

# **ENERGY EFFICIENCY TRUST FUND PROGRAM REPORT**

**January 2008 through December 2008**

**ILLINOIS DEPARTMENT OF COMMERCE AND ECONOMIC OPPORTUNITY  
BUREAU OF ENERGY AND RECYCLING  
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**ENERGY EFFICIENCY TRUST FUND  
PROGRAM UPDATE**  
*For the Period January 2008 through December 2008*

**INTRODUCTION:**

The Department of Commerce and Economic Opportunity (DCEO) administers the Energy Efficiency Trust Fund (Trust Fund) as established by the Renewable Energy, Energy Efficiency, and Coal Resources Development Law of 1997 (“the Law”). The Law requires that funds be spent on projects that promote residential energy efficiency in the state, with emphasis on low-income households. These programs produce two major benefits for the Illinois economy, the efficiency gains that provide substantial savings to consumers and the additional jobs created to install and implement the projects described in this report. Energy efficiency projects furthermore tend to improve building comfort, improve lighting and indoor air quality, decrease unscheduled maintenance and make a positive contribution to the environment through the reduction of unnecessary pollution.

DCEO’s Bureau of Energy and Recycling administers these funds as stipulated by the Law. Within the Bureau, the “State Energy Office,” as designated by the U.S. Department of Energy (U.S. DOE), operates energy efficiency and renewable energy programs involving all sectors of the Illinois economy, including the residential sector. This report covers only those energy efficiency programs funded through the Law. All of these programs embody the benefits of energy efficiency, such as improved occupancy comfort, utility bill savings, reduced energy consumption and improved grid reliability.

Energy efficiency promotes both sound fiscal practices and environmental stewardship. Illinois has the potential to serve as a model state for energy efficiency in its residential structures. Implementation of energy efficiency practices will continue to require collaboration, support and funding from the Legislature and capable third-party implementers, such as consultants, contractors, utilities and cooperatives.

**PROGRAM OVERVIEW:**

In 2008 the Energy Efficiency Trust Fund provided funding for numerous programs designed to meet Trust Fund guidelines. Projects include:

**Illinois Energy Efficient Affordable Housing Construction Program**

The *Illinois Energy Efficient Affordable Housing Construction Program* is funded annually from the Trust Fund at a level of \$1,500,000. This program offers grants to partially fund incremental costs associated with energy efficiency improvements in residential construction projects developed by not-for-profit developers or local governments. This program targets low- and moderate-income households.

This energy efficient housing program has been a highly visible success for DCEO and has garnered support from U.S. DOE, the Illinois Housing Development Authority, the City of Chicago, several major utilities, architectural teams, and numerous affordable housing development networks in the state. The program provides up to \$3,000 per unit for new housing developments and up to \$3,500 per unit in rehab housing developments through FY2008. The program results in utility savings averaging over 50% and a return on investment of over 30%. In addition, this program has been an integral part of the Bureau's effort to leverage private investments with public dollars and increase capital available to Illinois developers. Trust Fund dollars have also allowed DCEO to include partial funding for super-efficient refrigerators, high efficiency air conditioners and more efficient lighting as part of these housing projects. The success and the active support of the allied groups listed above have resulted in a tremendous increase in demand for this program, especially in the greater Chicago area.



In addition to providing affordable housing units for these families and meeting the low-income goals of the Law, the results of this program are also used to encourage energy efficient building practices in all levels of construction activity in the state. The program also serves as a training ground for tradesmen to learn the latest energy efficient building techniques. The economic efficacy of energy efficient construction practices proven by this program has been and will continue to be publicized to the Illinois development, architectural, and construction industries. Education efforts include presentations at conferences, workshops, and seminars, including the *Affordable Comfort Conference*, as well as publications produced by the Bureau under the federally financed State Energy Plan to promote and encourage energy efficient buildings.

An overview of the *Illinois Energy Efficient Affordable Housing Construction Program* in 2008 is shown below. Projects funded under the program fall into one of three categories; Rehab, New Multi-Family and New Single Family. Appendix A contains a complete list of grantees.

1. **Rehab** – In 2008, no rehab projects were submitted for funding. Five buildings (169 units) were completed in 2008. At the end of 2008, one building (47 units) was under construction and negotiations were underway on two buildings (244 units).
2. **New Multi-Family** – In 2008, a total of 6 projects (309 units) received an energy grant. Also in 2007, four buildings (217 units) were completed. At the end of 2008, seven projects (390 units) were under construction and negotiations were underway on eighteen projects (1,068 units).
3. **New Single Family** – In 2008, a total of five projects (207 homes) received an energy grant. Also in 2008, 55 homes were completed. At the end of 2008, ten projects (336 homes) were under construction and negotiations were underway on ten projects (224 homes).



*The Illinois Energy Efficient Affordable Housing Construction Program* utilizes the national ENERGY STAR® program. In this nationwide rating system, a rating of 100 represents a building constructed to comply with the 2004 International Energy Conservation Code (IECC). Each point above 100 represents 1% less efficient than a home built to the 2004 IECC. For every point below 100, the home is 1% more efficient than the 2004 IECC. To be rated as ENERGY STAR® requires a rating no higher than 85, which correlates to an energy savings of 15% when compared to the IECC. Homes built under the *Illinois Energy Efficient Affordable Housing Construction Program* rate between 85 and 59 and therefore qualify as ENERGY STAR® Homes.

Through this program, grant funding has provided the necessary incremental costs to enable several thousand low and moderate income families to reside in super-efficient structures, saving significant energy resources and connected costs. Since *Illinois Energy Efficient Affordable Housing Construction Program*'s inception in 1988, 105 buildings with 2,209 units have been rehabilitated. A total of 35 new multi-family buildings with 1,731 units have been completed since the program began and more than 925 new single-family homes have been completed.

#### **Program Impacts:**

<b>DCEO Investment Calendar Year 2008</b>	<b>Combined Savings *– kWh (34.6 year weighted term)</b>	<b>\$/kWh</b>	<b>NPV of Energy Saved</b>
\$1,382,101	383,943,216	\$0.0036	\$9,768,779

\* Combined Savings results from the weighted average of a 15-year lifetime electrical savings of 7,996,968 kWh and a 35-year lifetime savings of 12,831,059 therms for 516 housing units.

#### **Lights for Learning**

The Lights for learning school fund-raiser program provided an opportunity to expand the ENERGY STAR lighting educational program. The purpose of Lights for Learning was to strengthen the promotion of ENERGY STAR CFLs by introducing students, teachers, and their communities to specialty CFLs, including daylight, 3-way, recessed cans and outdoor lighting applications. This fund-raiser allows schools to accomplish their goals in promoting a healthy, environmental message for their students and community.

This project fulfills the mandate to impact energy efficiency in residences through the replacement of energy inefficient lighting units with ENERGY STAR recognized units. In addition this project complies with educational mandates by providing appropriate information to consumers. This project also provides opportunities to partner with schools, U.S. DOE, MEEA, and local organizations to help leverage a broad exposure of energy saving information.

**The info below reflects program impacts for the 07-08 school year.**

#### **Program Impacts:**

<b>Bulbs sold</b>	<b>DCEO Investment</b>	<b>Lifetime kWh Savings</b>	<b>\$/kWh</b>	<b>NPV of Energy Saved</b>
2381	\$50,000	851,684	\$.059	\$89,439

## Illinois Home Performance with Energy Star (HPwES) Program

The HPwES is a federal program from ENERGY STAR® that encourages homeowners to consider the system-wide implications of energy retrofits and to use trained contractors to implement those comprehensive energy-savings improvements. The Department is working with Tri-County Construction Labor-Management Council (TRICON) in Central Illinois and EarthWays Center in the Greater St. Louis area of Illinois to train assessors and contractors for participation in the program. TRICON is a group incorporated in 1987 to strengthen the union construction industry in Central Illinois. EarthWays Center, a division of Missouri Botanical Garden, promotes sustainability through environmental education and improving the built environment.



The objective of *Home Performance with ENERGY STAR* is to reduce high home energy costs by using specially-trained contractors to evaluate a home using state-of-the-art equipment and make comprehensive recommendations for improvements that will yield the best results. The legacy of the program is twofold - to reduce residential energy bills and to permanently improve the quality and number of energy efficiency service providers for building trade contractors. Many contractors overlook the chance to include energy efficiency options during remodeling projects. To address these missed opportunities, DCEO in partnership with its grantees, identifies and trains qualified contractors who are educated and skilled in building energy science and who are able and equipped to perform a "whole-house" audit and treat the "house as a system" in retrofitting it appropriately.

This comprehensive, whole-house approach will be the cornerstone on which to build a quality assurance strategy to market the importance and availability of energy improvements. DCEO will work in partnership with its grantees to train the tradesmen, relying and expanding on their contacts to market the program to the public. The marketing segment will also educate the public about the importance of having their homes assessed by competent, well-equipped professionals able to define a practical, comprehensive and cost-effective scope of work tailored to their homes' needs. The program will urge homeowners to invest in new technology that will increase the energy performance of their homes, expand markets for American durable goods and employ labor trained in the whole-house approach to energy efficiency. The effort emphasizes consumer education, value and one-stop-shopping. The market-based approach and message focus on addressing a variety of customer needs, from comfort to durability to health and safety. It also encourages the development of a skilled and available contractor/provider infrastructure that has an economic self-interest in providing and promoting comprehensive, building science-based, retrofit services.

*Home Performance with ENERGY STAR* has several key components:

- A bona-fide whole-house approach
- Training and cross-training for key building science skills
- Participating contractors are either required to be certified and accredited by an independent organization, or are subject to third-party inspection and performance testing at the completion of the job

- One-stop-shopping, easy to use program structure for homeowners (home energy inspections that lead directly to installation of improvements)
- Integrated financial assistance through potential federal tax credits, lenders, and other organizations as available
- Quality assurance and verification
- DCEO funding for training

HPwES is evolving into a statewide program known as the Illinois Home Performance with Energy Star program.

**Additional Trust Fund Projects:**

<b>Grantee</b>	<b>Project</b>
Lincoln Land Community College	Educate residential homebuilders and contractors on energy efficient practices
College of Lake County	Training on design, construction, & maintenance of commercial & residential buildings.
Joliet Junior College	Green Building Technology certification program
John A. Logan	RESNET Certification training and workshops
Moraine Valley College	RESNET Certification Training
Energy Net	Verifiable reduction in school energy use
Metropolitan Mayors Caucus	Outreach, education and training to IL municipalities
North River Commission	Education and outreach to businesses encouraging the use of lighting retrofits

