

Illinois Clean Energy Community Foundation Partnership Brings Energy Efficient Lighting to Public Safety Buildings

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A “typical” signalized intersection in a heavily traveled area used to cost upwards of \$100 per month to operate. This cost resulted from existing traffic signals using ordinary household incandescent light bulbs that are costly to operate and maintain. With over 8,000 signalized intersections and 100,000 traffic signals in Illinois, operation and maintenance costs to local and state government are estimated at upwards of \$15 million annually.

Starting in 2003, the Illinois Clean Energy Community Foundation and Illinois Municipal League began to work together to design and implement a grant program to bring 21st century traffic signal lighting technology to Illinois municipalities. The program supported the use of LED (Light Emitting Diode) bulbs in traffic signals throughout the state. LED bulbs use approximately 85% less electricity than the conventional incandescent bulbs they replace and last over 10 years before they need to be replaced. Besides high operating costs, incandescent light bulbs burn out quickly potentially leading to traffic problems and public safety concerns.

Illinois Clean Energy completed the final cycle of the LED Lighting Upgrade Program with its 2007 grants. Over four years, its \$10.2 million in grants helped 150 local governments around the state upgrade traffic signals at nearly 5400 intersections to use energy efficient LED bulbs. The program benefited Illinois municipalities of all sizes – from those with one traffic signal to those with tens or hundreds of signals – to begin benefiting from this 21st century traffic signal lighting technology.

NEW GRANT PROGRAM FOR PUBLIC SAFETY BUILDING LIGHTING UPGRADES

Illinois Clean Energy is again partnering with the IML to continue to help municipalities reduce energy consumption and lower energy costs in this time of rising rates—by encouraging all municipalities that operate public safety buildings to apply for funding through a new initiative for 2008: Public Safety Building Lighting Upgrade Grant Program. Upgrading to energy efficient lighting in public safety buildings will save energy, cut operating costs and improve indoor lighting quality.

PROGRAM OVERVIEW

Local government agencies (including municipalities, villages, townships, fire protection districts & county sheriffs) are eligible to apply for funding to pay for energy-saving upgrades to lamps and ballasts in existing indoor lighting systems. Grants are up to \$500 per kilowatt of electricity reduction in electricity demand that the lighting

upgrade, as installed, yields. Grants will be limited to no more than \$30,000 for any one public safety building and no more than \$120,000 for any unit of local government.

Stand-alone public safety buildings such as fire and police stations are the most common type of public safety building. Multiple use buildings that provide public safety services along with other government services (e.g., city halls that house police departments) are eligible to apply for this program so long as public safety related functions comprise a minimum of 40% of total building square footage.

Program applications are available through the IML or Foundation Web sites and can also be obtained by calling Bob Romo at the Foundation or Matt Davidson, IML’s program contact at 217-525-5000. The program application deadline is March 14, 2008.

ILLINOIS MUNICIPALITIES ARE SAVING TAXPAYER DOLLARS FROM UPGRADING TO LED TRAFFIC SIGNALS

The four-year LED Traffic Signal Upgrade initiative reached all but one city with the most traffic signals in Illinois, as well as a majority of those with more than 50 signalized intersections. In addition, it has helped nearly two-thirds of all downstate communities that operate at least 10 signalized intersections. Overall, 150 municipalities and county highway departments – from Carbondale to Quincy to Naperville -- upgraded traffic signals to use LED bulbs and are benefiting from their projects. LED lighting upgrade projects were cost-effective with an average simple project payback of less than four years.

Collectively, the upgraded intersections will use over 17,000 less kilowatts of electricity than in the past, enough energy to power close to 6,000 homes. Here are a few examples of how individual municipalities benefited from the program:

- ♦ You can find 258 signalized intersections in the **City of Peoria**, and with the assistance of two grants totaling \$250,739, the city was able to upgrade all intersections to LED lighting. The city estimates saving \$95,000 annually in energy and maintenance costs. “Thanks to the Illinois Clean Energy Community Foundation’s generosity, the City of Peoria has accelerated its efforts to introduce state-of-the-art technology to improve traffic & pedestrian safety and reduce municipal operating costs. Peoria is proud to proclaim itself the largest all LED traffic signal city in Illinois,” according to Mayor Jim Ardis.
- ♦ The **City of St. Charles** paid \$101.63 in the month of January 2003 to operate traffic signals at just one downtown corner (1st & Illinois). After upgrading

signals at this intersection, the January 2005 energy bill for this same corner was reduced to \$12.59 a month, a savings of 88% or \$856 per year. Having done nine other intersections, St. Charles is going to save an estimated \$8500 in energy costs every year. In addition, St. Charles also anticipates maintenance savings as a result of decreased bulb replacement activities.

- ♦ The **City of Decatur** received two grants totaling \$276,345 to convert 130 intersections to LED lighting, allowing the city to save over \$80,000 a year in energy and maintenance costs.
- ♦ The **City of Springfield** was one of four pilot cities that received grants (along with Carbondale, Edwardsville & Quincy,) leading to implementation of the Foundation's LED Program. Springfield is on track to complete LED upgrades to most all city intersections and is projecting annual energy savings comparable to Peoria's.
- ♦ Two grants were awarded to the **City of Champaign** totaling \$116,755 for LED lighting upgrades at 76 intersections. The upgrades are estimated to save almost \$30,000 annually.
- ♦ In upgrading 41 intersections to LED, the **City of Danville** expects to save over \$55,000 annually. Over 2,000 individual bulbs were replaced and maintenance costs will dwindle because the lifespan of LED units is much longer than incandescent bulbs.
- ♦ With the help of a \$53,073 grant, the **City of East Moline** upgraded 28 signalized intersections and expects to save close to \$30,000 annually in energy and maintenance costs. The city's investment in LED signals will be fully paid off in four years.
- ♦ The **City of East St. Louis** upgraded 25 of its 28 signalized intersections to LED lighting with the help of a \$40,330 grant. The City's new LED traffic lighting system reduced electricity consumption by 116 KW, enough energy to power over 40 single family homes.

- ♦ The **City of Mt. Carmel**, with a mere six intersections, estimates \$5,280 in energy & maintenance savings per year after upgrading all intersections. The benefits of this conversion will be visible in Mt. Carmel for years to come.
- ♦ The **City of Charleston** upgraded 11 intersections and is saving almost \$700 per month in energy costs alone.

BACKGROUND - ILLINOIS CLEAN ENERGY COMMUNITY FOUNDATION


The Illinois Clean Energy Community Foundation is an independent, nonprofit grant-making institution that provides funding to charitable (federally recognized 501c3) nonprofit organizations and state and local government agencies serving Illinois residents. It was created to support efforts that protect and improve the environment in Illinois communities. The foundation has three main program goals: (1) increasing energy efficiency; (2) expanding the use of renewable energy resources, and; (3) preserving and enhancing natural areas and wildlife habitats throughout Illinois.


The Foundation provides financial support for projects that advance specific program priorities related to those three goals. That financial support comes through grants awarded in competitive application cycles each year and through its own direct initiatives, often partnering, as is the case here, with organizations like IML.

CONCLUSION

The Foundation's hope is that these stories will inspire Illinois municipalities to apply for a grant in the 2008 Public Safety Lighting Upgrade Program year and incorporate energy efficient thinking into their planning for infrastructure and new or rehabilitated buildings..

If your municipality is considering capital improvements, perhaps it can join the many others that have leveraged Foundation grants to make your investment turn green and to put your municipality at the forefront of being both financially and environmentally responsible. ■


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