



Energy Efficiency

It's good business.





Energy efficiency puts the power in your hands – the power to save both kilowatts and cash. Using energy wisely will lower your organization’s monthly bill, and it may be easier than you think.

In light of today’s rising prices, energy efficiency is worth more than a passing glance. Climbing energy costs only increase the value — and quicken the payback — of any investment you make in energy-efficient products or processes.

From using compact fluorescent light bulbs to purchasing ENERGY STAR® office equipment, any steps your business takes to improve efficiency will translate directly into savings. It’s one of the simplest strategies your organization can adopt to give the environment, and your bottom line, a boost.

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Communicate Your Way to Savings

By making energy efficiency an ongoing theme in your organization, you can encourage employees to become more energy conscious. To help employees understand the cost of their actions, such as leaving the lights on at night, effective communication might include calculating the cost of an hour of lighting at full capacity. Equate the potential savings to something meaningful within your organization (e.g. "The anticipated yearly savings of turning off our office lights at night would be enough to purchase 10 laptop computers.")

Use Energy Awareness Month in October to raise employee awareness of the importance of energy conservation.

Plan Your Way to Energy Savings

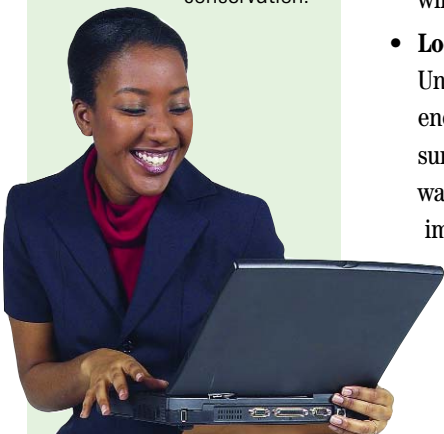
To tap into the power of energy efficiency, make energy performance a key measure of your organization's success. By making energy efficiency a shared goal in your business, you can rally your entire team to help lower energy consumption.

Follow these steps to get the most from every hour of power you use:

- **Build a team.** Include representatives from management or administration—top-level commitment is paramount.
- **Schedule a planning session** and start laying the groundwork. **Set realistic goals.** Is saying you want to save 10 percent over two years possible? What is the baseline you will measure against? How and when will the measurement be made?

(As part of the ENERGY STAR[®] Challenge, the Environmental Protection Agency encourages a 10 percent savings goal.)

- **Create an action plan** for implementing the top priority energy-saving measures. Decide who will do what, by when, and within what budget. Schedule time to celebrate your successes. Instead of waiting until the end of a two-year program to announce results, create regular milestones and incentives to meet them. Make people feel they're a part of the program's success, and it will take on a life of its own.
- **Look at your current energy use and costs.** Understand what equipment uses the most energy. A small improvement in an area that consumes a lot of energy, like heating and cooling, water heating or lighting, will make a larger impact on the bottom line. Visit the Energy Efficiency and Renewable Energy Network at www.eere.energy.gov for more information.



- **Consult with your electric company.** Many electric companies, including Ameren, offer a variety of services to enhance your business' energy efficiency. Ameren's energy experts can help you learn how your facility uses energy and determine the value of potential savings. Ameren also has access to an extensive network of qualified contractors with the know-how your business needs to improve its energy performance. Our network includes experts in distribution maintenance services, power quality, power reliability, backup generation, energy audits, utility bill audit and consolidation, facility analysis, performance contracting, compressed air services, HVAC and lighting.

Visit www.ameren.com or call **1.877.322.2287** to learn more about products and services that may be of value to you.

- **Conduct an audit of your facility's energy use.** A walk-through audit is a simple, low-tech place to start. Pay particular attention to people's habits and practices that can be adopted to use energy more efficiently. For more in-depth information, consider hiring a trained professional. A walk-through of your facility by energy experts can help identify improvements to heating and cooling systems, lighting, the building envelope and auxiliary systems such as water heaters and coolers.
- **Determine how long it will take your investment to pay for itself in energy savings.** Simply divide the cost of the improvement by the annual energy savings. The result is the number of years to pay back the investment. This method doesn't take into account inflation, energy cost changes, tax effects, or expected life of equipment, so you may want to use an adjusted-payback or life-cycle costing method.

Consider Hiring a Professional

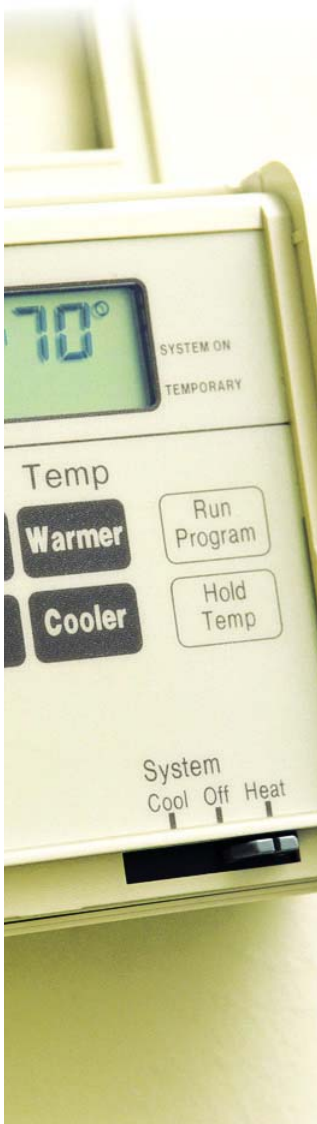
Energy audits of your facilities can help you discover how your business uses energy and identify potential areas for savings. Ameren has created a Value-Added Partner Network to help you locate a contractor with the expertise to provide energy-related services tailored to your business.

Ameren and the approved contractors in our network use the latest in technology to identify potential savings for your business. For example, our team uses ultrasonic inspections to detect hidden compressed air leaks, steam leaks and steam trap failures. Thermography allows us to identify temperature loss around windows, doors, commercial freezers and coolers, and piping insulation. And laser alignment helps us identify and eliminate frictional loss that occurs when electric motors are misaligned.

For more information, contact Ameren toll-free at **1.877.322.2287** or via e-mail at marketing@ameren.com.

Heating and cooling

account for 70 percent of the energy used in commercial buildings. Water heating accounts for seven percent.



Strategies to Save Energy and Money

Heating, Cooling & Comfort

- Adjust thermostats up when cooling and down when heating, especially when an area is unoccupied. Programmable thermostats make these adjustments for you automatically.
- You may wish to install locking covers on your thermostats to prevent employees from tampering with temperature settings.
- Reduce the temperature on your water heater thermostat to decrease heat loss from your tank. Turn off the water heater if the building will be unused for two or more days.
- Make sure you have sufficient insulation in the ceiling floor.
- Insulate your hot water pipes, especially when they are located in unheated areas.
- Make sure your heating equipment is properly sized. The most efficient sizing will require the heating system to run constantly at full load on the coldest day that the building is designed to handle.
- Install interior or exterior shading devices (window film, solar screens, awnings, etc.) in south- and west-facing windows to block the sun's heat in the summer.
- Install fans or other re-circulating systems to create air movement. Proper air circulation improves space comfort and system efficiency. Ceiling fans work equally well in the winter to circulate warm air from the ceiling back down to the occupied space.
- If your air conditioning vents are in the floor, install reflectors to direct the cooler air upward. (Remember, cool air sinks toward the floor.)

- Consider installing air conditioner economizers (common in packaged rooftop units); they use the cool nighttime air outside to help cool the inside of your building.
- When buying new heating or cooling systems, choose ENERGY STAR[®] products. They are 20 to 30 percent more efficient than older models.
- Keep exterior doors and windows closed as much as possible when cooling with air conditioning.
- Consider installing a heat pipe. Originally developed by NASA to cool spacecraft, it lowers an air conditioner's energy consumption by 5 to 10 percent by improving its ability to dehumidify the air.
- Use variable speed motors and compressors on heat pumps and air conditioners to more closely match energy use to temperature fluctuation.
- Consider using a heat pump water heater, which can provide hot water much more efficiently than standard water heaters in many commercial applications, while maintaining comfort.
- Perform regular maintenance to keep heating, ventilation and air conditioning (HVAC) systems running more efficiently. Maintain a regular filter replacement and cleaning schedule and repair leaks in piping, ducting, coils, fittings and at the unit(s).
- Keep all registers or vents clear of drapes, desks, plants or boxes to keep the conditioned or heated air moving freely.
- Seal exterior cracks and holes with weather stripping or caulking. For an in-depth analysis of leaks, consider hiring a professional to conduct blower door tests or an energy audit. Ameren can help you locate a qualified professional in your area.

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Lighting comprises about 30 percent of the electrical load in most commercial buildings.



- GeoExchange Heating and Cooling Systems — also known as “ground source heat pumps” or “geothermal heat pumps” — use the constant temperature of the Earth to provide heating comfort in the winter and cooling in the summer time. GeoExchange systems provide the lowest operating costs and best environmental performance, even when compared to advanced fossil fuel systems.
- Use a heat pump water heater to capture the free heat exhausted by air conditioners, ice makers or above a cooking line, and amplify it to make cheap hot water. It also returns a moderate amount of free air conditioning as a byproduct.
- Recover part of the furnace exhaust heat for use in lower-temperature heating processes.
- Plant deciduous trees or shrubs on the south and west sides of your building. This acts as insulation, provides shade and blocks reflected heat from patios or driveways during the summer. The trees will drop their leaves in winter, allowing the warm sunlight to enter your facility.

Lighting

- Use compact fluorescent light bulbs instead of incandescent bulbs. They use only 25 percent of the electricity used by incandescent lights and last up to 10 times as long.
- Install electronic ballasts to increase fluorescent lamp efficiency by up to 25 percent and increase light output by 10 to 15 percent.
- Leave only minimal lighting on during non-business hours, if necessary for safety.
- Use task lighting instead of overhead lighting, and light only those areas that are needed at the time.

- Consider replacing older fluorescent tube lighting with T8 or T5 fixtures.
- Install automatic, occupancy sensor room-lighting controls to turn lights on or off in frequently unoccupied areas such as bathrooms, copy rooms and warehouses.
- Use photocells or astronomical clocks with outdoor lighting to prevent unnecessary light usage during daylight hours.
- Replace large, traditional decorative holiday lights with new LED lights, which use about 90 percent less energy and last much longer than the larger bulbs. Use an automatic timer to help you avoid leaving the holiday lights on all night or during the daylight hours.
- Replace incandescent or fluorescent exit signs with LED exit signs.
- Make sure that bulbs, fixtures, lenses, lamps and reflective surfaces are cleaned regularly. By removing grease, dust and other dirt, you can increase the output of your lights.

Equipment, Appliances & Machinery

- Turn off any machines and equipment when not needed and during non-business hours. This includes computers, monitors, printers, copiers and task lighting.
- E-mail documents instead of using the fax machine.
- Set energy-saving features on all your office equipment to put it into sleep mode when not in use.
- Only buy office equipment that displays the ENERGY STAR® logo.



Tap Into Energy-Efficient Technologies

Make it your business to stay abreast of emerging technologies that can save your business energy, time and money. For example, induction heating uses electrical currents to heat metals and transform them into finished products, reducing heating times and eliminating on-site combustion emissions. Lightwave ovens can cook a pizza in less than 90 seconds, and electric infrared ovens are about three times more efficient than convection ovens.

Visit the Edison Electric Institute Web site at www.eei.org to learn more about these and other cutting-edge energy-efficient processes.

Be an ENERGY STAR!

As you replace older office equipment and appliances, put ENERGY STAR® products at the top of your shopping list. ENERGY STAR products use less energy while offering the same levels of performance and quality—plus, they help the environment. The ENERGY STAR rating system helped Americans save \$12 billion on their utility bills in 2005!

Want to learn more? Go to www.energystar.gov



- Consider laptop computers for employees; they use up to 90 percent less energy than a standard computer.
- If it works for your business, consider using ink-jet printers, which use 90 percent less energy than laser printers.
- Purchase the proper-sized copier for your business needs.
- Choose a flat-panel computer monitor rather than a regular cathode ray tube (CRT) monitor. If you have to buy a CRT monitor, buy the smallest monitor that will meet your needs.
- Electric motors give off heat and contribute to the cooling load when they are located in an air conditioned or refrigerated space. If possible, move this equipment to an unconditioned area.
- Set the refrigerator temperature between 36 and 42 degrees and the freezer between -5 and +6 degrees.
- When shopping for an office refrigerator or other appliance, compare average yearly operating costs listed on the yellow Energy Guide label.
 - Install auto door-closers and strip curtains on walk-in freezers or coolers.
 - Clean refrigerator condenser coils three to four times each year. Be sure to unplug the refrigerator first.
 - Consolidate many perishable items into fewer cooling units — then unplug the extra refrigerators or freezers until they are needed again.

- Install faucet aerators in restrooms and low-flow showerheads in any on-site shower facilities. Low-water-use dishwashing equipment is available for institutions that have cafeterias on site.
- Warehouse or factory facilities may want to consider using clean, rechargeable electric forklifts (using lead-acid or other types of recyclable batteries); they eliminate emissions inside the warehouse or factory.
- Operate furnaces and boilers at or close to design capacity.
- Use proper furnace or boiler insulation to reduce wall heat losses.
- Repair steam leaks on steam generation systems and optimize condensate recovery.

At Your Service

We value our customers. If your business needs additional information or assistance, please visit www.ameren.com or call us at the toll-free number below:

AmerenIP
1-800-363-6805

AmerenCILCO
1-877-677-5740

AmerenCIPS
1-800-232-2477

AmerenUE
1-877-263-7367

Additional Resources:

Ameren
www.ameren.com

Edison Electric Institute
www.eei.org/wiseuse

Energy Savers
www.energysavers.gov

ENERGY STAR®
www.energystar.gov

Illinois Department of Commerce and Economic Opportunity
www.illinoisbiz.biz

Missouri Department of Natural Resources
www.dnr.mo.gov/energy

U.S. Department of Energy Efficiency and Renewable Energy
www.eere.energy.gov



