



AMIL Energy Efficiency Program

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AGENDA

- **About the Program**
- **Applications/Cash Incentives**
- **Technical Resources**





ABOUT THE PROGRAM

Program Overview

- **Strategically allocate cash/technical resources to incentivize real efficiency**
- **Underlying Concept**
 - Efficiency costs ratepayers less to offset growth in energy demand
 - Natural Resources Defense Council: ratepayer net savings up to \$7 billion
- **2007 Rate Relief Act**
 - Created program
 - Municipalities and co-ops declined to participate
- **2017 Future Jobs Act**
 - Expanded for public/residential sectors
 - In place through 2030
- **Funded by, and for, customers**
 - EDR/GDR Rider on your bill
 - Larger (>10MWh over 15 min) customers no longer participate



Why You Should Be Participating

▪ Proven Success

- Last Ten Years: Average large customer energy reduction ~9%
- 2018: 40% Large Customers, overall 282M kwh savings, \$33M incentives
- AMIL only incentives profitable projects, Facilities pay one way or the other

▪ Significant Forward Looking Progress Anticipated

- 8% - 20% Energy management Goals by AMIL, DOE, EPA
- AMIL forward looking targets: 4% savings/yr average

▪ Non - Utility Savings Benefits:

- Quality/Reliability (in addition to energy/labor savings)
 - Manufacturing Cycle Time/Throughput (..chiller upgrade, 25% throughput increase, lower scrap rates, increased productivity)
 - Overall Equipment Effectiveness (..change dryer technology, 50% capacity increase, saved energy/labor costs)
 - Production Attainment/On Time Delivery (..increased productivity, yield, reliability, quality)
 - Downtime vs Operating (..opportunistic improvements for equipment/processes; ex. overburdened compressed air systems failing)
 - Time to Make Changeovers (ease of maintenance, ex. LED's last up to 5x longer)
- Human Resources
 - Productivity per Employee (..4.5% productivity increase, lighting system allows workers to set preferred lighting levels)
 - Reportable HS&E Incidents (..improved lighting, floor safer for forklift drivers as well as pedestrians)
 - Facility & Corporate Environmental Policy
 - promotes innovative technology, environmentally friendly manufacturing, promote environmental conservation



A blurred office background with people working, overlaid with a white text box containing the text "APPLICATIONS/INCENTIVES". The text box has a blue border on the left and a green border on the right. In the foreground, a white hard hat is visible on the left, and a desk with a laptop, glasses, and papers is visible on the right.

APPLICATIONS/INCENTIVES

Incentives Overview

» Cash upon project completion

» Based on actual watts/therms reduction

» Categories

- Standard
 - pre-determined incentives
 - Pre-approval >\$10,000
- Custom
 - anything not pre-determined
 - 1 – 10 year payback
 - All Custom, Retro-Commissioning and New Construction Projects (i.e. non-standard) require pre-approval
- Additional LIRF application if incentive >\$25,000

» Dynamic Program

- Always review current applications in full, with EA's, before proceeding



Incentive Bonuses

- Customer Early Completion Bonus for both gas & electric projects
- Quarterly
 - 1st Quarter – 15%
 - 2nd Quarter – 10%
 - 3rd Quarter – 5%
- Not applicable to Metering and Monitoring and Feasibility Studies
- Yearly October Symposium Event Bonus – 15%



Standard Applications

- **Lighting**
- **HVAC/Water Heaters**
- **Specialty Equipment**
 - Industrial (focused herein)
 - Agriculture (various fans, timers)
 - Lodging/Restaurant (cooking/kitchen/pools)
 - Refrigeration (coolers/freezers/beverage machines)
- **Process Steam/Steam traps**
- **Variable Frequency Drives**



Standard Lighting



- Interior LEDs - \$0.35 - \$0.45/watt reduced
- Exterior LEDs - \$0.35 - \$0.45/watt reduced
- LED Cooler/Freezer Lighting- \$0.35 - \$0.45/watt reduced
- Permanent Lamp Removal - \$0.20/watt reduced
- Occupancy sensors - \$40/control (\$20 for low wattage)
- Occ plus Daylight - \$50/control (\$25 for low wattage)
- LED exit signs - \$20/sign
- Removal of new T8/T5 Fluorescent incentives – incentives for all new LEDs now



Amplify Online Lighting



- **An online version of the Lighting application**
 - Now available on mobile devices and tablets
- **Works for Standard and Custom lighting measures**
- **Applications are processed more quickly**
- **Choose your equipment from a pre-loaded list**
- **Can run and save multiple estimates before submitting application**
- **No spec sheets necessary**
- **Save your equipment in the system for repeated use**

Standard HVAC / Water Heaters



- Advanced (smart) thermostats - \$250/thermostat
- Unitary & Split A/C Systems and Air Source Heat Pumps – \$350 - \$1600/unit based on Btuh input
- Air-cooled chillers - \$3,000/unit installed
- PTAC/PTHP units - \$35 - \$40/unit installed based on EER
- Gas Boiler/Furnace replacement - \$800 - \$9,000 based on size
- Boiler Tune-ups - \$1 - \$2/kbtuh up to 75%
- Demand Controlled Ventilation - \$0.17/sq ft. controlled
- Notched V-belts for HVAC systems – *now part of Instant Incentives*

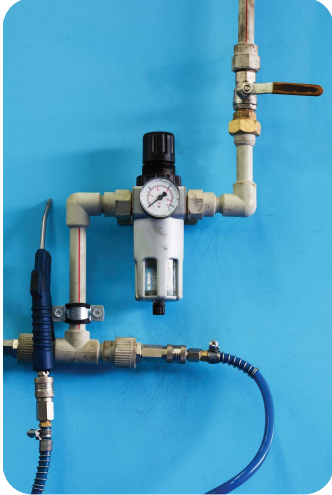


Specialty Equipment: Agriculture



- High efficiency high speed exhaust/vent fans – \$25 - \$100/fan
- High efficiency circulation fans - \$25 - \$100/fan
- High volume low speed (HVLS) fans - \$1,000/fan
- Ag equipment heater timers - \$10/timer
- Livestock waterers - \$250 - \$500/waterer

Specialty Equipment: Industrial Facilities



- **No-loss condensate drains - \$400/drain**
- **Compressed Air Nozzles - \$60/nozzle**
- **VFDs controlling Air Compressor Motors (less than 40hp) - \$125/hp**
- **Compressed air filters - \$450/filter**
- **High Frequency Battery Chargers - \$500/unit**

Specialty Equipment: Hospitality



- Electric cooking equipment - \$180 - \$1,100
- Kitchen demand ventilation - \$400/hp
- Electric & Gas steamers - \$1,000 - \$2,000
- Dishwashers - \$400 - \$2,000
- Gas cooking equipment - \$250 - \$1,000
- Ozone Laundry - \$35/lb
- Commercial pool cover - \$1.80/square foot
- Variable speed pool pump - \$400/pump

Process Steam/Steam Traps



- Steam trap monitoring - \$150/trap
 - Additional incentives available to replace failed traps
- Steam trap survey (HVAC) - \$30/trap
- Steam trap repair/replacement (HVAC) - \$100/trap
- Steam trap survey (industrial process) - \$30/trap
- Survey on HVAC/process boilers with over 7,750 hours of operation per year - \$50/trap
- Steam trap repair/replacement (industrial) – \$100 - \$500 based on psig

Variable Frequency Drives



- VFDs on HVAC motors - \$125/hp controlled
- VFDs for pumping & air-handling applications - \$125/hp controlled
 - Process fans
 - Boiler draft fans
 - Process pumps

Non-Standard Applications

- **Custom**
 - catch-all application, metering typical
- **New Construction Lighting**
- **Retro-Commissioning**
 - Compressed Air
 - Large Facility
 - Industrial Refrigeration
 - Grocery Stores
- **Leak Survey & Repair (Compressed Air)**
- **Variable Frequency Drives**



Custom



- **Electric Incentives - \$0.12/kWh**
- **Gas Incentives - \$1.00/therm**
- **Capped at 80% of project cost**
- **Public Sector Incentives - \$0.18/kWh and \$1.50/therm**

New Construction Lighting



- Can be processed through Amplify Online Lighting
- Interior Incentive is \$0.14, \$0.16 or \$0.18/kWh based on the percent improvement over Lighting Power Density Baseline
- Exterior Incentive is \$0.16/kWh
- Total New Construction Incentive is capped at \$150,000
- Visit the website for:
 - Incentive Estimation Tool
 - New Construction Lighting Calculator

Retro Commissioning



- **Performance Studies to define & optimize systems**
- **Studies prepared by qualified, pre-approved, Program Allies**
- **Identify no-cost/low-cost energy efficiency measures, implement**
- **Identify 1-10 year payback capital projects, consider through other applications**

Retro Commissioning

- **Compressed Air Systems**
 - 2 or more operational compressors, >2years since last upgrade/study
 - Incentives: 80% of study cost, \$0.02/kwh for <1yr payback measures
 - Focus on leaks, tune-ups, pressure reduction, and inappropriate uses
- **Industrial Refrigeration**
 - 2 or more chillers/coolers, >500 hp/500 ton capacity, >2years since last upgrade/study
 - Incentives: 70% of study cost, \$0.02/kwh for <1yr payback measures
 - Focus on lowering condensing pressure, raising suction pressure, evaporator fan control, compressor sequencing, and evaporator defrost settings
- **Large Facilities**
 - >100k sf HVAC, w/controls system, >5yr since last upgrade/study
 - Incentives: up to 80% study cost, \$0.02/kwh, \$0.30/therm saved
 - Focus on controls upgrade, improve HVAC/lighting systems

Retro-Commissioning

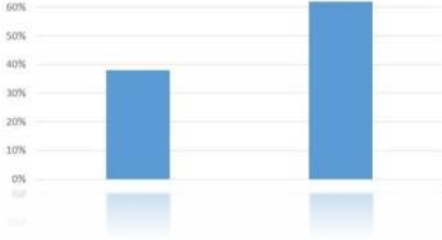


Leak Survey & Repair (CA)



- Incentive based on the lesser of:
 - \$20,000
 - Survey cost
 - Connected HP x \$14.00

Metering & Monitoring



- **Base incentive – lesser of 25% of install cost or \$10,000 once software is installed**
- **Performance incentive: 0.04/kwh or \$0.20/therm saved, capped at 75% of install cost or \$20,000**
- **Cannot be combined with Staffing Grants**
- **Limited number of applications accepted**
- **Pre-approval required**

Feasibility Study



- **Maximum incentive will be \$20,000**
- **Pre-approval required**
- **Up to 6 months to complete the study**
- **Incentives cover up to 50% of the cost (capped at \$20,000 or 50% of the estimated annual savings identified in the study)**
- **Cannot be combined with Staffing Grant**

Instant Incentives



- Qualified Distributors
- LED Omni-directional - \$2.00
- LED Decorative - \$3.00
- LED Directional (PAR) - \$8.00
- LED Directional (BR, MR, R) - \$2.00
- LED Trim Kits (recessed downlight) - \$5.00
- LED Linear 4ft and U-Bend T8 - \$4.50
- LED Linear 3ft T8 - \$3.50
- LED Linear 2ft T8 - \$3.00
- LED Linear 4ft T5 HO - \$7.00
- BX section notched V-belt - \$15/belt
- Visit AmerenIllinoisSavings.com/IID for more information

Incentive/Application Tips & Reminders

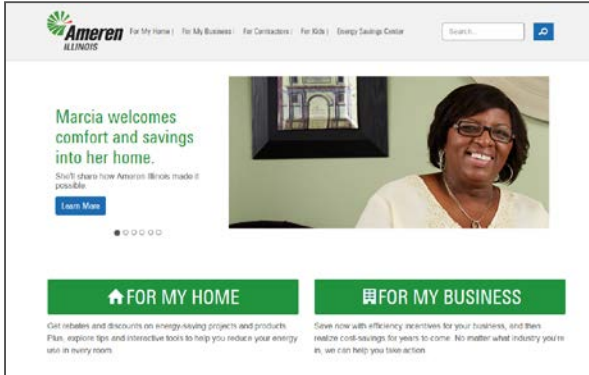


- ALWAYS double-check to see if your project needs pre-approval (signed purchase order = line of demarcation)
- Remember to always send projects to the correct email address – IllinoisBusinessProjects@Ameren.com
- Please include all quotes and/or invoices to avoid paperwork delays
- Your projects can be processed faster if you use Amplify Online Lighting when applicable
- Make sure to include customer contact information and signatures
- Including a Project Scope for Custom projects will result in quicker approval
- ALWAYS review applications in full, consult with Energy Advisor's
- Request expedited processing, if needed



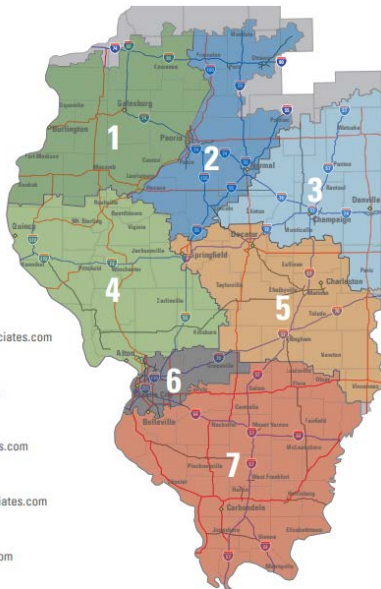
Technical Resources

- Website always has the most up-to-date information on incentives
- Find applications, application guides, and other necessary forms
- View videos, case studies, and other educational content
- Program Contact information
- Monthly Newsletter
- Access on any device (mobile, tablet, or desktop)



Energy Advisors

ENERGY ADVISOR TERRITORY MAP



- 1** Chad Whitehead
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309.213.0336
- 7** Larry Erwin
Lawrence.F.Erwin@leidos.com
309.838.2340



- Free site walk-throughs and consultations
- Assist customers locating energy efficient needs
- Assist with application process
- Project consultation
- To Schedule a meeting contact directly, or

1.866.800.0747

IllinoisnBusinessEE@Ameren.com



Program Allies



Home > For My Business > Find A Contractor

Program Allies Can Help

Recommend 0 +1 0



Find a Contractor who is a registered Ameren Illinois Program Ally

Searching for a contractor to help with your energy efficiency improvements?

Ameren Illinois' Program Ally database makes it easy to find a qualified contractor in your area. This database allows you to search for registered Program Allies by geographic region or type of service.

Program Allies are contractors who have registered with Ameren Illinois and receive training and updates on our programs. These Program Allies will help you find the best solution for your energy efficiency needs.

Businesses participating in Ameren Illinois' energy efficiency program can also choose to install upgrades themselves or use other local contractors not registered with Ameren Illinois. However, because of their familiarity with the programs, Program Allies are well equipped to make your energy efficiency projects a success.

Search for Product or Program Ally

Program Ally Name:

Specialties:

Areas Served:

Customer Type:

- **Contractors who have registered and received training from Ameren Illinois.**
- **Familiar with application forms and processes.**
- **Help customers complete energy efficiency projects.**
- **Look for a Program Ally by visiting AmerenIllinoisSavings.com and click on “Find a Contractor”.**



Energy Assessments



- **ISTC – TAP**

- High Quality Economy/Energy/Environment (E3) studies
- Defer to following speaker

- **DOE Industrial Assessment Centers**

- Federally funded facility energy assessments
- Typically target small/med. sized manufacturing, some exemptions
- Case studies, technical papers, database w>135k assessments

- **DOE CHP TAP**

- Federally funded CHP siting studies & waste heat recovery evaluations
- Energy Resources Group out of University of Illinois - Chicago



Energy Management



U.S. DEPARTMENT OF ENERGY

Overview

BETTER BUILDINGS, BETTER PLANTS

Better Plants Program

The U.S. Department of Energy's (DOE's) Better Buildings, Better Plants Program is a voluntary partnership initiative to drive significant energy efficiency improvement across energy intensive industrial companies and organizations. To date, 192 leading manufacturers and water and wastewater treatment utilities are partnering with DOE through Better Plants to drive energy efficiency, improve competitiveness, and cut energy costs.

Partner Benefits

Partners in the Better Plants Program set energy intensity reduction goals, usually 25% over 10 years. In exchange they receive:

- ▶ **National Recognition** to highlight their leadership including a feature on the Department's website, annual recognition letters from DOE management, and invitations to special events. Partner success stories are also highlighted in DOE

Better Plants Snapshot, November 2017

Accomplishments	Total
Number of Partner Companies	192
Approximate Number of Plants	2,800
Percent of U.S. Manufacturing Energy Footprint	11.7%
Reported Savings	
Cumulative Energy Savings (Btu)	800
Cumulative Cost Savings (Billions)	\$4.2
Average Annual Energy Intensity Improvement Rate	3.1%



• DOE Better Plants

- 20% facility reduction over 10 years
- pursue ISO 50001 self, or full, certification
- 1511 participants (10% mfg. footprint), 42 achieved
- Case studies, financing alternative navigator
- Partner w/MEEA for regional support

• DOE Advanced Manufacturing Office

- Energy Analysis Data & Reports on sector energy use, process/equipment
- Free software modeling tools
 - 50001 Ready Navigator – comprehensive facility energy management
 - EnPI Lite –energy regression calculator/modeling
 - Steam System modeler
 - Process Heating Survey & Assessment Tool (PHSAT)
 - AirMaster+ (Compressed Air systems)
 - Pump System Assessment Tool (PSAT)
 - Fan System Assessment Tool (FSAT)
 - Data Center Profiler Tool Partnership Map (image)



QUESTIONS?



For My Home

IllinoisResidentialEE@Ameren.com

1.866.838.6918



For My Business

IllinoisBusinessEE@ameren.com

1.866.800.0747