



Renew Missouri

Advancing Efficiency and Renewable Energy

MO Efficiency Now

Energy efficiency is often considered the low-hanging fruit in the quest for clean and secure energy resources. Recent increases in energy prices, constraints on energy supply, and energy reliability concerns have highlighted the fact that energy efficiency is the single most cost-effective and reliable energy resource.

Despite the importance of energy efficiency, Missouri ranks 41 of 50 states on the 2009 Energy Efficiency Scorecard released by the American Council for Energy Efficiency Economy (ACEEE).

The way Missouri lags behind other states on energy efficiency is very similar to where the state stood on renewable energy a couple of years ago. In 2006, 85% of Missouri's energy came from coal and less than .01% came from renewables. The use of renewable energy, growing rapidly across the country, was not being deployed in Missouri because our state lacked the critical and proven policies necessary to invigorate the industry.

The Missouri General Assembly passed the Easy Connection Act in 2007, making it simpler and more cost-effective for Missourians to connect solar and wind systems to the electric grid. Then in 2008, voters passed Proposition C, which requires Missouri electric utilities to get 15% of their electricity from renewable sources by 2021.

These policies have dramatically changed the landscape for renewable energy in Missouri.

Next, it's time to move forward on energy efficiency. In this economy where every dollar counts, Missourians and our in-state businesses can not continue to waste money on inefficient energy.

Working with national and in-state experts, Renew Missouri has developed a platform of "best practice" priorities for Missouri efficiency policy. We have researched what policies are succeeding in other states and discussed possibilities with national experts, including the Environmental Law and Policy Center, ACEEE, Building Code Assistance Project, and state level stakeholders, such as Sierra Club, the Department of Natural Resources, and the Public Service Commission.

ENERGY PRIORITIES FOR 2010 MISSOURI LEGISLATIVE SESSION

Statewide Energy Code

Requires new construction meet a minimum level of efficiency requirements.

Combined Heat and Power

Enables industry to implement energy saving technology more effectively.

Energy Efficiency Resource Standard

A simple, market-based mechanism to encourage more efficient use of electricity and natural gas.

By implementing policies that are succeeding in states across the United States, we can decrease polluting emissions, improve public health, and spend less on our energy bills.

For more details, see www.RenewMO.org

Renew Missouri works to advance renewable energy and energy efficiency in Missouri. It is a project of the Missouri Coalition for the Environment, a 501c(3) non-profit organization.

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Energy Efficiency Resource Standard

What is an Energy Efficiency Resource Standard (EERS)?

An Energy Efficiency Resource Standard (EERS) is similar in concept to a Renewable Electricity Standard (RES). An RES dictates utilities increase their renewable energy generation up to a certain minimum percentage. An EERS requires utilities to reduce forecasted energy growth by a certain percentage through the implementation of energy efficiency programs.

Where does Missouri stand on efficiency?

- Missouri has virtually no statewide policies encouraging or requiring energy efficiency
- Missouri is ranked #41 of 50 states in energy efficiency

Why is an EERS important?

- An EERS encourages the most cost-effective energy resource: energy efficiency. EE measures cost around 3 cents per kWh, far cheaper than the cost of constructing any type of new power plant.
- Energy efficiency is the only resource that reduces overall energy usage and lowers energy bills.

ADVANTAGES OF EERS

- Provides a simple and direct way for states to ensure that Energy Efficiency will contribute as a resource
- Guarantees energy savings by setting targets as opposed to utilities spending money on efficiency without any measurable outcome. An EERS that requires savings targets produce better results than requiring a certain amount of money is spent on EE.

How should Missouri's EERS be implemented?

The Missouri General Assembly should pass legislation that implements an effective and robust EERS. Specific levels for Missouri are still in development, but minimums under consideration are 15% reduction for electricity and a 10% reduction for natural gas.

What are the benefits of an EERS for Missouri?

A 15% electric & 10% natural gas EERS would:

- Save Missourians \$2.8 billion by 2033
- Create 4,100 jobs
- Drop peak demand by 3,300 MW = 11 power plants¹

Which other states have enacted an EERS?

19 other states have enacted an EERS including Minnesota, Illinois, Michigan, Ohio, and North Carolina.

How well is it working in other states?

They are all seeing energy savings, and many programs are working so well that they're increasing their original targets.

Texas established an EERS in 1999 that required electric utilities to offset 10% of load growth. After several years of meeting this goal at low costs, the legislature increased the standard to 15% of load growth by 2009, 20% of load growth by 2010, and directed that higher targets be investigated. Their average program costs are around **2 cents per kWh, far cheaper than any type of new generation.**

Also, Ohio recently enacted a 22% EERS, which is predicted to save consumers \$19 billion by 2025.

¹

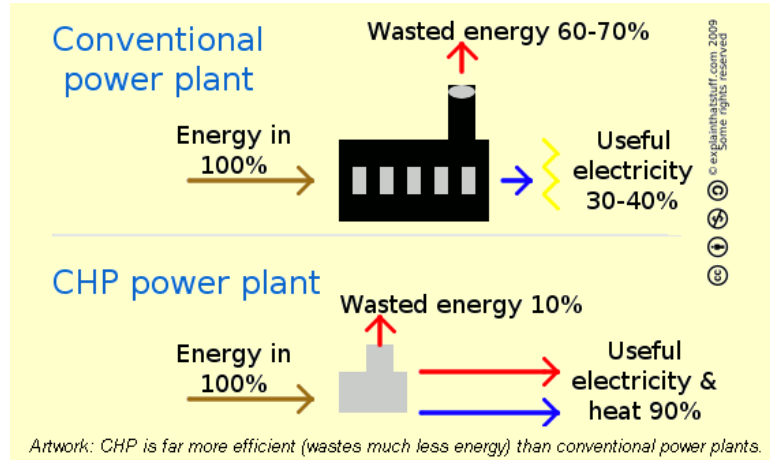
http://www.aceee.org/energy/national/eers_stateprofiles/missouri.pdf

Combined Heat and Power

What is Combined Heat and Power?

CHP is the production of both power & heat from a single fuel source. By using the waste heat from onsite electricity production for heating or cooling, CHP increases fuel efficiency and decreases energy costs.

CHP helps recover and reuse heat that is normally wasted in conventional power generation. The recovered energy is used to satisfy an existing thermal demand, such as the heating and cooling of the building or water supply.



Why is a CHP important?

The average efficiency of fossil-fueled power plants in the United States is 33%, meaning that two-thirds of the energy in the fuel is lost as heat.

By using waste heat recovery technology to capture a huge portion of wasted heat, CHP systems typically achieve efficiencies of 60-80% for producing electricity and thermal energy.

Through increased efficiency, CHP systems save money and reduce emissions.

Benefits of CHP

- ❖ Efficiencies of 60-80%
 - Compare to fossil-fuel average efficiency of 33%
- ❖ Reduced total fossil fuel use
- ❖ Lower operating costs
- ❖ Reduced emissions of regulated air pollutants
- ❖ Reduced emissions of greenhouse gases
- ❖ Increased reliability and power quality
- ❖ Reduced grid congestion and avoided distribution losses



How can CHP help Missouri businesses be more efficient?

Currently, Missouri companies are facing unnecessary barriers to the implementation of CHP. Examples include:

- Unfair back up power and standby rates
- Lack of interconnection standards for CHP.

By removing these barriers, it will become simpler and more cost-effective for companies to implement CHP.

The University of Missouri-Columbia Power Plant provides all thermal energy and most of the electric energy for the campus by using CHP. Thermal energy (steam) and electricity for the campus are produced simultaneously at the plant resulting in an overall efficiency of nearly twice that of a conventional power plant.

Where in Missouri are there already CHP systems?

University of Missouri, Southeast Missouri State, Anheuser-Busch, and Laclede Gas each have CHP systems. Collectively, Missouri has 19 CHP sites with 226,520 kW combined capacity.

Statewide Energy Code

What is an energy code?

A required minimum level of energy efficiency in new residential and commercial construction.

What could a statewide energy code do for Missouri? *Source Building Code Assistance Project, www.bcap-energy.org*

- Retail and office buildings constructed to meet the requirements of the IECC can be **more than 30% more energy efficient** than typical buildings not constructed to meet the energy code.
- Save Missourians approximately \$108 million on energy bills by 2020.
- Provide statewide consistency for the construction sector.
- Enable local jurisdictions to pool limited resources and combine personnel to form regional enforcement and education programs.
- Remove 2.2 million tons of CO₂ every year - the equivalent of heating and cooling 450,000 homes and removing 400,000 cars from the road. Energy codes are also the most cost-effective way to decrease air pollution and reduces the demand for new, nonrenewable energy sources..

Why is a statewide energy code especially important for Missouri now?

- Missouri is one of only eight states without a statewide code.
- Also, federal stimulus money is available for states that adopt statewide energy codes.

What can Missouri do to catch up to the rest of the country on energy code?

Missouri state legislators should implement the 2009 IECC statewide (ASHRAE 90.1-2007). 2009 IECC has several significant new provisions to boost energy efficiency, including:

- Increased insulation in basements, floors and walls
- Improved window efficiency
- Reductions in wasted energy from leaky heating & cooling ducts
- High-efficiency lighting
- Improved air sealing within the building envelope

How much Energy Could be Saved from Updated Energy Codes:

Because Missouri lacks a statewide code, many areas of Missouri have dramatically outdated codes or lack efficiency requirements altogether. The passage of a statewide code would help save Missourians money on their electric bills. Savings include:

- Upgrade from pre-2000 IECC to 2009 IECC: 25% or more energy savings
- Upgrade from 2006 IECC to 2009 IECC: 15% average energy savings

