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Technical Bulletins: Energy Efficiency Conservation Block Grant Program in Tennessee

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ENERGY EFFICIENCY CONSERVATION BLOCK GRANT PROGRAM IN TENNESSEE

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INTRODUCTION

This publication examines the elements, goals and project outcomes of the State of Tennessee Energy Efficiency & Conservation Block Grant Program (EECDBG). This guide will examine the environmental and economic benefits associated with local governmental implementation of this program.

BASIC INFORMATION

As a result of the American Recovery and Reinvestment Act (ARRA), Tennessee received \$13,818,200 in economic stimulus funds for the Energy Efficiency & Conservation Block Grant Program (EECBG). These funds were allocated to the energy division of the Tennessee Department of Economic and Community Development (ECD) from the U.S. Department of Energy (DOE). Eligible cities and counties received approximately \$12,100,000 during the first two rounds of applications for the purpose of energy conservation and greenhouse gas emission reduction initiatives. During the third round of applications, eligible communities received approximately \$1,100,000 in funds. When all the rounds were complete, communities in 66 of Tennessee's 95 counties received grants. Thirty-four counties and 11 cities received the grants.

PROGRAM GOALS

The DOE established guidelines for the use of ARRA program funds. The following performance metrics were established to ensure the achievement of goals:

- Number of jobs created
- Energy saved
- Renewable energy capacity installed and generated annually
- Energy cost savings
- Funds leveraged

The grants were created to provide funding to assist local governments in creating and implementing strategies to improve energy efficiency and reduce fossil fuel emissions in a manner that is environmentally sustainable, and maximizes benefits to the local and regional communities. The requirement was for each local government to use the funds in a cost-effective manner that was of maximum benefit to the population of the city or county, and in a manner that would yield continuous benefits over time in terms of energy and emission reductions.

The energy division expected a lot of competition among cities and some proposals did not receive funding. To be more competitive, the energy division encouraged applicants to reference the desired 'program outcomes,' and to consider activities that yielded continuous benefits over time. The activities

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should benefit the greater good of the community, and utilize innovative financing to promote energy efficiency and renewable energy.

Applicants were strongly encouraged to leverage the funds beyond a one-time use. Applicants who demonstrated that they planned to extend the impact of the funds beyond a single project use were rated higher than others. Also, the DOE developed guiding principles to aid applicants in proper planning of funds use.

- Prioritize energy efficiency and conservation as the cheapest, cleanest, and fastest ways to meet energy demand.
- To maximize benefits over the longest possible terms, entities should look for ways to link their efficiency efforts to long-term priorities.
- Invest funds in programs and projects that create and/or retain jobs and stimulate the economy while meeting long term energy goals.
- Target programs and projects that provide substantial, sustainable and measureable energy savings, job creation and economic stimulus effects.
- Give priority to programs and projects that leverage federal funds with other public and private resources, including coordinated efforts involving other federal programs targeting community development funded through the Recovery Act such as the Community Development Block Grant program and job training programs.
- Develop programs and strategies that continue beyond the funding period.
- Ensure proper accountability for all programs.

- Implement policies that transform markets, increase investments and support program goals.
- Develop initiatives to track performance and ensure aggressive goals are met.

OUTCOMES

Job creation was one of the desired outcomes of the EECBG program. During the first year, more than 104 jobs were created as a result of this program. Funds were used to remodel existing facilities with cost effective and energy saving equipment. As a result, 239 buildings were retro-fitted. This included 84 lighting projects, 44 window projects and 36 insulation projects. Grant recipients installed 82 HVAC and 19 pumps and motors.

Applicants used funds to install renewable energy technology on governmental buildings, replace existing traffic signals with energy efficient models or other activities to achieve the purposes of the program. As a result, 34 transportation projects were initiated with 2,762 traffic signals replaced, 753 street lights installed and 50 outdoor lights erected.

Another desired outcome was the implementation of programs that would yield improved air quality and new technology such as wind, solar, geothermal, hydropower, biomass and hydrogen technologies. During rounds one and two, three solar projects were completed. One geothermal project was implemented.

MUNICIPAL CASE STUDIES

The EECBG program generated a number of success stories. One in particular was the city of East Ridge with an energy cost savings of \$46,000 annually. Shelbyville initiated a project and installed the most

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lighting, 1,870 energy efficient bulbs, 119 LED traffic signals, and 38 LED street signs.

Another successful project implementation was in Sunbright, where the city spent \$90,000 on renewable energy. It installed two solar arrays and estimated 20,394 kWh generated per year. From the sale of electricity generated, Sunbright earned \$4,486 per year. This income will offset all the electric utilities for city hall, the police station and library.

One of the best success stories took place in the city of Ducktown where the project team consisted of Ducktown employees, Mage Solar, PV Racking, DC Electrical, TREEDC, Southeast Tennessee Development District and Farmer-Morgan. The city was able to construct a 28 kilowatt system on city-owned land adjacent to an old landfill. The system is expected to produce an average of \$8,000 of energy per year for the city at a cost of \$100,000.

The city of Gatlinburg installed 2,055 energy efficient light bulbs in 16 buildings; 300 LED traffic signals and arrows with an estimated annual savings of 299,804 kWh and \$26,668.91. The city of Lakesite experienced an estimated annual savings of 177,539 kWh and \$10,000.

EECDBG FOLLOW-UP

The Tennessee energy division has allocated a portion of EECBG funds to develop and implement a state-wide measurement and verification (M&V) plan to measure the outcomes achieved by its EECBG Program. Verification of these results will document programmatic successes and development opportunities, which will provide valuable information for state policy makers, local municipalities and program managers to bolster adoption of energy efficiency and renewable energy throughout the state. Data worksheets are designed, as a tool, to identify and collect the relevant information on usage and operating characteristics of communities' installations or building retrofits completed through the EECBG Program. The information collected will be used in the evaluation, measurement, and verification (EM&V) efforts of the energy division to document energy and avoided cost savings of the energy efficiency and energy conservation measures (EECM) implemented within the communities.

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