

Energy Efficiency Checklist

Explore Opportunities to Save Energy

Understand Your Performance

You Can't Manage What You Don't Measure

□ Benchmark Your Building Energy Use

- Energy Benchmarking is the process of tracking your building's energy use and comparing your performance to similar buildings and to past performance.
- Any building can use ENERGY STAR Portfolio Manager, a free, online tool administered by the U.S. Environmental Protection Agency, to benchmark their energy, water and waste performance. Visit www.stlbenchmarking.com to learn more and get assistance.

Invest in Your Building

No-Cost Operational Changes & Low-Cost Improvements

□ Check your Building Scheduling

- Do you have a Building Automation System? Check your scheduling to ensure you aren't lighting and conditioning the building when no one is present.
- If you don't have a building automation system, install programmable or smart thermostats. Ensure thermostats are programmed and choose regular set points that are communicated with occupants.

□ Perform Regular Preventative Maintenance

- Regular building systems maintenance helps equipment run as efficiently as possible. Replace air filters regularly, clean evaporator and condenser coils on heat pumps, air conditioners, and chillers, and tune up equipment as suggested by manufacturer. Buildings can save 5 to 20% annually on their energy bills by implementing Operations & Maintenance Best Practices (EPA).
- Spire provides rebates for boiler tune-ups. Learn more at www.spireenergy.com/commercial-rebates

□ Address Plug Loads

- One third of electricity used by US commercial buildings goes to plug and process loads, are energy loads not related to lighting, heating, ventilation, cooling, and water heating (DOE).
- Remove or unplug unused or duplicate plugged-in devices, and enable computer, monitor, and printer power management features. For more ideas, refer to [NREL's plug load guide](#).

□ Encourage Energy Efficient Behavior

- Building occupants have a big impact on energy use! Encourage occupants to turn lights off nightly, and publicize your energy use and goals. Refer to [ENERGY STAR's communications toolkit](#).

□ Weatherize and Reduce Unnecessary Air Infiltration

- Weatherstrip and caulk to close air gaps at doors and windows.
- Encourage use of revolving doors, if present in your building.
- Ensure roof access and freight entrances are closed when not in use.

□ Upgrade lighting

- Install LEDs for significant energy savings
- Install occupancy sensors, multi-level fixtures, or daylight responsive lighting for additional savings.
- Ameren Missouri incentives are available for a wide range of lighting projects for both commercial and residential buildings. Learn more and find a lighting contractor at AmerenMissouri.com/BizSavers

- **Retro-commissioning (RCx) – A Building Tune Up**
 - Tune existing systems to run as efficiently as possible through identification and implementation of low- or no-cost improvements. RCx is a good solution for large buildings.
 - Through Ameren Missouri, some commercial buildings over 100,000 square feet can receive incentives for performing a RCx technical analysis study and for certain energy efficiency improvements. Learn more and find a RCx contractor at AmerenMissouri.com/BizSavers
 - Rebates are available to Spire commercial and industrial customers for gas-related energy efficiency improvements, including savings from select RCx measures, through Spire’s Custom Rebate program. All custom projects require pre-approval. Learn more at www.spireenergy.com/commercial-rebates
- **Get an Energy Audit**
 - An energy audit details energy conservation opportunities, the associated cost, savings, payback, and available Ameren Missouri Incentives and Spire Rebates.
 - Spire offers rebates for energy audits conducted by a qualified professional. At least one eligible energy efficiency measure identified in the audit must be installed to receive the rebate. Learn more at www.spireenergy.com/commercial-rebates

Invest in Your Building

Medium Cost Measures and Measures to Consider at Replacement or Renovation

- **Upgrade Your Building Controls**
 - Install a Building Automation System if you don’t yet have one.
 - Upgrade Pneumatic to Electronic (DDC) controls.
- **Invest in Efficient Building Systems**
 - The largest portion of building energy use is tied to Heating, Ventilating, and Air Conditioning. An energy audit will give you project ideas specific to your building.
 - Upgrade Your Heating, Ventilation, and Air Conditioning (HVAC) System
Incentives and Rebates are available from Ameren and Spire
 - Evaluate options to upgrade boilers, chillers, and air handling units to high efficiency at end of life.
 - HVAC systems are commonly oversized, causing comfort issues and wasting energy. Choosing the appropriate size equipment at replacement can cut costs and improve performance. An engineer or consultant can analyze building loads to determine the appropriate size equipment.
 - Install variable frequency drives on motor-powered devices such as pumps, fans, compressors and exhaust hoods.
 - Consider transitioning to ground source heat pump.
- **Improve Your Building Envelope**
 - Insulate – Improving insulation during an existing renovation will improve the payback.
 - Cool Roofs – Reduce heat gain during the summer by installing a reflective roof. Prioritize during roof replacement or repair.
 - Windows – Replace single pane windows, or consider installing Low-E Film to improve performance of existing windows.

Choose a Contractor

Search Local Companies to Find the Right One for You

Ameren Missouri BizSavers Find a Contractor Tool
Spire Find A Contractor Tool

www.tradeallynetwork.com/

www.spireenergy.com/find-contractor

Funding Your Projects

Incentives and Financing

Ameren Missouri Incentives
Business Energy Efficiency Incentives
bizsavers@ameren.com
(866) 941-7299
AmerenMissouri.com/BizSavers

Residential Energy Efficiency Incentives
www.amerenmissourisavings.com/



Spire Rebates
Business Rebates
energyefficiency@spireenergy.com
1-800-887-4173
www.spireenergy.com/commercial-rebates

Residential Rebates:
www.spireenergy.com/rebates



Property Assessed Clean Energy (PACE)

PACE is a voluntary, financing program that allows building owners to finance qualifying energy efficiency and renewable energy improvements through voluntary tax assessment. Property owners pay for the improvements over time and the repayment obligation transfers automatically to the next owner if the property is sold.

Learn more: www.setthepacestlouis.com/

Energy Savings Performance Contract with an Energy Services Company (ESCO)

In this model, the ESCO is responsible for developing an energy savings plan (usually starting with investment grade audits of buildings), facilitating financing, and installing energy efficiency upgrades. Energy savings are guaranteed and used to pay for the upgrades over time. The ESCO serves as the single point of contact; overseeing project design, construction, post-installation monitoring and evaluation.

Learn More: www.energy.gov/eere/slsc/energy-savings-performance-contracting

Missouri Division of Energy Low Interest Loans

The Energy Loan Program provides low-interest loan financing for energy-saving investments to reduce energy use and cost for the following: public schools (K-12), public and private higher education institutions, public and private not-for-profit hospitals, and local governments, including hospital districts, sewer districts, water supply districts, sub-districts of a zoological park and museum districts, and public owned airport facilities.

Learn More: energyloan.mo.gov

Better Buildings Financing Navigator

The Navigator is an online tool that helps public and private sector organizations find financing solutions for energy efficiency projects, developed by the U.S. Department of Energy's Better Buildings Initiative. Note that the Navigator covers non-residential energy efficiency projects only.

Learn more: betterbuildingssolutioncenter.energy.gov/financing-navigator

Invest In Your Building Staff

Training & Certification Opportunities for Building Operators

□ Building Operator Certification (BOC) Training

BOC Training is the leading training and certification program for building engineers and maintenance personnel. BOC training includes nearly 74 hours of classroom and project work in building systems operations and maintenance. Graduates gain skills to make their buildings more comfortable, efficient and environmentally friendly. Training of building operators can be tied to energy savings. According to the Northwest Energy Efficiency Council's evaluations of the Building Operator Certification training, attendees that use energy-efficient procedures and tools learned in the class can save 100,500 kilowatt hours and 1,400 therms annually (BOC). Utility rebates may be available for tuition.

Find upcoming courses: www.boccentral.org

□ Green Building Professional Skills (GPRO) Operations & Maintenance Training

GPRO O+M is a two day course that provides building professionals with strategies to improve efficiency, comfort and health in existing building. Participants leave with at least three immediately actionable measures and the next steps needed to achieve them. This course is ideal for property managers and building staff in multifamily residential and high-rise commercial buildings, including: building superintendents, operators, facility and property managers, operating engineers and stationary engineers.

Find upcoming courses: www.usgbc-mogateway.org/calendar

Recognition and Resources

Learn More, Share Your Success Stories, Earn Recognition

City of St. Louis

Resources, guidance, and further information about opportunities to save energy and more are available by contacting the Building Division's Benchmarking & Energy Concierge at benchmarking@stlouis-mo.gov or 314-622-5689.

www.stlbenchmarking.com



U.S. Green Building Council—Missouri Gateway Chapter

USGBC-Missouri Gateway aims to make every building a green building because everyone deserves to live, work, and learn in healthy spaces. Through education and outreach, we engage community leaders in sustainable projects that provide environmental, health and economic benefits in the region. Contact USGBC-Missouri Gateway Chapter to share your benchmarking and energy efficiency success story in a case study or at an upcoming event.

www.usgbc-mogateway.org



ENERGY STAR Portfolio Manager and ENERGY STAR Certification

ENERGY STAR Portfolio Manager is a free, online energy, water, and waste benchmarking tool administered by the U.S. Environmental Protection Agency. According to EPA, more than 40% of the commercial buildings market uses ENERGY STAR Portfolio Manager to measure and track their energy use. Buildings with an ENERGY STAR score of 75 or higher are eligible for free ENERGY STAR Certification. If your building is eligible and you need guidance on pursuing certification, contact the City or USGBC-Missouri Gateway.

www.energystar.gov/benchmark