



**State Clean Energy-Environment Technical Forum
Innovative Funding Approaches to Clean Energy:
Supporting Localities to Advance State Goals
January 18, 2007
Call Summary**



Participants: 58 participants from 25 states and several national organizations (see the participants list at <http://www.keystone.org/html/documents.html>.)

Key Issues Discussed

- Importance of collaboration between state and local government
- Use of state funding programs and conditions on funding to advance efficient development and local government operations
- Collaboration across state government agencies to pool funding resources
- The role of performance contracting to increase delivery of efficiency at the local level
- Leadership from local government in setting targets to save energy and reduce GHG emissions

Summary of Presentations

Note: All of the presentations from this call are available for download at <http://www.keystone.org/html/documents.html>. Please refer to these documents for additional detail on the presentations. A brief background document summarizing the topic and linking to sources for additional information is also on the website.

A. Welcome – Julie Rosenberg, U.S. Environmental Protection Agency (EPA)

- This call topic grew out of EPA’s conversations with state officials on energy and climate change issues. Representatives from several states asked what they could do to help local governments pursue clean energy and climate-related initiatives.
- EPA has established a **municipal network** that includes a web-based resource kit that includes information on state and local best practices. For more information, see: <http://www.epa.gov/cleanenergy/stateandlocal/network.htm>
- EPA is also preparing a guidance document for states on how they can **lead by example** in energy efficiency. Among other issues, it will address options for financing state and local programs. This document will be available soon. Contact: Jeff Brown at brown.jeffrey@epa.gov

B. Fostering State and Local Clean Energy Collaboration - Garrett Fitzgerald, ICLEI (Local Governments for Sustainability)

- ICLEI is an international membership association of 700 local governments in the U.S. and in other countries. Its members are generally cities and counties dedicated to achieving environmental protection goals.

- ICLEI’s programs are aimed at **helping local governments plan for mitigation and adaptation to climate change and identify and measure critical aspects of sustainability**. Its primary program for achieving these goals is its Cities for Climate Protection (CCP) campaign. 236 local governments in the U.S. are participating in CCP. This represents a 40% growth in participating entities in the last year.
- All participating local governments must develop a baseline **analysis of current emissions**, and then **they develop targets and plans for achieving emission reduction**. ICLEI helps them consider various clean energy options and strategies.
- CPP has resulted in several **impressive and positive impacts** (based on participation by 160 local governments): **23 million tons of carbon dioxide not produced, \$535 million saved in fuel costs, 4 million megawatt hours of electricity saved, and 74 million gallons of gasoline saved**. These savings were achieved by retrofitting existing facilities, using building performance contractors, increasing fuel efficiency, use of alternative fuels in fleet vehicles, and other efforts in both government and community operations.
- There are several **ways that states can support local governments’ climate change efforts** and help reduce barriers and obstacles to such efforts in state policies and regulations. Specific ways that states can help local governments include:
 - **Collaborative climate action planning—dialogue between states and local governments is critical**, because local decision makers can help the state examine its programs and identify obstacles and barriers
 - **State/regional transportation and land use planning** (i.e., states can involve local governments in proactive regional transit planning to address issues and pursue projects that are beyond the reach of localities working on their own)
 - **Clean energy generation planning/utility regulation** (i.e., siting clean energy projects to make it easier for consumers to buy clean energy)
 - **Energy-efficient building and appliance standards**—in some areas, building codes are established by the state and implemented by local governments
 - **Environmentally preferable purchasing** collaboration (allowing local governments to participate)
 - **Vehicle emissions standards** (i.e., how states can improve vehicle emission standards in a way that that will help localities purchase more efficient vehicles)
 - **Statewide greenhouse gas emissions caps** or renewable portfolio standards
 - **Direct project implementation** in partnership with localities
 - **Raising awareness**, recruiting, convening meetings, and possibly pushing localities to advance their own proactive policies.
 - **Intentional inter-governmental dialogue** (i.e., states can bring together people who are interested in promoting clean energy to discuss and learn from other localities’ experiences)

- There are also several **financial mechanisms available to states to assist local governments**. These mechanisms, which are well explained in the background document for this call, include:
 - Revolving loan funds
 - Energy performance contracting
 - Tax incentives
 - Grants, buy-downs, and generation incentives
 - Set-aside programs
 - Supplemental environmental projects

Questions for Mr. Fitzgerald

California has the Local Government Commission to assist local governments. Do other states have similar entities?

Yes. There are several organizations like the California Local Government Commission that provide a lot of advice to cities and counties. These organizations can help communities think about how to be and become more sustainable. This spring, ICLEI will be issuing a resource list for local governments that will include these kinds of groups and the services they offer.

Note: If you would like to receive a copy of this document (tentatively titled “Organizations Providing Sustainable Development Assistance”), send an email to Mr. Fitzgerald at garret.fitzgerald@iclei.org

C. Using State Funding to Drive Municipal Clean Energy Policy - Rob Garrity, Former with the Massachusetts Office for Commonwealth Development (OCD)

- This effort began with the belief that **the best way to make an impact on climate is through regional growth patterns**. Massachusetts is a densely populated state that is growing in some unfortunate ways. Residential development far outside Boston is increasing, with a consequent growth in vehicle miles traveled (VMT). Between 1990 and 2020, the Boston area is expected to see a 24% increase in VMT.
- The state wanted to get ahead of this trend for environmental and other reasons (i.e., quality of life), and saw smarter development as the key to achieving that goal. In 2002, the **governor created the Office for Commonwealth Development (OCD)** as an overarching agency that would integrate the work of the existing offices for transportation, environmental affairs, and housing and community development. It coordinates the previously disconnected and sometime contradictory goals, policies, regulations, operating budgets, and spending of these offices toward a common smart growth policy.
- OCD agencies do not have large budgets, but they do have a lot of discretionary funds for capital projects (\$90 million). They decided that **the best way to bring about change was to put sustainable development requirements on the money that the state gives to municipalities**.
- A common grant application for all OCD agencies was created, and each grant application and the municipality submitting it are rated according to current or anticipated adherence to OCD’s **10 Principles of Sustainable Development**, which are:

- Redevelop first
 - Concentrate development
 - Be fair
 - Restore and enhance the environment
 - Conserve natural resources
 - Expand housing opportunities
 - Provide transportation choices
 - Increase job opportunities
 - Foster sustainable businesses
 - Plan regionally
- Fiscal Year 2005 was the first year this new approach to grant making was implemented. **191 out of 351 municipalities participated, and 300 separate municipalities committed to take action toward sustainable development in future years.** If these commitments are not met, their sustainability rating will be reduced, which will affect their ability to get future grant awards.
 - There is a new governor in Massachusetts, and it is unclear how OCD will proceed under the new administration. For now, the agency is continuing to accept grant applications.

Questions for Mr. Garrity

Regarding the concentrated development principle, was there an analysis done on the carrying capacity of renewable energy and diverse renewable resources?

The state has done several statewide studies on renewable resource capacities for various media, but none of them have addressed concentrated density issues and development. The energy footprint of new development has not been addressed.

D. The Texas LoanSTAR Program – Theresa Sifuentes, Texas State Energy Conservation Office (SECO)

- The Texas LoanSTAR program was conceived as an **\$98.6 million capital retrofit program to increase energy efficiency.** It is funded by petroleum violation escrow (PVE) funds awarded to Texas (and other states) by the U.S. Department of Energy (DOE) in 1988.
- DOE granted Texas permission to operate LoanSTAR as a statewide energy efficiency demonstration program. It was required to provide oversight and documentation that retrofit projects would pay for themselves. To document this, strong quality control measures were put in place. **There is extensive metering and monitoring to track energy consumption before and after retrofits are done.** This allows for an assessment both of individual projects' effectiveness and of the program's ability to pay for itself.
- Technical guidelines have been developed, and whenever LoanSTAR is funding a project, the project report has to follow those guidelines. **Project designs are reviewed at least three times—at the beginning of each project, when the project is 50% complete, and when the project is 100% complete** --to assess whether they are constructed according to design specifications, according to the program guidelines, and

according to the energy assessment report that was prepared for the project began. The resulting data inspired DOE to remove the “demonstration project” label from LoanSTAR.

- LoanSTAR has been enhanced several times since 1988. **Enhancements include:**
 - Extension of the finance term from 4 years to 8 years (1995)
 - **Legislative mandate** for LoanSTAR to be funded at \$95 million all the time (1998)
 - Extension of the finance term to the current term of 10 years (2000)
 - **Inclusion of water conservation projects and Energy Services Companies (ESCO) projects** in 2001 (since 2001, the majority of projects funded are ESCO projects)
- **Eligible projects include** energy efficient lighting systems; high-efficiency heating, ventilation, and air conditioning (HVAC) systems; energy management systems; energy recovery systems; building shell improvements; loan management projects; energy saving water projects; and systems commissioning projects.
- **The benefits of LoanSTAR for applicants are:**
 - A low interest rate (it is fixed at 3%)
 - Repayment does not start until construction is 100% complete, which allows borrowing entities to start getting savings from early projects in lighting and water, for example, while more extensive projects are still being constructed
 - The state pays for the costs of third-party energy assessment review, design review, and construction monitoring; these costs are not passed on to the borrower
 - Loan maximum is \$5 million
 - Entities may apply for a new loan if they are repaying an existing LoanSTAR loan
- **To date, 187 loans have been given, totaling \$234 million. The cumulative energy cost savings is estimated at \$200 million, with \$13 million saved annually.**
- For first time since its inception, **LoanSTAR has a waiting list for loans.** In the beginning the state had to pay for marketing efforts to raise awareness. Now, there are requests for over \$20 million waiting to be funded; This increased demand for LoanSTAR funding is partly attributable to the current importance of energy efficiency and is partly attributable to the relatively new ability to fund ESCO projects.
- School districts receive the highest number of loans, universities receive the most funding overall, and local governments receive the largest amounts per grant. State agencies and hospitals also receive grants from LoanSTAR.
- Two very successful cases of LoanSTAR funding are the City of Austin (see next section for details) and the City of Dallas, which funded lighting, HVAC, solar, and energy management projects.

E. Innovative Funding Approaches – Theresa Sifuentes, on behalf of Fred Yebra, Austin Energy

- Austin Energy (AE) is a community-owned electric utility and a department of the City of Austin. **AE has had a successful partnership with the Texas State Energy Office since 1994.** It has received and repaid two LoanSTAR loans totaling \$5.9 million, saving \$2.2 million in energy costs. City departments repaid the loans from individual department savings in energy costs.
- LoanSTAR funds have paid for the **conversion of traffic signals and pedestrian crossing signals to LEDs**, for a 90% reduction in energy use.
- Funds have also paid for **energy performance contracting**. AE has contracts with 3 national energy services companies for energy audits, and \$18 million in potential energy and water savings projects have been identified. LoanSTAR has funded \$5 million of these, and ESCOs have guaranteed the energy savings of these projects.
- AE has also contracted for 5 additional energy audits of **water treatment facilities, parks and recreation, aviation, building services**, and AE itself.
- Since 1994, Austin Energy has identified several **barriers to energy conservation projects**:
 - Decentralized energy management
 - Lack of awareness of energy consumption in facilities
 - Lack of site-based responsibility for energy use
 - Need for training on energy-saving technologies
 - Competing budget priorities
- Ways that Austin has attempted **to address these barriers** include:
 - Gaining top-level commitment from the City Manager
 - Having AE lead project development and implementation
 - Training others during project implementation
 - Receiving LoanSTAR funding
 - ESCOs guaranteeing savings

Questions for Ms. Sifuentes

Have you funded any energy efficiency projects at wastewater and utility plants?

Yes, we have funded several of these projects. They tend to have a quick payback. Some of the projects for Austin Energy have been water and wastewater plants—the first loan we gave them was \$700,000 for wastewater improvements. We were able to fund these projects after DOE approved us to fund water projects in 2001. Prior to that, we were only able to fund them if pumping systems were being retrofitted.

Why is there more demand for loans now than in previous years?

This is in large part due to our ability to fund ESCO projects, which are win-win situations. ESCOs get to borrow money at 3 % interest without paying for third-party reviews or quality control measures. Additionally, because projects are being done through ESCOs, the energy savings are guaranteed. If an ESCO did a project and estimated that the borrower would save \$1 million but the project came up short by \$50,000, the ESCO would write a check to the borrowing entity for that \$50,000. Everyone wins with these projects.

Additional responses (submitted by email after the call)

- LoanSTAR offers some of the cheapest money available, except for lease financing, for local governments.
- Electricity rates have doubled since deregulation in 2001.
- ESCOs are marketing now, promising state funding to potential borrowers.
- Texas regulations for clean air mandate energy savings of 5% per year from local governments.

Who performs the energy audits?

The State Energy Office does not get involved in who does the energy audits. We require that reports follow the state guidelines, but we do not say who can do them, and we do not pre-qualify anyone to do them. ESCOs are hired through a Request for Proposals process, and they generally do their own energy audits. If there is no ESCO involved, usually an auditing contractor does the audit.

Can ESCOs be local, instead of regional or national?

Yes.

Is emission reduction something that can be used to encourage programs like what Austin Energy is doing?

Yes. Even though Austin is in attainment of EPA air quality standards, we have always tracked emissions on all projects and notify EPA of the total emission reductions that we have generated. Overall, we have seen substantial reductions in emissions of nitrogen oxide, carbon dioxide, and sulfur dioxide.

For water conservation projects, do you estimate savings for heating water only or for embedded (i.e. the savings from reduced water treatment) energy savings, too?

In Texas, we will finance water and energy conservation projects, but not purification projects. We have funded a \$10 million project for the City of Galveston to replace every water meter in the city. This project did not reduce water usage, but it does create revenue for the city.

What are the overhead costs of the LoanSTAR program?

Our administrative costs are minimal compared to the savings and benefits that we get. I am the only person who works on the project full-time, and there are two accountants who work on it part-time. Administrative costs include these salaries and the cost of the consulting firms that do the design review and construction monitoring. In the past fiscal quarter, overhead was \$80,000. If we extrapolate for the whole year, the amount is probably about \$320,000.

General Discussion

Does the Massachusetts program have an evaluation component similar to the one in Texas to quantify the program's impacts?

We tried unsuccessfully to get an evaluation measure through the legislature. We have anecdotal evidence like the number of permits in transit areas and by-law changes in residential developments, but we do not have emissions data.

Iowa has an Energy Bank program that is very interesting. Would Brian Crow from the Iowa Department of Natural Resources please talk about that experience?

The Energy Bank involves outreach to school districts and is an effort to increase energy efficiency in rural areas in particular through wood boilers, biomass, and other energy efficient improvements. Our in-house engineers do life-cycle cost analyses of the pollution reduction of these projects. The program is funded by state money allocated to energy efficiency upgrades. We also have another program that focuses on energy efficiency in state buildings and other government facilities. We will probably integrate these two programs soon.

NEXT TECHNICAL FORUM CALL: Tuesday, February 27th, from 2:00 p.m. to 3:30 p.m. ET **TOPIC:** Using Energy Efficiency as a Resource: Lessons from the Forward Capacity Market in ISO New England