LIGHTING THE OUTDOORS EFFICIENTLY

Outdoor lighting makes our streets safe for travel, allows sporting events to take place after dark, and in general supports commerce, socializing, and assorted work tasks regardless of the available sunshine. Due to improved equipment and operating practices, these needs can be met with significantly reduced energy costs and unwanted effects (glare, light trespass, and night sky light pollution). It can be a true win-win for everyone by following these three steps:

1. **Identify and Meet Lighting Requirements:** Describe lighting needs in terms of why, how much, where, and when. Common objectives include safety, security, highlighting merchandise and activities, or enhancing aesthetics. Consult the [Illuminating Engineering Society of North America](https://iesna.org) for guidelines on illuminance levels (footcandles) as well as acceptable variations (uniformity) in brightness levels for many outdoor applications. Aim to meet requirements with a minimum lighting power density (watts per square foot) and well below code allowable maximums.¹

2. **Efficiently Produce and Deliver Light:** Choose high efficiency lamps (CFL, pulse start metal halide, ceramic metal halide, induction or LED), and electronic ballasts, but recognize that the whole fixture design (including overall form, reflector and lens type) will impact performance as much or more than the specific lamp technology. Space and locate fixtures to direct light only where you need it. Work with a lighting designer for optimal equipment selection and layout. Check incentive programs for approved equipment before purchase.

**OUTDOOR LIGHTING INCENTIVES**

**Illinois Department of Commerce and Economic Opportunity (DCEO)**
(2012-2013 Public Sector Energy Efficiency Standard and Custom Incentive Program):
- New Exterior LED or Induction Fixtures $0.30/W reduced.
- New LED or Induction Wall Packs (incentive per fixture/ varies by wattage).
- LED Traffic and Pedestrian Signals
- Custom incentives may be available ($0.12/kWh saved).

**ActOnEnergy® (PY5 incentive):**
- Exterior lighting $0.40/W reduced
- Custom incentives may be available ($0.06/kWh saved)

**ComEd Smart Ideas® Outdoor and Garage Lighting Incentives (PY5 incentive)**
- A wide variety of standard incentives are available (8 page incentive worksheet)
- Custom incentives may be available ($0.07 per kWh saved)

If the new fixtures are LED, the lights must be on one of the following lists:
- (Ameren, DCEO) [ENERGY STAR, Qualified Light Fixtures Product List](https://www.energystar.gov/
- (Ameren, ComEd) [DesignLights® Consortium, Qualified Products List](https://www.designlights.com/

¹ The applicable code in Illinois is the current Illinois Energy Conservation Code.
3. **Control Lighting Appropriately for Use**: Employ lighting controls (time clocks, motion sensors, photocells, dimmers or combinations) to reduce run hours and after-hours light levels. Photocells switch lights on at dusk, off at dawn. Astronomical time clocks adjust on-off times in accordance with sunrise and sunset and/or owner preference. Occupancy sensors allow the light to switch on, or in a bi-level (high/low) fashion based on the presence of vehicle or pedestrian traffic.

Outdoor Lighting References:
- NEMA LSD 11-2010 White Paper on Outdoor Lighting Issues and Quality Lighting Applications
- Rensselaer Polytechnic Institute (RPI) Lighting Research Center (LCR) Outdoor Lighting Publications
- Illinois Coalition for Responsible Outdoor Lighting

**INCENTIVE USE CASE STUDIES**

What can you expect to accomplish with an energy incentive from DCEO’s Illinois Energy Now program? SEDAC has produced a couple of case studies to give you an idea of the impact incentives can have on your energy bottom line. You can find these at the SEDAC publications page (http://smartenergy.illinois.edu/publications.html)

**ComEd Smart Ideas®, Ameren Illinois ActOnEnergy®, Nicor** have also produced case studies describing customer experiences with the energy incentives available from the utility companies.

- **What SEDAC clients are saying**
  
  "The work that was provided has more than met the anticipated expectations of the program. Staff throughout the process were very helpful in answering questions and providing any requested information along with providing follow-up on new incentives."

**LED OUTDOOR LIGHTING**

Many municipalities, gas station owners, and other retailers with substantial outdoor lighting are turning to the emerging LED outdoor lighting options. LED luminaires can have a number of benefits including excellent cold temperature performance, dimming capability, and directional light sources. Look for the **LED Lighting Facts®** label on LED luminaires and consult the U.S. Department of Energy’s **CALiPER Program** to learn more. There are lots of great LED products available; but beware of poor quality products that don’t yet meet these standards.

**FIND ENERGY INCENTIVES**


ComEd Smart Ideas®, Ameren Illinois ActOnEnergy®, Nicor, Peoples and North Shore application forms and guidelines for 2012-2013. Visit their websites for the most up-to-date information:

- **COMED SMART IDEAS®**
- **AMEREN IL ActOnEnergy®**
- **NICOR**
- **PEOPLES GAS**
- **NORTH SHORE GAS**

**ENERGY TRAINING**

Energy Efficiency Incentives for Central and Southern Illinois Commerce and Industry

**AUGUST 21**: Springfield Register

The U.S. Department of Energy Advanced Manufacturing Office, Ameren Illinois, Nicor, DCEO and UIC-ERC invite you to find out how Illinois utilities’ incentives can save you money on your **industrial** energy efficiency efforts.

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