

REGULATORY UPDATE: A TWENTY- STATE REVIEW OF REGULATORY REGIMES AND EFFECTIVE ENERGY- EFFICIENCY PROGRAMS

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ABSTRACT

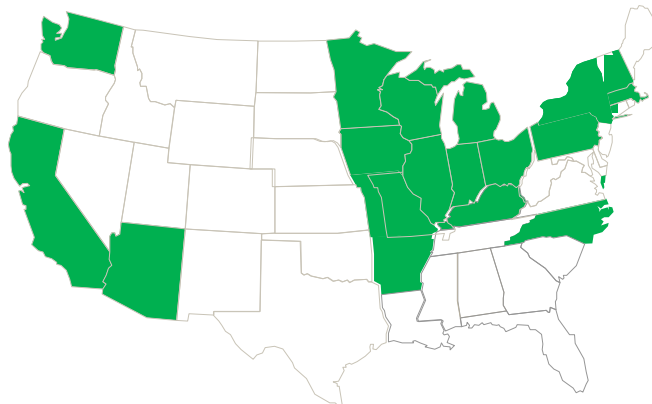
This paper looks at how the statutory and regulatory treatment of energy efficiency programs can influence the development of energy efficiency programs at the state level.

- U.S. regulatory regimes are confined to states or regions with differing approaches that provide us with a natural experiment
- We compare statutory and regulatory regimes in twenty states to determine:
 - What can be learned by comparing the success of EE programs across these various experiments?
 - What does that tell us about the best way to encourage energy efficiency?

REVIEW OF TWENTY STATES

The twenty states are: AR, AZ, CA, IA, IL, IN, KS, MA, MD, MI, MN, MO, NC, NH, NY, OH, PA, VT, WA and WI.

- The original nine states reviewed in 2012 were IL, IA, IN, KS, MN, MO, OH, PA and WI
- For the 2014 study, an additional six states were added: AZ, CA, MA, MI, NH and NY – in 2016 we added AR, MD, NC, VT and WA
- States were chosen based upon geographic diversity and the varied EE regulatory approaches they offer
- The variety of state-specific regulatory regimes across the states provides a natural EE experiment in the region



REVIEW OF TWENTY STATES

- Cost recovery mechanisms or incentives are put in place by state legislatures and/or state utility commissions, corresponding positive EE initiatives are witnessed (maturing programs and increasing savings)
- EE regulatory financial paradigms are typically designed around cost recovery, lost margin recovery and performance incentives
- EE improvements are generally continuing in most states - the leading states are CA, MA, MN, WI, IL and NY, while AR, AZ, IA, MI, PA, NH, VT and WA show strong savings with average costs
- Many of the remaining states show mid- to low-level savings and higher costs (e.g., IN, KS, MO, NC and OH)
- Cost recovery and incentive mechanisms appear to result in increased levels of EE Programs and related savings

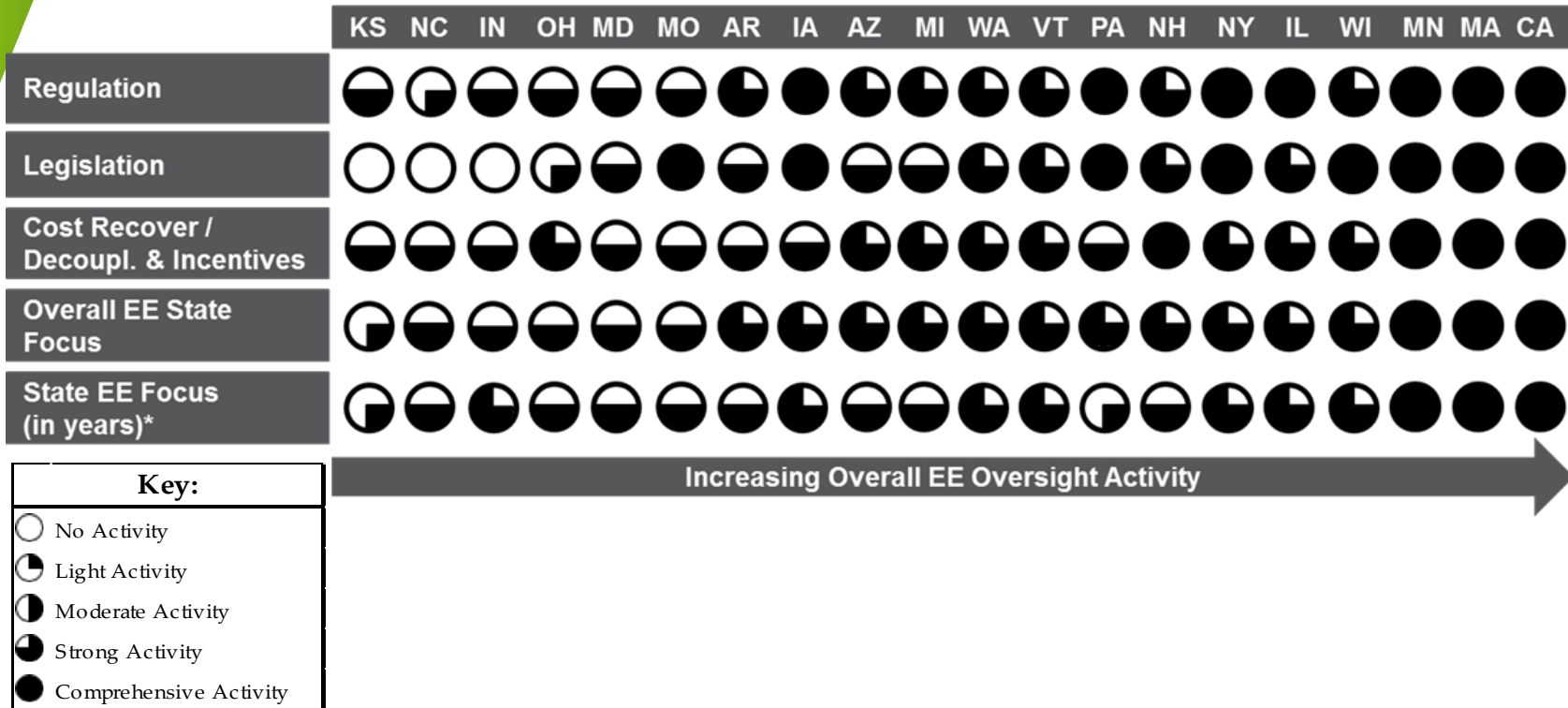
LEGISLATIVE AND REGULATORY DETAIL

In order to understand the varied EE regulatory approaches, we reviewed a wide range of publicly available data and interviewed a number of state and utility EE experts.

- Features of regulatory and statutory provisions include:
 - State-level normalized energy savings goals and program costs
 - Program cost recovery provisions
 - Financial incentives and penalties
- **= Goals + Incentives:** In sum, EE goals and a variety of financial incentives can be set to actively pursue EE savings.

LEGISLATIVE AND REGULATORY DETAIL

Each state’s mix of provisions can be summarized in high-level findings comparing “intensity” of effort in each category as follows:



* Years include predecessor state commission energy planning programs (e.g., early demand-side management planning)

LEGISLATIVE AND REGULATORY DETAIL - SUMMARY

There are varying degrees of Legislative and Regulatory oversight within all states – KS and NC have the least and CA and MA have the most oversight.

All States

All states have some level of legislative or regulatory activity, but there are varying degrees of EE regulatory and legislative initiatives underway.

Least Oversight

Kansas has no legislation and limited state commission initiated EE cases – EE programs are established by utilities with commission oversight – a cost recovery rider mechanism is used in Kansas. **Indiana** has EE legislation, but only establishes an EE structure with less commission oversight than other states.

Most Oversight

CA and **MA** are at the opposite end of the EE spectrum with EE goals established by the legislature and those laws are implemented by the commissions. **Minnesota** has cost recovery of programs, performance incentives in place and decoupling initiatives underway.

LEGISLATIVE AND REGULATORY DETAIL - SUMMARY

The remaining states have varying levels and degrees of legislative and regulatory oversight.

Illinois

IL has improved in the standings in the past few years based upon overall EE statewide focus, stakeholder group focus and enabling commission action.

AR & MO

AR and MO have statewide and utility goals, implemented through coordinated commission and state efforts, but state goals have not been in place for numerous years. **AR** is a leader in the Southeast.

AZ, MI, NH, NY, PA, VT, WA & WI

AZ, MI, NH, NY, PA, VT, WA and WI are strong contenders for leading EE states given their enabling legislation, regulation and policy goals, which are set clearly so that utilities move toward and implement those goals.

IN & OH

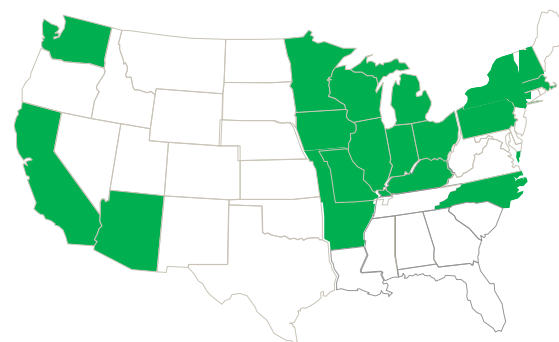
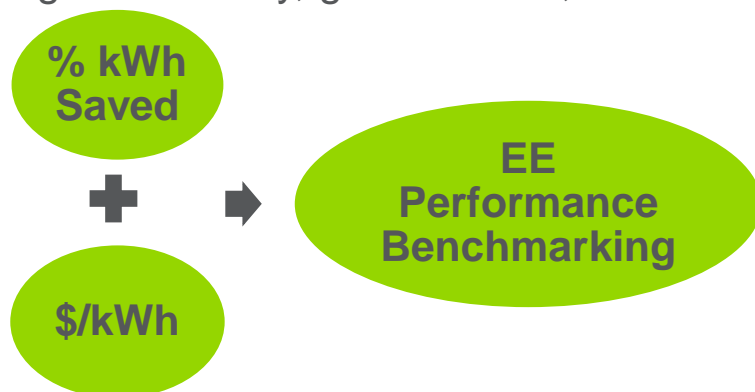
IN and OH have historically achieved EE savings based on statewide goals, but as of 2014, both state legislatures froze EE resource standards - however, utilities continue to implement programs with commission oversight.

- OH targets were pushed out 2 years, but goals remain the same and utilities mostly continue to comply
- IN utilities continue to implement programs through commission orders

DATA ANALYSIS - OVERVIEW

This legislative and policy analysis is mirrored, to a great extent, by our analysis of EE program performance in each state.

- We benchmarked utility performance for each of the twenty states
- We developed a picture of relative EE performance as a factor of:
 - **kWh savings as a percentage of state sales**, and
 - **dollar cost per kWh saved**
- This allowed us to map state EE performance against the other states' policy and legislative regimes
- Our benchmarking methodology standardized the data and we have tracked, accounted, and adjusted for these discrepancies wherever possible (e.g., program maturity, gross vs. net, meter vs. generator, etc.).



DATA ANALYSIS – DATA SOURCES

We gathered state utility EE savings, cost and baseline sales data from three key sources:

- 1) Utility and EE program data from utility EE reports submitted to state commissions.
 - 2) Data obtained from utilities through interviews and annual reports.
 - 3) Energy Information Administration (EIA) 861 data on baseline sales, revenues, and peak demands.
- To compare the performance of each state, we combined utility savings and cost data in their respective states to establish an estimate of the states' energy efficiency performance.
 - Where possible, we selected the largest utilities in each state to jointly account for at least 50% of the state's sales as reported in EIA 861.

DATA ANALYSIS – DATA SOURCES

We benchmarked seventy-four utilities across the twenty policy-diverse states using normalizing criteria.

The normalizing criteria are 2014 data on:

- Verified gross electric energy savings at the meter as a percentage of baseline electric sales, and
- Program costs per first year kWh saved for the 2014 program year. *All \$/kWh are first year.*
- Key points:
 - ❑ Gross savings were noted when not available or verified
 - ❑ Also, savings reported at the generator are adjusted for a line-loss factor to approximate “at the meter” savings
 - ❑ Program costs analyzed include the sum of the total direct and indirect utility costs for the year – direct costs are the costs for implementation of EE programs and indirect costs are the administrative costs, incentive costs and EM&V costs (*if applicable, since not every utility conducts EM&V*)

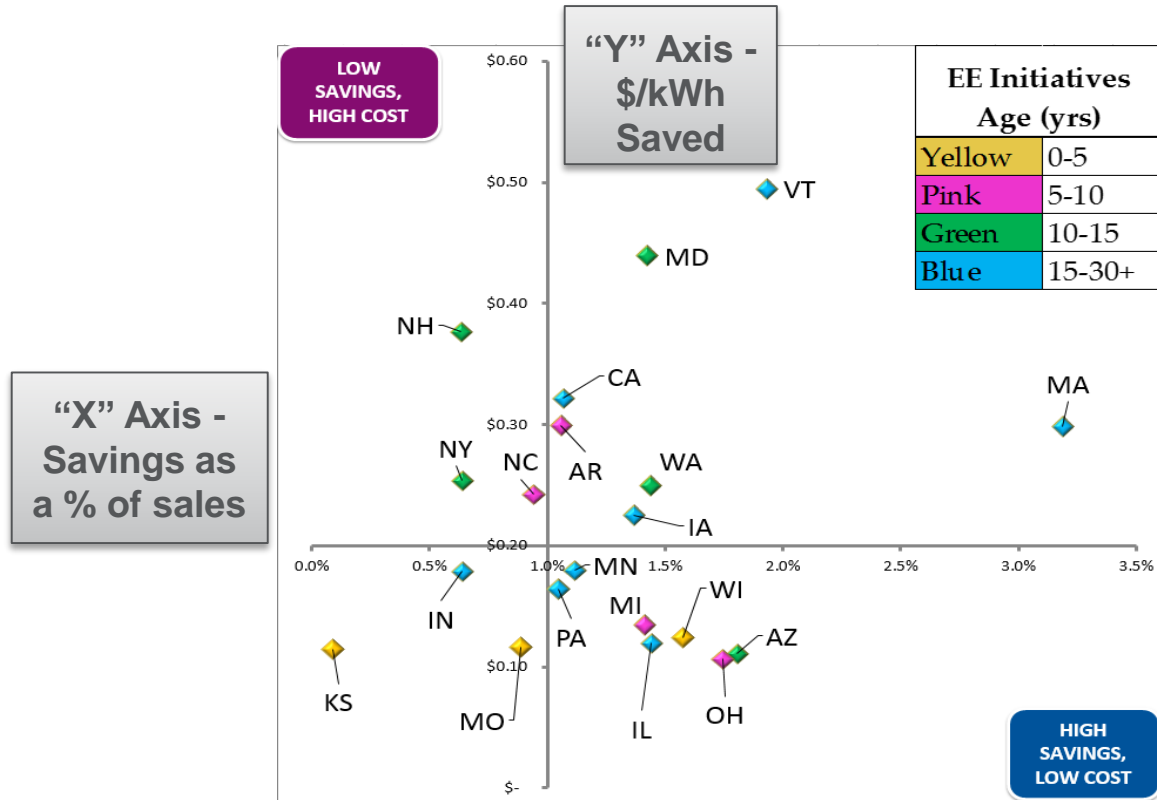
DATA AND METHODOLOGY – 74 UTILITIES

Table outlines states, utilities and the sources of data

State	Benchmarking Data Source	Total GWh Savings	Total GWh Sales	Total GWh Savings / Sales	Utility % of State Sales in EIA 861
AR	Annual Report 2014	265	25,068	1.06%	53%
AZ	Annual Report 2014	664	36,750	1.81%	48%
CA	Annual Report 2014	2,015	194,405	1.04%	67%
IA	Annual Report 2014	482	35,204	1.37%	75%
IL	Annual Report 2014	1,807	125,478	1.44%	52%
IN	Annual Report 2013	481	75,245	0.64%	70%
KS	EIA 861	1	21,962	0.00%	54%
MA	NEEP-REED Database 2014	1,473	46,207	3.19%	58%
MD	Annual Report 2014	852	59,912	1.42%	64%
MI	Annual Report 2014	1,187	84,190	1.41%	73%
MN	Annual Report 2014	448	40,144	1.12%	58%
MO	EIA 861	403	45,577	0.89%	54%
NC	Annual Report 2014	886	94,257	0.94%	71%
NH	NEEP-REED Database 2014	63	10,022	0.63%	63%
NY	NEEP-REED Database 2014	906	141,757	0.64%	63%
OH	Annual Report 2014, EIA 861	2,306	132,107	1.75%	53%
PA	Annual Report 2014	1,112	123,719	0.90%	43%
VT	Annual Report 2014	91	4,729	1.93%	85%
WA	Annual Report 2014, EIA 861	762	53,033	1.44%	56%
WI	Annual Report 2014	757	48,096	1.57%	69%

DATA AND BENCHMARKING

We set the data target values of 1% of total savings based on sales and costs of \$0.20/kWh (this is the median cost level).

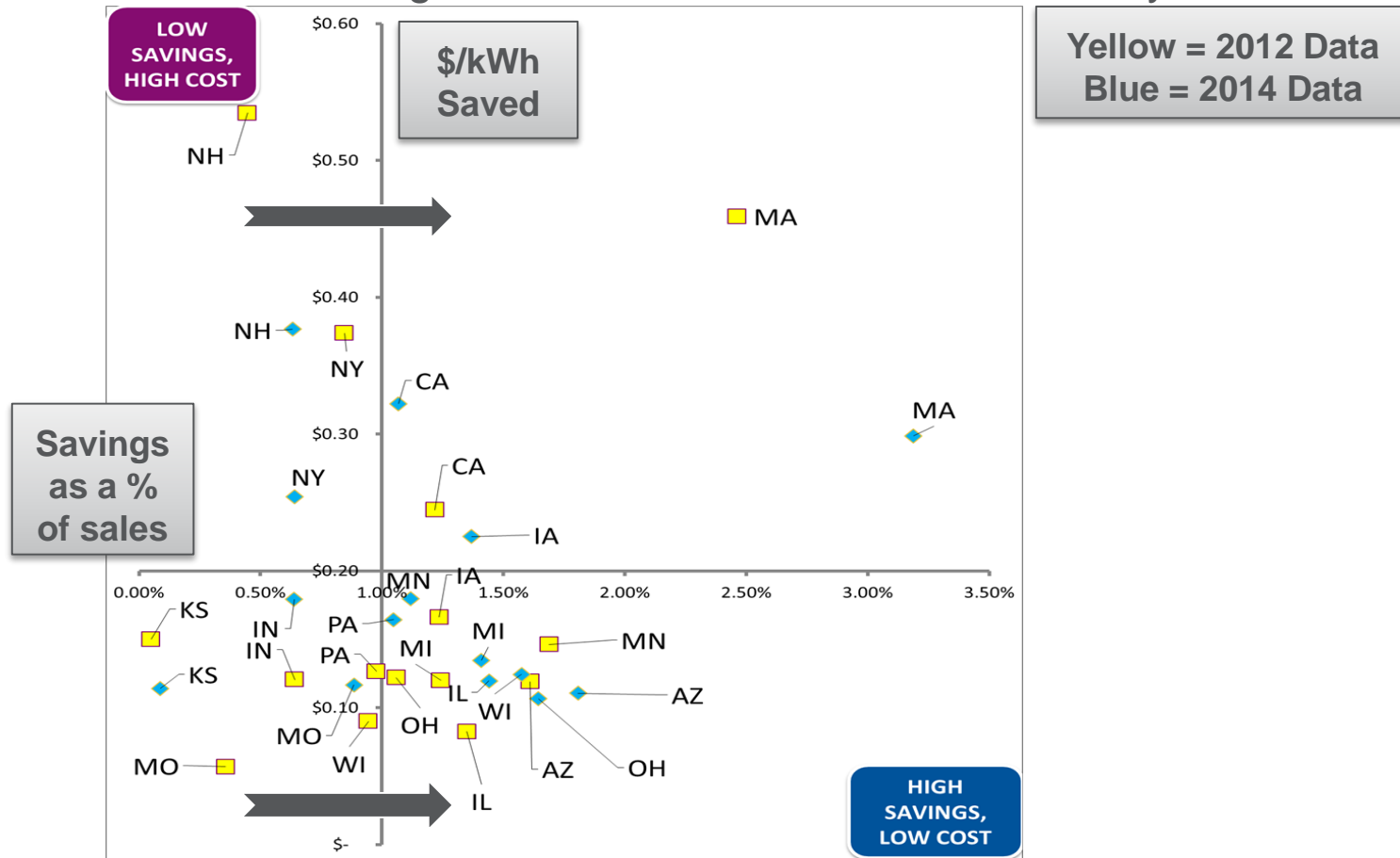


Savings as a Percent of Sales vs. \$/kWh by State.

Source: 2013/2014 annual reports, EIA 861, NEEP-REED

DATA AND BENCHMARKING

2012 cf. 2014 Savings as a Percent of Sales vs. \$/kWh by State:



EE Landscape has shifted mostly to the right: increased savings as a percent of sales since our 2014 analysis.

CONCLUSIONS AND RECOMMENDATIONS

Benchmarking reveals that states with targets set by legislatures and enabled by commissions appear to have made more progress than states without such detailed structures.

- States with targets set by a legislature and enabled by a state commission have made more progress than states where legislatures and commissions have taken limited action on EE initiatives.
- Energy savings and cost data show that energy savings continue to improve over time. This is true across a range of states and across different program and portfolio structures.
- The energy efficiency savings and cost data appear to show that varying levels of energy savings are being achieved by a variety of states and program administrators (*regardless of the legislative or policy action*).

CONCLUSIONS AND RECOMMENDATIONS

States that achieve relatively high levels of energy savings appear to share a number of similar EE-related regulations, policies and practices that have been in place for several years.

- States with greater energy savings tend to:
 - Specify energy efficiency goals that utilities or agencies must meet - this is true even with varying approaches to policy
 - Most of these states also specify penalties for not meeting the energy savings goals.
- Penalties are in place, but few have been assessed since states are mostly meeting goals
- States with more recent legislation and regulatory activity appear able to catch-up relatively quickly

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