



NARUC

Winter Committee Meetings

Committee On Consumer Affairs

ON-BILL FINANCING

with Tariffed On-Bill Program in Kentucky: How\$martKY

Consumer Affairs Committee, NARUC

February 12, 2017

James W. Gardner

Former Chair, Kentucky Public Service Commission

jameswilsongardner@gmail.com



Energy Efficiency for Everyone

Tariffed On-Bill Program based on the PAYS® system

What is How\$martKY?

It is a tariffed on-bill financing program designed to use energy savings to pay for energy efficiency improvements to a customer's residence on the customer's electric bill over time.

The utility's opt-in tariff associates the investment with the meter.

It is not a personal loan to the customer.

Eligibility is not based on, nor does it affect, the participating customer's credit.

1.



Customer wants to save money on utility bill.

2.



Qualified assessor determines the best upgrade package that can be financed out of projected savings using conservative assumptions.

3.



Utility approves efficiency upgrades installed by a qualified contractor at no upfront cost to customer.

4.

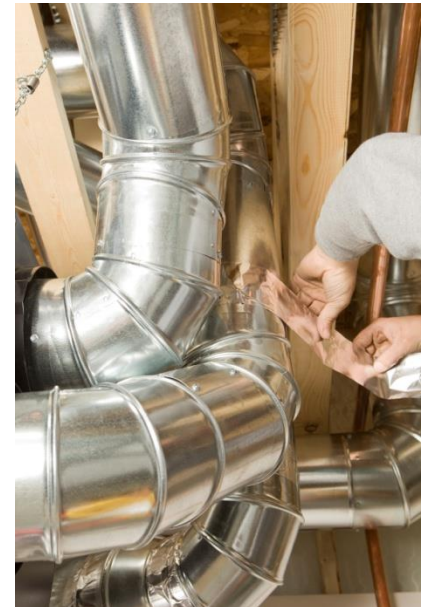
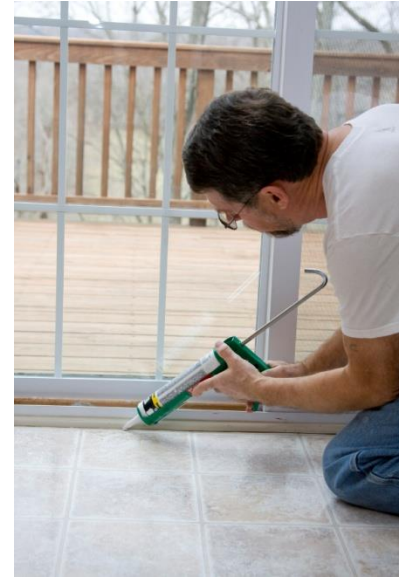


As part of utility service, a fixed monthly charge is assigned to the meter to recover costs for the upgrade.

Typical Improvements:

1. Duct sealing
2. Air sealing
3. Insulation
4. Replacement of electric furnaces and old heat pumps

In most cases, these first three items are things you can do yourself.



Program Stats:



Average
Projected
Annual
Electricity
Savings
5270 kWh



Average
Projected
Monthly
Electric Cost
Savings Per
House
\$50.32



Average
Monthly
Charge for
Cost Recovery
\$39.24



Average Cost
of Upgrades
\$7377



% of
Participating
Households
that are LMI
52%

Example Transaction:

Single story home, upgraded with insulation, air sealing, and heat pump

- **Investment:** \$10,000
- **Cost Recovery Period:** 15 years
- **Cost of Capital:** 3%
- **Estimated Savings:** \$100 / month
- **Charge:** -\$70 / month
- **Net Savings to Customer:** \$30 / month, ~30% of savings
- **Energy Savings:** 8,000 kWh / year

*Source: Briefing by MACED, the program operator for the [How\\$mart KY](#) program.
This sample has conveniently round numbers; average investment size is ~\$7500.*

Thank You



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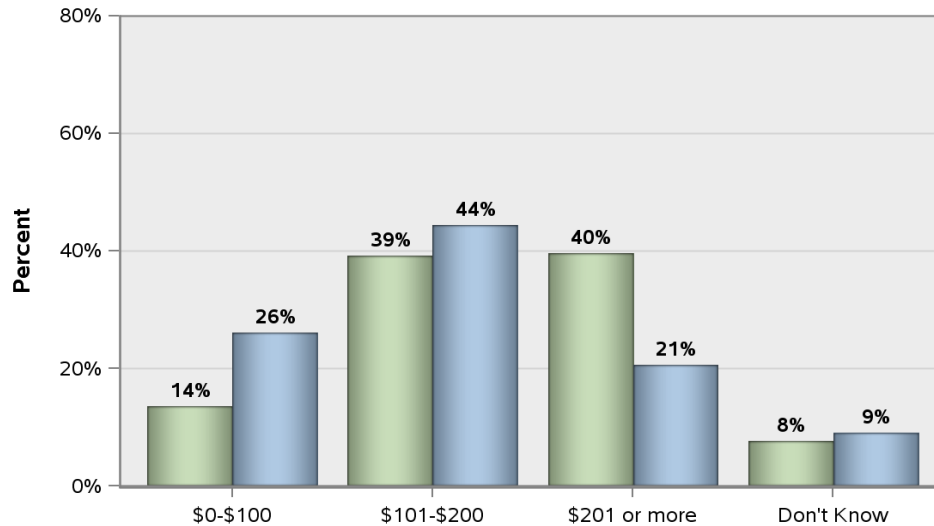
“Upgrade to \$ave”

financed by
USDA’s Energy Efficiency &
Conservation Loan Program

Curtis Wynn, President & CEO
Roanoke Electric Cooperative

**Average Monthly Electric Bill
2015-2016 Cooperative Difference Survey**

■ Roanoke Electric ■ National Benchmark



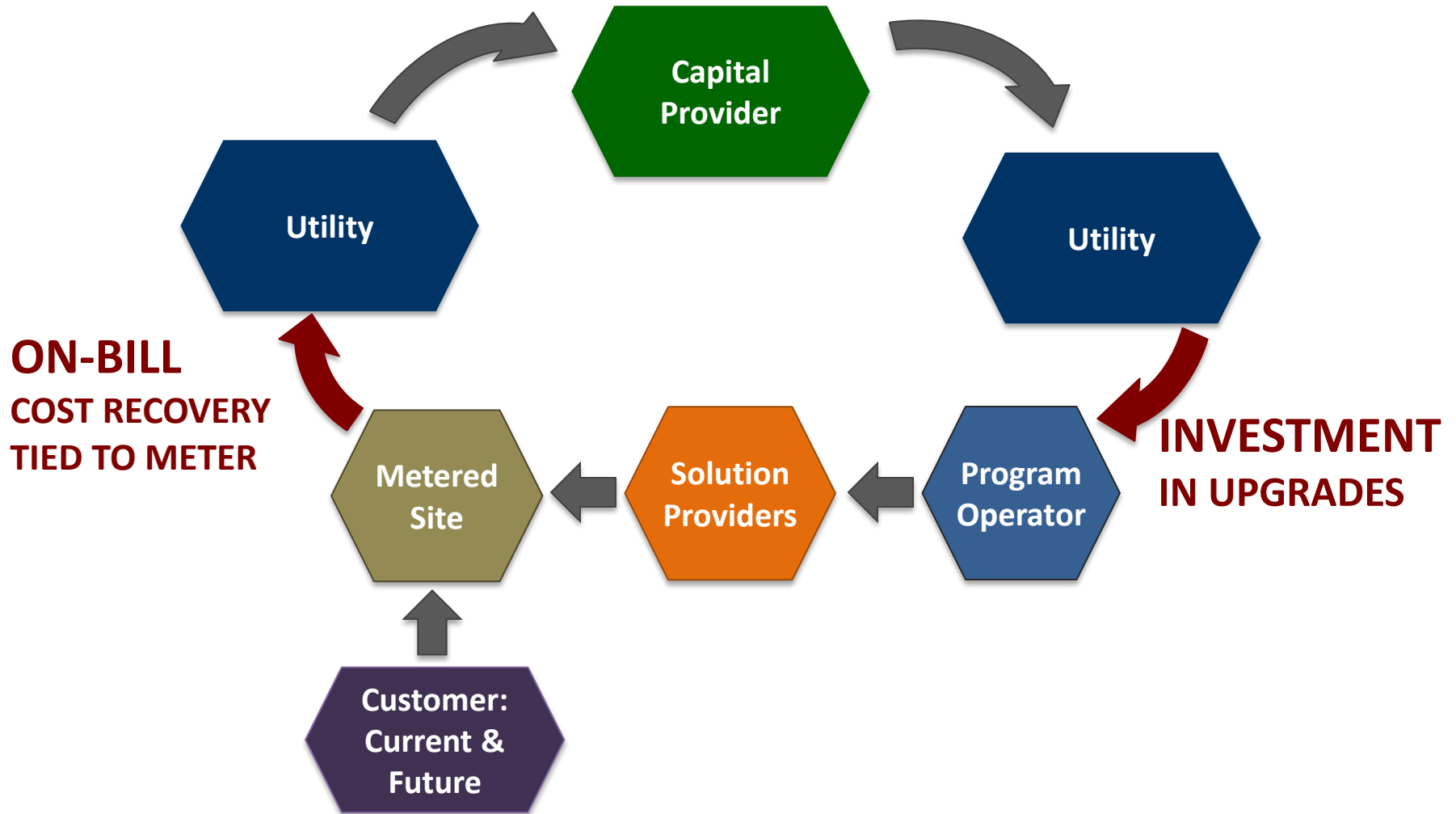
Bill Size & Member-Owner Satisfaction

	Roanoke EC		Quarterly Benchmark	
Avg. Monthly Bill Amount	Percent of Responses	Average Rating	Percent of Responses	Average Rating
TOTAL	100%	8.05	100%	8.72
\$100 or less	12%	9.21	25%	8.98
\$101 to \$200	28%	8.65	42%	8.80
\$201 or more	53%	7.37	22%	8.19
Don't Know	6%	8.87	9%	8.96

Initial loan offer wasn't enough get to “Yes”...

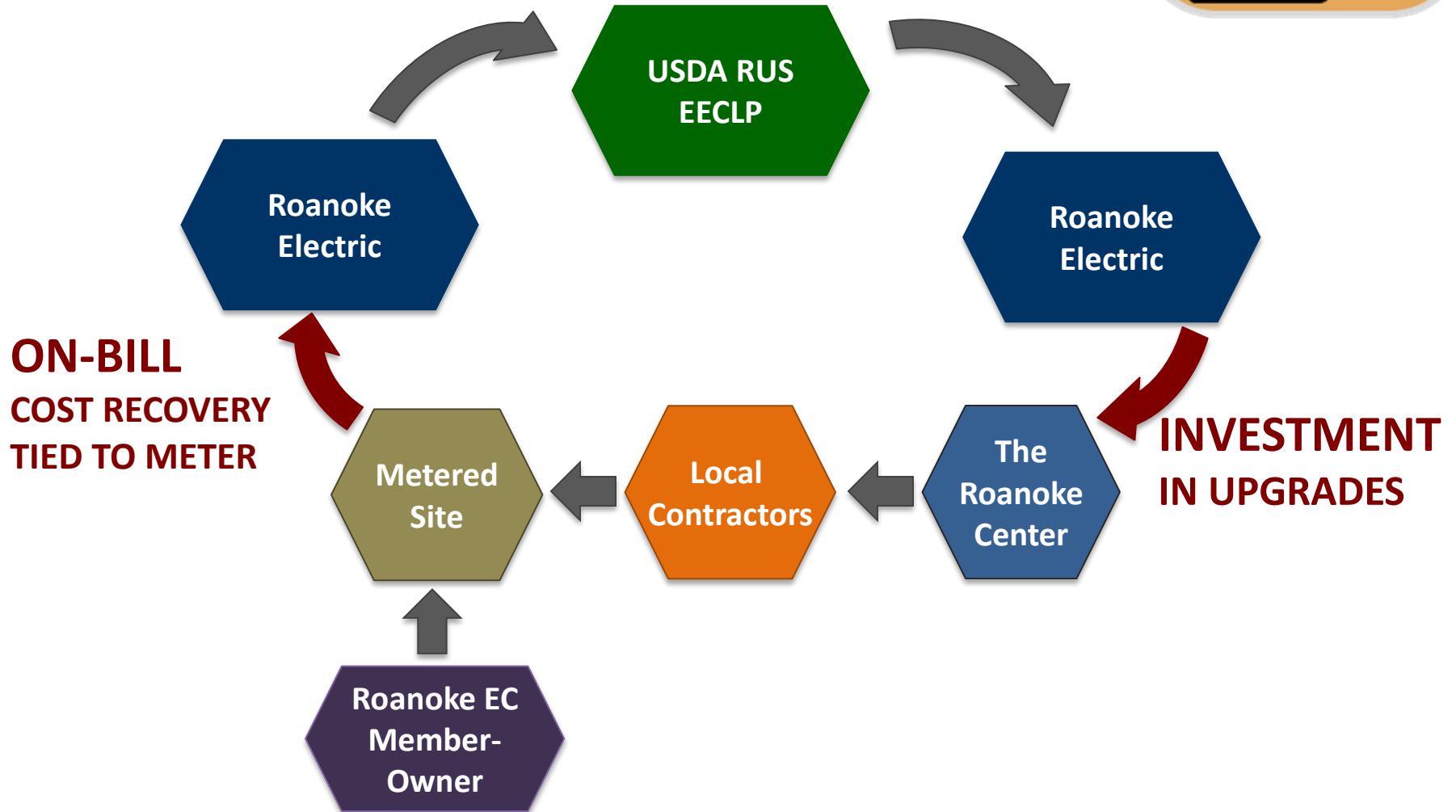
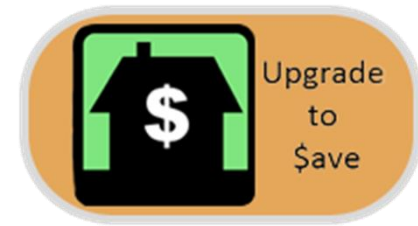
- Even though we offered:
 - Cost effective upgrades for high consumption member-owners
 - On-bill financing
- Major barriers remained:
 - Creditworthiness
 - Renter eligibility
 - Members declining additional debt
- So, we sought a solution that would be *more inclusive* and generate *more value* for *more members*

Opt-In Tariffed Approach



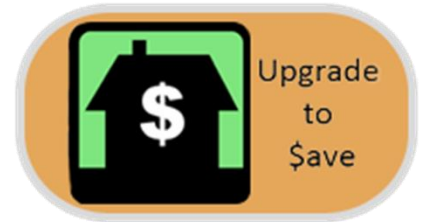
Based on the Pay As You Save[®] system developed by EEI.

Upgrade to \$ave



Based on the Pay As You Save® system developed by EEI.

Typical Efficiency Upgrades



Insulation



Duct Sealing



Air Sealing



Heat Pump Upgrades



Water Heater Wraps



LED



Summary of Investments for Initial Participants



Upgrade
to
\$ave

Sample of over 200 homes

Average cost of upgrades	\$7,200
Average buy-down for EE Credits *	\$325
Average monthly savings per site	\$80+
Average monthly tariff	~\$60
Average monthly savings for member	\$20+
% of estimated savings kept by member during cost recovery	25%

** Capped at the amount needed for investment to pencil out without a copayment*



Roanoke Electric Cooperative

Your Touchstone Energy® Partner



Curtis Wynn

President & CEO

Office: 252-209-2236

Toll-Free: 1-800-433-2236

Post Office Drawer 1326 Ahoskie, NC 27910

518 NC 561 West Aulander, NC 27805

Website: www.roanokeelectric.com

www.roanokeelectric.com/pays



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Missouri

Office of the Public Counsel

Fighting for Fair Utility Rates

Exploring the PAYS Tariff in Missouri

Geoff Marke, PhD

Office of the Public Counsel, Economist

Geoff.Marke@ded.mo.gov

The State of Missouri



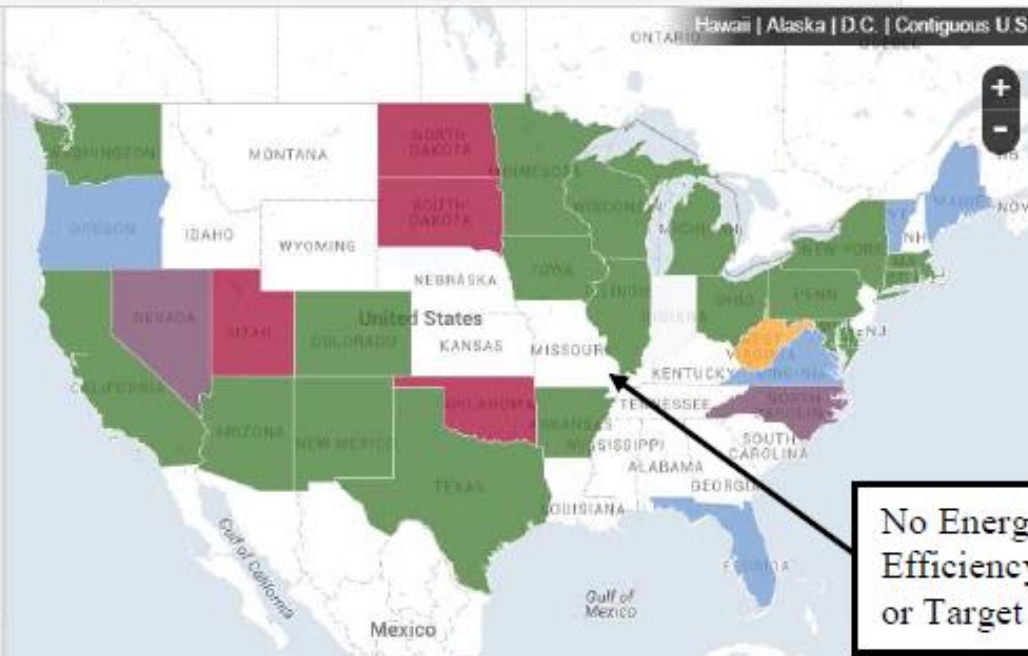
ACEEE 2016 Scorecard
We're # 32!

(Most Improved State)

LEGEND

Policy Category

- Energy Efficiency Resource Standard / Mandatory Energy Efficiency Target (21 States)
- Voluntary Energy Efficiency Goal (5 States)
- Energy Efficiency counts toward Renewable Portfolio Standard (2 States)
- Energy Efficiency counts toward Renewable Energy Goal (4 States)

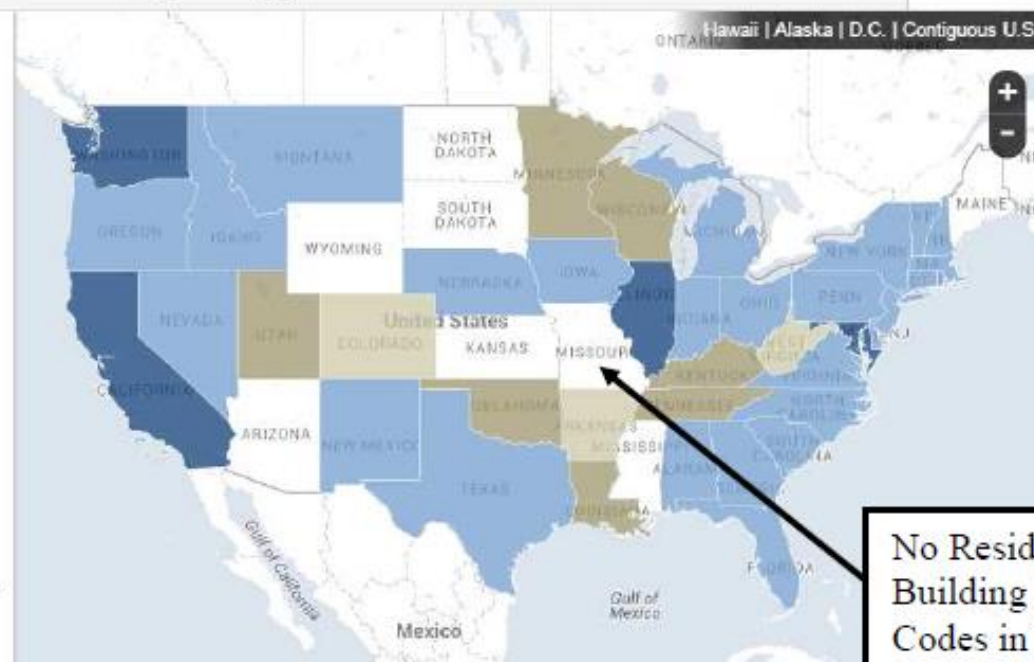


No Energy Efficiency Standard or Target in Missouri

LEGEND

Policy Category

- 2012 International Energy Conservation Code or equivalent (4 States)
- 2009 International Energy Conservation Code or equivalent (26 States plus DC)
- 2006 International Energy Conservation Code or equivalent (8 States)
- 1996-2003 International Energy Conservation Code or equivalent (3 States)

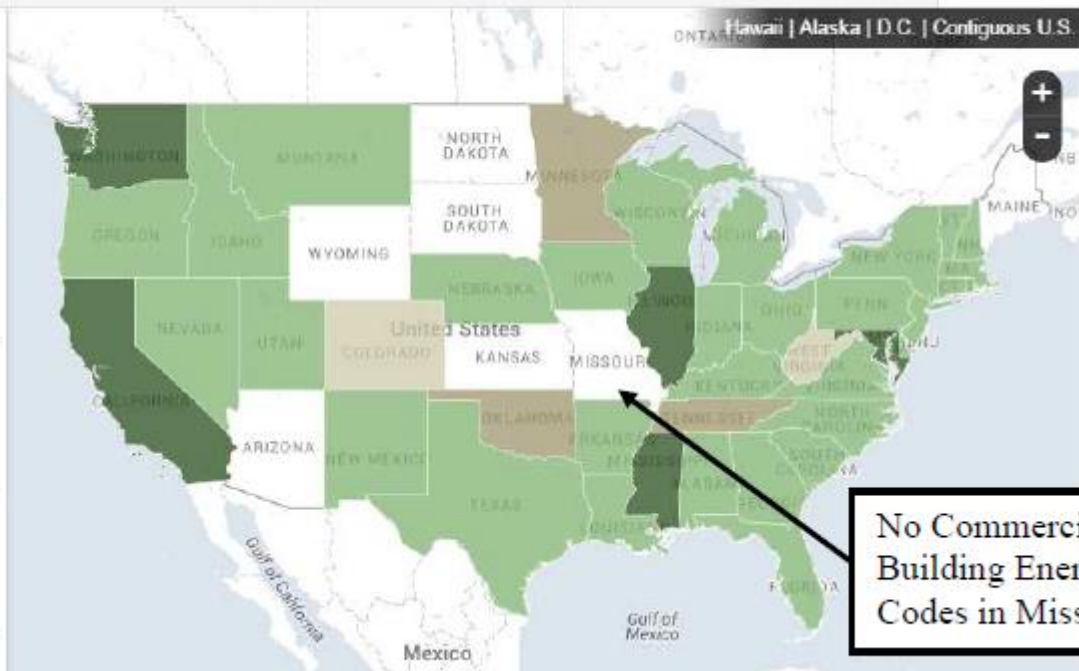


No Residential Building Energy Codes in Missouri

LEGEND

Policy Category

- 2012 International Energy Conservation Codes or equivalent (5 States)
- 2009 International Energy Conservation Codes or equivalent (31 States plus DC)
- 2006 International Energy Conservation Codes or equivalent (4 States)
- 2003 International Energy Conservation Codes or equivalent (2 States)



LEGEND

Policy Category

- Standards beyond Federal Requirements (15 States plus DC)

[View data table](#)


Missouri Energy Efficiency Investment Act ("MEEIA")

- Passed in 2009
- Needs to be beneficial to all customers in the customer class
- Cycle 1: **Energy** Savings (2013-2015)
- Cycle 2: **Demand** Savings (2016-2018)
- Cycle 3: TBD (2019-2021)

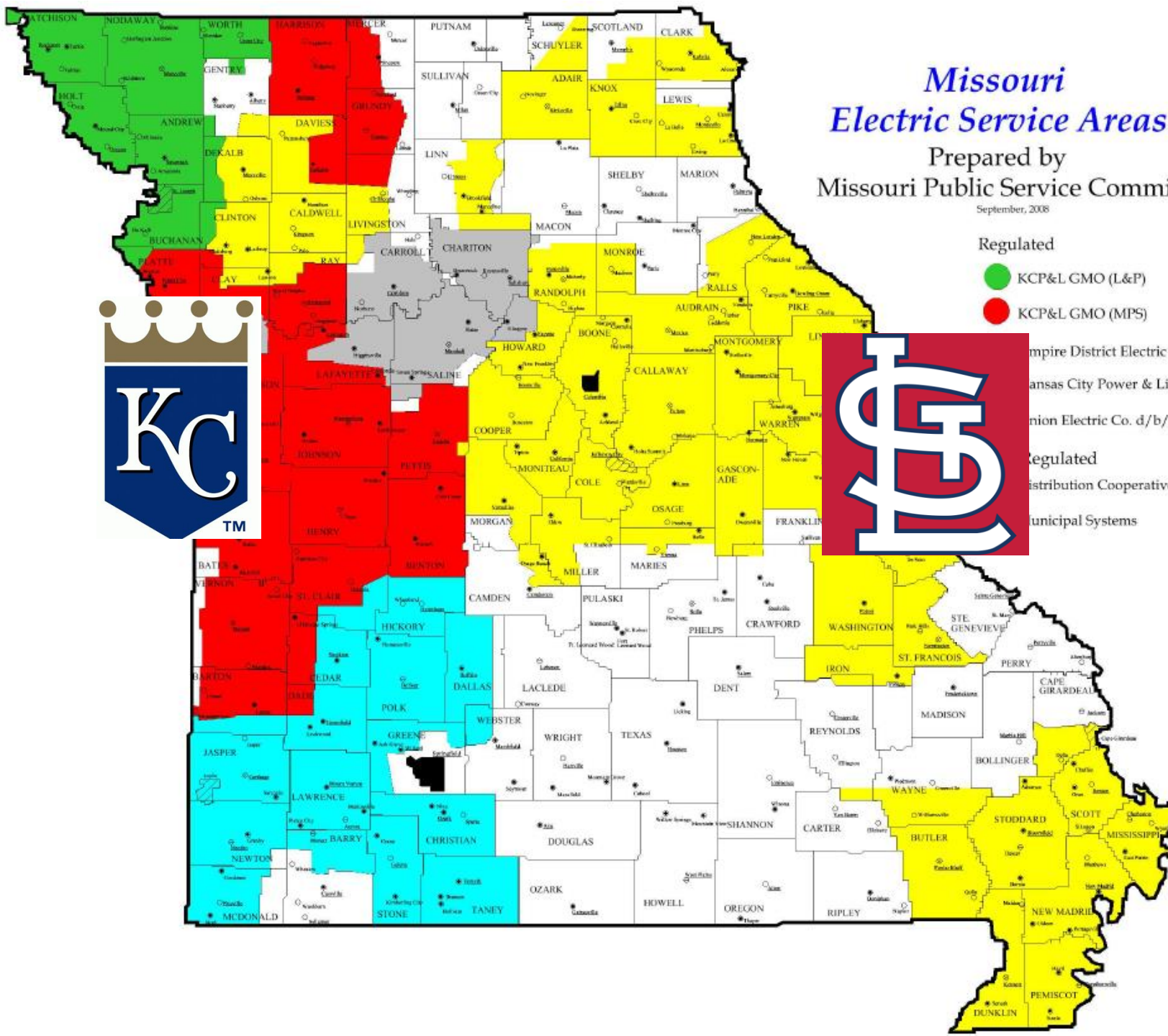
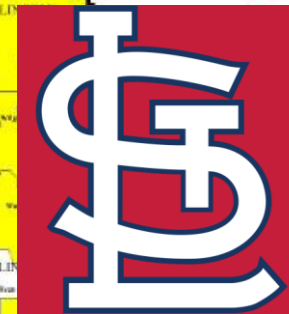
September, 2008

Regulated

- KCP&L GMO (L&P)
- KCP&L GMO (MPS)

Empire District Electric Co., The
Kansas City Power & Light Co.
Union Electric Co. d/b/a AmerenUE

Regulated
Distribution Cooperatives
Municipal Systems



Challenges

- Most ratepayers have to pay into the program;
- Most ratepayers do not participate;
- Especially true for renters and low-income households; and
- Most cost-effective EE gains remain unlocked.

The cost transfer?



Give me a one-handed economist!
All my economists say, On the one
hand on the other.

— *Harry S. Truman* —

AZ QUOTES

Consideration of a PAYS Tariff

- **Exploring the option for financial feasibility studies from three perspectives:**
- **The Participant**
 - Will energy savings exceed program charges?
- **The Utility**
 - Will utility benefits exceed utility costs?
- **The Ratepayer**
 - What will be the impact on rates at both the near and long-term?



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Tariff-based Inclusive Financing of Energy Efficiency Some Questions to Ponder

Presentation to the NARUC Committee on Consumer Affairs
NARUC Winter Meetings
Washington, D.C.
February 12, 2017

Wally Nixon
Managing Attorney
Arkansas Public Service Commission
wnixon@psc.state.ar.us
501-682-5797

Consumer Affairs Considerations

- Do the PAYS[®] program results to date demonstrate that it truly benefits single-family home renters, mobile home residents, multi-family apartment renters, and low-income customers in a way that on-bill financing (OBF) would not?
- What are the kW and kWh reductions for a typical residential customer under PAYS[®]? Are the savings demonstrably higher for low-income consumers who have, to date, done little to become energy efficient? In short, do they present more bang for the buck?

Consumer Affairs Considerations

- Is there concern that the tariff allows shutoff of service if the customer doesn't pay the electric bill (which by PAYS™ design is a lower bill than it otherwise would have been)?
- Since the typical utility/co-op customer is exposed to this risk in the absence of PAYS™, is it unreasonable to ask, “What's not to like about a program whose principal promise to the customer is to lower the bill, thus making it easier to pay?”

Program Design Considerations

- Is the PAYS® system for tariffed on-bill program design *sui generis* (unique, in a class of its own), or are there other examples of tariffed on-bill programs out there with similar features and results?
- What is the source of low-cost financing that implementing utilities are accessing to make PAYS® an economic way to go? What interest rates do they charge? Is such low-cost financing critical to making the PAYS® model work?

Utility Considerations

- How applicable is the tariff-based model to IOUs vs. co-ops and are there any examples of IOUs that are considering or implementing it? What, if any, obstacles do IOUs face that co-ops don't?
- How does a distribution utility primarily benefit from a tariffed on-bill program for energy efficiency? And a generation & transmission utility?

Utility Considerations

- Do electric utilities offering a tariffed on-bill program based on the PAYS system coordinate work with natural gas utilities and helping their customers access the EE rebates that gas companies may offer, in order to encourage upgrades in HVAC for customers having gas furnaces?
Can an electric utility purchase a new, highly efficient gas furnace for that customer, or is an electric heat pump their only option?
- What are the prospects for extending the PAYS® tariff-based model to rooftop or community solar and, if combined with the EE improvements, what does that do to the payback period and bill impacts?



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