

Energy-Efficient Lighting Options



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Quiz Questions:

What do you already know about best practices for energy efficiency for lighting?

1. Which of the following lighting technologies does the Ameren Illinois ActOnEnergy Program offer incentives for installing?
2. True or False? T12 lighting is being phased out of production.
3. How much could installing an LED exit sign save per year on your electric bill?



1. Which of the following lighting technologies does the Ameren Illinois ActOnEnergy Program offer incentives for installing?

- A. LED lamps
- B. T12 lamps
- C. T8 lamps
- D. Occupancy sensors
- E. All of the above
- F. **A, C, and D only**

2. True or False? T12 lighting is being phased out of production.

- A. **True**
- B. False

3. How much could installing an LED exit sign save per year on your electric bill?

- A. **Up to \$62.00**
- B. Up to \$53.00
- C. Up to \$31.00

D. Up to \$15.00

E. Up to \$3.00

Today's Topics

- Best practices in lighting equipment and application
- Lighting cash incentives available through ActOnEnergy
- The ActOnEnergy Online Store
- How to get started on your energy-efficient lighting project



**What would you like to get out of today's
online training event?**

Type your response into the **Chat** window.

What is **ActOnEnergy**?

This program offers cash incentives to customers to be more energy-efficient. Energy-efficient upgrades not only lower your energy bills, they can also reduce maintenance costs, improve comfort, provide precise control and extend equipment life, and I'll plan on going over some of these in the upcoming slides. The Ameren Illinois' ActOnEnergy initiative helps businesses use less energy and save more money.

A graphic titled "ActOnEnergy Incentive Areas" with a green header bar. Below the title, there are six light green rounded rectangular buttons arranged in a 3x2 grid. The buttons contain the following text: "Lighting", "HVAC & Water Heaters", "Variable Frequency Drives (VFD)", "Process Steam/Steam Traps", "Retro-Commissioning", and "Custom Electric and Gas". Below the grid, there is a line of text: "To get to the Online Store, type:" followed by the URL www.ActOnEnergy.com/businessonlinestore in blue, and "into your browser." in black.

ActOnEnergy Incentive Areas

Lighting

HVAC & Water Heaters

Variable Frequency Drives (VFD)

Process Steam/Steam Traps

Retro-Commissioning

Custom Electric and Gas

To get to the Online Store, type:
www.ActOnEnergy.com/businessonlinestore
into your browser.

The ActOnEnergy programs include electric and gas incentives, where the cash incentive is paid to you after you complete the project.

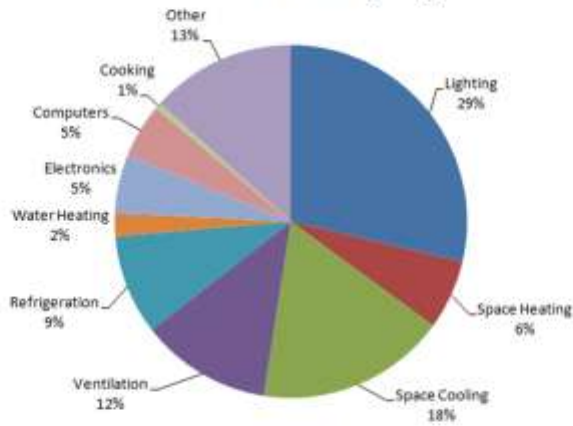
There are also energy-saving products available at the ActOnEnergy Online Store, where the incentive is built into the price. You can find the Online Store at the url shown on the screen.

What are the benefits of energy-efficient lighting?



Lighting Usage in the Commercial Sector

Commercial Electricity Usage





Compact Fluorescent Light Bulbs (CFLs)



- CFLs use 1/4 to 1/3 less electricity than incandescent bulbs
- Online Store provides CFLs at approx. half the cost
- Technical points:
 - High temperature rated
 - Dimmable
 - Light quality



Color Temperature



CFL with "soft" light.



CFL with "cool" light.



Converting from T12 to High Performance T8 or T5



Converting from T12 to High Performance T8

If you:	Then you:
<p>Replace 1 magnetic ballast and 4 T12 lamps</p> <p>with</p> <p>1 electronic ballast and 4 high performance T8 lamps</p>	<ul style="list-style-type: none">• Use 33% less electricity• Save \$12 per fixture• Receive \$12 to \$20 in incentive



Do you have T12 lighting?

**Look at the end of the
fluorescent tube**

- T12s have a diameter of 1 1/2 inch
- T8s have a diameter of 1 inch
- T5s have a diameter of 5/8 inch



Quiz Question

Do you have T12 lighting in your facility?



Lighting T12 Phase-Out

ActOnEnergy's next T12 bonus ramp-down will go into effect June 1, 2012.

This ramp-down will **permanently** reduce the current 10% cash incentive bonus on lighting projects that replace T12 lamps or fixtures.



Ballast



T8 lamp



High Bay Fixtures

Before



After



FOCUSED ENERGY *For life.*



Occupancy Sensors

- Great when used with fluorescent fixtures at businesses
- Optional delays of 30 seconds to 30 minutes
- 20% to 40% energy savings
- Save up to \$10 to \$20 per sensor per year



ActOnEnergy.com



Quiz Question

Which facts are true about LED lighting?



Which of the following is true about LED lighting?

- A. LED bulbs always provide a bluish light
- B. LED bulbs produce less heat than fluorescent bulbs**
- C. LED bulbs are not affordable
- D. LED bulbs are not dimmable

LED Lighting

- Use 75% less energy than incandescent
- Last up to 25 times longer than traditional incandescent bulbs
- Incentives of \$10/lamp or \$25/refrigerated case door



LED Exit Signs



Exterior Lighting



Lighting Design

- Meet target Light levels
- Maximize source efficacy
- Maximize fixture efficiency
- Automatically control lighting
- Optimize for changing tasks and space



Fluorescent Redesign

Retrofit option	Base case: Energy-saving T12 lamps with magnetic ballasts	Case 1: T8 lamps with electronic ballasts	Case 2: High- performance T8s with electronic ballasts	Case 3: Case 2 + new fixture* + 50% less lamps	Case 4: Case 3 + occupancy sensing and day lighting dimming
Average foot-candles	25	30	28	25	26
Power per fixture (W)	156	116	90	45	49
Energy savings (%)	N/A	26	42	71	83
Annual operating cost (\$)	826	612	475	238	175
Upgrade cost (\$)	N/A	1,165	1,320	2,035	2,625
Simple payback without incentive (years)	N/A	5.5	3.8	3.5	4.0
Simple payback with incentive (years)	N/A	N/A	3.1	2.9	3.4

Case Study: Fast Food Restaurant



Case Study: Fast Food Restaurant

What equipment was installed	One 2-lamp 4'HP T8 and Twenty-four 4-lamp 4'HP T8, and three LED exit signs
Energy savings in kWhs	11,602 kWhs
Energy savings in dollars	\$1,362.00
Project cost	\$2,025.00
Incentive received	\$580.00
% of project covered by incentive	28.6%
Payback with incentive	1.03 years

Case Study: High Bay Replacement



Case Study: High Bay Replacement

What equipment was installed	Replaced 672 metal halide fixtures with 672 HP T8 fixtures
Energy savings in kWhs	1,078,721 kWhs
Energy savings in dollars	\$86,298.00
Project cost	\$141,120.00
Incentive received	\$54,978.00
% of project covered by incentive	38.95%
Payback with incentive	1.0 year

Quiz Question

Which lighting options are possible solutions for your business?



Which of the lighting options listed are possible solutions for your business?

Upgrading to T8 lighting

Upgrading high bay fixtures

Adding occupancy sensors

Changing from incandescent to CFLs

Upgrading to LED lighting or LED Exit signs

Upgrading exterior lighting

On-line Store

To get to the On-line Store, type: www.ActOnEnergy.com/businessonlinestore into your browser.

Next, we'll talk about how to get started.

On-line Store

The screenshot shows the 'Product Catalog' page of the ActOnEnergy.com online store. The page layout includes a top navigation bar with 'Home', 'Product Catalog', 'Login', and 'Cart / Checkout'. A search bar is located at the top left, and a shopping cart icon is at the top right. The main content area is divided into several sections:

- SEARCH:** Includes 'Advanced Search' and a search icon.
- BRANDS:** A dropdown menu for 'Please Select...'.
- ITEMS:** A list of product categories including CFL, LED, and TE lamps/bulbs, dimming machines, controls, wall switches, and water heating.
- SUPPORT:** Links for 'Shipping & Returns', 'Privacy Notice', 'Contact Us', and 'Package Tracking'.
- Product Catalog:** The main content area with a search bar and a 'Model #:' dropdown. It features a introductory text: 'Key ways to reduce operating costs include using products that use less electricity, and not using electricity when it's unnecessary.' Below this are three featured product sections:
 - Compact Fluorescent Light Bulbs:** Text: 'The real cost of a light bulb isn't what it costs to purchase, it's what it costs to use. CFLs use about one-fourth the electricity of incandescent light bulbs, last 6 to 11 times longer, while producing the same amount of light.'
 - LED Exit Signs:** Text: 'LED exit signs use just a couple watts of electricity, so represent an opportunity to achieve significant savings, as well as enhance safety given the exceptional long life and reliability of LED technology.'
 - Motion Sensors:** Text: 'Savings can be achieved simply by turning lights off in small offices, conference rooms, storage rooms, and similar locations when no one is using them. Because employees don't always remember, motion-sensing light switches help to insure this happens.'
- Product Images:** Six images of products are displayed in a grid:
 - CFL Light Bulb
 - LED Downlight
 - LED Exit Sign
 - LED Light Bulb
 - Power Strip
 - TE Lamp/Bulbs
- Shipping Note:** A green box on the right side contains the text: 'Free shipping is currently available on orders placed through this online store. Also, the CFL kits and special pricing are being offered for a limited time. Most product prices have been reduced by 10% below the usual retail price. Each customer may enter up to six CFLs. (CLICK HERE)'

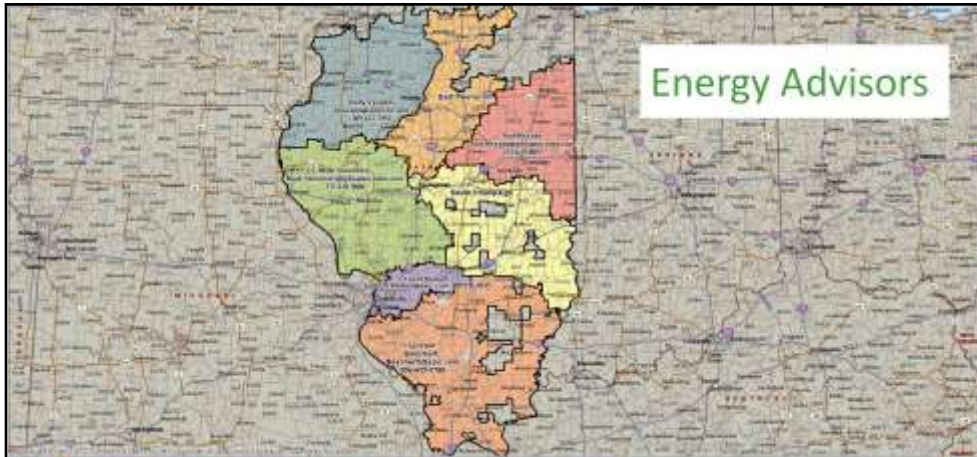
Online Store

- CFL: 3-Pack
- Flood Lights
- Globes
- LED Exit Signs
- Exit Sign Retrofit Sets
- Power Strips
- Motion Sensing Wall Switches



- T8 Lamps
- Electronic Ballasts
- Vending Machine Controls
 - Snack Miser
 - Vending Miser

Act Now for Free Shipping



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Rich Rusnica	1.309.433.4014	richard.v.rusnica@saic.com



ActOnEnergy® For My Business

Searching for a service provider to help with your energy efficiency improvements?

Our ActOnEnergy® Program Ally database makes it easy to find a qualified service provider in your area. This database allows you to search for Program Allies by geographic region or type of service.

Program Allies are service providers who have registered with ActOnEnergy and receive training and updates on our energy efficiency needs.

Businesses partner with service providers to help them improve their energy efficiency. Program Allies are service providers who have registered with ActOnEnergy and receive training and updates on our energy efficiency needs.

Search for

Service Provider Name:

Specialties:

All Types

Areas Served:

All Areas

Customer Type:

All Customer Types

Click here to find a Program Ally service provider.

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[Find a Service Provider](#)

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[Case Studies](#)

[Cost Of Investing](#)

[Business Programs FAQ](#)

[ActOnEnergy Terms Library](#)

[Energy-saving Resources](#)

[ActOnEnergy Assessments](#)

[Education & Training](#)

Determine Your Delivery Service Rate Classification

[Click here for a basic rate breakdown.](#)

- FOR MY HOME
- FOR MY BUSINESS**
- FOR CONTRACTORS
- FOR KIDS
- MORE RESOURCES

Programs by Specialty

We've tailored our incentives to help businesses in these industries get started:

- Agriculture
- Lodging
- Grocery/Convenience
- Commercial Kitchen
- Multi-family Rental
- New Construction
- Healthcare
- Manufacturing

Programs by Equipment Type

Any business can enjoy these incentives, no matter what industry you serve

- Lighting
- HVAC/Water Heaters
- Refrigeration/Freezers
- CFLs
- Exit Signs
- Motion Sensors

Click here to see lighting incentives.

Real Results

Get inspired! See how other Illinois businesses have put ActOnEnergy savings to work at their facilities.

View Case Studies Here

Online Store

Ameren Illinois business customers can purchase a wide variety of energy-saving products at a significant discount at the ActOnEnergy Online Store.

Start Shopping!

Questions?

Email
ActOnEnergyBusiness@ameren.com
Call
1.888.850.0747

Resources

- Website: ActOnEnergy.com
- Phone: 866-800-0747
- Fax: 309-677-7950

ActOnEnergyBusiness@Ameren.com

- Andy's email: avaughn@ameren.com

ActOnEnergy.com



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Questions?

