations are and what kind of growth you want for your REF. For many REFs, the goal is to continue growing, which is done via the application of interest rates. For others, maintaining a common pool of money is more important. Another option to consider is the slow depletion of your REF over an allocated period of time.

[2] Ann Arbor, Michigan Municipal Energy Fund overview document

All three of these options are explored in slightly greater detail below. Which option is best for you depends on the overall goals and objectives of your REF as well as the success of REF financed projects.

Growth: If you want to encourage growth of your REF, you will need to apply an interest rate to all loans. Your decision on which interest rate is most appropriate will depend on decisions made by your Fund Manager(s). More information on this topic can be found in the payback period section of this Guide. When instituting an interest rate to promote growth, however, it is important to consider that interest rates will create stricter payback demands on applicants and may possibly exclude some worthy projects.

Constant: If you want to maintain your current REF monies, you will still need to consider whether you want to apply a small interest rate to loans to account for inflation and administrative costs. If you do choose to apply an interest rate, the benefit is that the rate will likely be much less than if you were promoting REF growth, thus placing less of a constraint on worthy projects. The challenge to maintaining REF monies is that you are capped by the amount of funding that you can lend out, so depending on the amount of seed money you have obtained, you may never be able to finance expensive yet effective projects.

Depletion: If you decide to create a REF that will be in operation for a predetermined period of time, you will want to design your REF such that monies are slowly depreciated. In this system, you want to make sure that your REF monies are being exhausted around the time your REF goals and objectives are accomplished. The benefit of depleting your overall REF is that it allows for more flexibility in regards to repayment and can reduce the amount of time and resources needed to operate the REF. The disadvantages of having a REF that depletes over time is that it often has a narrow focus with REF monies being depleted quicker than anticipated if too many qualified applicants apply in a given application period.

Regularity of Applicants

One of the finer details you will need to consider as you move forward with structuring your REF is how often loan applications are accepted. This decision may reflect the specific needs of the Fund Manager(s) as they will most likely be the ones responsible for reviewing applications. The typical systems in place in existing REFs are annual and bi-annual application cycles. You will also need to consider if your application and repayment schedules will follow a fiscal year or a calendar year schedule. If you are implementing a community-wide fund, a calendar year will often suit you and your stakeholder's needs. For municipal funds, following a fiscal year cycle allows for repayments to fall into the regular budgeting cycle, thus alleviating internal obstacles to repayment.

You also need to consider what types of forms you want applicants to fill out. You should have a general application that identifies the name of the project manager along with their contact information, provides details of what the project aims to achieve, and legal information in case of a default on repayment (see Appendix I for an example application). You should also consider including a worksheet that allows applicants to quantify their anticipated fuel and/or energy savings. Additional forms may be necessary depending on the nature of the applications as well as the overall structure of the REF.

Education and Outreach on Fund

As important as a solid structure for your fund is, without proper outreach and education to relevant stakeholders, you fund may never be able to achieve its intended goals. Make sure to involve stakeholders (including potential grantees) in the creation of the fund, keep them updated about the fund's progress, and make sure to conduct thorough outreach before you are ready to formally launch the fund. Consider using newsletters, website updates, flyers, meeting forums, and email as methods to inform stakeholders about the REF.

Section V

Decision Criteria – Choosing Which Projects to Finance

Once you have established your REF, it is time to identify what decision criteria your Fund Manager(s) will use to determine which projects to finance. To do this, it is important to reflect again upon the overall goals and objectives of your REF. Many existing REFs have identified three to five criteria that they use to prioritize and rank projects. For example, in Ann Arbor, Michigan's REF, 70% of total funding must have five-year or less payback; up to 20% can demonstrate and educate about energy savings or renewable energy, and up to 10% can be used to provide information to facility managers on energy saving opportunities[3]. Below are criteria used in existing municipal, community, and state funds.

Recipient

This consideration is for those REFs that have identified specific departments or types of projects they are interested in financing. For example, if you have identified school systems as being a priority area for funding, you can give a higher score to qualified applications from the school department than from a local business.

Project

Payback Period

Payback period is determined by dividing the cost to implement a project by the estimated yearly energy cost savings. This is an important thing to consider as one of your possible decision criteria as the time frame of loan repayment has direct implications for how many projects you are able to finance. Since shorter payback periods allow for more projects to be financed in a short period of time, longer payback may mean less projects being approved as it will take more time for payback to be completed.

Emissions Reductions

Your REF can also place priority on the overall percentage of emissions reductions that a project will achieve. This will be an important consideration for REFs that strive to promote emissions reductions as part of their overall goals and objectives. Measurement of emissions reductions can be done by using ICLEI's Clean Air and Climate Protection Software (CACPS).

Energy Savings

Similar to emissions reductions, REFs can also place a priority on the overall energy savings achieved. Energy savings allow for comparisons of energy usage before a measures is implemented to after, thus removing consideration of overall project size. This gives equal consideration to small and large projects as long as they both provide similar energy savings.

[3] Ann Arbor, Michigan Municipal Energy Fund overview document

Alignment with Goals and Objectives of REF

While fairly straightforward, this decision criterion allows Fund Mangers to determine which projects most closely align with the overall goals and objectives of the REF. Those that most closely align with the REFs goals are more likely to gain approval.

Environmental Justice

Promoting environmental justice is an important consideration in many communities. Projects that not only provide some means of energy efficiency but enhance environmental justice considerations are given priority in funding decisions with this decision criterion.

Replicability

If you want to ensure that your REF monies are going towards projects that can be repeated in other areas, this is an important criterion for you to consider.

Additionality

Additionality means that you are interested in promoting projects that add benefit to existing infrastructure, thereby negating the need for a complete overhaul of existing systems.

Risk

For many Fund Managers, one important component before granting loans is that approved projects are low risk.

Reduction of Criteria Air Pollutants

In non-attainment areas, reduction of criteria air pollutants can be an important consideration. If this is one of the priority areas for your REF, you can utilize ICLEI's Clean Air and Climate Protection Software (CACPS) to determine criteria air pollutants before and after project implementation.

Educational Component

This criterion highlights the significance of educating about the benefits associated with energy efficiency and/or a specific project.

Improvement of the Facility

This criterion refers to the enhancement of existing facilities by undertaking measures such as upgrades, replacements, and installing energy management systems.

Innovation

Many REFs in existence want to promote a mixture of low-risk projects along with new and innovative projects. If your Fund Managers are interested in promoting innovative projects, this is a decision criteria you should consider.

Section VI

Laying the Foundation for a Large Scale Energy Efficiency Initiative

Establishing a REF is a great way for a municipality or community to begin thinking about and implementing small-scale energy efficiency measures. Creating a REF can also provide an opportunity to begin laying the foundation for the establishment of large-scale energy efficiency projects. This has recently become a popular strategy for many municipalities given the establishment of the Cambridge Energy Alliance – an effort by the City of Cambridge, Massachusetts, to reduce greenhouse gas emissions and energy use through a large-scale, community-wide efficiency initiative. While the Cambridge Energy Alliance will serve as a model in the future, many communities are eager to lay the foundation today to prepare for a massive energy efficiency effort. One way to do this is by creating a REF that focuses on small scale energy efficiency goals now and ideally develops into a fund that will support larger-scale efficiency projects in the future

If your municipality is interested in laying the groundwork for a large-scale energy efficiency financing mechanism, consider beginning with a REF, regardless of seed funding, and applying a small interest rate. This rate will allow the REF to continually grow over time. This allows you to use the REF to achieve energy and cost savings from small-scale initiatives, thereby building internal knowledge and expertise around energy efficiency.

As you continue to administer the REF, consider seeking additional funding sources to allow for the growth of REF monies. As you are able to obtain new funding sources, you can use this additional revenue to begin financing larger energy efficiency initiatives. At this point you can also consider making necessary changes in your REFs grantee audience. This is particularly of interest if your original REF was designed for municipal operations only as you may want to consider opening REF financing opportunities to the entire community.

To prepare for a large-scale, cross-sector energy efficiency initiative, it is important to lay the right foundation by adopting and implementing municipal measures that exemplify the local government's commitment to greenhouse gas reductions. Ideally these measures will be visible and credible to business and community leaders, who are necessary allies and participants for any future large-scale project. In the case of Cambridge, the City has been a member of the Cities for Climate Protection program since 1999, and has been implementing an array of measures to try and achieve a 20% reduction in emissions from 1990 levels by 2010, such as providing technical assistance through a Climate Leaders program for businesses, setting the policy that all new construction and major renovations of municipal buildings follow LEED standards, and investing in an energy management system that provides up-to-date information about each municipal energy account. Despite these and other programs, the City realized that a new, deeper approach was needed if the 20% reduction goal was to be realized. Through partnerships with local foundations, the City helped develop the concept for the Cambridge Energy Alliance as a new independent non-profit organization that is focused on using private capital and existing public and utility-related funding to engage and serve all sectors in the City with high quality and reasonable cost energy efficiency measures.

Important lessons are being learned as the Cambridge Energy Alliance rolls out and tests its program and financing models. But the complexity and time commitment of the Alliance model bears watching and most municipalities at this point will benefit from focusing on achieving significant and short-term greenhouse gas reductions through well structured policies and implementation of such instruments as a REF.

Section VII

Verifying and Monitoring Financial Savings and Energy Reductions

Once you have established the overall framework of your REF, it is important to consider what structure is most appropriate for monitoring and verifying project savings and energy reductions. You will also need to consider what type of information you will require applicants to report, how often they will have to report, and what format they need to follow for reporting.

Monitoring Results

The very first thing to identify is whether you will require cost and energy savings to be determined based on estimated savings or based on monitored savings. Both options are explored in greater detail below.

Estimated Energy and Cost Savings
When project applicants apply for loans, they will traditionally be asked to provide information on estimated energy and cost savings. This information can often be obtained from an energy audit or from a review of existing energy consumption compared to project savings. Energy audits provide information on expected greenhouse gas reductions and financial savings as a result of implementing identified reduction projects. The expected savings can then be used as an estimate of total annual energy savings and used as a basis for determining payback periods and amounts.

ICLEI's Clean Air and Climate Protection Software (CACPS) can also be used to compute estimated energy and costs savings for a variety of measures. If this approach is used, all that is required is basic information on the measure that will be implemented and pre-measure energy consumption. The software can then be used to project the total energy and costs savings of a number of identified measures.

Utilizing expected energy savings allows one to maximize the payments reinvested in the REF and is relatively simple to compute. This methodology also allows for the immediate transfer of savings into next year's REF budget without the lag for monitoring of actual savings. However, utilizing expected energy savings does not take into account actual savings, therefore energy spent could be under-budgeted and the expected savings may not be realized, due (for example) to a hotter summer or colder winter than anticipated.

Measured Energy and Cost Savings
By requiring measurement of energy savings, you are requiring that applicants report and make repayments based on achieved energy and costs savings. To monitor actual energy savings, you may need to install energy monitoring systems, such as kWh monitors. Another option is to have annual reporting require information on monthly energy bills both before and after project implementation.

Utilizing measured or realized energy savings allows one to reinvest actual savings into the REF, thereby reducing the risk to the REF of over-budgeting. This method also allows the municipality to monitor results towards meeting emission and/or energy reduction goals. However, this method does not allow for the maximum financial contribution to be made and is dependent upon such things as varying climatic conditions. Additionally, the lag to confirm actual savings may delay repayment to the REF, slowing new project approval.

This methodology is in use in both Phoenix's and Ann Arbor's Funds. In Phoenix's Fund, energy consumption before and after a retrofit are compared for the first year the improvement is in place. For the following ten years, half of this amount goes into the REF, the rest into the City's general fund. In Ann Arbor, their REF states that "whenever possible, energy savings will be based on metered consumption at each facility with corrections for changes in utility costs, weather extremes, and other factors which may have influenced energy consumption during the year. In cases where it is not possible to identify the effect of a particular measure based on meter data, calculated savings will be used. Their savings will be accrued through the end of the Energy Fund's fiscal year (April-March) and submitted to the facility manager for payment before the end of the City's fiscal year.[4]"

Reporting Requirements

What Information Needs to be Reported

You will want applicants to report on how loan monies are being utilized as well as a project's energy and cost saving (see above section for details on ways to report savings). Depending on what your chosen decision criteria are, you may also want to require that applicants report on how their projects are supporting those criteria.

Additional reporting requirements may include: overall performance data, details of project benefits, operation/maintenance details, opportunities for replication, and/or educational outreach, if any.

How Often Progress Should be Reported

Most REFs currently in operation require that applicants report annually. While this is a great way to monitor how REF monies are being utilized and the overall success of funded projects, the frequency of reporting may be too much if the REF does not have a dedicated "Fund Manager". If the REF does not have regular administrative support, it may be of use to consider reporting that is done on a bi-annual basis or at the end of the project payback period. The deterrent to following this strategy, however, is that Fund Managers lose the opportunity to monitor overall project success, meaning they may not be prepared for underachieving projects. This could lead to less efficient use of REF monies.

In what Format Should Applicants Report Results?

Options include having applicants fill out a set of forms, providing them a template report that they can add to, or allowing them to write individual reports based upon the required reporting components. Whichever option you choose, you will want to make sure to relay the reporting requirements early to applicants and ensure they have someone prepared to review applicant reports for thoroughness. A "Fund Manager" is a person ideally situated to review these reports as well as the person most likely to aggregate all results into an End-of-the-Year Report.

In what Format Should the Fund Manager(s) Report Results

Once all the applicants have submitted their reports, you will likely want to compile results and share them with a select group of individuals. Depending on the structure of your REF and the political circumstances in your community, you may find it necessary to share this report with an array of stakeholders. As mentioned in the above section, the most likely candidate to accumulate applicant results is the "Fund Manager".

Depending on the nature of your REF, the most likely reporting style to meet most community and municipal needs is an annual, End-of-the-Year Report. This report will need to be shared with the fund managerial committee. You may also find it necessary to share your annual REF report with the various fund grantees, including local politicians, the public, municipal departments, and other REF applicants.

[4] Ann Arbor, Michigan's Revolving Energy Fund Bylaws

Section VIII

Benefits and Obstacles of Revolving Energy Funds

There are many reasons why a REF may or may not be the right fit for a local government. Before creating your REF, it is important to understand some of the most common benefits and obstacles associated with REFs. Please note that these are only some of the most commonly identified benefits and obstacles and that others may exist depending on the specific circumstances in your municipality.

Benefits of Revolving Energy Funds

Revolving energy funds are a great way for a municipality to have a set amount of funds dedicated to energy efficiency, conservation and/or clean energy work that can achieve some, if not all of the following benefits:

Allow completion of a project that would not be funded through the capital budget cycle
Most municipalities find themselves operating within a constrained budget. This often means that projects that promote energy efficiency may not receive funding as they are viewed as nonessential. By creating a REF, you are ensuring a pot of money to implement worthy energy efficiency projects without impacting the capital cycle.

Reduces competition for municipal internal capital
By having a pot of funds specifically focused on energy efficiency, you remove some internal competition for limited municipal funds. This allows for energy efficiency projects to be compared to other energy efficiency projects as opposed to competing for limited funds with other essential municipal priorities such as snow removal, sidewalk repair, or tree planting. This can also lead to the approval of multiple energy efficiency projects, whereas the capital cycle may have only had funding for one. Additionally, keeping the fund outside of traditional municipal budget operations drastically limits the threat of REF monies being used for non-energy efficiency purposes.

Encourages energy reduction and management to be viewed as core business activities[5]
By allowing department heads and municipal employees to directly reap the benefit of their energy and cost savings, you provide an incentive and opportunity for them to internalize energy efficiency practices as a way to save money and limited resources. This can serve not only as an incentive, but as an educational tool for emphasizing the overall importance and benefits of energy efficiency.

Demonstrates leadership and dedication to energy conservation
The creation of a REF provides an opportunity for a municipality to demonstrate its leadership and commitment to energy conservation. This positive action can help encourage community members to begin taking similar energy reduction measures while emphasizing the leadership of the municipality.

Fulfills goals established in Climate Action Plan
Establishing a REF allows your municipality to begin implementing energy reduction measures that can help meet energy and emission reduction goals outlined in your Climate Action Plan.

[5] ICLEI – Best Municipal Practices for Energy Efficiency – see case study on Newcastle, Australia

Builds internal resilience to rising energy costs
Since REFs promote energy efficiency, grantees of REF monies will reduce their energy consumption and their overall energy costs. This helps protect the municipality from the impacts of rising energy prices and amplifies the dollar amount saved from efficiency measures.

Stimulates the development of jobs and expertise in the local energy services industry
By providing a continual stream of funding for energy efficiency measures, a REF provides an incentive for individuals and organizations to embrace energy efficiency. This incentive can stimulate growth in your local economy and lead to the development of jobs and expertise in an array of energy services.

Allows municipality to make a long-term investment in renewable energy or energy efficiency
REFs remove the demand for investing limited municipal capital in large-scale energy efficiency projects. This provides an incentive for departments, and the municipality as a whole, to think about long-term efficiency projects such as investment in renewable energy, given that no significant budget cuts will be necessary in order to finance the new investment.

Allows implementer to retain 100% of the financial benefits from projects
Regardless of how you structure your REF, there will come a point when project implementers will be able to retain 100% of the savings accrued from energy efficiency measures, providing additional incentives for future energy efficiency efforts.

Obstacles of Revolving Energy Funds

As useful as a Revolving Energy Fund is, there are certain obstacles that may deter a municipality from creating a REF. Some of the most common obstacles are noted below along with ideas on how to overcome these challenges. These obstacles should not be viewed as reasons for not moving forward with a REF if your jurisdiction is interested. Instead, these are important areas to be cognizant of and to insulate your REF from. Additional detail on many of theses topics can be found throughout this Guide.

Finding seed money
A multitude of options for obtaining seed money can be found in Section III.

Legal Barriers
In many states, legal barriers exist that impede a local government for requiring payback or from charging interest rates on loans/grants. This was the case in New Hampshire where Nashua was originally striving to create a full REF but learned from their legal team that New Hampshire state law prohibits municipalities from requiring financial payback on loans disseminated. Recognizing this change, Nashua changed the structure and bylaws for the Fund so that they 'encourage' repayment but also have alternative options available for re-funding the REF. Nashua's new Fund is called the Expendable Trust Fund. To avoid legal barriers, you should speak with you legal team as soon as you think a REF might be of interest to your municipality to evaluate its legal feasibility.

It takes substantial time and energy to manage a REF
This obstacle can indeed be an impediment to a small municipality with limited personnel and resources. However, there is a multitude of ways in which to manage your REF to avoid placing a cumbersome strain on any one individual or department. For example, integrating components of REF management into already existing structures can remove the need for training additional staff and build on existing internal knowledge. More details and options for managing your fund can be found in Section IV under REF Management.

Lack of political will

Generating political support for your REF is critical to the overall success of your fund. To do this, you need to ensure stakeholders are engaged early, educated on why a REF is being developed and how it will benefit them, and kept abreast of developments throughout the life of the fund. Meeting with your political leaders early to educate them on the benefits an REF will afford your municipality can help to ensure political buy-in.

Best Practices

Nashua, NH

In Nashua, NH, the Green Team, the organization responsible for garnering support for and creating Nashua's Expendable Trust Fund among other things, obtained the support of the Mayor as well as members of the Board of Alderman. This effort not only furnished the necessary support for the creation of their REF, but led to additional monies being allocated to the Fund.

Lack of stakeholder – department buy-in

Similar to garnering political support, it is critical that you obtain stakeholder buy-in. Make sure that stakeholders are able to have a say in the ultimate goals of the REF and that REF logistics are presented in an understandable and direct fashion. Additionally, if you choose to let the implementer retain a portion of the immediate energy savings (i.e. 80% reinvested in the REF, 20% kept by department), make this common knowledge. Highlight the fact that long-term energy savings will be retained by the agency or department implementing the project, allowing them to see the financial gains associated with energy reduction.

Repayments to REF are not made

In Manly Council, Australia, a problem arose when project managers failed to set aside energy savings, the money that was required to payback their original loan, and instead reduced their operating budgets, making them unable to make loan repayments[6]. To avoid this, it is critical that loan terms and conditions be presented in a direct and straightforward manner and are consistently enforced. Having the municipal finance department and the local utility assist in invoicing can also help to alleviate confusion and streamline the billing and payment process. Additionally, penalties can be added to loans for any late payments, thus discouraging such behavior.

Fund is diminished or diminishing faster than intended

One way to avoid this obstacle is to mandate that a percentage of total fund monies are never loaned out. For example, requiring that 50% of the total funds are kept in the REF would mean that a REF with a total of $50,000 would never loan out more than $25,000. As repayments are made to the REF, reassessment can take place as to how much funding can go out the next fiscal year. This ensures that a pot of money remains to continue the REF, providing a ceiling on annual allocations.

Fund is being used for purposes outside of original intentions

This can be avoided by creating bylaws that govern what the REF can and cannot be used for. Another option to avoid misuse of the REF is to create a focused objective and set of goals which outline what types of projects the REF is intended to support. Moreover, having political support and stakeholder buy-in will help alleviate the likelihood that REF funds are used in inappropriate ways.

Qualified projects are being passed over for low-risk projects

Low-interest or interest-free loans will appeal to a wide audience, likely soliciting a substantial number of applications. Particularly if the REF begins to dry up, there will be pressure on the fund operators to accept lower-risk, higher-payback projects to ensure the REF is replenished, even if they deviate from the original objectives of the fund.

One way to avoid this obstacle is to build a funding system in which short-term payback projects are approved in conjunction with longer-term payback projects, thus creating a more balanced portfolio of projected risk. Another option is to dictate how much of a given REF can be allocated to varying term projects.

[6] ICLEI Best Practices – Manly, Australia. http://ccp.iclei.org/ruralvic/pdf/REF.pdf

Having the Fund be too vague

If the REF is too broad, not competitive enough, or far easier to obtain funding through than other available alternatives, those alternatives will not be explored. This under-utilizes other funding sources, increasing the demand on the REF. Also, if there are incentives to use REF monies for projects that might have otherwise been covered by a department, the effectiveness of the REF will be diminished.

Best Practices

Ann Arbor, MI

In Ann Arbor, at least 70% of Fund monies can be allocated to projects that have a savings payback of five years or less, 20% can be allocated to projects that demonstrate and educate about energy savings or renewable energy regardless of their payback period, and no more than 10% can be used to provide information to facility managers on energy saving opportunities, which require no repayment at all.

The most direct way to avoid establishing a REF that is too vague is to identify projects or priority areas that you would initially like to finance through your REF. Section IV, under the Project Eligibility category, identifies some of the most common categories financed in existing REFs. In addition to having predetermined project eligibility and decision criteria, consider having a representative from municipal operations on your fund management committee. This individual should have insight into the capital cycle and be able to address concerns surrounding departments that are seeking REF funding when their departmental budget is the more appropriate source for such funds.

Section IX

Summary

Creating a revolving energy fund is a great way for a municipality to demonstrate its commitment to environmental conservation while simultaneously reducing energy consumption and associated costs. This guide has attempted to provide all of the relevant information your municipality will need to create and implement a REF. To help summarize the relevant information pertaining to successful creation of a REF, below is a checklist that incorporates all of the major points discussed within this guide. Items listed below can be undertaken in any order, but for success, all steps must be completed. If you have further questions about information in this Guide or about how your municipality can move forward with creating a REF, please contact your local ICLEI liaison (http://www.iclei.org/index.php?id=410).

- ☐ **Identify why a REF is a good idea for your municipality**
- ☐ **Check with legal team to see if any legal barriers exist to your creation of a REF**
- ☐ **Determine if you want to create a municipally or community focused REF**
- ☐ **Work with relevant stakeholders to define the goals and objectives for your REF**
- ☐ **Identify and secure seed money for your REF**
- ☐ **Determine who will be the legal holder of your REF**
- ☐ **Determine who will be the manager of your REF – a single Fund manager, a managerial committee, or a combination of both**
- ☐ **Determine what types of projects your REF will finance (the specific project components and overall project eligibility)**
- ☐ **Determine appropriate payback period – including if your REF will utilize interest rates and if paybacks will be based on estimated or actual energy savings**
- ☐ **Advertise REF to target audience**
- ☐ **Determine the minimum and maximum loan amounts your REF will grant – can change annually**
- ☐ **Determine how frequently you will be accepting and approving applications**
- ☐ **Establish decision criteria that reflect the goals and objectives of your REF**
- ☐ **Establish a tracking system so you can monitor the success of projects financed by the REF**
- ☐ **Design and implement reporting requirements – dictating what and how frequently REF grantees have to report on their projects**
- ☐ **Produce annual or bi-annual reports to share success of REF with stakeholders**

Section X

Best Practices

Below is information on three of the major revolving energy funds currently in operations in North America. Information noted below was provided by and reviewed by each of the three communities: Ann Arbor, Michigan; Phoenix, Arizona; and Toronto, Canada. It is important to note that Nashua, New Hampshire has recently created their own Expendable Trust Fund but due to its infancy, details are not provided below.

	Ann Arbor	**Phoenix**	**Toronto**
History			
Started	1998	1984	1992
Loaned to Date	$280,000	~$4.4 million	TBD
Est. Energy Savings to Date	$85,800 annually	$45-50 million	$17.5 million (Canadian)
eCO2 Reduction	980 tons annually	TBD	TBD
# Projects Funded to Date	About 37	Over 100	TBD
Loan Amounts	Projects have ranged from $5,000 – $95,000	Wide range	0-$1.2 million
Fund Details			
Seed Funding Source:	Continuation of budget item (energy efficiency bond)	State oil overcharge funds and energy efficiency savings	Sale of surplus City property
Seed Funding Amount	$500,000	$500,000	C$23 million
Seed Funding Period	5 years	1 year	1 year
Cap:	None	$500,000 initially, then raised to $750,000	None
Objective	Supports energy efficiency capital projects	Supports energy efficiency capital projects	CO2-reducing project without alternative financing options
Administering Department/Personnel:	Energy Office; supervised by 3-person board	Energy Management Personnel (internal office)	Toronto Atmospheric Fund
Legal structure	Internal municipal fund	Internal municipal fund	Corporation set up by provincial legislation
Loan Details			
Eligible Parties:	City facilities	Municipal Departments	Community groups, government organizations, public institutions
Eligible Projects:	Municipal energy efficiency projects and pilot projects that reduce energy cost and greenhouse gas emissions	energy efficiency capital projects; incremental cost of energy efficiency equipment;	Community action, research, feasibility studies, retrofits, purchases of new green technologies, advocacy
Primary Selection criteria:	Payback period (5 years or		Relevance to TAFs mandate

	less)		Quantifiable energy savings or revenue stream Measurable risk Quantified eCO2 reduced Quantified smog precursor emissions reduced Potential to attract other financing or investment Satisfactory covenant of security arrangement
Other Selection Criteria:	improvement of facility environment and educational or demonstrational value	N/A	N/A
Other Use of Funds:	20% of the fund can be used to demonstrate alternate fuels or renewable energy, or for education or energy audits.	Researching new technologies & approaches to energy efficiency	Currently, $8 million available for mandate related loans.
Repayment			
Interest Rate:	None	None	TBD
Repayment Period:	5 years	10 years	TBD
Portion of Energy Savings Reinvested:	80% of estimated energy savings	50%, up to $750,000 (of actual energy savings)	TBD
Portion of Energy Savings Retained by Project Implementer:	20%	None	TBD
Portion of Energy Savings Returned to City General Fund:	None	50%, and 100% of savings over $750,000	TBD
Other			
Unusual features, lessons learned, etc	Ann Arbor deliberately set up their fund so that projects with shorter payback periods subsidize projects with more long-term benefits, allowing City departments to undertake a greater breadth of projects.	Recognition that 8-15% of a project cost should be reserved for operator training and maintenance to make sure expected energy reductions are actually attained.	TBD

Appendix I

Sample REF Application

NASHUA EXPENDABLE TRUST FUND APPLICATION

FY 2008

PROJECT SUMMARY

Project _____

Division / Department _____

Please provide a brief summary for each submitted project request to assist the Committee members in their evaluations. The summary should be **60 words or less**, and address:

- Why the department needs the item
- Whether the request is new, or has been previously requested
- Whether the trust funds will be used as a match for funds from other sources
- Conformance to the goals of the Green Team Mission
- How project meets the requirements for a 5 year payback and can demonstrate quantifiable emission reductions

Summary (60 words or less):

GREEN TEAM MISSION STATEMENT AND REQUIREMENTS FOR A PROJECT TO BE REVIEWED AND APPROVED

Mission Statement: In continued pursuit of the city's goals to reduce greenhouse gas emissions, increase energy efficiency, decrease air pollution, and reduce energy expenditures as first adopted by the city in Resolution 01-271, the Nashua Green Team for the City of Nashua is hereby established.

Purpose: The purpose of this fund will be to establish a financial investment source for energy conservation or use reduction projects. The fund will be used as the investment source for projects aimed at improved efficiency in energy use. The fund will be perpetual and not expire at the end of each fiscal year.

Project Scope: This fund may be used to modify existing programs or facilities as well as fund improved infrastructure in new construction projects. The savings realized by the funding will be directed back into the fund to ensure the trust fund will be available for future projects.

Project Review and Selection: The applications will be evaluated on technical merit and the ability to demonstrate future savings on energy use. An energy audit with the use prior to and projections of use after the project will be required. The fund will only be used for projects that can demonstrate a payback on investment within 5 years. However, projects may be bundled into a single project at one site so long as the aggregate payback is less than 5 years. Project selection will be based on the time to realize the savings. Projects with the quickest payback will be considered before projects with longer payback periods.

Approval for Fund Expenditures: A sub-committee of the City of Nashua Green Team will review application and make recommendation for the projects considered for this program. The sub-committee will include the Aldermanic Representative, a member of the CIP committee and a minimum of three members of the Green Team one of which must be a representative of the general public, one a city representative and one being the treasurer. The funds from the Energy Conservation Expendable Trust Fund can only be approved and expended with a recommendation of the sub-committee of the City of Nashua Green Team and with approval of the City of Nashua Green Team at a legally posted and scheduled meeting. Any expenditure must meet all the requirements for bidding and purchase as required in the City of Nashua Green Team By-laws.

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May 15, 2009

Karen Douglas, Chairperson
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

RE: Energy Efficiency and Conservation Block Grant Program

Dear Chairperson Douglas:

On behalf of the California State Association of Counties (CSAC) and the Regional Council of Rural Counties (RCRC), we appreciate the opportunity to comment on the proposed guideline concepts for the allocation of the Energy Efficiency and Conservation Block Grant Program (EECBG). We recognize the time constraints involved in this process and appreciate the outreach efforts made by Energy Commission staff. In addition to suggestions for the proposed guideline concepts, CSAC and RCRC would first like to highlight an eligibility issue within the EECBG Program and the work the Legislature is doing to address this issue.

Background: American Recovery and Reinvestment Act of 2009 (ARRA)

On February 17, 2009 President Barack Obama signed into law the American Recovery and Reinvestment Act of 2009 (ARRA). The Act is a sweeping economic stimulus bill that provides resources to various programs and other efforts with the purpose of reinvigorating the nation's economy. ARRA includes an appropriation for energy efficiency and conservation grants which will, in part, flow through the Energy Independence and Security Act of 2007 (EISA). This federal program established an Energy Efficiency and Conservation Block Grant (EECBG) program, which provides grants to states and local governments with the purpose of aiding them in the reduction of fossil fuel emissions and energy efficiency and conservation projects. Last year's AB 2176 (Caballero, Ch. 229) further codified EISA in state law, requiring the California Energy Commission to administer the funds and direct them to local governments. The bill also included population thresholds for EECBG funds for small cities and counties, requiring that funds be allocated to cities with a population of less than 35,000 and counties with a population of less than 200,000.

The Problem: Population Thresholds and AB 2176

As with AB 2176, EISA established population thresholds for the EECBG program for funds allocated directly from the U.S. Department of Energy (DOE) to large cities and counties, requiring that a city have at least a population of 35,000 and county 200,000. However, the formula DOE is using to distribute ARRA funds subtracts eligible city populations from total county populations. As a result, thirteen California counties with populations over 200,000 are not directly eligible for DOE EECBG funds. Furthermore, these counties are not eligible for the small city/county EECBG program because their total populations exceed 200,000.

The Fix: AB 262

Assembly Bill 262, by Assembly Speaker Karen Bass, would solve this problem by striking the population threshold language from statute. This change would enable those counties

not eligible for a direct allocation from DOE to be eligible for the state-administered program. Without this legislation, thirteen California counties will not be eligible for ***any*** EECBG funding. AB 262 is currently on the Assembly Appropriations Suspense File. CSAC and RCRC are closely tracking the progress of this bill and encourage support for this important and necessary legislative fix.

EECBG Guideline Concepts

Counties support a combination of the guideline concepts presented by the Energy Commission staff at their EECBG Sacramento Workshop on May 8, 2009. In particular, CSAC and RCRC support a separate funding pool for small jurisdictions, as noted in Conceptual Program Three. As a result of DOE's allocation formula, there are 45 counties that fall into the state-administered EECBG program. Due to drastic difference in size and sophistication of counties within the state-administered program, we believe that special consideration should be given to smaller jurisdictions. CSAC and RCRC encourage the Energy Commission to provide technical assistance to the smaller jurisdictions so that they might be able to receive funding for eligible projects.

Additionally, CSAC and RCRC support grants and loans for planning purposes, as noted in Conceptual Program Five. Like the state, counties are facing difficult budget situations and any funds made available for planning purposes would greatly help counties tackle important planning activities for energy-related issues, such as climate change.

Finally, CSAC and RCRC support a combination of grants and low-interest loans as a means to allocate EECBG funds. AB 2176 established clear criteria for the allocation of the Energy Commission's EECBG funds, stating that grants should be prioritized based on cost-effectiveness and energy efficiency. A combination of competitive grants and low-interest loans will help to direct funds towards those projects that meet these standards.

CSAC and RCRC would like to thank you for the continued opportunity to play an active role in this process. Should you have any questions or need additional information regarding our comments, please do not hesitate to contact Karen Keene at 916-327-7500 ext. 504, or Cyndi Hillery at 916-447-4806.

Sincerely,

Karen Keene
CSAC Legislative Representative

Cyndi Hillery
RCRC Legislative Advocate

cc: John Sugar, Special Projects Manager, California Energy Commission
Pat Perez, Energy Security Manager, California Energy Commission

CALCC
California Association of Local Conservation Corps

Local Corps: A Large, Statewide Green Workforce

California is home to a valuable natural resource spread throughout the state: the largest, most well-established group of local youth conservation corps in the nation. These 12 organizations serve every major urban area. They constitute a workforce that is ready now to help the state maximize its federal stimulus funds by:

- Staffing projects that support the emerging green economy
- Training thousands of disadvantage young people from communities throughout California
- Helping the state meet its climate change and other environmental goals

Who Makes Up this Green Workforce?

Young adults between 18 and 25 years old, most of whom *dropped out or aged out of school*, join a local corps program because they are ready to put their lives back on track. Before finding the local corps many got involved with drugs, gangs and other self-destructive activities. Others come from transient and low-income families. They have confronted greater turmoil in two decades than most of us deal with in an entire lifetime; and yet, they are hopeful, smart and ready to do what it takes to put their lives back together while serving their California community.

Federal Stimulus Dollars Well Spent

We ask that the state include local corps in the federally-funded programs now being defined to quickly create jobs, training, and education for young, at-risk women and men whose numbers are growing throughout the state. Local Conservation Corps programs could quickly *create 3000 new employment and training opportunties* while helping the state meet its environmental goals. Corpsmembers have the power to clean the air, clear the waters, combat climate change, and improve our communities and our lives, all while they are improving their own. Local corps are highly effective models that work for California and the state's most at-risk young people; our heritage goes back to the Civilian Conservation Corps of the 1930s and the California Conservation Corps founded in the 1970s.

Project Experience

Energy Efficiency & Renewable Energy

- Energy conservation and alternative energy retrofits
- Solar panel installation & cleaning
- Weatherization of low-income housing

Water Conservation

- Water-saving retrofits and native drought-resistant landscaping

Climate Change Mitigation, Adaptation, and Land Conservation

- Construction and maintenance of park facilities
- Restoration of wetlands and other fish and wildlife habitats
- Reforestation and soil stabilization
- Urban tree planting and environmental enhancement

Disaster Response

- Local disaster recovery response after wildfires, floods, oil spills, earthquakes, and agricultural pest infestations

Transportation

- Transportation enhancement and other infrastructure projects

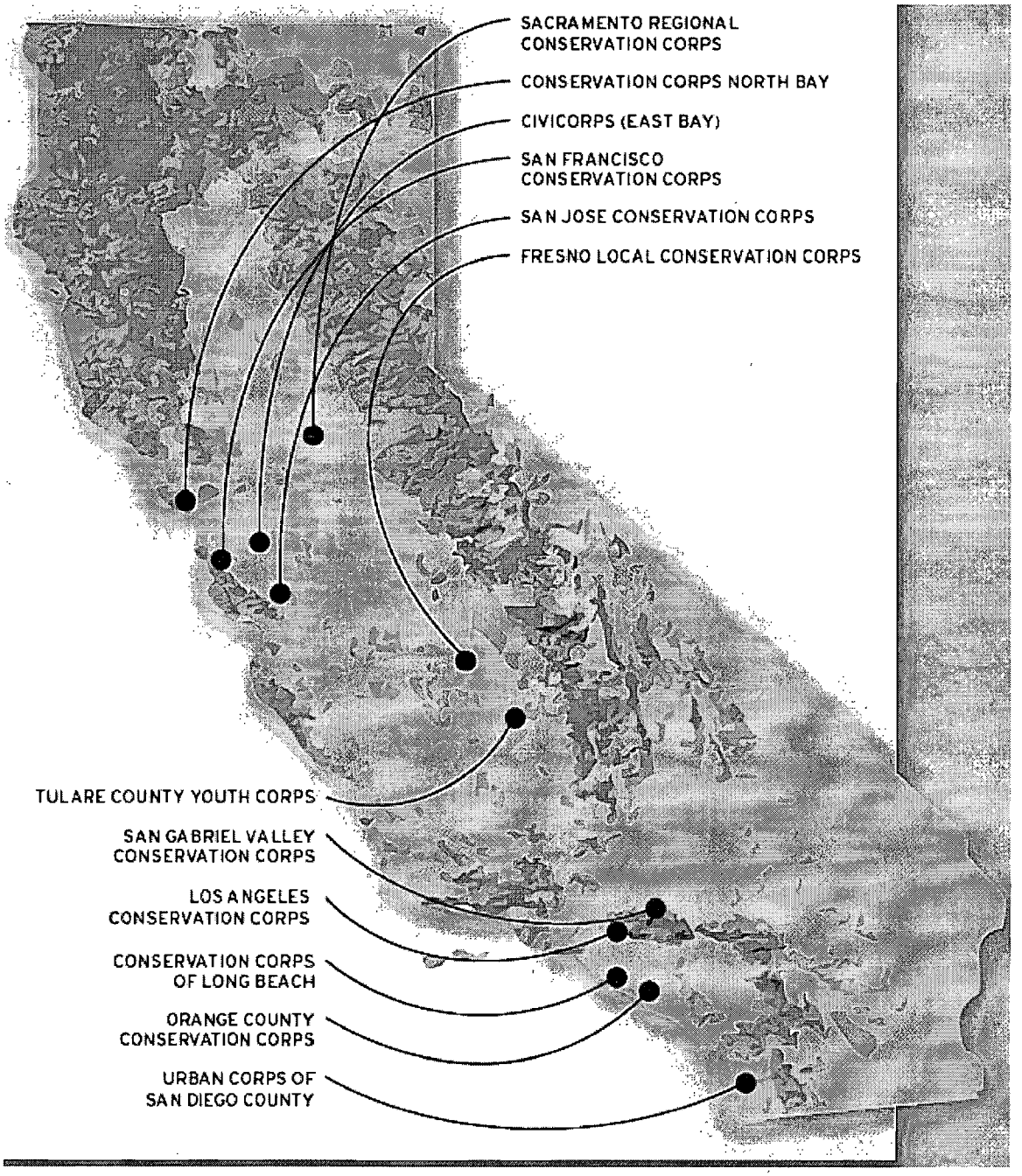
Recycling

- Beverage container recycling

Certified Community Conservation Corps CALCC

CALCC
California Association of Local Conservation Corps

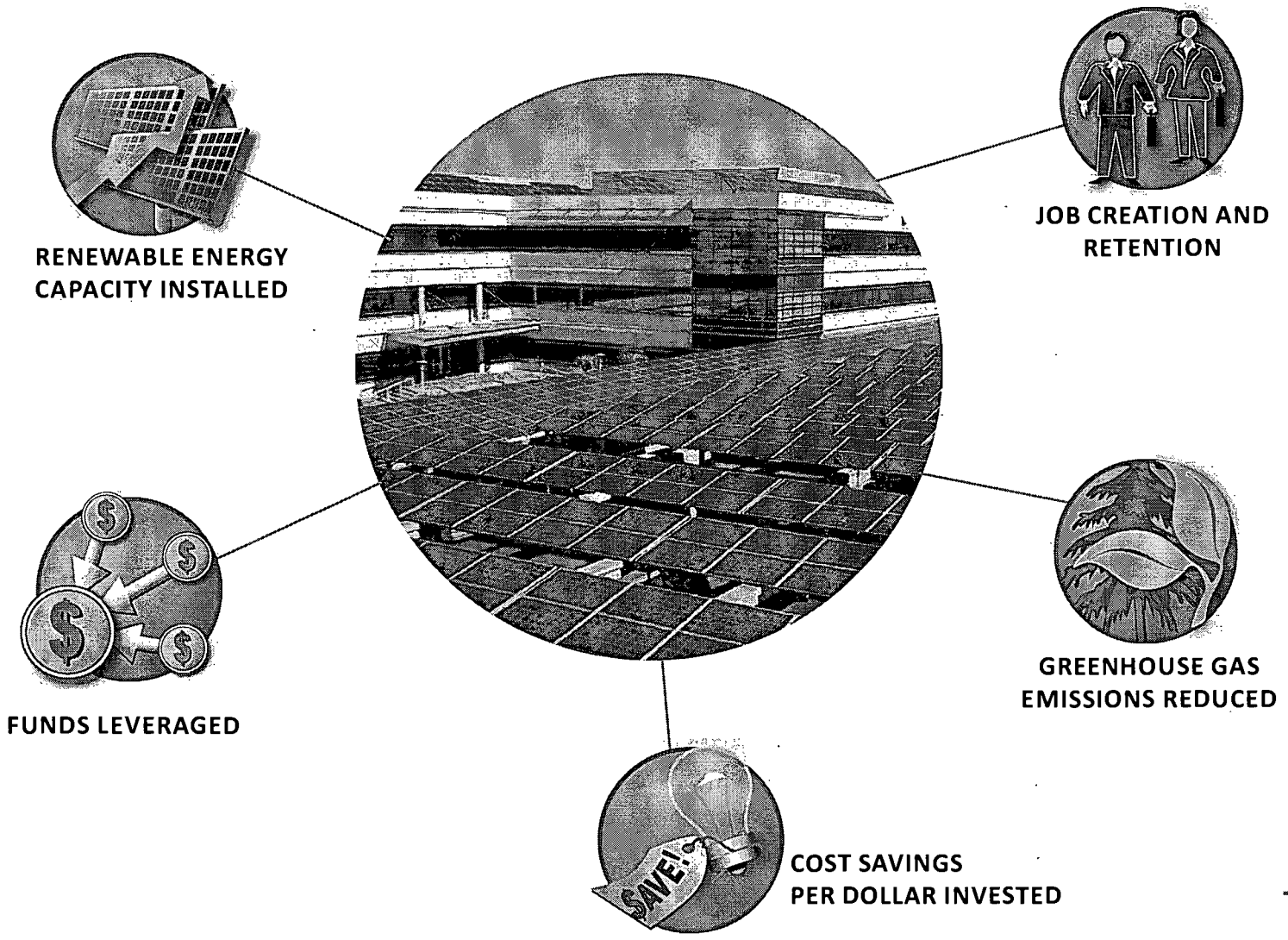
Local Corps: Greening California



How Will the Success of Your Stimulus Spending be Measured? Choose a Solar PPA

SOLAR POWER PARTNERS

The funds from the Department of Energy for the use of Energy Efficiency and Conservation Block Grant (EECBG) deliver long-term positive impacts to both your organization and the community. The following five performance metrics show the positive benefits of using the funding combined with a solar Power Purchase Agreement (PPA).



RENEWABLE ENERGY CAPACITY INSTALLED

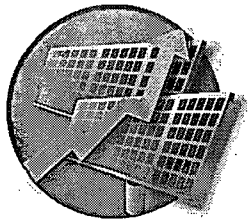
JOB CREATION AND RETENTION

FUNDS LEVERAGED

GREENHOUSE GAS EMISSIONS REDUCED

COST SAVINGS PER DOLLAR INVESTED

Turn over for explanations

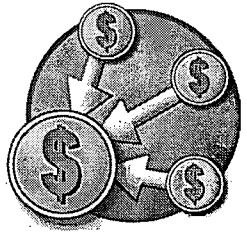


RENEWABLE ENERGY CAPACITY INSTALLED

Leveraging the stimulus funds with a solar PPA will increase the total renewable energy capacity installed.

Straight purchase $500K		Use $500k to buy down rate of solar PPA
• You get one 71 kW system	vs.	• You get four 250 kW systems (1 MW total)
• Additional cost for operation and maintenance		• No additional capital required, SPP covers maintenance costs

Using this calculation, you can get **14 times as much solar** by buying down the rate with a solar PPA.



FUNDS LEVERAGED

Leverage the best combination of public and private incentives.

Example: Using $500K of stimulus funds for renewable energy using a PPA can leverage multiple solar systems instead of just one system. Doing so will enable you to capture:

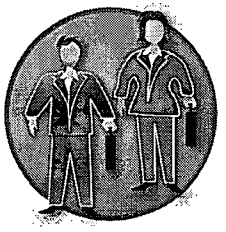
- The use of Solar Power Partners' private capital
- 30% Investment Tax Credit (ITC)
- Accelerated depreciation (accounts for 10% of system when monetized)

GREENHOUSE GAS EMISSIONS REDUCED

A 1 MW DC solar array reduces emissions equivalent to:

- Annual carbon dioxide (CO2) offset: **1532 metric tons**
- Carbon sequestered annual by: **10.7 acres of forest**
- CO2 emissions from: **1,738,50 gallons of gasoline consumed, 3562 barrels of oil consumed**, and **281 passenger vehicles**

Source: US EPA Greenhouse Gas Equivalencies Calculotor, www.epo.gov



JOB CREATION AND RETENTION

Initial solar installation will employ approximately 100 part time workers per 1 MW including:

- Local general construction workers
- Local solar integrators
- Local engineers
- Local project developers
- Local mowing and washing crews
- Local electricians
- Architects
- PPA provider
- Solar manufacturers

1 MW DC will create roughly 100 man hours of work per year and approximately 150 hours of labor per year per MW DC. This is several more times the number of workers than if you use a straight purchase system.

The importance of using some of your stimulus money for solar projects **on government buildings** (Item 13 under Eligible Uses of Stimulus Money):

- Helps establish the solar industry in your community
- Allows the community to become familiar with solar
- Builds job skills for solar projects

COST SAVINGS PER DOLLAR INVESTED

When you leverage each project using a PPA, the energy savings is maximized on a per stimulus dollar basis.

As an example, one of our customers with a 1.2 MW system saw an energy savings of $2 million over twenty years.

(Each project savings will vary based on a variety of factors that your PPA provider will disclose.)

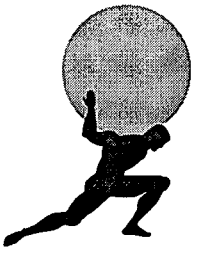
Additional considerations: less environmental impact statements for rooftop systems.

415.389.8981 • 866.361.1439 • info@solarpowerpartners.com • 100 Shoreline Highway, Suite 210 B, Mill Valley, CA 94941 • www.solarpowerpartners.com

American Recovery and Reinvestment Act (ARRA)/ Stimulus Bill Funds and Solar Financing:

Making Your Funding Go Further

Information about using your funding to pay down solar financing and making the most of solar energy projects



SOLAR POWER PARTNERS

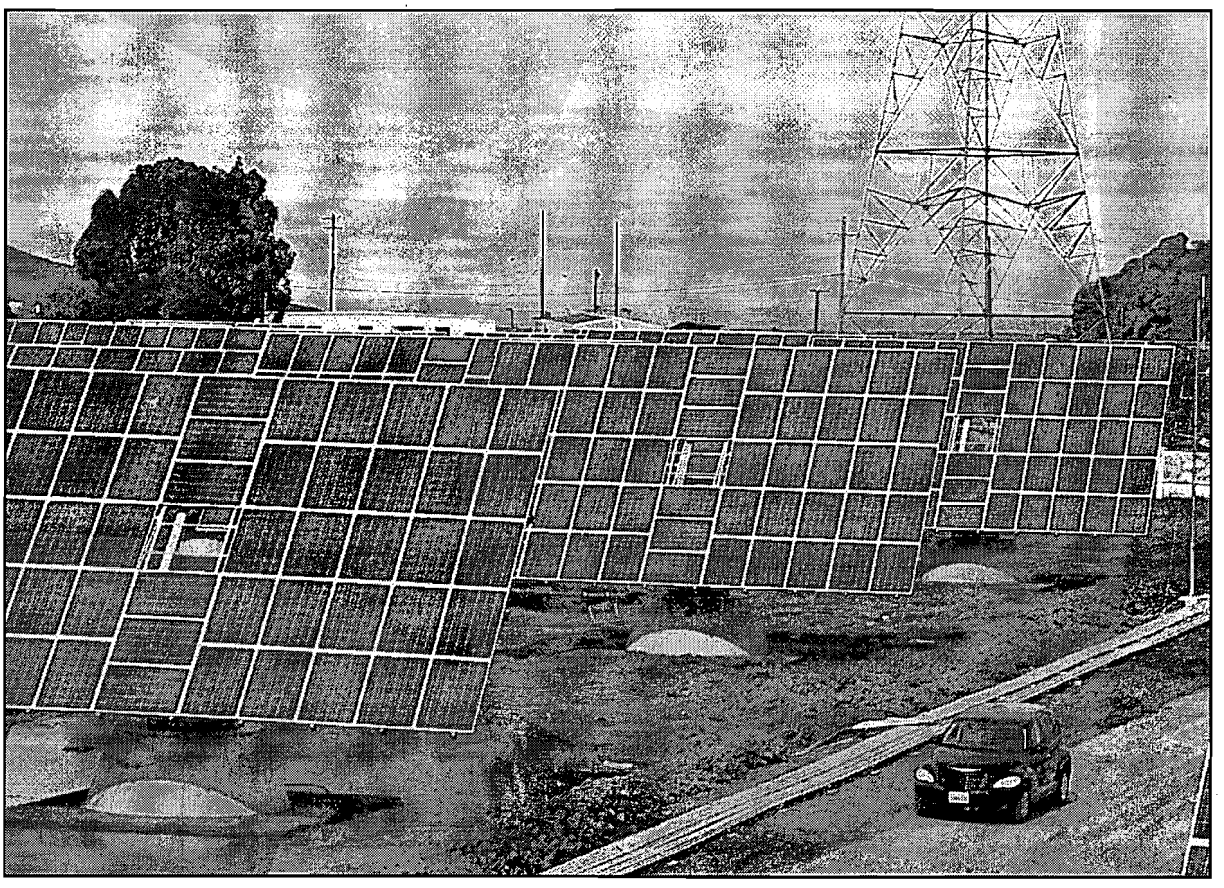
Summary

Congratulations on receiving funding from the American Recovery and Reinvestment Act (ARRA)/ Stimulus Bill! You can use this funding for renewable energy projects (such as a solar energy facility on your site) that will not only create jobs and help the environment, but most importantly reduce your future energy costs.

This document was put together to give you information about how to make your funding go as far as possible. It contains the following important pieces of information:

- Solar energy facilities not only create jobs and help the environment, but **reduce your future energy costs.**
- Use a part of the Stimulus Bill funding to **pay down a small portion of the distributed generation solar projects cost** by signing power purchase agreement (PPA) for 15-20 years.
- Use solar project financing to leverage your stimulus funds to provide the greatest environmental benefits and job creation (you'll get **three to more than ten times** the amount of solar than if you purchased a solar system outright).
- You have **a limited amount of time** to spend these funds. **Distributed solar is a proven technology that enjoys fast permitting** (1-2 months— can request financing same time as permitting), ready available product and no dependence on transmission infrastructure.
- Jobs can be generated immediately.

Contents



West County Wastewater District, 1.014 MW, Solar Power Partners

1. Information About Leveraging Your Stimulus Funding

How it Works

You can use a part of the Stimulus Bill funding to pay down a portion of the distributed generation solar projects cost of buildings by signing a solar Power Purchase Agreement (PPA) for 15-20 years. Stimulus Bill grants are a good opportunity to leverage the impact of public funds in combination with private equity, outside funding, and tax credits not available to non profits, thereby increasing your overall return on investment.

Timing

You have a limited amount of time to spend these funds. It is important to begin preliminary site assessment and financial modeling as soon as possible. Distributed solar is a proven technology that uniquely enjoys fast permitting (1-2 months— can request financing same time as permitting), ready available product, and no dependence on transmission infrastructure.

Solar Power Partners' process is to commence construction immediately once we receive financing, and upon engineering and design approval. Projects usually take 3-6 months to complete. This is a huge advantage of distributed generation for economic stimulus; you will create jobs right away.

Job Creation Benefits

Power Purchase Agreements leverage your stimulus funds to provide the greatest environmental benefits and job creation. With a solar Power Purchase Agreement, systems can be three to ten times larger with the same amount of Stimulus funding, which in turn creates that multiplier of jobs. For distributed generation solar, on average a projects will employ 100 PT workers per MW (the length of time depends on the employee's role). These jobs are usually local.

In addition, substantial job creation comes from manufacturing and other support services such as financing and suppliers.

Environmental Benefits

Larger systems offset more carbon-based energy.

A solar system sized 115 kW might have an estimated annual output of 165,307 kWh. That is equivalent to 119 metric tons of carbon dioxide offset, or 13,507 gallons of consumed gasoline.

By comparison, a solar system sized at 1.1 MW might have an estimated annual output of 2,101,925 with an equivalent 1,510 metric tons of carbon dioxide offset, or 171,396 gallons of consumed gasoline.

(Calculation source: Greenhouse Gas Equivalency Calculator, US Environmental Protection Agency, www.epa.gov. System sizes are taken from actual Solar Power Partners systems.)

2. About Solar Financing

Solar Power Purchase Agreements (PPAs) are an excellent way to take advantage of Stimulus Bill funding. They are discussed below.

What is a solar Power Purchase Agreement?

A solar Power Purchase Agreement (PPA) is a long-term agreement to buy power from a company that produces electricity, and serves as an excellent alternative to leasing or owning the system. Using our own source of funds, we build a solar energy facility on our customer's site and operate and maintain the facility for 20 years or longer.

Simply put, solar PPAs have become the de-facto standard for how more than 70% of all commercial solar is completed today.

Features and benefits of a solar PPA:

■ **Predictable rate of electricity.** Your PPA rate is preset over a 20+ year period and is immune to utility rate hikes. This acts as a strong hedge against rising energy costs and is a terrific way to save money on your electricity bill. For example, our Fresno Yosemite International Airport (2.4 MW) system expects to save about $13 million in electricity costs over the 20-year term.

■ **You can take advantage of the solar Investment Tax Credit (ITC).** Especially for government and non-profit organizations, the added benefit of the federal ITC of 30% of the system cost, which we can monetize on the tax-exempt entity's behalf in the form of a reduced PPA rate. Such entities cannot otherwise utilize the ITC on their own, which means even on a 0% interest loan or grant, they would be paying 40% more for the system (w/o ITC + associated depreciation)

■ **Unlike a lease, no risk or cost of operation and maintenance.** Solar PPAs remove all of the hassle associated with large solar systems: operations, maintenance, and long-term management. SPP shoulders all of the the operations costs and performance risk. If the system does not produce energy, you do not pay.

How does a solar PPA increase the stimulus bill funding cash?

You can use a part of the Stimulus Bill funding to pay down a portion of the solar project costs when using a solar PPA, which in turns creates lower energy rates for you than you would normally have.

With a solar PPA, you are entering into an agreement with an experienced, knowledgeable PPA provider, who can commence construction immediately after receiving financing and engineering and design approval. This means that you will get jobs right away. Projects usually take 3-6 months to complete depending on size and application type.

3. Choosing a Solar Finance Provider

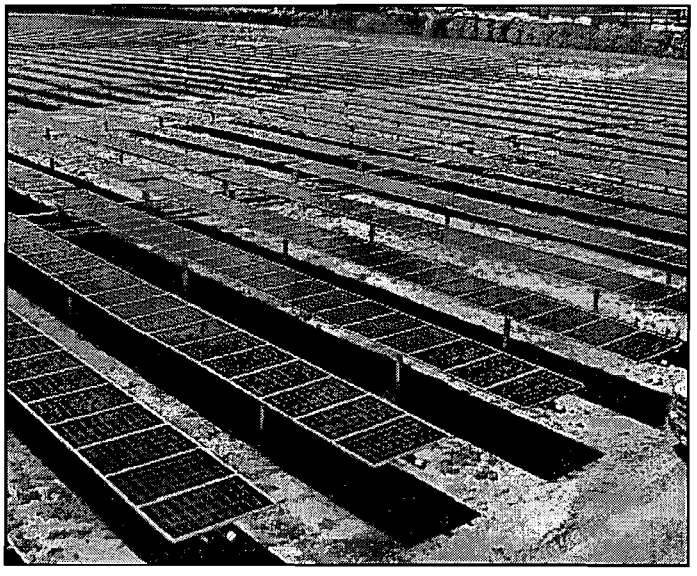
The benefit to adopting a solar PPA is that the system will not be owned or operated by you. You will need to work with a solar PPA provider that:

1. Has a track record of successful projects, particularly with the type of system you require.
2. Has installation expertise and knowledge, and is confident that every step of the process will be technologically the best possible.
3. Will work with you for twenty or more years (long term stability).
4. Provides assurance that they are committed to you and your needs.
5. Partners with top-tier banks and installation partners.

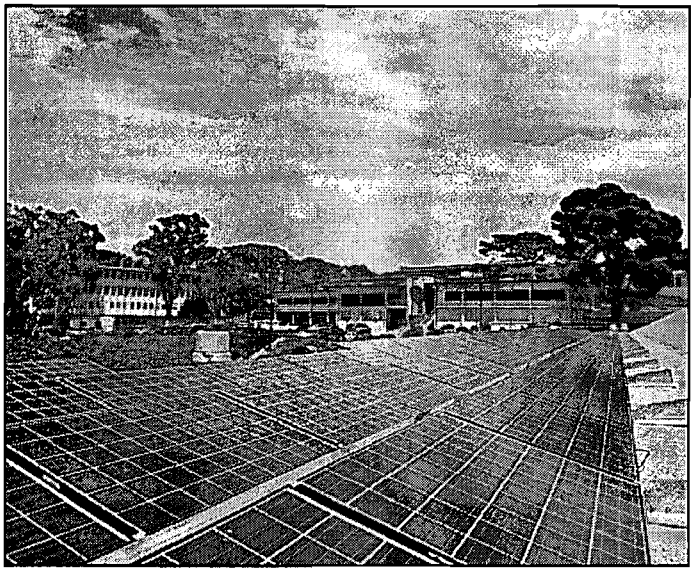
A solid proposal and track record of completed projects will indicate a solid solar PPA provider.

Working with a solar financing company and PPA provider means that you will partner with the company for twenty or more years. Make sure the company has:

- **A proven track record with your type of project**
- **Easy, streamlined processes**
- **In-house knowledge and expertise**
- **Willingness to negotiate and manage any part of the process you need**
- **Completed, successful similar projects in operation**



Fresno Yosemite International Airport, 2.4 MW, Solar Power Partners



Point Loma Nazarene University, San Diego, 357.32 kW, Solar Power Partners

Download a copy of our paper, Questions to Ask a Solar PPA Provider, at:

http://www.solarpowerpartners.com/PDFs/QuestionstoAsk.pdf

4. Overview of the Typical Process

The following six process steps to modeling, financing, and building a solar system are taken from Solar Power Partners' general processes. SPP stands by their thorough and meticulous methodology, which has successfully worked for over 37 solar systems in operation.

1 Customer and Site Qualification

- Initial customer engagement
- Feasibility assessment
- Energy, credit, property profiling
- Financial modelling and preliminary solar PPA

2 Financing

- Negotiate PPA terms
- Finalize and sign PPA
- Rebate application

3 Engineering

- Construction planning
- Engineering, Procurement and Construction (EPC) Agreement

4 Construction

- Complete construction management
- Documentation control

5 Test

- Building code inspection
- Utility grid connection approval
- Acceptance testing
- Installer deliverable verification

6 Operate

- Commissioning
- Ongoing monitoring
- Detailed asset management (see below)

Information about Asset Management

Asset management is one of the most important components of a large-scale solar energy facility. The solar provider should have the resources, technology, and track record of total management for the facility. The following abilities make up the core competencies and policies of the Solar Power Partners Asset Management team.

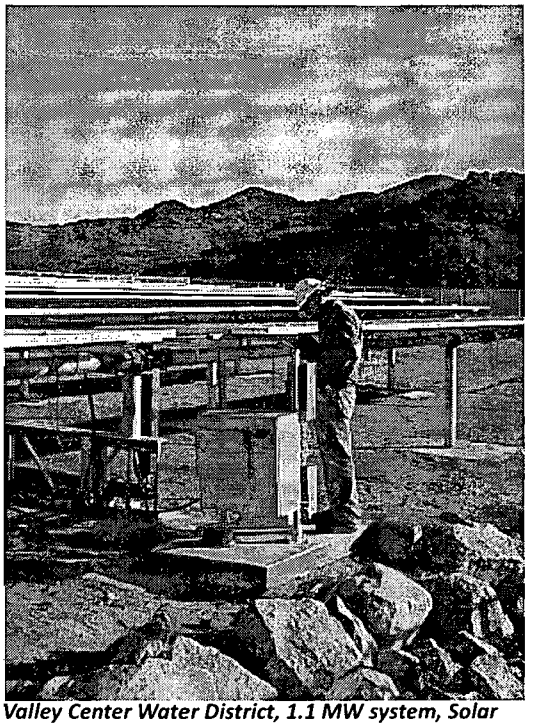
- Commitment to optimized energy performance and system life in order to maximize long-term asset value

- State-of-the-art, string-level monitoring solutions for fine-grained operational facility reported at regular intervals during daylight hours

- Tailored preventive maintenance and array cleaning solutions for each facility

- Assets within the facility are carefully tracked, including warranties, maintenance intervals, repair history, soft ware versioning, and overall component performance characteristics

- Minimized investor risk, maximize system uptime and kWh production, and eliminate host operational responsibilities



Valley Center Water District, 1.1 MW system, Solar Power Partners

5. About Solar Power Partners

Solar Power Partners, Inc. (SPP) is a renewable energy company that helps businesses, institutions, municipalities and agricultural customers embrace solar energy. SPP develops, owns, and operates distributed solar energy facilities (SEFs) and sells solar-generated electricity through solar Power Purchase Agreements (PPA), long-term energy financing solutions that help customers go green without the hassles or costs of solar facility ownership and maintenance.

SPP serves the continental United States and Hawaii and teams with the nation's best solar integrators for customized, renewable energy installations. SPP's customers include water districts, schools, colleges and universities, hospitals and healthcare facilities, airports, detention centers, commercial facilities, agricultural facilities, and municipalities.

SPP is one of the few companies that have substantial PPA experience; we have experience and in-house expertise to navigate a variety of goals and situations.

Your Long-term Partner

We've maintained the same core team and strategy from company inception. We're committed to relationships through the twenty year terms of the agreements and beyond. We're a bankable company with premier corporate and project energy investors who ensure our short term execution capability and long term viability.

A Provider with Proven and Reliable Modeling

Part of our core mission is to provide honest, accurate modeling. We back this up by sharing details of our analyses and providing line by line walkthroughs of our calculations if needed. We price projects based on today's figures, not forecasts, and are committed to sharing that information with the industry. If costs come down before product is paid for, we share the savings with you. Likewise, we'll never inflate or overstate equipment performance or site analysis.

Experts in our Field

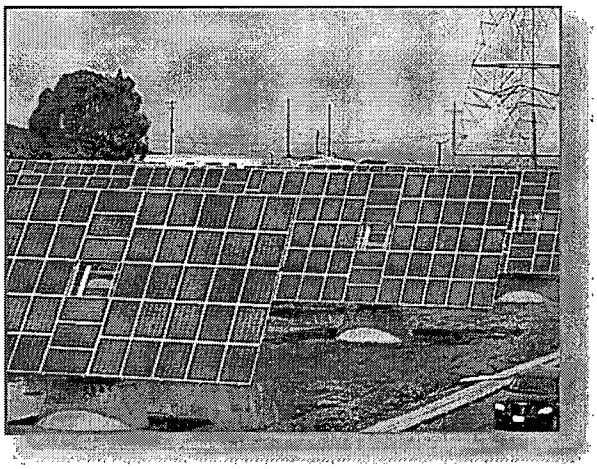
With specialists on the team in engineering, construction, tax equity relations, government affairs, and financial modeling, we deliver a knowledgeable, personalized, and detailed level of care at every step of the process.

Experienced Solar Owners and Managers

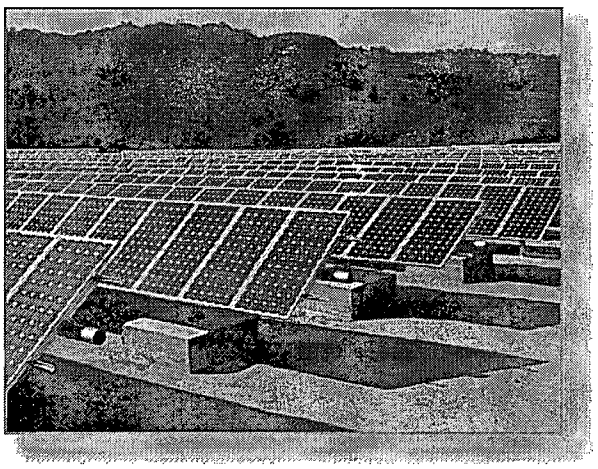
With a large portfolio of successful, completed projects in operation, we're prepared to take on a variety of sites, technology, and deployment. Our solar Power Purchase Agreement (PPA) is streamlined and easy, and we are ready to assist with rebate and REC credit application and management.

Solar Power Partners Representative Projects

Water Districts

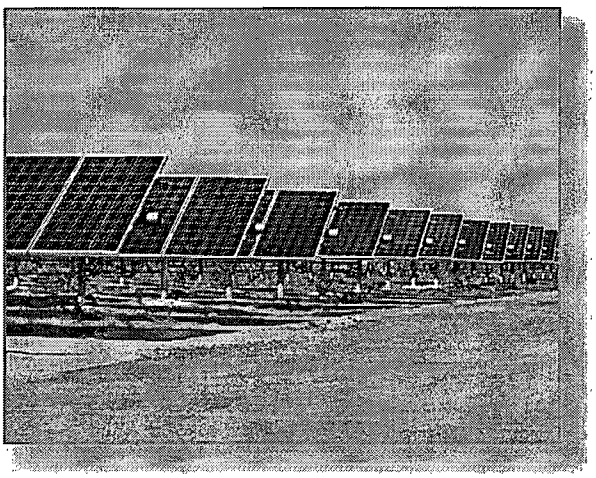


PROJECT	**West County Waste Water**
LOCATION	Richmond, CA
SIZE	1.4 MW DC
TYPE	Ground tracking
COMPLETION	December 2008

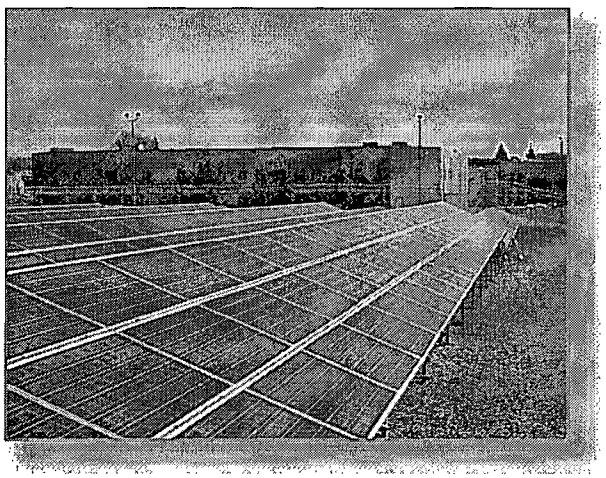


PROJECT	**Valley Center Water District**
LOCATION	Valley Center, CA
SIZE	1.1 MW DC
TYPE	Ground tracking
COMPLETION	December 2008

Municipalities

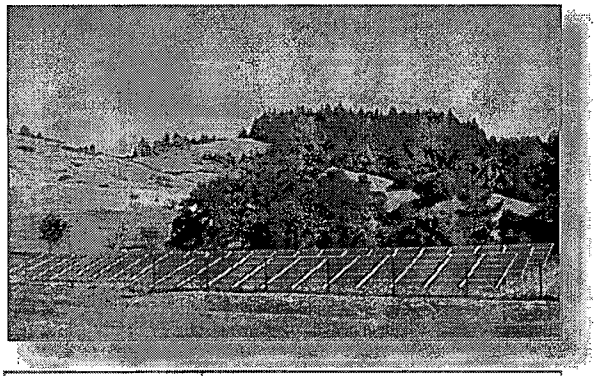


PROJECT	**Fresno International Airport**
LOCATION	Fresno, CA
SIZE	2.4 MW DC
TYPE	Ground tracking
COMPLETION	September 2008

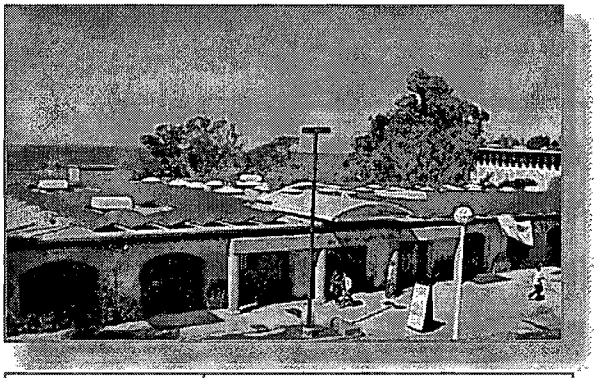


PROJECT	Placer County Detention Center
LOCATION	Auburn, CA
SIZE	399.96 kW DC
TYPE	Ground fixed
COMPLETION	March 2008

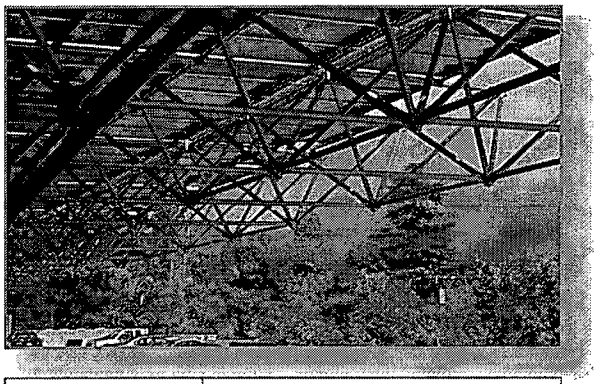
Schools and Universities



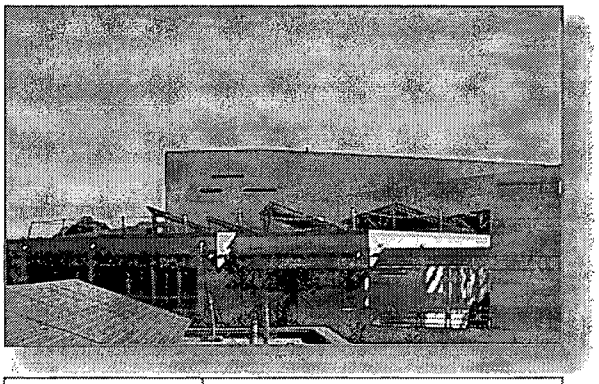
PROJECT	**Lagunitas School District**
LOCATION	Lagunitas, CA
SIZE	57.00 kW DC
TYPE	Rooftop fixed
COMPLETION	December 2008



PROJECT	**Point Loma Nazarene University**
LOCATION	San Diego, CA
SIZE	534.64 kW DC
TYPE	Roof fixed
COMPLETION	December 2008

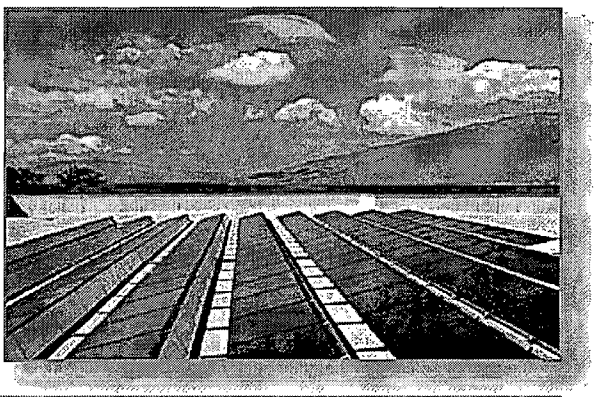


PROJECT	**CalTech**
LOCATION	Pasadena, CA
SIZE	238.68 kW DC
TYPE	Raised fixed
COMPLETION	December 2008

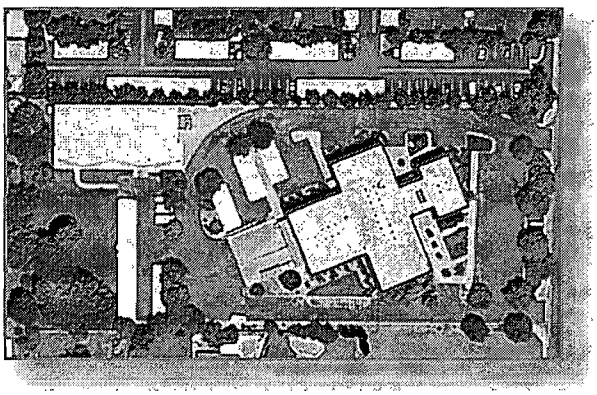


PROJECT	**UC San Diego**
LOCATION	San Diego, CA
SIZE	1.2 MW DC
TYPE	Raised and roof fixed
COMPLETION	Dec 2008 and Jan 09

Nonprofits

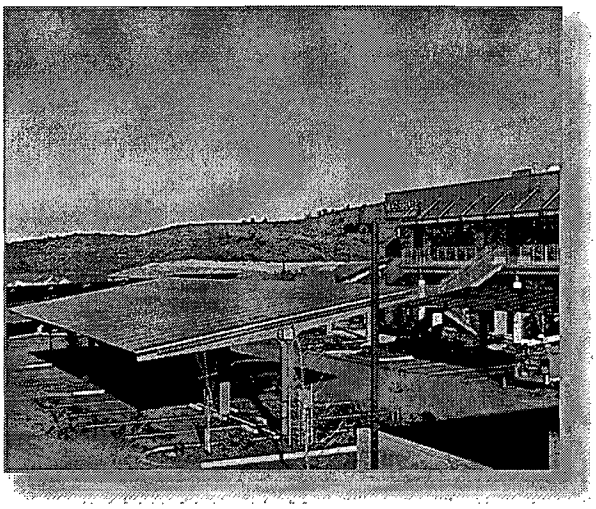


PROJECT	**Maui Economic Dev Board**
LOCATION	Maui. HI
SIZE	65.00 kW DC
TYPE	Roof fixed
COMPLETION	November 2008

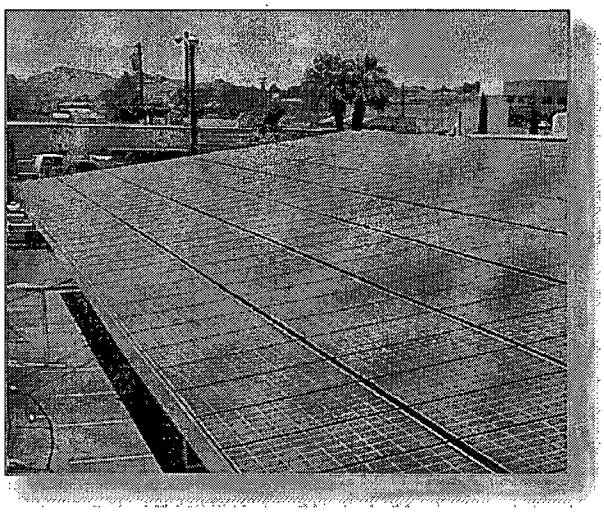


PROJECT	**Seventh Day Adventist**
LOCATION	Clovis, CA
SIZE	103.71 kW DC
TYPE	Rooftop fixed
COMPLETION	May 2008

Healthcare Facilities

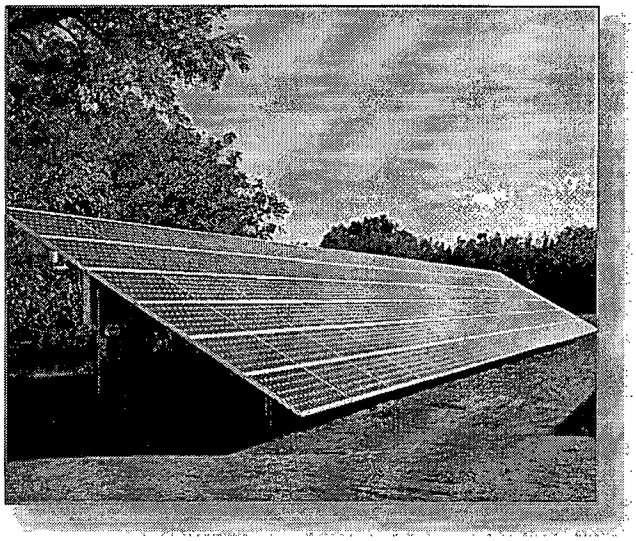


PROJECT	**Marshall Medical**
LOCATION	Cameron Park, CA
SIZE	669 kW DC
TYPE	Raised fixed
COMPLETION	December 2008

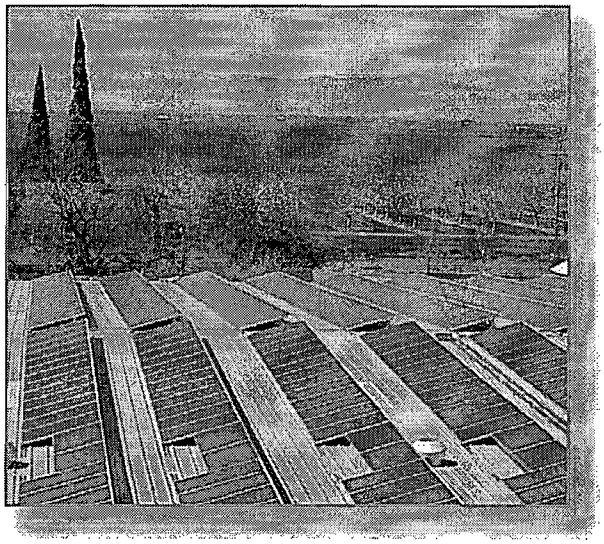


PROJECT	**St. Mary's Hospital**
LOCATION	Apple Valley, CA
SIZE	226.80 kW DC
TYPE	Raised fixed
COMPLETION	December 2008

Agricultural Facilities



PROJECT	**Abbey Ranch Winery**
LOCATION	Vina, CA
SIZE	59.40 kW DC
TYPE	Ground fixed
COMPLETION	March 2008



PROJECT	**Borges of California**
LOCATION	Glenn, CA
SIZE	269.78 kW DC
TYPE	Rooftop fixed
COMPLETION	April 2008

Solar Power Partners References

The following references for completed Solar Power Partners projects are available:

Municipalities

Fresno Yosemite International Airport
Contact: Kevin Meikle, Airports Planning Manager
Phone: (559) 621-4536
E-mail: kevin.meikle@fresno.gov

Contact: Russell C. Widmar, Director of Aviation
Phone: (559) 621-4600
E-mail: russ.widmar@fresno.gov
Project: 2.4 MW single-axis tracking array, ground-mount

Water Districts

West County Waste Water District Project
Contact: EJ Shalaby
Phone: (510) 222-6700
E-mail: eshalaby@wcwd.org
Project: 1 MW dual-axis tracking array, ground-mount

Valley Center Municipal Water District
Contact: Gary Arant
Phone: (760) 749-1603
E-mail: Garant@vcmwd.org
Project: 1.1 MW single-axis tracking array, ground-mount

Redwood Valley Water District
Contact: Bill Koehler, General Manager
Phone: (707) 485-0679
E-mail: gmrvcwd@pacific.net
Project: 99.2 kW ground-mount array

Schools

California Institute of Technology (CalTech)
Contact: Bill Irwin, Senior Director of Facility Manager
E-mail: bill.irwin@caltech.edu
Project: 240 kW raised fixed parking structure

Point Loma Nazarene University
Contact: Richard A. Schult, Director, Physical Plant
Phone: (619) 849-2571
Project: 534.64 kW Roof array

University of California, San Diego (USCD)
Contact: Dave Weil, Assistant Director, USCD Facilities Management
Phone: (858) 534-1778
Project: 1.2 MW mixed parking and roof arrays

Next Steps

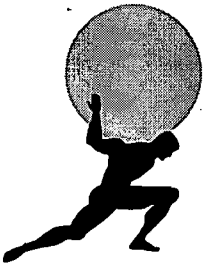
We would be happy to model energy/electricity savings for you. We can structure a solar PPA several ways to meet specific policy goals and are ready to discuss them with you.

For specific financial analysis on your project please contact:

Todd Michaels
SVP of Project Development
todd@solarpowerpartners.com
(415) 259-3605

For more information on your stimulus funding please contact:

Genevieve Nowicki
Director of Government Relations
gnowicki@solarpowerpartners.com
(415) 389-8981 x740.



SOLAR POWER PARTNERS

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Mill Valley, CA 94941
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info@solarpowerpartners.com
www.**solarpowerpartners**.com

June 18, 2009

TO: California Energy Commission, EECBG@energy.state.ca.us

FROM: Carolyn Bloede, Sustainability Program Manager, General Services Agency, County of Alameda
Nicole Almaguer, Environmental Specialist, City of Albany
Kevin Jackson, Assistant Planner, City of Piedmont

RE: Allocation of the Energy Efficiency and Conservation Block Grant Program Funding from the American Recovery and Reinvestment Act of 2009 to Small Jurisdictions[1]

As stated in our May 18 comments, our preferred method for the CEC to distribute Energy Efficiency and Conservation Block Grants would be through a **per capita allocation**. If the CEC chooses not to pursue this route, we propose the following alternative allocation be considered. We believe this proposal would minimize administrative burdens for both the CEC and small jurisdictions.

The California Energy Commission (CEC) could allocate the greater part of the $29.8 million of the Energy Efficiency and Conservation Block Grant funding for eligible small jurisdictions to **establish energy manager positions**. The funding would build capacity within local governments to sustain a full-time position responsible for reducing the jurisdiction's energy use.

- **This approach would address the greatest challenge to small jurisdictions, which is staff time to manage projects.**
- **The energy manager position would be funded for one year, then become self-sustaining through capturing a portion of the energy savings.**
- **A threshold would be created using population and geographic proximity factors to determine which jurisdictions would share one energy manager position.**[2] Sharing an energy manager between communities will increase regional collaboration and could lead to other savings such as reduced pricing on energy efficiency or renewable energy technologies through bulk purchasing agreements.

California is already a leader in energy efficiency; imagine what could be accomplished if hundreds of cities had dedicated energy managers on staff to institutionalize energy efficiency and renewable energy as a priority and to coordinate energy efforts throughout the local government and the community.

Program Design

The CEC would need to define administrative costs as costs to manage grant activity. Staff time to deliver and complete projects would be an integral part of the project.

---

[1] This letter supplements our comments in a joint letter on Block Grants also dated June 18.

[2] ICLEI estimates that communities with total annual energy costs of about $5 million will generally support a full-time energy manager.

Creating a Network – CEC Support

The CEC could achieve economies of scale in its services by offering standardized training and materials for this cohort of managers. The CEC could support the network in the following ways:

- Provide job description templates;
- Hold a kick-off conference;
- Provide a road map/structured program of how to create a baseline, select initial projects, and obtain financing for government facility programs;
- Connect experienced energy mangers with the group to share what they've learned;
- Provide guidance for community programs for jurisdictions that have limited government facilities or have already addressed them;
- Create a combined purchasing network to achieve economies of scale.

Other Technical Support

ICLEI has created a program to support the creation of municipal energy offices; both member and non-member jurisdictions can access these resources.

Allocation Amounts

With the allocation of approximately $100,000 for each energy manager,[3] it is expected that the initial seed funding would provide sufficient time for the energy manager to identify enough savings to make the position self-financing by the time Block Grant funding ends.[4]

County allocations will need to consider total county populations. The DOE has subtracted populations of cities over 35,000 when calculating county populations. However, counties provide services such as justice and public health countywide, and as a result have infrastructures whose size reflects the total population of the county.

Benefits

Creating energy manager positions at small cities and counties statewide meets the federal government's goals for the stimulus funding – to create jobs and reduce energy consumption over the long term.

Job Creation

The CEC would immediately create hundreds of green jobs for energy managers. This proposal would also leverage the funding by creating opportunities for local firms and energy service companies to

[3] Exact allocation amounts would be determined based on local salaries and cost of living in regions of California.
[4] Any jurisdictions which do have an energy manager could use the funds to hire a project manager to implement additional or more advanced projects than current capacity allows.

complete projects identified by the energy manager; this will build capacity for delivering energy savings in the residential and commercial sectors.

Long-term results

By giving seed funding to support the creation of ongoing energy conservation activity and providing staff to manage energy projects, the CEC would see a long-term commitment to prioritize energy efficiency and conservation. In contrast, without support for staff, grant funding is likely to be used for one-time projects. See Appendix 1 for tasks energy managers could carry out.

Energy Savings

Local governments most successful at energy conservation are those that have energy officers dedicated to monitoring energy use. Most small communities do not have dedicated energy staff, and would greatly benefit from on-going guidance and evaluation of their energy use. We expect that, with assistance, even in the first year, energy managers can generate annual energy savings of 5 to 20 percent, leading to substantial cost savings for municipalities. In almost all cases, municipal energy officers pay for their own positions through energy savings and grant writing (i.e., securing new funds). See Appendix 2 for examples of municipal energy manager accomplishments.

Capacity Creation

The largest challenge to small jurisdictions is staff time to manage projects. It is extremely challenging to create and manage long-term effective programs and strategies without staff capacity. Without building staff capacity, grants will result in one-time projects.

By tracking and measuring project impacts, an energy manager can help make small cities more competitive for grant funding.

Cultural Change

Unlike a one-time project such as a lighting retrofit, a staff position can create a cultural change in an organization. With a visible, on-site champion responsible for energy conservation projects and strategy, organizational priorities will shift.

Streamlining Grant Administration

By directing the funding solely towards energy manager positions, the CEC will streamline the administrative tasks associated with managing this funding. By having a single point of contact, the energy office will provide transparency and accountability for the EECBG program.

Conclusion

We acknowledge this is a novel approach to allocating the funding; however, we feel this solution enables small communities to build the capacity to ensure job creation and energy reductions over the long term.

Appendix 1: Scope of Work

Examples of the type of work energy officers might do:

- Produce a baseline inventory of all energy use by facility and operation;
- Identify impacts of energy projects already completed;
- Estimate future energy use, assessing the potential value of energy improvements,
- Draft an energy efficiency and conservation strategy;
- Conduct surveys of employee behavior to identify potential energy savings;
- Review energy bills to check for accuracy and identify over-payments;
- Perform systematic audits of municipal buildings and facilities to identify potential energy savings;
- Act as project manager for retrofits of municipal buildings and facilities;
- Hire energy service companies to carry out projects and obtain savings;
- Implement energy projects and programs;
- Secure resources to implement the energy strategy;
- Serve as point of contact for new energy information and opportunities including public/private partnerships;
- Support countywide energy efficiency financing district development;
- Identify sources of funding or assistance and apply for them;
- Track and communicate results; and
- Raise the visibility of the program community-wide.

Appendix 2: Existing Models

Model Grant Program

The Bay Area Air Quality Management District has created capacity-building grants with a similar structure that have enabled Bay Area jurisdictions including San Mateo County, the City of Newark, and Marin County region to hire energy/climate managers.

While the focus is not solely energy efficiency, the results are illustrative of the potential of dedicated staff: By having a full-time staff coordinator, since November 2008, the Marin Climate & Energy Partnership has been able to establish a Green Building and Energy Task Force to implement upgraded green building ordinances, initiate steps towards the establishment of a countywide sustainable energy financing district, raise an additional $125K in funding and substantial in-kind staff support, apply for federal funding to install electric vehicle charging stations, identify potential for solar shade structures over key parking lots, and develop concepts for long-term funding feasibility such as a solid waste fee.

Energy Program Manager Successes

Ann Arbor, Michigan has saved $6,000,000 in the past 10 years by having an energy coordinator to access grants and rebates and capture energy savings.

At Alameda County, our Energy Program estimates that energy-efficiency retrofits that have been put in place for over the past decade are saving the County $6,000,000 per year. This is a demonstrated record of success. With a second energy program manager, we could create even more dramatic results.

"Small" Jurisdictions Need Funds for Energy Managers

We hope the Commission will provide guidance and support on the use of funds for energy program staffing. At the Santa Rosa meeting an audience member asked whether communities could use funds for energy managers, and it was unclear whether the Commission would view this as an administrative expense. Many small communities do not have any dedicated energy staff due to lack of start-up funds. However, if we could share funds among our neighbors to support an "energy manager at-large" the way we often share city attorneys, we would see significant long-term savings as the energy manager provides on-going evaluation of our energy use and is able to implement projects. It is probable that the energy manager would identify enough savings to make the position self-sufficient by the time ARRA funding ends, meeting the goal of extending the impact of the grant beyond the funding period.

3) Ensure Eligible Programs Include All Eligible Categories Permitted by the DOE

At the recent meeting, it was not clear whether renewables, transportation efficiency, materials efficiency, or building codes would be eligible for this program. We recognize the importance of the energy loading order, and support the evaluation of projects based on energy impacts. However, this program is equally about job creation and long-term economic development. Communities need to be able to choose what actions will best meet all of these goals in their unique contexts.

For some small communities, transportation-related projects, for example, may make the most strategic sense. As stated in the AB 32 Scoping Plan, "land use planning and urban growth decisions are also areas where successful implementation of the Scoping Plan relies on local government."

Other communities may have already addressed significant energy efficiency improvements, and are now at a place where it is a good investment decision to leverage subsidies and incentives for renewable energy projects, in combination with EECBG funds. Use of EECBG funds for this purpose will create green jobs and help spur the development of a green energy infrastructure. In addition, leveraging of these outside sources for renewable energy is guiding principle from the DOE.

Furthermore, small counties and cities are partnering with neighboring jurisdictions that did receive substantial formula grants. For example, Alameda County jurisdictions are partnering to develop a model countywide energy-efficiency retrofit program with rigorous technical standards, targeted outreach, contractor training, and performance verification. This program includes materials efficiency and renewables, and it makes it difficult for the entire county to partner if the County and its small cities receive funds with additional restriction. That is, small communities will not be able to offer comparable services to its constituents.

For these reasons, we encourage the Commission not to exclude any eligible category of activity permitted by the DOE.

Create a Menu of Projects

The Commission could provide a list of preset regional projects that small communities could opt into, such as a residential or commercial audit program. This would reduce project development costs while also encouraging regional implementation. Some communities do not have the time or experience to determine which programs are most suitable, and the Commission could help in this process by developing – or allowing regional partners to develop – a set of menu-driven programs.

If such an approach is under consideration, ***we want to emphasize that this should not be the only approach.*** Some communities may already be working with local energy efficiency programs (as developed through the CPUC Local Government IOU-Partnership programs) or have very clear ideas about the kinds of programs they need to develop and should be given the freedom to develop custom programs.

4) Define the Cost-effectiveness Criterion to Consider Key Goals

We recognize that the cost-effectiveness criterion is a legacy of AB 2179 which may be overridden by AB 262 or similar bills. If it is not, we suggest that the cost-effectiveness criterion be understood from a long-term perspective. Programs such as audits, outreach, and regional blueprint planning build capacity and political will in our communities; they are proven to be critical for building momentum and achieving long-term energy savings.

Interpreting the cost-effectiveness criterion as described in the recent Commission public meetings (e.g., focusing on quick payback retrofits within government facilities) will not allow these key programs. Instead it will encourage one-time programs that do not meet Block Grant goals. Direct-install-type projects are by their nature one-off programs: They will not build capacity, lead to ongoing employment, or create strategic reductions. In fact, they may create the very boom and bust cycle the CEC and DOE are seeking to avoid.

Short-term payback projects are already well supported by the IOU rebate programs. While additional funding to close the gap between total project costs and the IOU rebates is sometimes necessary, it may be that the amount needed would be too small to merit the additional burdens of administering a grant with federal requirements attached. Because projects with longer term paybacks are not incentivized well by the normal rebate programs, they will continue to be "lost opportunities" if they are not funded by additional means.

The DOE has developed program principles which emphasize long-term strategies (as noted in the Funding Opportunity Announcement). Specifically, entities are charged to "link their energy efficiency efforts to long-term priorities," meet "long term energy goals," "transform markets," "create jobs," and "develop programs and strategies that will continue beyond the funding period." We strongly encourage the Commission to consider the true meaning of "cost-effective" in the context of the Department of Energy's goals for Block Grants.

5) Consider the Residential Composition of Many "Small" Communities

The cost-effectiveness criterion and the examples of historically cost-effective projects suggest an approach to project evaluation that favors commercial or municipal facility projects over residential projects. As small communities, many of us do not have significant municipal facility assets, and our commercial or industrial sectors are small in comparison to our residential sectors. Residential energy improvements are central to our greenhouse gas reduction goals, our long-term energy security and our compliance with AB 32, SB 375, and other regulatory frameworks. Given the unique profile of many small communities, the Commission should support residential sector programs.

6) Keep Counties Excluded by AB 2176 Informed About Their Eligibility Status

As you are aware, Speaker of the Assembly Karen Bass has introduced AB 262: American Recovery and Reinvestment Plan: Energy Activities. AB 262 remedies a technicality introduced in 2008 by AB 2176 that would leave 13 California counties, including Alameda County, ineligible for either federal direct formula or state-distributed Energy Efficiency and Conservation Block Grant funding. We are supporting this bill as it goes through the State Senate.

We request your support in ensuring these counties receive an equitable share of Block Grant funds, and ask that you keep us informed about what actions the Commission is taking to address this issue.

Conclusion

We hope that California Energy Commission will find our comments and suggestions helpful in creating a stronger program with greater impacts in the target sector – small communities of California. We welcome the opportunity to participate in this discussion and look forward to your response.

Sincerely,

Susan S. Muranishi, County Administrator, County of Alameda
Beth Pollard, City Manager, City of Albany
Karen Pinkos, Assistant City Manager, City of El Cerrito
Geoffrey Grote, City Administrator, City of Piedmont
Brock Arner, City Manager, City of San Pablo

Waste Management (55-57)

BACKGROUND

The Integrated Waste Management Act of 1989 (AB 939) established landfill waste diversion goals of 50 percent by the year 2000 for state and local jurisdictions. To meet the solid waste diversion goals, many local jurisdictions have implemented Construction and Demolition Waste Diversion Programs.

Data Requests

55. Please indicate whether the county of Imperial operates a Construction and Demolition Waste Diversion Program.

Response: The Imperial County Public Works Department was contacted to determine if the County operates a Construction and Demolition Waste Diversion Program. The Department's Solid Waste and Recycling Division representative (Claire Keys – 760-482-4593) indicated the County does not implement a Construction and Demolition Waste Diversion Program and does not accept this type of waste unless the shipper provides a laboratory report from a certified laboratory.

56. Please provide information on how the amended Salton Sea Unit 6 Geothermal Power Plant would meet each of the requirements of the program cited in the previous data request.

Response: The County does not operate a Construction and Demolition Waste Diversion Program. CalEnergy will implement a construction waste management program that will focus on reducing and recycling construction/demolition wastes to the extent practical.

BACKGROUND

The historical use of the proposed project site was agricultural, which suggests that pesticides and herbicides were used on the site. The Phase I Environmental Site Assessment (ESA) did not identify any recognized environmental conditions, thereby eliminating the need for a Phase II ESA. Although a Phase II ESA was not completed, staff believes that given past land uses and proposed construction the project owner should verify that no harmful concentrations of any contaminants will be encountered at the proposed project site.

Common agricultural practices can result in residual concentrations of fertilizers, pesticides or herbicides in near-surface soil. To ensure that the concentrations of

information. Table DR57-1 identifies the project, license approval date by the CEC, and if results of sampling warranted a change in COCs or resulted in additional cleanup with oversight by a state or local agency (i.e. DTSC). As shown in Table DR57-1, soil sampling has not resulted in additional Conditions of Certification (COC) beyond standard mitigation measures. Furthermore, pesticides at all four sites have been found to be below regulated levels and additional cleanup and worker safety measures have not been needed.

TABLE DR57-1
Review of Recently Approved Projects and Soil Sampling Results

Project	CEC License Approved	Soil Sampling/Phase II Required	Results of Soil Sampling
Orange Grove Energy	April 8, 2009	No Phase II sampling required	Site had existing soil samples from previous sampling for both VOCs and pesticides. Results of these samples showed no hits above protective levels. No additional COCs requested by Staff beyond standard measures.
Colusa Generating Station	April 23, 2008	No Phase II sampling required	No sampling requested as no recognized environmental conditions (RECs) were found during Phase I. Site was used as grazing land and undeveloped agricultural land. No additional COCs requested by Staff beyond standard measures.
Starwood Power	January 16, 2008	Soil sampling requested	Applicant sampled for only arsenic and selenium. Results showed elevated arsenic however it was within background limits. Although CEC Staff requested additional soil sampling, Applicant stated site was used as a storage area for 5 years and did not fall under the requirements for the DTSC sampling. As a result the CEC used sampling results from Panoche Energy Center which is adjacent to the site and determined that pesticides in the area were not at high enough levels to warrant additional studies.
Panoche Energy Center	December 19, 2007	Soil sampling required	Applicant sampled for pesticides and metals with no detections above California Human Health Screening Levels (CHHSL) with the exception of arsenic. Arsenic levels were however within background levels. No additional sampling requested at site, and no additional COCs requested by staff beyond standard measures.

From: Christopher Meyer
To: Camille Champion; Gregory_Miller@ca.blm.gov; Jim_Stobaugh@blm.gov
CC: SES SOLAR ONE
Date: 6/19/2009 1:33 PM
Subject: Fwd: Meeting: SES Solar One Informational Hearing/Scoping Meeting

The time in my email below was incorrect - the time has been corrected for the call-in number to match the correct start time of 1:00 PM as stated in the notice. Thanks for catching that Joy!

Christopher

Hello ,

Christopher Meyer has invited you to join a meeting on the Web, using California Energy Commission's WebEx online meeting service. To contact Christopher Meyer, call 1-916-653-1639 or send an email to: cmeyer@energy.state.ca.us

Topic: SES Solar One Informational Hearing/Scoping Meeting - **meeting number: 923 749 586**
Date: Monday, June 22, 2009
Time: 1:30 pm, Pacific Daylight Time (GMT -07:00, San Francisco)

meeting password: sessolar#1

TELEPHONE ONLY (NO COMPUTER ACCESS)
---
1. Call 1-866-469-3239 (toll-free in the U.S. and Canada) and when prompted enter the unique meeting number above. International callers can select their number from https://energy.webex.com/energy/globalcallin.php

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TECHNICAL SUPPORT

For help with problems or questions trying to join or attend the meeting, please call WebEx Technical Support at 1-866-229-3239.

System Requirements: To see if your computer is compatible, visit http://support.webex.com/support/system-requirements.html

Meeting Preparation: The playback of UCF (Universal Communications Format) rich media files requires appropriate players. To view this type of rich media files in the meeting, please check whether you have the players installed on your computer by going to https://energy.webex.com/energy/systemdiagnosis.php

From: Joy Nishida
To: Ellie Townsend-Hough
Date: 6/18/2009 3:54 PM
Subject: Monday's plan

Ellie,

Chris Otahal, the BLM biologist was concerned about getting to the informational hearing at 1. I told him that we plan on getting out to the site by 10, see what it is that we wanted to see, then head back, probably by the time the tour bus shows up. He said he might be interested in having lunch at Idle Spurs with us, and then we can take him to the informational hearing. I told him we wouldn't hang out at the informational hearing too long, leaving about 2'ish.

Joy

From: Joy Nishida
To: Christopher_Otahal@ca.blm.gov
CC: Ellie Townsend-Hough
Date: 6/18/2009 3:05 PM
Subject: Re: Monday's Tour

Chris,

The bus tour isn't going to be any more than what we saw back in October. Besides stopping along Hector Road to the south of the RR tracks to check out that riparian area, Ellie would like to head out to the NE corner of the project site where rock crushing and ore processing took place. I think we may also go to Logan Mine, but not certain of that. We're not going to get out there via bus, that's why we're renting a 4WD. We want to see parts of the site that probably won't be on bus tour.

If you can't leave earlier, what time can you leave that morning? Part of the reason to go earlier was to get a small jump on the heat out there. I know we don't want to go wandering the site by ourselves so if you can't leave until later, maybe Ellie and I can catch a later flight, if there is still availability.

Joy

Joy Nishida
California Energy Commission
Siting, Transmission, and Environmental Protection Division
Biological Resources Unit
1516 Ninth Street, MS 40
Sacramento, CA 95814-5512

(916) 654-3947
JNishida@energy.state.ca.us

>>> <Christopher_Otahal@ca.blm.gov> 6/18/2009 2:41 PM >>>
Joy -

I was hoping to get a better idea for your itinerary on Monday. When will you be leaving the Solar One site and where will you be heading? I am starting to think it may be better logistically for me to take the bus tour rather than meeting up with you early as we have planned. I am not sure how I would hook up with the bus if I was to meet them on site...

Take Care,
Chris

Chris Otahal
Wildlife Biologist
Bureau of Land Management
Barstow Field Office
2601 Barstow Road
Barstow, CA 92311
ph: (760) 252-6033
fx: (760) 252-6099

June 17, 2009

EECBG Program
California Energy Commission
11516 Ninth Street, MS-42
Sacramento, CA 95814

RE: Guidelines and Questionnaire for the Energy Efficiency & Conservation Block Grants

Dear Commissioners:

The City of El Cerrito is in agreement with the attached comments to the California Energy Commission (CEC) regarding the proposed criteria for distribution of Energy Efficiency & Conservation Block Grant (EECBG) funds by the CEC. These comments were developed jointly by several small jurisdictions in Alameda and Contra Costa Counties as part of a larger collaborative effort to prepare an application for these funds.

With this letter, we also would like to provide our individual response to the CEC's "Questionnaire for Small Cities and Counties" and additional comments specific to El Cerrito. In particular, the City is concerned that the "cost-effectiveness" criterion will hamper its ability to secure the deep and sustained energy reductions necessary to meet our greenhouse gas reduction goals. We also support broadening the types of eligible activities to include renewable projects, and greatly decreasing (if not eliminating) the 65% matching funds requirement. Without these changes, very little of our energy reduction activities could be effectively supported by the EECBG funds.

If the City were to receive EECBG funds, they would best be put to use in the following areas: 1) energy-efficiency projects for municipal facilities and street lights; 2) renewable energy projects for municipal facilities; 3) rebate match to residents and small businesses to increase El Cerrito's community-wide participation in existing regional energy efficiency "direct install" programs; and 4) the purchase of and training on utility monitoring software.

El Cerrito is a recipient of a one-time Bay Area Air Quality Management District grant to create capacity for climate action planning and energy reduction initiatives. In addition, El Cerrito is a participant in PG&E's East Bay Local Government Partnership (LGP), which provides an infrastructure of "direct install" programs to help businesses and residents become more energy efficient.

Using these resources the City has been able to identify projects and conduct energy efficiency and renewable energy audits at most of our facilities. We are currently putting together a five-year investment plan for these projects. This investment plan indicates that we have either already completed or encumbered funds for most of our 1-4 year

10890 SAN PABLO AVENUE
EL CERRITO, CALIFORNIA 94530
(510) 215-4302 kpinkos@ci.el-cerrito.ca.us www.el-cerrito.org

payback energy efficiency projects. Even if the City were to delay these projects to use EECBG funds, the 35% EECBG cap on total costs would amount to a $15,000 request, which would not be worth the burden of administering the contract.

In order for the City to achieve its climate action goals, we will need to secure funding that will allow for longer paybacks and renewable projects. For instance, our municipal Swim Center uses 20 times more energy the next highest kbtu/sqft facility and is responsible for 18% of our municipal greenhouse gas emissions. It is a high priority for the City to reduce natural gas consumption at the Center and to make the Swim Center a showcase for sustainable energy technology. Preliminary estimates for a solar thermal project at the Center indicate that we can reduce natural gas use there by 12%. The proposed natural gas reductions at the Swim Center are equal to the total natural gas use in 70% of all our other facilities. With a payback of 10 years, this project would save the City more than $15,000 per year. Again, this represents more of an annual cost savings that are achievable from all our lighting retrofits combined.

However, this project cannot be funded given that the CEC EECBG guidelines are leaning away from funding renewable energy projects, and given the federal prohibition against using EECBG funds on swimming pool projects. While it may not be possible to change the federal prohibition, this example is illustrative of how small cities will need to fund renewable energy projects to meet their long-term climate protection goals.

While we can more easily find funding and rebates for projects with short-term paybacks, small cities are particularly challenged to find adequate funding to pursue significant long-term savings. In addition to "cost-effectiveness," the federal EECBG legislation also seeks to promote sustainability, market transformation, and job development. Investment in renewable energy measures arguably may promote these other goals more effectively. The CEC's EECBG Program should provide small communities with the same unique opportunity that the large communities have to finally pursue the projects that will make significant reductions in their greenhouse gas emissions.

Sincerely,

Karen E Pinkos

Karen Pinkos
Assistant City Manager
City of El Cerrito

10890 SAN PABLO AVENUE
EL CERRITO, CALIFORNIA 94530
(510) 215-4302 kpinkos@ci.el-cerrito.ca.us www.el-cerrito.org

June 18, 2009

TO: California Energy Commission, EECBG@energy.state.ca.us

FROM: Susan S. Muranishi, County Administrator, County of Alameda
Beth Pollard, City Manager, City of Albany
Karen Pinkos, Assistant City Manager, City of El Cerrito
Geoffrey Grote, City Administrator, City of Piedmont
Brock Arner, City Manager, City of San Pablo

RE: Ensure Small Jurisdiction Access to $30 Million of Energy Efficiency and Conservation Block Grant Funds Allocation from the American Recovery and Reinvestment Act of 2009

We, the undersigned small cities and counties, appreciate the California Energy Commission's invitation to comment on proposed funding guidelines and priorities for the small communities portion of the Energy Efficiency and Conservation Block Grant Program Funding Allocation from the American Recovery and Reinvestment Act of 2009.

Informed by our experience as small jurisdictions, we feel strongly that the Commission should be guided by one main goal: aligning award criteria with the federal guidelines. We encourage the Commission to avoid creating additional restrictions and complexities for the Commission and small jurisdictions.

The Energy Independence and Security Act of 2007 that created the EECBG Program requires states to only "provide subgrants to units of local government in the State that are not eligible units of local government." States are not required to develop additional program requirements. It would be appropriate for the Commission to pass Block Grant funds to those communities that did not receive direct formula grants. We hope that the State of California will set a national example in making it easy for small cities to accept and use these funds to establish sustainable and cost-effective reductions in energy use and greenhouse gas emissions.

To maintain simplicity and accessibility through alignment with federal guidelines, we recommend that the Commission consider the following points when developing guidelines for funding:

1) Reduce Suggested Matching Fund Requirements

During the recent Commission presentation on EECBG, it was suggested that the Commission may only provide 35% of the costs of eligible projects and require communities to provide the remainder through matching funds or loans. We strongly encourage the Commission to reconsider, as such a requirement will severely reduce the ability of small communities to implement projects.

Many small communities will not apply for a grant that requires a 65% match. Small communities do not have the capacity to aggressively seek out funding sources for projects in today's context of diminishing budgets and increased workloads. Small cities and counties are already understaffed. In

some of our cities, one staff member must simultaneously write the city's climate action plan, apply for grants, and continue his or her duties as a planner or recycling coordinator.

Large communities receiving direct formula block grants had no matching requirement whatsoever. It does not make sense that small communities, with more limited resources, should face much greater restrictions than large communities.

The staffing burden of applying for, accepting, and administering a grant should not be underestimated, and we ask the Commission to minimize it, as the Department of Energy has done for large communities.

Prevailing Wage Requirements Exacerbate This Issue

A 35% cap on funding, when combined with prevailing wage requirements, could make the remaining 65% of project costs more expensive than completing the entire project without any Block Grant support.

Align Small Communities EECBG Timeline With Other Funding Sources

A number of programs have timelines and enabling legislation that may overlap with the Commission's EECBG distribution (e.g., State Energy Program, federal competitive programs, state green jobs grants). We need clarification as soon as possible on the eligibility of these sources as matching funds, because it will directly affect our ability to seek these funds and our decision-making about which sources are most appropriate for us to apply for.

It would also help us for the Commission to coordinate on timing with other grant-making bodies. We want to avoid a situation where some cities that have matching funds lined up this year would not be able to access those funds if the Block Grants are not issued until early 2010.

2) Define Administrative Costs as Grant Administration Only

We also request that the Commission define administrative costs as grant administration only. Staff time to develop and implement projects and/or programs are integral parts of creating energy savings.

Given the importance of establishing resilient and strategic programs, startup activities related to these programs are likely to be significant. As currently described, it is not clear if those costs would be considered administrative. If they are defined as administrative rather than program costs, it will be exceedingly difficult for us to implement the kinds of project and programs we want to offer our communities. For example, regional collaboration on energy reduction initiatives, which has consistently been emphasized by the Commission and DOE, will be difficult to support if staff time supporting collaboration is considered "administrative."

City of Albany

979 San Pablo Avenue · Albany, California 94706
510-528-5754
Fax· 510-528-5797

June 17, 2009

California Energy Commission
EECBG @ energy.state.ca.us
Re: Small Communities Energy Efficiency and Conservation Block Grant Program
1516 Ninth Street
Sacramento, CA 95814-5512

Thank you for providing the recent workshops regarding ARRA Energy Efficiency funding for small cities & counties. We appreciate the amount of work the CEC has put in to developing a grant assistance program, and are encouraged by the opportunity to provide comment to help formulate the funding program.

Small cities are faced with shrinking budgets, and limited staff capacity, and technical resources. The more straightforward the grant program, including minimizing the amount of administration required for the grant application and reporting is highly preferred. The following identifies some of our specific comments regarding what we have heard to date from the CEC. Additionally, the City supports comments being submitted by the Alameda County and the regional small cities comment letter, including small cities and counties within Contra Costa and Alameda County, submitted by Strategic Energy Innovations.

1. Funding allocations
We strongly support a per-capita funding allocation. Per-capita allows for both equity and fairness of funds to all small jurisdictions, while also taking in to account the particular population numbers being served in that jurisdiction. It is also equitable on a higher scale as it mirrors the allocation method provided to larger jurisdictions via block grant funding. Small cities, with much less resources than large cities, should not be held to any higher requirements.

Several examples of grant funding allocated on a per-capita/formula basis exist at the state level. Two examples many small cities are familiar with include the Department of Conservation Beverage Container Recycling grant program, and the California Integrated Waste Management Board Used Oil Block grant program. Both of these grant programs have been in place for several years.

2. Available funding for per-capita
As expressed at the recent workshop, CEC is seeking ways to ensure a useful minimum dollar amount for the ARRA Energy Efficiency grant funds. The minimum dollar amount should be based on per-capita and input received from questionnaires submitted by small cities and

counties. If the current funding budget needs to be supplemented, funds provided directly to the CEC as part of the ARRA package should be used.

3. Streamlining application & reporting
Small cities/counties and the CEC seem to have concerns regarding the administrative requirements for the application and grant process. We recommend development of a concise application form, progress report form and final report form. Perhaps examples can be taken from either the Department of Conservation Beverage Container Recycling grant program, or the California Integrated Waste Management Board Used Oil Block grant program. Both of these grant programs have been in place for several years, and have become quite streamlined in terms of applications, reporting and fund disbursement.

4. Competitive grant & loan opportunities
Competitive grants would require much more administration to develop, and may surpass the technical expertise of city staff. This could prove to be a costly task for small jurisdictions, which does not seem fair, particularly when larger jurisdictions did not have any relative requirements. Additionally, competitive grants would require development of a rating system by the CEC, which could potentially require a significant amount of work to develop as compared with a straightforward allocation.
As mentioned in the recent workshop, there is a concept developed by CEC of 35% competitive grant funding, with the assumption that small jurisdictions could then find additional funding to the amount of 15% from their local utility, and come up with matching funds for the remaining project costs. This concept would simply not work, and certainly is neither fair nor equitable. Not all utilities will be forthcoming with this funding, particularly without formal agreements or stipulations (requiring even more administration). Additionally, many jurisdictions do not have matching funds available as they are struggling to maintain a balanced budget, or even cutting significant percentages from existing program budgets as is.

Loan opportunities
A loan would require significant administration to initiate, and also require assistance from finance administrators to develop a repayment program. This approach seems time consuming and is not something that would benefit our programs.

Sincerely,

Nicole Almaguer

Nicole Almaguer
Environmental Specialist

CITY of LAGUNA WOODS

June 5, 2009

California Energy Commission
Public Programs Office
1516 Ninth Street, MS 42
Sacramento, CA 95814-5512

Re: City of Laguna Woods Response to the Commission's Staff Questions Posed to Workshop Participants at the June 5 Meeting in Riverside

Dear Chairman and Members of the Commission:

On behalf of the City of Laguna Woods, I respectfully submit the following responses to the Commission's staff questions posed to participants at their workshop on the Energy Efficiency and Conservation Block Grant Program Funding Allocation From the American Recovery and Reinvestment Act of 2009:

Questions of Workshop Participants

a. **Does your jurisdiction have energy reduction projects identified to be funded?**
The City of Laguna Woods has determined that energy efficient improvements can be made to City facilities including the 216 City owned streetlights.

i. At what stage of the development are any project proposals?
On May 20th the Laguna Woods City Council authorized the City's application to the California Energy Commission for technical assistance through their partnership program. The limited staff and resources made it imperative that the City seek technical assistance from the Commission. The technical assistance is needed to help the City identify, evaluate and implement the most cost effective energy saving improvements. The energy efficient upgrades are essential if the City is going to curtail its annual maintenance costs, reduce expenditures through less energy consumption and lower green house gases.
The City's request is for a professional technical consultant to conduct an energy audit of City facilities. The audit will also include the preparation of feasibility studies that will recommend energy-related projects than can be implemented immediately as part of a comprehensive energy efficient improvement program.

The City is currently in the process of implementing a 90 day demonstration project to evaluate a variety of different manufactured Induction and LED streetlights. The different manufactured lights will be on separate Southern California Edison meters. During the 90 day evaluation period, the City will be able to compare the lighting efficiency and energy costs for the Induction and LED lights with the City's 150 watt high pressure sodium streetlights. The Commission's technical assistance will be instrumental in assisting the City in the evaluation of these different energy efficient alternatives for streetlights.

ii. Do the proposals have match funding?

The deepening economic recession has dramatically impacted the city's revenues and the Governor is currently planning on taking additional city revenues. This leaves no available resources for matching funds.. The only funding for the City's energy efficient improvements must come from the Commission's Energy Efficiency and Conservation Block grant Program through a per capita population based allocation formula.

b. What challenges would limit your jurisdiction's participation in this program?

The City's participation in this program would be limited by convoluted bureaucratic rules and regulations that pit small cities against one another in competition for block grant funding at a time when we are faced with limited staff and resources. This would be in stark contrast to our counter parts in the larger cities that are in the process of receiving their ARRA funding directly from DOE through a population based formula.

c. How can the Commission best "Level the Playing Field for small and /or economically challenged jurisdictions?

On behalf of the City of Laguna Woods, I respectfully submit the following comments on the five different approaches being considered by the Commission for allocating the American Recovery and Reinvestment Act (ARRA) funds to small cities(under 35,000 in population) and counties(under 200,000 in population).

1. Population-based formula grants

This is the simplest, efficient and most direct approach to getting these much needed funds to the small cities and counties. The precedent for this approach was established by the Federal Department of Energy (DOE) when it distributed funds directly to the large cities and counties using a per capita formula. Based on the amount of funding allocated to the Commission for distribution, the Commission staff estimated that each small city and county would receive approximately $7.00 per capita using this population-based formula grant. This allocation formula will allow the elected officials in the

small cities and counties the maximum flexibility in determining how best to spend the funds in meeting the needs of their jurisdictions while complying with both federal and state regulations.

2. Competitive solicitation with scoring & ranking

This approach to distributing funds pits the small cities and counties against one another. This approach also places the decision for using these funds in the hands of the Commission rather than the locally elected officials who are better able to determine how these funds can be used to meet the needs of their communities. The competitive solicitation approach is a more viable alternative for the Commission to establish as the allocation formula for the $226 million in the State Energy Program.

3. Separate funding pot for the "smaller" small jurisdictions

This approach is unnecessary if the Commission distributes funds using the population-based formula. With the population-based formula each jurisdiction no matter how small is entitled to an allocation of funding.

4. Combination of Grants and low interest loans

This approach may require small cities and counties to agree to encumber a level of debt in order to receive a grant. No locally elected officials should be put in a position of deciding to accept a grant only if they also agree to take on a low interest loan. If the Commission uses the population-based formula, the local elected officials can determine what project or projects are viable and what level of debt if any the small city or county is willing to fund through the state's low interest loan program.

5. Low interest planning grants

This approach is unnecessary if the Commission distributes funds using the population-based formula. Should small cities and counties need additional funds to complete their planning, the Commission can establish a funding pot for small cities and counties for this purpose through the State Energy Program (SEP) allocation of $226 million from ARRA.

On behalf of the City of Laguna Woods, I respectfully request that the Commission seriously consider the limited staff and resources of the small cities and counties and adopt the population-based formula allowing the locally elected officials to determine how best to spend these funds to meet the needs of their particular communities. The precedent for this approach was established by DOE in its distribution of funding for the larger cities and counties. The population-based formula levels the playing field and gives the smaller cities and counties access to these funds in the same way that funding was allocated to the larger cities and counties.

The City further urges the Commission to allocation all $49.6 million of the Block Grant funds to small cities and counties and not retain the $20 million for programs and projects. Use the $226 million in SEP funds for that purpose. By allocating all the Block Grant funds to small cities and counties the State Energy Commission will truly level the playing field for us.

d. Is your jurisdiction part of a partnership that could apply for funding?
NO

i. How can the Energy Commission best encourage partnerships among small jurisdictions?

The State Energy Commission has received or will receive $226 million in ARRA funding for the State Energy Program (SEP). The first thing the Commission can do to level the playing field in the competitive process for the allocation of these funds is to designate and set aside a significant portion for small cities and counties. If the small cities and counties have to compete for these funds against the larger cities and counties it will be like a "light weight" fighter going up against a "heavy weight" fighter. Picture the City of Laguna Woods 18,000 in population competing for a SEP grant with Los Angeles, a city of 9.8 million.

How to Encourage partnerships among small jurisdictions in the SEP

The Commission must realize that not all small cities are contiguous to each other and in some cases a partnership is not feasible. However in an SEP competitive solicitation with scoring and ranking, one of the scoring criteria could be additional points for partnerships among two or more jurisdictions. Another incentive could be a larger allocation of grant funding for a partnership project between two or more jurisdictions.

e. What minimum funding amount could your jurisdiction use to achieve meaningful results?

The minimum funding amount for the City of Laguna Woods to achieve meaningful results is $7.00 per capita. However it would be easier to achieve more meaningful results if the Commission allocates all $49.6 million Block Grant Funds to the small cities on a population-based formula which would provide cities with up to $10 per capita.

f. Does your jurisdiction plan to work with larger jurisdictions receiving direct awards from the Department of Energy?

NO. The large cities have no incentive for working with the smaller cities. They have identified their projects and are requesting direct awards from DOE while we representatives of small cities are still waiting for the State Energy Commission to develop an allocation formula for our Block Grant funds. How

can we participate with any jurisdiction if we don't know how much funding we will receive?

If I can provide the Commission staff with any additional information on allocating the Block Grant funds, please don't hesitate to email me at pfoley@lagunawoodscity.org or call me at (949) 639-0562.

Respectfully Submitted,

Patrick R. Foley

Patrick R. Foley
Community Services Manager

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NS-23

Manager, Public Programs Office

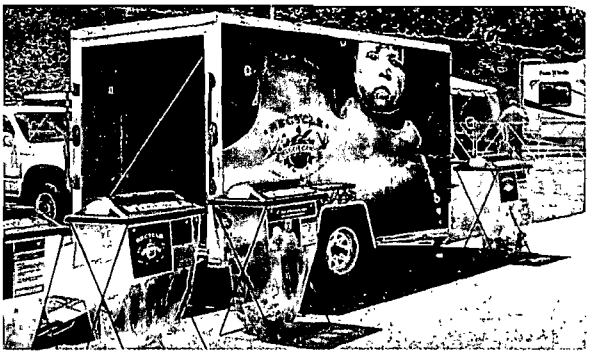
1516 9th St Stop ~~39~~

Sacramento, CA 95814-5512

Dear John Sugar,

We are in the process of working with large prospects who want to apply for the Recovery Act – EECBG using the Georgia recycling model (for details, visit resourceful-1.com/g/grants.htm).

If you have already developed the qualifications for this application process, please **e-mail us a link so we can share it with our customers.** If not, your help understanding the importance you place on these benefits will let us help government agencies in your State write grants that are effective, measurable, and large enough to be easily administered.



Recovery Act Requirements	Benefits of the ClearStream System
Energy Reduction	Recycling reduces greenhouse gases
Comprehensive	Proven by Georgia Grant Manual
Sustainability	Units have Limited Lifetime Warranty
Coordination Across Jurisdictions	A single administrator can easily manage large-scale loaning and sharing programs
Made in U.S.A.	All ClearStream parts are manufactured in the U.S.A.
Job Creation	Collecting, processing, and recycled content industry jobs
Processing	Easily tracked results
Reporting	Results, tracked by RETRAC, confirm success

Please contact us at 1-708-267-7414 or **grants@resourceful-1.com.** Also, visit our website www.resourceful-1.com to view our grant page and for information about the Georgia model. Your response would be much appreciated.

Sincerely,

Jim Alderden

Jim Alderden

If you are not the person responsible for administering grants for the Recovery Act EECBG, please forward this letter to the appropriate person

CITY OF GOLETA

May 18, 2009

California Energy Commission
Special Projects Office
1516 Ninth Street
Sacramento, California 95814-5512

RE: REGARDING EECBG & SEP FUNDS

To Whom It May Concern:

The City of Goleta (population 30,000) herein submits ten projects/programs for consideration by the California Energy Commission under the Energy Efficiency and Conservation Block Grant Program and State Energy Program. These projects and programs, taken collectively, create a lasting framework of leadership and commitment by Goleta to sustainable, environmentally friendly practices.

I believe that you will find that Goleta is ahead of the curve for small communities in that we are already engaged in several partnerships with other local communities, public agencies, utilities, private non-profit organizations and Chambers of Commerce on a wide range of energy conservation measures, including small business and home audits, structural retrofits and upgrades of appliances and lighting, and water conservation and integrated waste source reduction and recycling. We also work with businesses, large and small, on environmentally friendly procurement policies. Goleta's Old Town Neighborhood has benefitted from our environmentally oriented revitalization efforts, tied to CDBG and Home Fund programs. Our solar energy rebate clinics and seminars for residents, general contractors and architects have been well attended, locally and regionally. To compliment those efforts, our outreach to the community has also included simple actions, such as the Holiday Light Exchange Program and an Energy Efficient Light Exchange Program.

Goleta seeks funding for projects and programs that are identified in an attached table. They range topically from the expansion of public outreach programs, the preparation of green codes, the greening of public facilities, the removal of wells, piers and bulkheads that are orphaned remnants of the former Ellwood Oil Field, to our efforts to promote the discontinuation of onshore processing and transport facilities for oil and gas that are produced offshore at Platform Holly, the last of the State Tidelands offshore platforms in the Santa Barbara Channel.

Also attached is a compendium of tables that outline Goleta's green policies and implementation actions in our General Plan/Coastal Land Use Plan. These are the policy directives that guide our day-to-day efforts and serve as the backbone of the funding requests at-hand.

I will serve as the primary contact for the application processes to come forward from the California Energy Commission. I may be reached at (805) 961-7541 or by email at schase@cityofgoleta.org.

Sincerely,

Steve Chase
Director of Planning & Environmental Services

Enclosures:

1. Table of Funding Requests for Projects & Programs
2. Goleta's Green Policies – General Plan/Coastal Land Use Plan
3. Goleta's GHG and Climate Change Policies & Implementing Actions
4. Other Environmentally Friendly Policies & Implementing Actions

CITY OF GOLETA CALIFORIA

FISCAL YEARS 2009/10 & 2010/11

FUNDING REQUEST FOR EECBGP & SEP PROJECTS & PROGRAMS

1	Amortization Study	Conduct an amortization analysis of Venoco, Inc.'s Ellwood Oil & Gas Processing Facility This matter relates to policy direction in the City's General Plan/Coastal Land Use Plan, under Policy LU 10, *"To promote the discontinuation of onshore processing and transport facilities for oil and gas, the removal of unused or abandoned facilities, and the restoration of areas affected by existing or former oil and gas facilities within the city."*	Seeking $75,000 Conduct an update of a year 2001 amortization study by the County of Santa Barbara, followed by legal review, and hearing/decision-making by the City
2	Energy Policy Planning	Participate in Federal & State planning processes that study and decide upon: • Leasing of offshore tidelands/outer continental shelf lands for oil & gas development in the western Santa Barbara Channel • Decommissioning of offshore oil & gas platforms, piers and pipelines • Rigs to reef projects • Rule-making for change of owner/operator, abandonment/decommissioning, and financial assurances	Seeking $50,000 Partial funding of Goleta staff member at $25,000 per annum for two-years
3	Energy Green Codes	Prepare and adopt energy efficient/green codes for Inland & Coastal Zoning Districts and Building & Safety Codes that are responsive to AB32/SB375	Seeking $75,000 Goleta has match funding of $90,000 to prepare it's first Inland Zoning Code and Coastal Zoning Code, the latter of which requires certification by the California Coastal Commission Goleta seeks an added $50,000 for its Zoning Codes and $25,000 for its Building Code

4	Revitalization Efforts	Broaden Goleta's revitalization efforts within the Old Town Neighborhood to emphasize energy efficient/green building construction and materials (900 households; 5,500 residents; >40% minority; mostly low to moderate incomes;1,293 parcels; 595 acres)	Seeking $50,000 Partial funding of Goleta staff member at $25,000 per annum for two-years
5	Energy Efficiency Public Outreach	Broaden Goleta's current public outreach efforts on energy efficiency to include green house gas reduction and sustainability measures as follows: • Expand our instructional training of private sector architects and general contractors on green codes, energy efficient site planning, energy efficient construction techniques and materials, and GHG reduction measures • Expand our seminars for small business owners and residents on energy efficiency, GHG reductions and sustainability measures • Expand our solar energy rebate clinics in concert with Edison • Expand our Direct Install Program that provides energy audits and retrofits of lighting, appliances and equipment to small business, residents and mobile home parks • Expand our Holiday Light Exchange Program and Energy Efficient Light Program • Expand our Green Business Partnership program that provides integrated audits of transportation demand, integrated waste source reduction & recycling, water conservation, and environmentally friendly procurement • Provide match funding for our regional approach to energy efficiency and GHG reduction: South Coast Energy Efficiency Partnership and Green Business Partnership, involving 20-member public agencies, non-profit agencies, utility companies, special districts and Chambers of Commerce	Seeking $50,000 Partial funding of Goleta staff member at $25,000 per annum for two-years

6	Green City Facilities Planning & Engineering	Goleta seeks to retrofit several existing public facilities, such as the Community Center and Library, and build a new City Hall, records storage facility and Fire Station The greening of Goleta's public facilities, old and new, is sought for purposes of energy efficiency, operational cost savings, and public modeling	Seeking $200,000 Partial funding of Goleta staff member at $100,000 per annum for two-years for purposes of coordinating green capital improvement plan preparation, design engineering, fund acquisition, preparation of contract specs, bid solicitation and award
7	Green City Facilities Capital Projects	Goleta seeks to retrofit and build anew public facilities that include the use of energy efficient/green equipment and materials, including solar systems for photovoltaic generation and water heating, thermal sealing and glazing, insulation and water conservation	Match funding for capital construction, equipment and materials costs, plus permitting, mitigation and monitoring costs, to be determined through planning & engineering studies
8	Well Abandonment Project	Goleta seeks to abandon 3-oil wells, 5-water wells and 1-groundwater monitoring well on a coastal open space area - the Sperling Preserve at Ellwood Mesa	Seeking $250,000 Goleta has reserved match funding of approximately $499,000 The project involves preparation of a final action plan based on current geotechnical study, plus CEQA analysis and reporting, Coastal Commission permitting, mitigation, well abandonment, and environmental monitoring Total project cost is estimated at $750,000
9	Beach Hazards Removal – Planning, Permitting, Funding & Administration	In collaboration with the State Lands Commission, Goleta seeks to remove abandoned oil pier pilings, oilfield equipment, pipelines and bulkworks from the Sperling Preserve at Ellwood Mesa and adjoining State Tidelands (see attached photographs)	Seeking $50,000 Partial funding of Goleta staff member at $25,000 per annum for two-years for coordination of action plan, CEQA and permits

10	Beach Hazards Removal – Capital Project	Removal of abandoned oilworks from the coastal bluffs and adjoining beach and tidelands waters that stem from the former Ellwood Oil Field, now the coastal public open space of the Sperling Preserve at Ellwood Mesa	Match funding for capital construction, equipment and materials, plus permitting, mitigation and monitoring costs, to be determined through planning & engineering studies

City Specific "Green" GP/CLUP Policy Language

Policy CE 13: Energy Conservation [GP]

Objective: *To promote energy efficiency in future land use and development within Goleta, encourage use of renewable energy sources, and reduce reliance upon fossil fuels.*

CE 13.4 **Energy Conservation for City Facilities and Operations. [GP]** The City shall implement energy conservation requirements for City-owned facilities at the time of major improvements. Energy conservation measures may include energy-efficient interior and exterior building lighting, energy-efficient street lighting, natural ventilation and solar hot water systems, and landscaping with drought-tolerant species and deciduous trees to shade streets and the south and west sides of buildings in summer. For all City construction projects, the City shall comply with the state's energy conservation building standards set forth in Title 24. The City vehicle fleet shall use a mix of fuels that best achieves energy efficiency while meeting operational needs.

CE 13.5 **Public Information and Education. [GP]** The City shall prepare an informational program to advise building contractors and the public regarding energy conservation measures and practices.

POLICY CE 15: Water Conservation and Materials Recycling

Objective: *To conserve scarce water supply resources and to encourage reduction in the generation of waste materials at the source and recycling of waste materials.*

CE 15.1 **Water Conservation. [GP]** The City shall promote water conservation and will work cooperatively with the Goleta Water District to:

a. Establish goals for reducing water use in the City.

b. Monitor and document water use.

c. Promote water conservation through a public information program.

d. Provide guidelines for the use of water.

e. Provide emergency guidelines for water use in times of drought.

f. Seek available grants to initiate or sustain conservation efforts.

CE 15.2 **Water Conservation for City Facilities. [GP]** In order to minimize water use, the City shall upgrade City-owned facilities with low water use plumbing fixtures, water-conserving landscaping, low flow irrigation, and reclaimed water for exterior landscaping at the time of major improvements.

CE 15.4 **Waste Reduction and Recycling. [GP]** The City shall promote waste reduction and recycling programs for residences and businesses, encourage commercial composting and education programs, recycle public green waste materials for mulch and compost, reuse removed trees for lumber when possible, and implement waste and recycling standards for all new developments and remodels.

Policy TE 2: Transportation Demand Management [GP]

Objective: *To attempt to influence individual travel behavior, particularly by workers at larger-scale employers, to lower future increases in peak-hour commute trips and other trips by persons in single-occupant vehicles.*

TE 2.1 **Reduction/Shifting of Peak-Hour Vehicle Trips. [GP]** The City supports efforts to limit traffic congestion through reducing low-occupancy auto trips and shifting peak-hour vehicle trips to off-peak hours. Possible means for accomplishing this include the following:

a. Increased telecommuting.
b. Establishment of flexible work schedules.
c. Provision of incentives for carpooling.
d. Provision of vanpools.
e. Car sharing/ride sharing.
f. Guaranteed ride home programs.
g. Safe routes to school programs.
h. Provision of pedestrian amenities.
i. Provision of bicycle facilities and amenities.
j. Bus pass programs for employees.
k. Public information and promotion of ridesharing.

TE 2.5 **City of Goleta TDM Program. [GP]** The City shall establish a program that will provide measures or incentives to encourage reduction in vehicle trips, including commute trips, by its employees. These measures may include but are not limited to the actions identified in **TE 2.1 (above)**.

Policy PF 8: General Standards for Public Facilities [GP]

Objective: *To ensure compatible and aesthetically appropriate integration of public buildings and facilities into the city's built and natural environments at appropriate locations.*

PF 8.1 **General Standard. [GP]** The City shall ensure that all public buildings and facilities comply with the same development standards and regulations as would be applicable to private development.

PF 8.3 **Design of Public Facilities. [GP]** The following criteria shall apply:

a. To the extent appropriate and practical, all utility facilities (with the possible exception of substations, pumping stations, and outdoor storage areas) shall be fully enclosed in buildings that are aesthetically compatible with the areas in which they are located.

b. Public buildings and facilities that house City government activities shall be constructed in a functional and aesthetically pleasing manner.

c. Wherever possible, the City should incorporate energy-saving measures and other "green building" concepts in the design of City facilities.

d. New community facilities should be designed and constructed to incorporate flexibility and adaptability to the changing needs of the community.

e. Facilities shall be designed to be accessible to all segments of the community.

Policy HE 9: Excellence in New Housing Design [GP]

Objective: *Ensure that new housing is well designed to be compatible with and enhance Goleta's neighborhoods and the community as a whole.*

HE 9.4 **Resource Conservation. [GP]** The City will promote development and construction standards that provide resource conservation by encouraging housing types and designs that use renewable and/or sustainable materials, cost-effective energy conservation measures, and fewer resources (water, electricity, etc.) and therefore cost less to operate over time. The City shall require individual residential units within multifamily housing projects to be separately metered for all utilities, including, but not limited to, water, natural gas, and electricity (see related Policy CE 13).

HE 9.5 **Renewable Energy Technologies. [GP]** Promote the use of sustainable and/or renewable materials and energy technologies, such as solar, in new and rehabilitated housing when possible **(see related Policy CE 13)**.

IP-9B **Promote Solar Design.** Develop design standards adapted to Goleta's climate relating to solar orientation, including lot layout for subdivisions, location and orientation of new structures, landscaping, fences, and impervious surfaces to conserve energy.

Time period: 2008 to 2009

Responsible party: Planning and Environmental Services Department

IP-9C **Establish "Green" Building Standards and Processes.** Adopt a "Green Building Program" to encourage the use of green building materials and energy conservation measures in new construction.

Time period: 2008 to 2009

Responsible party: Planning and Environmental Services Department

GHG and Climate Change
Existing GP/CLUP Policies and Implementing Actions

Land Use Element

GP&G #8
Ensure that the locations, amounts, and timing of new development are consistent with resource and service constraints, including, but not limited to, transportation infrastructure, parks, water supply, sewer system capacity, and energy availability.

Conservation Element

Policy CE 12: Protection of Air Quality [GP]

Objective: *To maintain and promote a safe and healthy environment by protecting air quality and minimizing pollutant emissions from new development and from transportation sources.*

CE 12.1 **Land Use Compatibility. [GP]** The designation of land uses on the Land Use Plan Map (Figure 2-1)and the review of new development shall ensure that siting of any new sensitive receptors provides for adequate buffers from existing sources of emissions of air pollutants or odors. *Sensitive receptors* are a facility or land use that includes members of the population sensitive to the effects of air pollutants. Sensitive receptors may include children, the elderly, and people with illnesses. If a development that is a sensitive receptor is proposed within 500 feet of U.S. Highway 101 (US-101), an analysis of mobile source emissions and associated health risks shall be required. Such developments shall be required to provide an adequate setback from the highway and, if necessary, identify design mitigation measures to reduce health risks to acceptable levels.

CE 12.2 **Control of Air Emissions from New Development. [GP]** The following shall apply to reduction of air emissions from new development:

a. Any development proposal that has the potential to increase emissions of air pollutants shall be referred to the Santa Barbara County Air Pollution Control District for comments and recommended conditions prior to final action by the City.

b. All new commercial and industrial sources shall be required to use the best-available air pollution control technology. Emissions control equipment shall be properly maintained to ensure efficient and effective operation.

c. Wood-burning fireplace installations in new residential development shall be limited to low-emitting state- and U.S. Environmental Protection Agency (EPA)-certified fireplace inserts and woodstoves, pellet stoves, or natural gas fireplaces. In locations near monarch butterfly ESHAs, fireplaces shall be limited to natural gas.

d. Adequate buffers between new sources and sensitive receptors shall be required.

e. Any permit required by the Santa Barbara County Air Pollution Control District shall be obtained prior to issuance of final development clearance by the City.

CE 12.3 Control of Emissions during Grading and Construction. [GP] Construction site emissions shall be controlled by using the following measures:

a. Watering active construction areas to reduce windborne emissions.

b. Covering trucks hauling soil, sand, and other loose materials.

c. Paving or applying nontoxic solid stabilizers on unpaved access roads and temporary parking areas.

d. Hydroseeding inactive construction areas.

e. Enclosing or covering open material stockpiles.

f. Revegetating graded areas immediately upon completion of work.

CE 12.4 Minimizing Air Pollution from Transportation Sources. [GP] The following measures are designed to reduce air pollution from transportation sources:

a. Hollister Corridor Mixed Use. The Land Use Plan for the Hollister Corridor is designed to:

1) Provide new housing near existing workplaces and commercial services to encourage short trips by foot and bicycle.

2) Provide new housing near existing bus routes with convenient and high frequency service.

3) Provide new housing near the US-101 ramps so as to minimize the length of auto trips on streets within the community.

4) Provide new housing at locations near the existing Amtrak line, which could be considered for commuter rail service in the future.

b. Other Land Use Policies: The following land use policies are designed to reduce demand for auto travel and promote less polluting modes such as bus transit, walking, and bicycling:

1) Clustering of moderate density housing and incorporation of residential apartments on upper floors of buildings, particularly in Goleta Old Town.

2) Integration of new housing into existing neighborhood commercial centers.

3) Emphasis on moderate density residential development rather than low-density sprawl.

4) Integrating pedestrian, bicycle, and transit facilities into new development.

5) Establishment of a fixed urban boundary to reduce sprawl outward from the existing urbanized area.

c. Transportation Policies: The following transportation measures are designed to lower emissions of air pollutants by promoting efficient use of the street system:

1) Fine-tuning of intersections and their operations to minimize delays.
2) Coordinated signal timing to improve traffic flow.
3) Promotion of improved transit services.
4) Creation of a linked pedestrian circulation system.
5) Provision of a bikeway system.
6) Encouragement of employer-based trip reduction measures such as subsidized bus fares, flexible work hours, vanpools, and similar measures.

Policy CE 13: Energy Conservation [GP]

Objective: *To promote energy efficiency in future land use and development within Goleta, encourage use of renewable energy sources, and reduce reliance upon fossil fuels.*

CE 13.1 Energy Efficiency in Existing and New Residential Development. [GP] The City shall promote the following practices in existing and new residential construction:

a. Retrofitting of existing residential structures to reduce energy consumption and costs to owners and tenants is encouraged. These retrofits may include: increased insulation, weather stripping, caulking of windows and doors, low-flow showerheads, and other similar improvements. Master metering is discouraged, and conversions to individual metering where practicable is preferred.

b. The City shall enforce the state's residential energy conservation building standards set forth in Title 24 through its plan check and building permit issuance processes.

c. New residential development and additions to existing homes shall be designed to provide a maximum solar orientation when appropriate, and shall not adversely affect the solar access of adjacent residential structures. Use of solar water heating systems, operational skylights, passive solar heating, and waste heat recovery systems is encouraged.

CE 13.2 Energy Efficiency in Existing and New Commercial and Industrial Development. [GP] The following measures shall be employed to reduce energy consumption in existing and new commercial and industrial buildings:

a. Reduction of energy consumption in existing buildings through improved design and management of heating, ventilation, air conditioning systems, and lighting is encouraged. Master metering is discouraged, and conversions to metering for individual tenant spaces shall be promoted where feasible.

b. The City shall enforce the state's residential energy conservation building standards set forth in Title 24 through its plan check and building permit issuance processes.

c. The City shall encourage nonresidential buildings to be designed in a manner that is appropriate for local climate conditions, taking into account natural light and ventilation, placement of landscaping, and use of integrated energy systems. This encompasses concepts such as cogeneration, waste heat systems, and other similar technologies.

CE 13.3 **Use of Renewable Energy Sources. [GP]** For new projects, the City encourages the incorporation of renewable energy sources. Consideration shall be given to incorporation of renewable energy sources that do not have adverse effects on the environment or on any adjacent residential uses. The following considerations shall apply:

a. Solar access shall be protected in accordance with the state Solar Rights Act (AB 2473). South wall and rooftop access should be achievable in low-density residential areas, while rooftop access should be possible in other areas.

b. New development shall not impair the performance of existing solar energy systems. Compensatory or mitigation measures may be considered in instances where there is no reasonable alternative.

c. Alternative energy sources are encouraged, provided that the technology does not contribute to noise, visual, air quality, or other potential impacts on nearby uses and neighborhoods.

CE 13.4 **Energy Conservation for City Facilities and Operations. [GP]** The City shall implement energy conservation requirements for City-owned facilities at the time of major improvements. Energy conservation measures may include energy-efficient interior and exterior building lighting, energy-efficient street lighting, natural ventilation and solar hot water systems, and landscaping with drought-tolerant species and deciduous trees to shade streets and the south and west sides of buildings in summer. For all City construction projects, the City shall comply with the state's energy conservation building standards set forth in Title 24. The City vehicle fleet shall use a mix of fuels that best achieves energy efficiency while meeting operational needs.

CE 13.5 **Public Information and Education. [GP]** The City shall prepare an informational program to advise building contractors and the public regarding energy conservation measures and practices.

Policy CE 15: Water Conservation and Materials Recycling [GP]

Objective: *To conserve scarce water supply resources and to encourage reduction in the generation of waste materials at the source and recycling of waste materials.*

CE 15.1 Water Conservation. [GP] The City shall promote water conservation and will work cooperatively with the Goleta Water District to:

a. Establish goals for reducing water use in the City.

b. Monitor and document water use.

c. Promote water conservation through a public information program.

d. Provide guidelines for the use of water.

e. Provide emergency guidelines for water use in times of drought.

f. Seek available grants to initiate or sustain conservation efforts.

CE 15.2 Water Conservation for City Facilities. [GP] In order to minimize water use, the City shall upgrade City-owned facilities with low water use plumbing fixtures, water-conserving landscaping, low flow irrigation, and reclaimed water for exterior landscaping at the time of major improvements.

CE 15.3 Water Conservation for New Development. [GP] In order to minimize water use, all new development shall use low water use plumbing fixtures, water-conserving landscaping, low flow irrigation, and reclaimed water for exterior landscaping, where appropriate.

CE 15.4 Waste Reduction and Recycling. [GP] The City shall promote waste reduction and recycling programs for residences and businesses, encourage commercial composting and education programs, recycle public green waste materials for mulch and compost, reuse removed trees for lumber when possible, and implement waste and recycling standards for all new developments and remodels.

CE 15.5 Reduction of Construction Wastes. [GP] In instances where demolitions of existing buildings and structures are authorized, it is encouraged that such structures be deconstructed and that structural components, fixtures, and materials be salvaged for future reuse. Provisions for recycling of waste materials at all construction sites, including and demolition sites shall be required.

4.5 IMPLEMENTATION ACTIONS [GP]

CE-IA-2 Update of the *CEQA Thresholds Manual*. The City's *CEQA Thresholds Manual* will be revised to incorporate environmental standards consistent with the policies and standards set forth in the Conservation Element.

Transportation Element

7.2 GUIDING PRINCIPLES AND GOALS [GP/CP]

1. Plan and provide transportation facilities and services in a manner that reinforces, rather than detracts from, the character of the community and its quality of life.
3. Create and maintain a cost-effective and efficient transportation network that meets the mobility needs of all users.
4. Provide a transportation system that increases choice for intra-city and regional travelers and limits or reduces congestion on city roads.
6. Create and maintain a balanced and diversified transportation system with choice of modes, including expanded bus transit, rail, bicycle, and pedestrian facilities, to manage congestion and improve mobility.
7. Improve connectivity between the various travel modes, including auto, bus, rail, bicycle, and pedestrian facilities.
8. Lessen future increases in individual auto travel, particularly during peak commute periods, by enabling mixed-use development, maintaining jobs-housing balance, and designating lands for higher density residential use in the Hollister Transit Corridor.
9. Guide future transportation investments in a manner that will increase safety, improve traffic flows, and reduce congestion on local roadways.

Policy TE 1: Integrated Multi-Modal Transportation System [GP/CP]

Objectives: *To create and maintain a balanced and integrated transportation system to support the mobility needs of Goleta's residents and workforce, with choice of bus transit, bicycle, and pedestrian as well as private automobile modes. To reduce the percentage of peak-hour person-trips that are made by automobile and provide the facilities that will enable diversion of trips from automobiles to other modes. To develop, maintain, and operate a balanced, safe, and efficient multimodal transportation system to serve all persons, special-needs populations, and activities in the community.*

TE 1.1 **Alternative Modes. [GP/CP]** The City's intent shall be to achieve a realistic and cost-effective balance between travel modes, including bikeways, pedestrian circulation, and bus transit. The City shall encourage the use of alternative modes of transportation, such as bus transit, bicycling, and walking, which have the additional beneficial effect of reducing consumption of non-renewable energy sources.

TE 1.2 **Transportation and Land Use. [GP/CP]** The design of the City's transportation infrastructure and services, and investments in future improvements, shall be supportive of the land use plan set forth in the Land Use Element and responsive to the transportation impacts of development located in nearby areas outside the city boundary. The design of and improvements to Goleta's transportation system should accommodate not only existing conditions, but also projected growth based on the Land Use Element of this plan and planned growth in adjacent jurisdictions, including UCSB, the County, and the City of Santa Barbara.

TE 1.3 **Improved Connectivity in Street, Pedestrian, and Bikeway Systems. [GP/CP]** In developing the future transportation system, the City will place priority on creating one or more additional non-interchange crossings of US-101 to connect the community from north to south. The intent shall be to facilitate cross-town traffic, improve bicycle and pedestrian flow and safety, and to relieve traffic congestion on cross-routes with freeway interchanges.

TE 1.4 **Multi-Use Street System. [GP/CP]** The City shall emphasize geometric configurations for street and intersections that will readily accommodate transit vehicles and other travel modes as well as to improve traffic flows and turning movements for automobiles. These actions shall be balanced with safety considerations and the value the community places on not widening roads and intersections to the extent that roadways would be inconsistent with desired community character.

TE 1.5 **Multimodal Transportation Center. [GP]** The City supports consideration of a multimodal transportation center in the city to facilitate interconnection and transfers between express bus routes, automobile, bicycle and pedestrian circulation, and potentially commuter and other passenger rail services. While a proposed area in the vicinity of the current Amtrak terminal should be studied, alternative sites should also be explored; the ultimate location will depend on the results of such study.

TE 1.6 **Development Review. [GP/CP]** As a condition of approval of new non-residential projects, the City may require developers to provide improvements that will reduce the use of single-occupancy vehicles. These improvements may include, but are not limited to, the following:

a. Preferential parking spaces for carpools.

b. Bicycle storage, parking spaces, and shower facilities for employees.

c. Bus turnouts and shelters at bus stops.

d. Other improvements as may be appropriate to the site.

Policy TE 2: Transportation Demand Management [GP]

Objective: *To attempt to influence individual travel behavior, particularly by workers at larger-scale employers, to lower future increases in peak-hour commute trips and other trips by persons in single-occupant vehicles.*

TE 2.1 **Reduction/Shifting of Peak-Hour Vehicle Trips. [GP]** The City supports efforts to limit traffic congestion through reducing low-occupancy auto trips and shifting peak-hour vehicle trips to off-peak hours. Possible means for accomplishing this include the following:

a. Increased telecommuting.

b. Establishment of flexible work schedules.

c. Provision of incentives for carpooling.

d. Provision of vanpools.

e. Car sharing/ride sharing.

f. Guaranteed ride home programs.

g. Safe routes to school programs.

h. Provision of pedestrian amenities.

i. Provision of bicycle facilities and amenities.

j. Bus pass programs for employees.

k. Public information and promotion of ridesharing.

TE 2.2 **Land Use Strategies to Reduce Automobile Travel Demand. [GP]** The City supports the following land use strategies, as provided in the Land Use and Housing Elements, which may enable greater reliance by commuters, shoppers, and others, on alternative modes of travel:

a. Live-work development, wherein residential units in some areas may be designed to include work spaces for the residents.

b. Mixed-use development on individual sites, whereby residential and non-residential uses are permitted in an integrated development project on a single site.

c. Mixed-use development within particular subareas of the city, whereby varying uses on separate parcels are located in close proximity to one another so as to enable walking and bicycling between residences, workplaces, and shopping areas. These sub-areas include, but are not limited to: Old Town, the Hollister Corridor, and the Calle Real-Fairview Avenue areas.

d. The provision of onsite commercial services for employees in new non-residential development, such as but not limited to cafeterias, childcare, financial services, convenience retail services, concierge services, and others as appropriate.

e. The provision of onsite or nearby employee housing within business parks, office and institutional uses, and other employment concentrations as appropriate, to encourage walking to work.

TE 2.3 **Diversion of Automobile Trips to Alternative Modes. [GP]** The City encourages investment in alternative modes of travel that will make those modes more competitive with auto travel in terms of convenience, accessibility, costs, and safety. These may include, but are not limited to, improvements in the bus transit system, the bikeway system, pedestrian circulation

system, and potentially commuter rail services, if the region should determine to pursue this option.

TE 2.4 **Employer-Based or Project-Based Transportation Management Plans. [GP]** When appropriate, the City may as a condition of approval require proposed larger-sized non-residential developments with 100 or more employees to prepare and adopt a Transportation Management Plan (TMP) and to maintain a designated Transportation Manager. The TMP shall establish quantified objectives for trip reduction and shall identify the specific measures that will be employed to accomplish trip reduction, including but not limited to the measures identified in TE

2.1. The Transportation Manager shall work with Santa Barbara County Association of Governments' (SBCAG) Traffic Solutions (the county's rideshare organization) and the City in developing, implementing, and monitoring the TDM measures and shall provide an annual report to the City on the status and effectiveness of the measures.

TE 2.5 **City of Goleta TDM Program. [GP]** The City shall establish a program that will provide measures or incentives to encourage reduction in vehicle trips, including commute trips, by its employees. These measures may include but are not limited to the actions identified in TE 2.1.

TE 2.6 **Reduction of School-Related Automobile Traffic. [GP]** The City encourages public and private schools to adopt TDM Plans and to implement trip reduction programs to reduce congestion on streets near schools caused by commuting students and staff. Potential measures include funding for safe routes to schools, encouraging MTD and other transit providers to offer free or reduced-cost bus passes for students and employees, increased funding of school buses, and others as appropriate.

Policy TE 7: Public Transit (Bus Transportation) [GP/CP]

Objectives: *To support the efforts by MTD and other transit providers to sustain and expand the bus transit system to serve the needs of local and regional commuters, the transit-dependent population, and other users in a convenient, reliable, and efficient manner. To increase bus ridership levels in order to reduce peak-period automobile trips on area roadways.*

TE 7.1 **Transit Network. [GP/CP]** The existing (2005) bus route network is shown in Figure 7-4, along with certain proposed future facility improvements. The City supports efforts by MTD and other transit providers to develop and maintain convenient, efficient, and reliable bus transit services in the city and in the Goleta Valley area.

TE 7.2 **Linkage between Transit Services and Land Use. [GP/CP]** The City shall work with MTD and other transit providers to ensure that local transit routes within the city offer convenient, reliable, and efficient service to meet the needs of the following uses:

a. Goleta Valley Cottage Hospital and nearby medical facilities.

b. Schools, (especially high schools and middle schools), but also including day care and after-school programs.

c. UCSB.

d. Local public services, including City Hall and the Goleta Public Library.

e. Retail commercial centers, including the Hollister Corridor and the Calle Real commercial areas.

f. Employment centers along the central Hollister Corridor area.

g. Existing and planned higher density residential areas near the Hollister Corridor.

h. Community, recreation, and cultural centers.

i. Larger community parks, particularly those with sports fields, and open space areas.

TE 7.3 **Intermodal Transportation Center/Bus Transfer Areas. [GP]** Figure 7-4 identifies areas where transit routes converge and where there are significant opportunities for transfer from one route to another. Two bus transfer locations are identified: (1) Hollister Avenue in Old Town and (2) adjacent to the Camino Real Marketplace. The City, MTD, and other transit providers should identify and plan for facilities in these areas to facilitate and accommodate such transfers. In addition to these designated areas the City shall also consider potential opportunities for park-and-ride facilities, especially any opportunities that offer shared parking facilities with other uses. The public transportation plan map in Figure 7-4 also designates a generalized location for an intermodal transportation center near the existing Amtrak station. The purpose of the transportation center would be to provide a convenient and safe hub for transfers between bus, shuttle, train, automobile, bicycle, and pedestrian modes. The specific site selected for a transportation center should allow convenient and safe drop-off and pick-up areas without adversely affecting surrounding traffic flows.

TE 7.4 **Regional and Express Commuter Bus Service. [GP]** Express routes, which are generally long-haul routes with segments on US-101 and SR-217 and fewer stops than other types of routes, are designed to serve longer-distance commuters to employment centers. Existing regional and express/commuter bus routes as of 2005 are shown in Figure 7-4. The City supports efforts by providers to expand routes to better serve employment centers in the city and to increase the frequency of service along existing regional express and commuter bus routes linking employment centers in the Goleta and UCSB areas with Ventura County, Santa Barbara, the Buellton–Santa Ynez Valley area, and the Lompoc and Santa Maria areas. Regional commuter service routes are operated by Clean Air Express, VISTA, and MTD.

TE 7.5 **Local Commuter Bus Service. [GP]** These routes tend to traverse intermediate distances, have more bus stops and greater frequency of service, and connect local residential areas with large-scale employment centers such as UCSB and the mid-Hollister corridor. Existing local commute bus routes are shown in Figure 7-4. The City supports efforts by MTD and other transit providers to improve local commute service by appropriate adjustments to routing, scheduling, and frequency of service.

TE 7.7 **Shuttle Bus Service. [GP]** Shuttle routes, which may employ smaller transit vehicles, generally serve a limited area with frequent headways, and generally are appropriate within and/or between high-intensity commercial areas and large employment centers, such as UCSB. The locations of existing fixed-route shuttle bus services as of 2005 are shown in Figure 7-4. The City supports expansions of shuttle services when such expansions are shown to satisfy a significant unmet need and when they are cost effective.

TE 7.8 **Hollister Avenue Transit Corridor. [GP]** Hollister Avenue from the eastern city boundary west to Pacific Oaks Road is designated as the Hollister Avenue Transit Corridor. The public transportation map in Figure 7-4 illustrates that the highest concentration of transit routes and greatest frequency of service occur in this area. The land areas along this corridor include existing and planned future retail commercial and employment centers as well as higher-density housing. These higher-intensity uses are transit oriented; the City supports efforts by MTD and other providers to expand express and local bus services along this corridor as ridership levels warrant.

TE 7.10 **UCSB Bus Service Programs. [GP]** The City encourages programs by UCSB to promote bus use by students, faculty, and staff. These efforts should include free or discounted monthly bus passes, funding of shuttle bus services, funding of express bus services, automobile sharing, ridesharing, appropriate pricing of on-campus parking, parking management policies, and other activities.

TE 7.11 **Other Bus Transportation Providers. [GP]** The City supports efforts to provide scheduled bus service to particular external destinations, such as the Santa Barbara Airbus to Los Angeles International Airport and the shuttle buses operated by the Chumash Casino to carry employees and customers to its facility in Santa Ynez. Scheduled or demand-responsive bus or van service by large employers (such as UCSB and Raytheon) for their workers is encouraged.

TE 7.12 **Transit Amenities in New Development. [GP/CP]** The City shall require new or substantially renovated development to incorporate appropriate measures to facilitate transit use, such as integrating bus stop design with the design of the development. Bus turnouts, comfortable and attractive all-weather shelters, lighting, benches, secure bicycle parking, and other appropriate amenities shall be incorporated into development, when appropriate, along Hollister Avenue and along other bus routes within the city. Existing facilities that are inadequate or deteriorated shall be improved or upgraded where appropriate and feasible.

areas within the existing railroad right-of-way to the extent feasible.

TE 8.2 **Rail Terminal. [GP]** Figure 7-4 identifies the location of the existing Amtrak terminal as of 2005. The City, in cooperation with Amtrak and any future commuter rail service provider, should actively explore and promote the development of an expanded multimodal transportation center that includes a rail station in the city as referenced in TE 7.3. As of 2005, facilities were limited to a passenger platform. The City supports regional funding and construction of a terminal facility that includes a building with an indoor waiting area, ticketing, information kiosks, restrooms, and other appropriate amenities; parking; and drop-off and pick-up areas. Small-scale ancillary commercial services, such as a small restaurant, may also be permitted as integral to the terminal facility.

TE 8.3 **Coordination of Bus Service with Commuter Rail. [GP]** If the region should determine to implement commuter rail service along the UPRR corridor, the City encourages MTD, private providers, and/or employers to consider scheduled and/or demand-responsive shuttle bus service between the train station and local employment centers, including but not limited to UCSB.

TE 8.4 **Linkage of Land Use With Potential Commuter Rail. [GP]** The land-use plan map designates land areas along and near the railroad corridor in the mid-Hollister area for business park and medium-density multi-family residential development. It is the intent that these higher-intensity uses support and not prevent potential passenger rail service as well as support existing and potential expanded bus commute services along the Hollister Corridor.

TE 8.5 **Amtrak and Caltrans-Supported Passenger Rail Services. [GP]** The City encourages that existing Amtrak services and Caltrans-supported passenger rail

services be maintained, with expansion or increased frequency of service when warranted by ridership levels.

Policy TE 10: Pedestrian Circulation [GP]

Objective: *To encourage increased walking for recreational and other purposes by developing an interconnected, safe, convenient, and visually attractive pedestrian circulation system.*

TE 10.2 **Master Plan for Pedestrian Facilities. [GP]** The City shall develop a Master Plan for Pedestrian Circulation to provide an integrated network of sidewalks and trails to link residential neighborhoods, commercial areas, community facilities, and other forms of transportation. This plan should outline priorities to provide and maintain a continuous improved surface of sidewalks for pedestrians that meets ADA requirements for accessibility and includes construction of new sidewalks and repair of deteriorated sidewalks, and minimizes conflicts with utilities and other transportation modes. Where feasible, sidewalks should be constructed on both sides of the street. The plan shall emphasize achieving the maximum separation of pedestrian facilities from traffic.

TE 10.3 **Design Criteria for Pedestrian Facilities. [GP]** The City shall establish guidelines for pedestrian walkways, including but not limited to widths and other geometrics, street corners, types of materials, street crossings, and other features as appropriate. Such standards may be included in the Master Plan for Pedestrian Circulation.

TE 10.4 **Pedestrian Facilities in New Development. [GP]** Proposals for new development or substantial alterations of existing development shall be required to include pedestrian linkages and standard frontage improvements. These improvements may include construction of sidewalks and other pedestrian paths, provision of benches, public art, informational signage, appropriate landscaping, and lighting. In planning new subdivisions or large-scale development, pedestrian connections should be provided through subdivisions and cul-de-sacs to interconnect with adjacent areas. Dedications of public access easements shall be required where appropriate.

Policy TE 11: Bikeways Plan [GP]

Objective: *To encourage increased bicycle use for commuting and recreational purposes by developing an interconnected circulation system for bicycles that is safe, convenient, and within a visually attractive environment.*

TE 11.3 **Design Guidelines. [GP]** The City shall formulate design guidelines that establish standards for construction and maintenance of bikeways. Bikeways should be constructed on both sides of the street and incorporated into roadway and bridge projects located along planned bicycle routes. Where space allows, Class I bicycle lanes shall be the development priority over Class II and III lanes. Existing bike lanes shall not be removed to add traffic lanes unless bike lanes of the same or higher classification will be replaced as part of the roadway improvements.

TE 11.4 **Facilities in New Development. [GP]** Bicycle facilities such as lockers, secure enclosed parking, and lighting shall be incorporated into the design of all new development to encourage bicycle travel and facilitate and encourage bicycle

commuting. Showers and changing rooms should be incorporated into the design of all new development where feasible. Transportation improvements necessitated by new development should provide onsite connections to existing and proposed bikeways.

Policy TE 15: Regional Transportation [GP]

Objective: *Participate in developing regional transportation solutions to expand choices for local citizens, make the highway system more efficient, improve regional bus service, consider potential commuter rail service, and create an interconnected system of bicycle routes and trails.*

TE-IA-6 **Bicycle Transportation Plan.** The City shall periodically prepare and adopt a BTP that addresses the required elements set forth in Section 891.2 of the California Streets and Highways Code; such a plan is required for submittal of grant funding applications.

Time period: Ongoing

Responsible parties: Community Services Department, City Council

TE-IA-7 **Update of the CEQA Thresholds Manual.** The City's CEQA Thresholds Manual shall be revised to incorporate standards consistent with the policies and standards set forth in the Transportation Element.

Time period: 2010

Responsible parties: Planning and Environmental Services, Community Services Department *(Amended by Reso. 08-30, 6/17/08)*

Public Facilties Element

PF 8.3 **Design of Public Facilities. [GP]** The following criteria shall apply:

c. Wherever possible, the City should incorporate energy-saving measures and other "green building" concepts in the design of City facilities.

Housing Element

Policy HE 3: Linkage of Housing and Jobs [GP]

Objective: *Create housing nearby to where people work and encourage participation in the City's affordable housing program from commercial, office, industrial, and other nonresidential uses.*

HE 3.1 **Housing for Local Workers. [GP]** The City encourages housing developers to provide an adequate supply and variety of housing opportunities that are specifically designed to meet the needs of Goleta's workforce, striving to match housing types and affordability with household incomes of the local workforce.

HE 3.2 **Mitigation of Employee Housing Impacts from Nonresidential Uses. [GP]** Housing needs of local workers are an important factor for the City when reviewing nonresidential development proposals. The City shall require proposed new nonresidential development and proposed expansion or intensification of existing nonresidential development to contribute to the provision of affordable employee housing. The proposed amount of floor area and type of nonresidential use shall be factors in establishing the requirement for individual projects. Alternatives to satisfy this requirement may, at the discretion of the City, include payment of "in-lieu" housing impact fees, provision of housing on-site, housing assistance as part of employee benefit packages, or other alternatives of similar value.

HE 3.3 **Live/Work Development. [GP]** Live/work units can provide affordable employee housing, generate additional economic activity in the community, and help maintain an appropriate jobs-to-housing balance in Goleta. The City will encourage opportunities for live/work developments in appropriate locations where housing can be provided for workers on-site or through caretaker or other types of housing.

IP-3D **Provide Zoning for Live/Work Opportunities.** Review implementation of live/work and home occupation provisions in the new zoning ordinance to ensure effective standards for home occupations and live/work projects are provided in appropriate locations.

Time period/target: New Zoning Ordinance by 2007; four moderate-income live/work units by 2009

Responsible party: Planning and Environmental Services Department

IP-6F **Adopt Standards for Transit-Oriented Development.** In coordination with regional transportation planning activities, consider the following criteria for Transit-Oriented Development (TOD) on sites designated Medium-Density Residential near the Hollister Avenue transit corridor:

a. Neighborhood serving commercial uses shall be provided within the development or at nearby locations.

b. Potential impacts, including, but not limited to, traffic and parking, shall be mitigated.

c. Required affordable inclusionary units shall be provided within the development or at an alternative site along the transit corridor.

d. The development shall provide an excellent, high-quality design that is compatible with the surrounding neighborhood, incorporating attractive and usable common/open areas, including any dedication of public parkland shown in the Park Plan.

e. The development plan shall incorporate transit improvements, such as bus shelters and turnouts or other transit improvements, as appropriate and feasible for the site.

f. The development plan shall incorporate pedestrian and bicycle facilities, including, but not limited to, sidewalks, benches, bicycle racks, and bicycle storage areas.

Time period: Incorporate in New Zoning Code, 2007

Responsible party: Planning and Environmental Services Department

HE 9.4 **Resource Conservation. [GP]** The City will promote development and construction standards that provide resource conservation by encouraging housing types and designs that use renewable and/or sustainable materials, cost-effective energy conservation measures, and fewer resources (water, electricity, etc.) and therefore cost less to operate over time. The City shall require individual residential units within multifamily housing projects to be separately metered for all utilities, including, but not limited to, water, natural gas, and electricity (see related Policy CE 13).

HE 9.5 **Renewable Energy Technologies. [GP]** Promote the use of sustainable and/or renewable materials and energy technologies, such as solar, in new and rehabilitated housing when possible (see related Policy CE 13).

IP-9B **Promote Solar Design.** Develop design standards adapted to Goleta's climate relating to solar orientation, including lot layout for subdivisions, location and orientation of new structures, landscaping, fences, and impervious surfaces to conserve energy.

Time period: 2008 to 2009

Responsible party: Planning and Environmental Services Department

IP-9C **Establish "Green" Building Standards and Processes.** Adopt a "Green Building Program" to encourage the use of green building materials and energy conservation measures in new construction.

Time period: 2008 to 2009

Responsible party: Planning and Environmental Services Department.

City of Goleta General Plan/Coastal Land Use Plan
Implementing Actions and Programs

IP-6F: Adopt Standards for Transit-Oriented Development. In coordination with regional transportation planning activities, consider the following criteria for Transit-Oriented Development (TOD) on sites designated Medium-Density Residential near the Hollister Avenue transit corridor:

e. The development plan shall incorporate transit improvements, such as bus shelters and turnouts or other transit improvements, as appropriate and feasible for the site.

f. The development plan shall incorporate pedestrian and bicycle facilities, including, but not limited to, sidewalks, benches, bicycle racks, and bicycle storage areas.

IP-8A: Link Code Enforcement with Public Information Programs. Implement housing, building, and fire code enforcement to ensure compliance with basic health and safety building standards and provide information about rehabilitation loan programs for use by qualifying property owners who are cited. In particular, contact owners of structures that appear to be in declining or substandard condition, offer inspection services, and advertise and promote programs that will assist in funding.

IP-9A: Prepare Residential Design Guidelines. Implement the Design Review process and prepare design guidelines/criteria that will establish effective, consistent development review factors for use by applicants, the community, staff, and decision makers in the review of housing proposals.

IP-9B: Promote Solar Design. Develop design standards adapted to Goleta's climate relating to solar orientation, including lot layout for subdivisions, location and orientation of new structures, landscaping, fences, and impervious surfaces to conserve energy.

IP-9C: Establish "Green" Building Standards and Processes. Adopt a "Green Building Program" to encourage the use of green building materials and energy conservation measures in new construction.

IP-10D: Apply Density Bonus Zoning and Related Incentives. Administer the zoning ordinance provisions to encourage an increase in the supply of well-designed housing for very low-, low-, and moderate-income households. Evaluate the following:

c. Establish "fast track" processing procedures in the new zoning code, California Environmental Quality Act (CEQA) processing efficiencies, and other mechanisms to fit with funding requirements and encourage desirable affordable housing projects that have a significant portion of their total floor area committed to affordable housing. Consider opportunities to streamline environmental review for individual residential projects, such as preparation of specific plans and specific plan EIRs, particularly in the North Willow Springs and mid-Hollister areas.

IP-10F: Implement Transfer of Development Rights. Consistent with the Land Use Element, identify criteria and enact procedures to allow Transfer of Development Rights (TDR) within city boundaries if they will result in the development of special needs and/or affordable housing in appropriate locations.

LU-IA-1, OS-IA-1, CE-IA-1, SE-IA-1, VH-IA-1 Preparation and Adoption of New Zoning Code and Map. A new zoning code to replace the County zoning code adopted by the City upon incorporation must be prepared and adopted by the City Council. The new Zoning Code and Zoning Map are required to implement the policies set forth in the Land Use and other elements of this plan. A single, unified zoning code that includes zoning regulations applicable to inland areas and the coastal zone is anticipated. The portion of the zoning code applicable to the coastal zone will be subject to certification by the California Coastal Commission.

LU-IA-5 Neighborhood Compatibility Ordinance/Program. This program may consist of two parts: design criteria and a neighborhood compatibility ordinance (NCO). The NCO may be included within the new zoning code and could include standards for residential districts pertaining to Floor Area Ratios, height, bulk and scale, coverage by impervious surfaces, off-street parking, and other standards that are appropriate to provide for compatibility of new development and remodels with existing development in the immediate neighborhood, ensure access to sunlight and air, protect scenic views, and maintain privacy.

LU-IA-6 Transfer of Development Rights Ordinance/Program. This measure is intended to create a ordinance prescribing procedures for transfer of development rights from parcels within Goleta that may not be buildable due to policy limitations associated with habitat resources to receiving sites designated by the Land Use Plan map for residential use. In addition to the ordinance, the program would need to identify both sending and receiving sites and describe the procedures applicable to approval of individual density transfers.

CE-IA-2 Update of the *CEQA Thresholds Manual*. The City's *CEQA Thresholds Manual* will be revised to incorporate environmental standards consistent with the policies and standards set forth in the Conservation Element.

CE-IA-4 Preparation of a Tree Protection Ordinance. The City may prepare and adopt a Tree Protection Ordinance that addresses standards for: heritage trees; public right-of-way trees; parking lot shade trees; native trees; street and parkway trees; and anti-topping.
SE-IA-1 New Zoning Code. The City's new zoning code shall include regulations for a hazards overlay zone to address seismic and other geologic hazards, coastal hazards, flooding, and wildland fire hazards. In addition, the new zoning code should include regulations for an airport approach overlay zone.
SE-IA-3 Annual Safety Audits of Oil and Gas Facilities. Annual safety audits shall be prepared for all oil and gas production, processing, and storage facilities.
VH-IA-2 Preparation and Adoption of Design Guidelines. Design Guidelines shall be prepared to provide a consistent basis for reviewing and evaluating projects or improvements proposed within the city. The guidelines should reinforce and provide consistency to the design goals and policies set forth in this plan for single-family residential, multifamily residential, commercial/industrial, institutional/public, and quasi-public development. The Design Guidelines should also address outdoor lighting, including quality and quantity of illumination levels, glare, light pollution, **energy efficiency**, safety, and security.
PF-IA-2 and TE-IA-2 Capital Improvements Program and Budget. The City shall prepare and maintain a CIP that includes a list of all capital projects needed to implement the General Plan during the planning period and the anticipated costs and funding sources and for each project. The annual budget should include the appropriations for those projects authorized to be initiated in the next fiscal year. The CIP should be updated annually along with anticipated funding capacities as part of the annual budget process.
IP-8B: Implement Rehabilitation and Energy Loan Programs. Coordinate with Southern California Edison to make available information on loan programs to eligible owner and renter households.
IP-8F: Support Volunteer Efforts for Housing Maintenance and Repair. The City will support community service clubs and organizations that are interested in establishing a volunteer labor-assistance housing improvement program for homeowners physically or financially unable to maintain or repair their properties.
IP-8J: Housing Rehabilitation Program. The City, in conjunction with the Redevelopment Agency, shall consider establishing a housing rehabilitation and home repair program. Funding may be from the 20 percent Housing Set-Aside fund and/or from grants.