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STATE & LOCAL ENERGY EFFICIENCY ACTION NETWORK

Setting Energy Savings Targets for Utilities

March 27, 2014

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Speakers:

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- Network of 200+ leaders and professionals, led by state and local policymakers, bringing energy efficiency to scale
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 - Utility regulators, utilities, and consumer advocates
 - Legislators, governors, mayors, county officials
 - Air and energy office directors, and others
- Facilitated by DOE and EPA; successor to the National Action Plan for Energy Efficiency



The SEE Action Network is active in the largest areas of challenge and opportunity to advance energy efficiency



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STATE & LOCAL ENERGY EFFICIENCY ACTION NETWORK

The State and Local Energy Efficiency Action Network (SEE Action) is a state- and local-led effort facilitated by the U.S. Department of Energy and the U.S. Environmental Protection Agency to take energy efficiency to scale and achieve all cost-effective energy efficiency by 2020. SEE Action offers [publications](#), [events](#), and [technical assistance](#) to state and local decision makers as they provide low-cost, reliable energy to their communities through energy efficiency.

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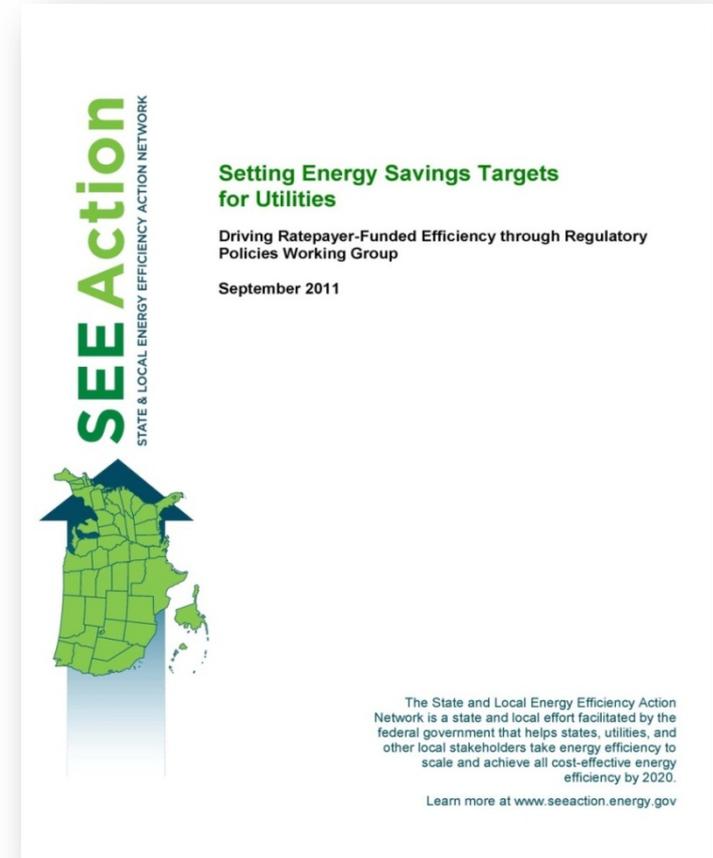


Search state and local energy efficiency policy resources.

Setting Energy Savings Targets for Utilities

This guide discusses:

- How numeric savings targets can motivate utilities
- The legal authority for setting targets
- Who the targets apply to
- State-wide versus utility-specific targets
- Target levels:
 - What savings are included
 - How savings are evaluated
 - Metrics and baselines
- How much flexibility to allow and whether to include cost caps



Download at: www.seeaction.energy.gov/pdfs/ratepayer_efficiency_targets.pdf



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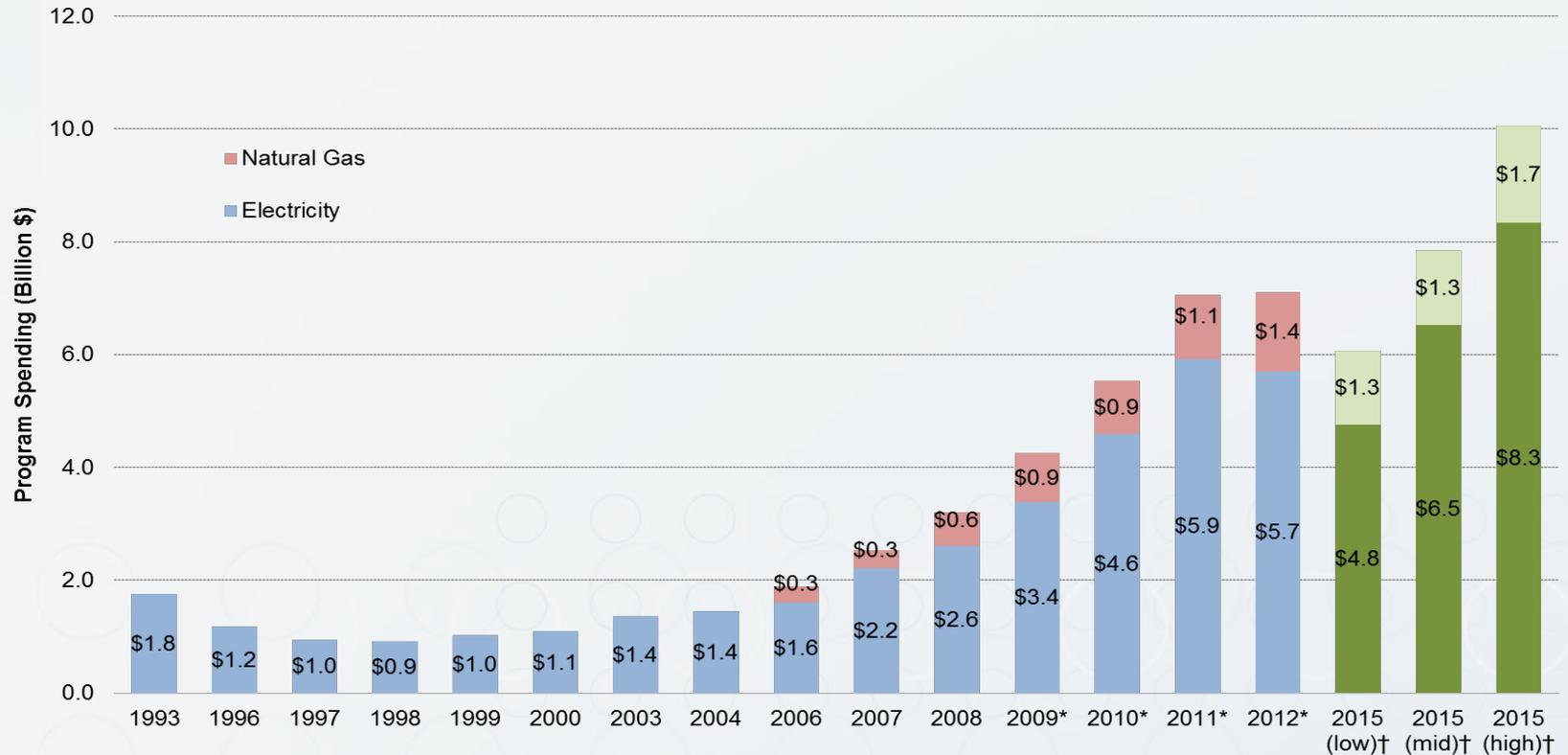
Setting Energy Savings Targets for Utilities

Steven Nadel, ACEEE
SEE Action Webinar
March 2014



Utility-Sector Energy Efficiency Spending

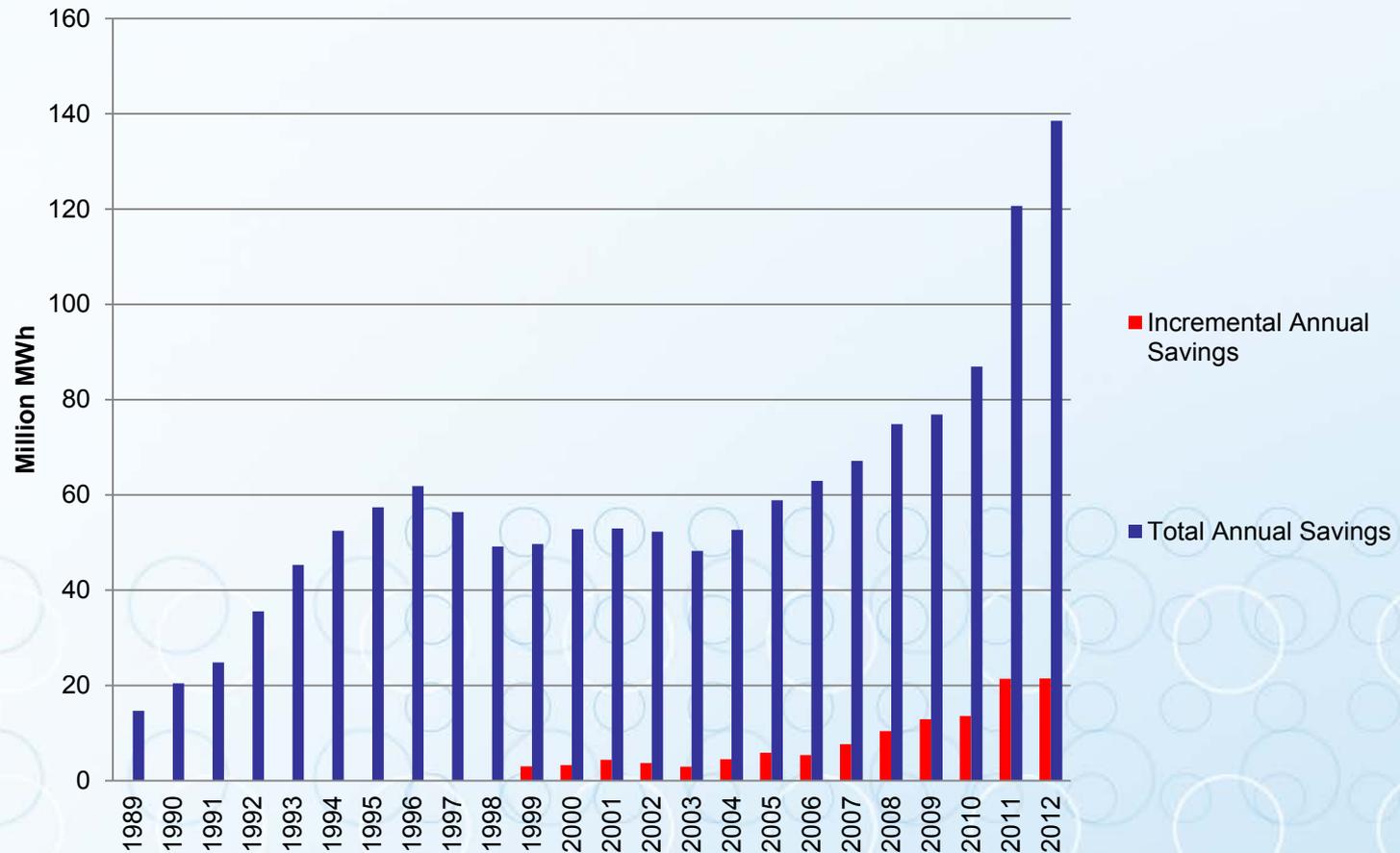
Customer-funded Energy Efficiency Program Spending



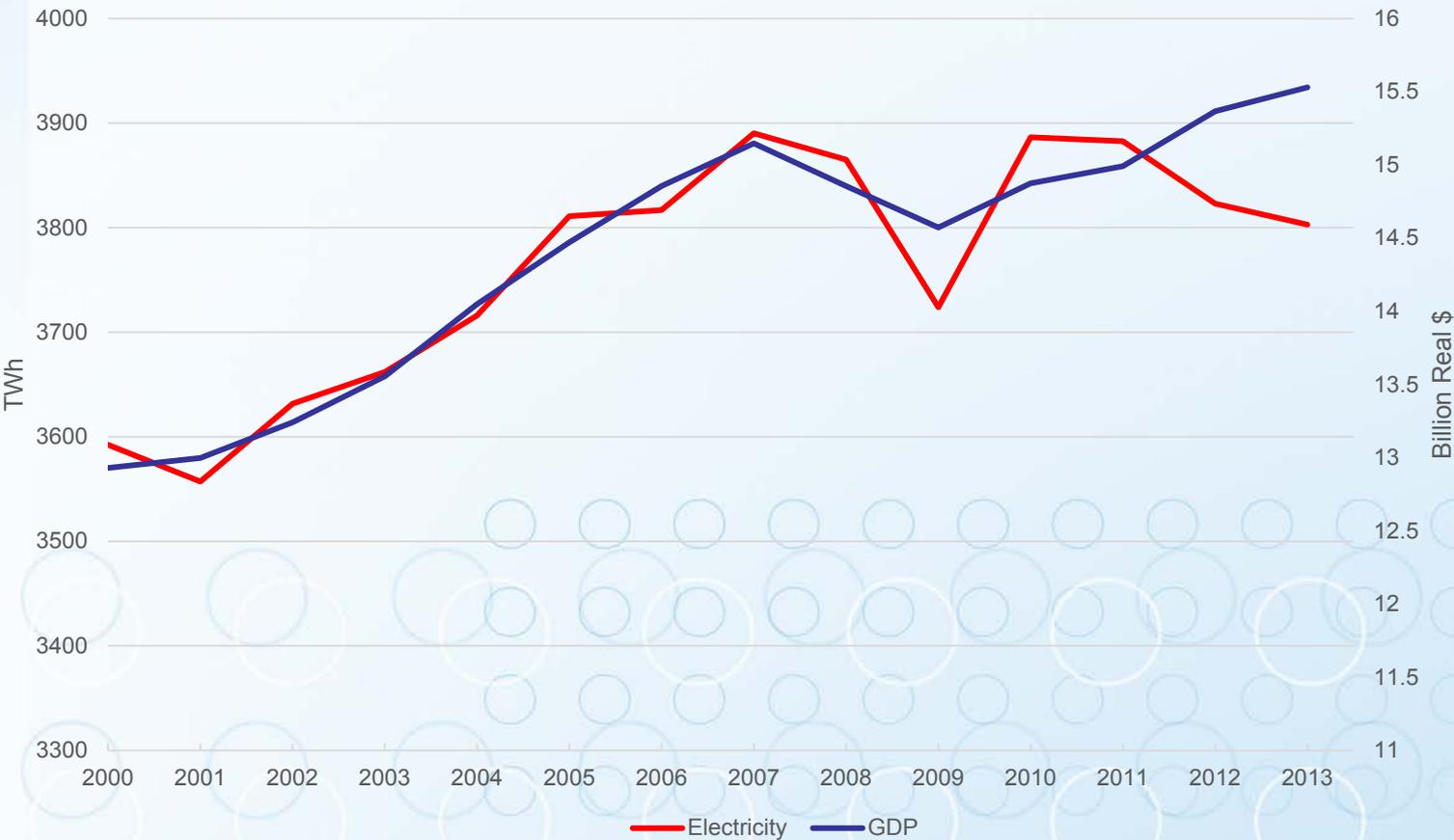
Sources: ACEEE (1993-2011); CEE (2012); LBNL (2015 projections)

*2009-2012 are budgets, 1993-2008 actual spending
†Projections

Savings from Utility EE Programs

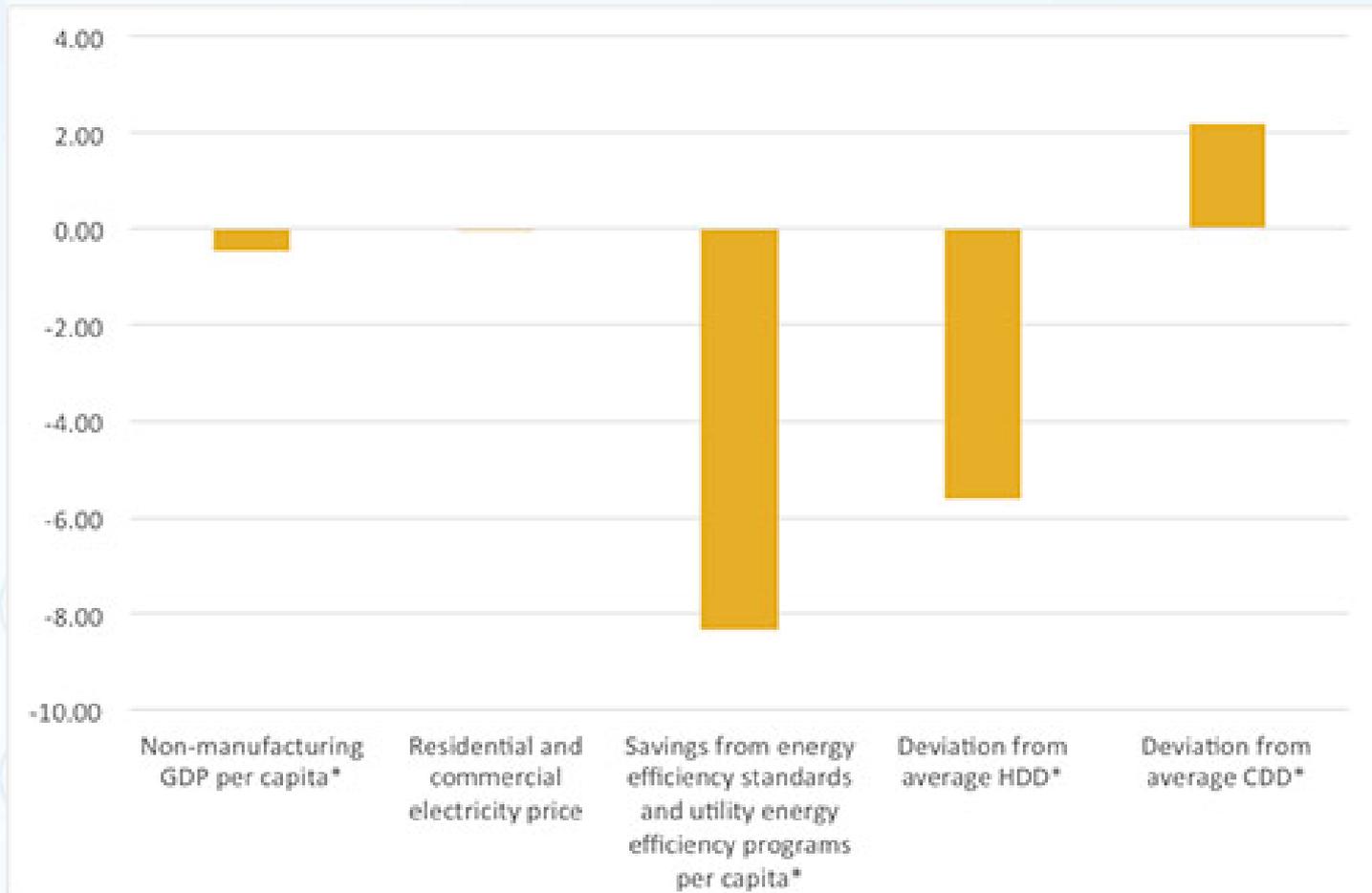


Electricity Use Declining

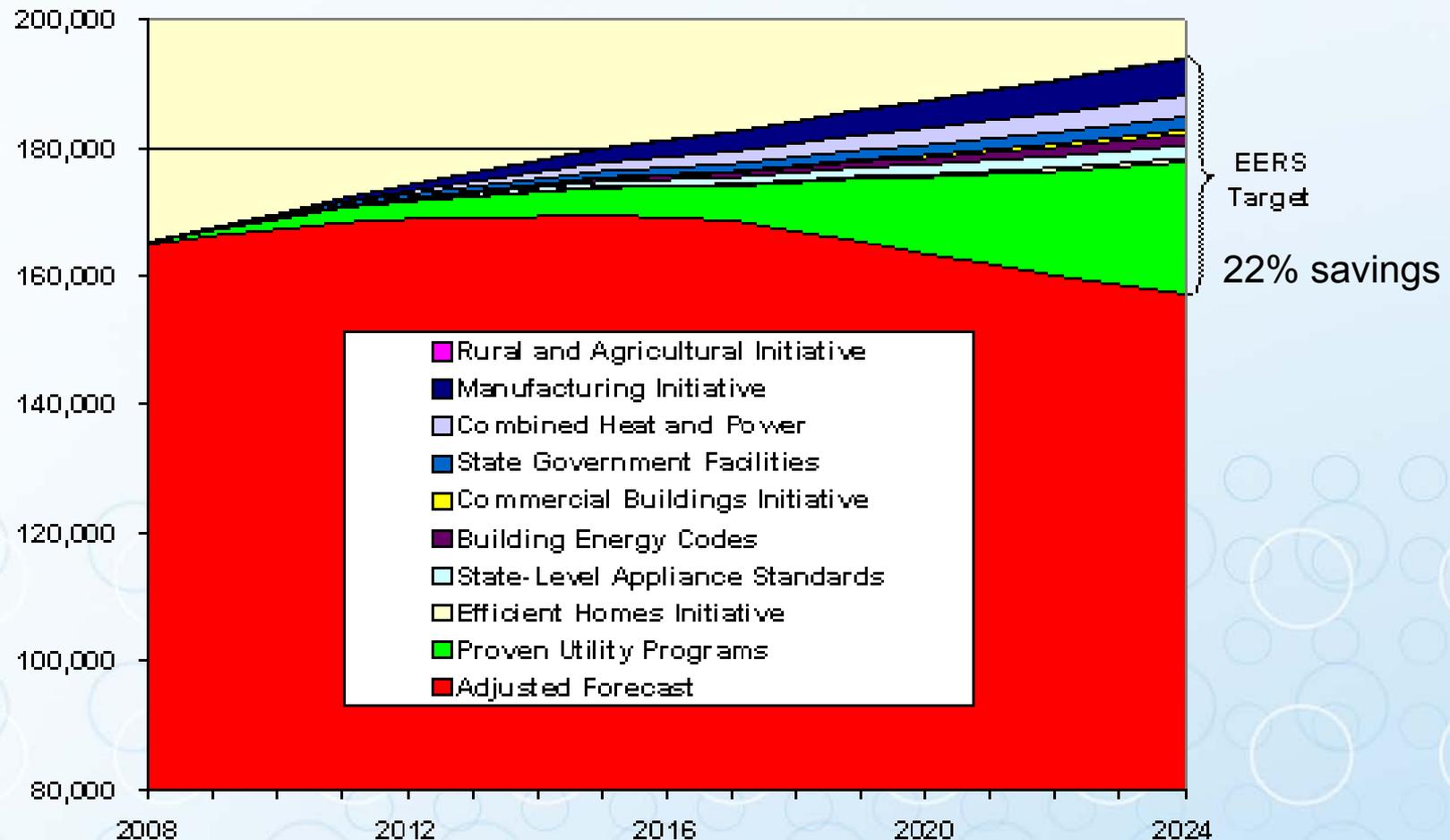


Efficiency a Significant Cause

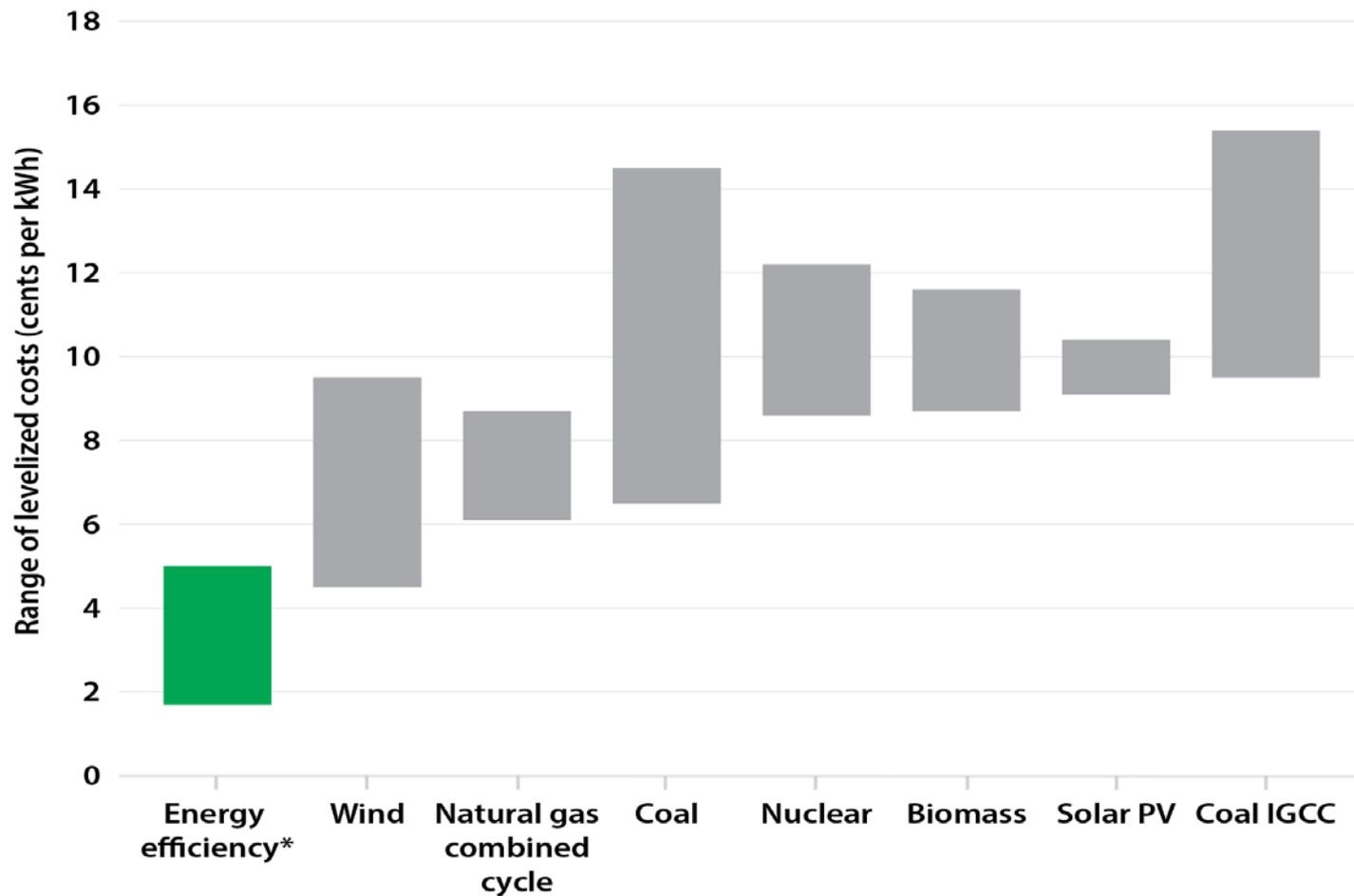
Factors affecting R&C sales 2007-2012



Energy Efficiency Policy Recommendations for Ohio



Levelized costs of new electricity resource options in 2012



Energy Efficiency Resource Standard

- Mandatory energy savings target
 - Some consequences if not met
 - Adequate funding to meet targets
- Targets more than short-term – at least 3 years

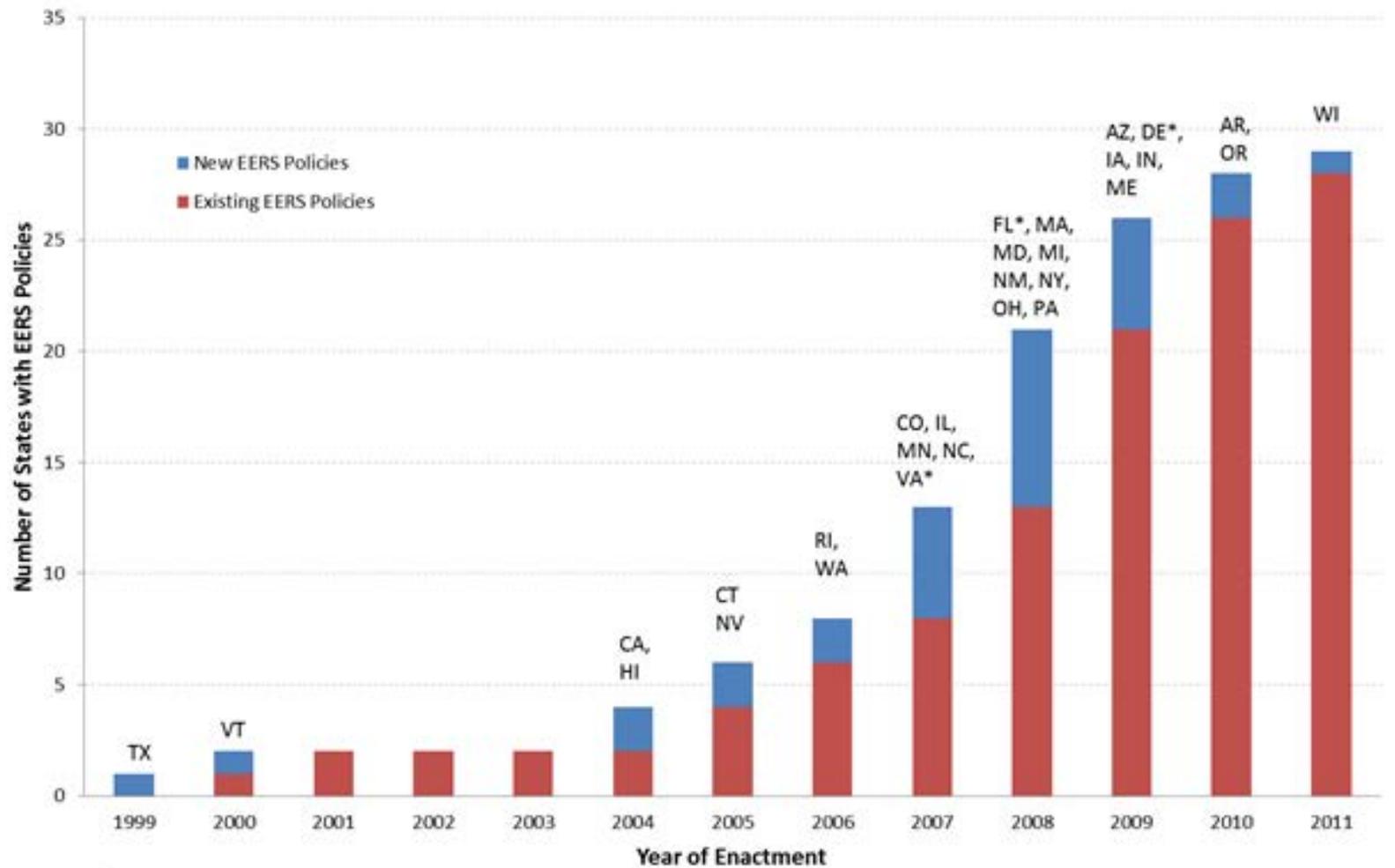


Energy Efficiency Resource Stds

26 states with EERS in place and fully funded



* Under consideration



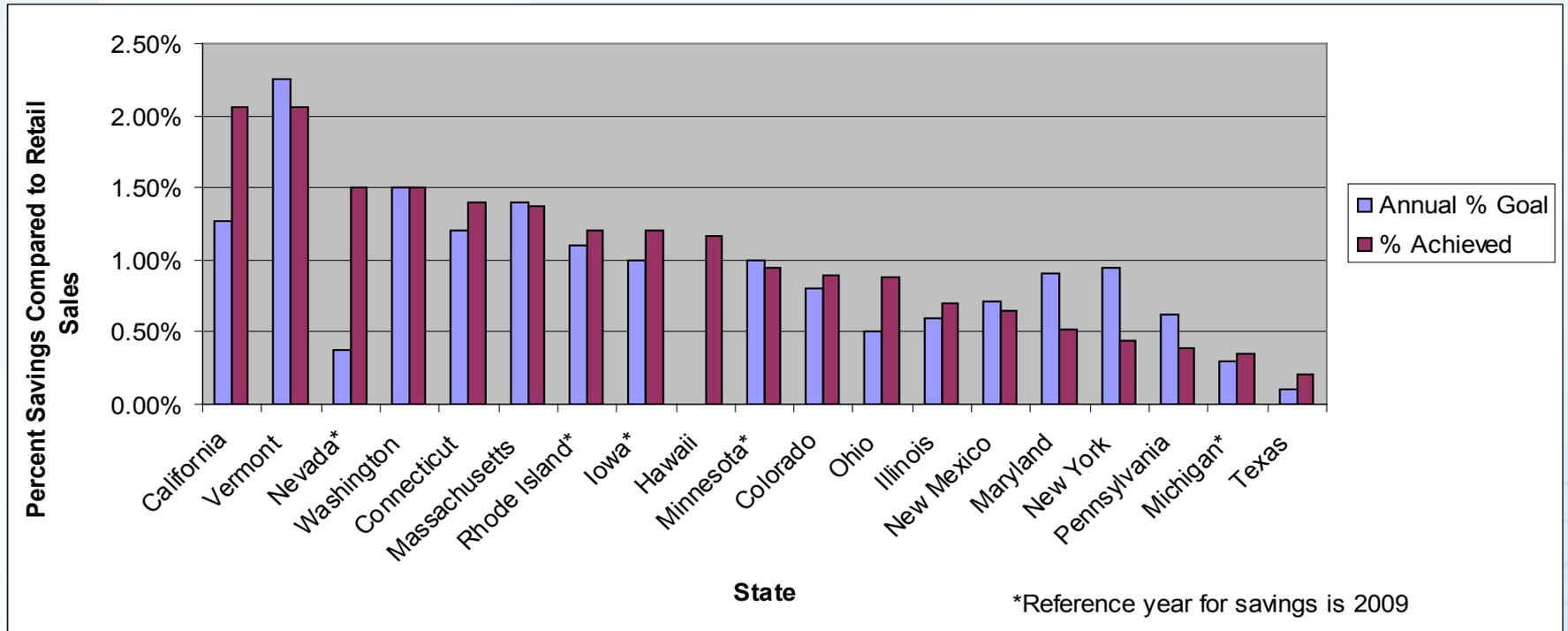
Year of initial state EERS adoption. *Note:* *States have enacted EERS legislation but have not enacted rules for implementation or committed necessary funding to efficiency programs.

Approximate annual savings targets for electricity and natural gas (2013 & beyond).

State	Approx. Annual Electric Savings Target	Approx. Electric Sales Covered by EERS	Approx. Annual Natural Gas Savings Target	Approx. Natural Gas Sales Covered by EERS
Massachusetts	2.6%	86%	1.1%	88%
Arizona	2.4%	56%	0.6%	85%
Maryland*	2.4%	100%	--	--
Rhode Island	2.4%	99%	0.9%	100%
New York*	2.1%	100%	0.5%	100%
Vermont	2.0%	100%	--	--
Illinois**	1.8%	89%	1.1%	88%
Maine	1.6%	100%	0.3%	100%
Colorado	1.5%	57%	0.2%	72%
Indiana	1.5%	74%	--	--
Minnesota	1.5%	100%	1.5%	74%
Connecticut	1.4%	93%	0.6%	100%
Hawaii*	1.4%	100%	--	--
Oregon	1.4%	69%	0.4%	89%
Washington	1.4%	81%	--	--
Iowa	1.3%	74%	0.2%	100%
Ohio	1.2%	89%	--	--
Michigan	1.0%	100%	0.8%	100%
New Mexico	1.0%	68%	--	--
California	0.9%	78%	0.6%	82%
Arkansas	0.8%	53%	0.5%	60%
Pennsylvania	0.8%	97%	--	--
Wisconsin	0.7%	100%	0.5%	100%
North Carolina	0.4%	99%	--	--
Nevada	0.2%	62%	--	--
Texas	0.1%	70%	--	--

*Notes: *Savings originating from non-reporting entities may count toward targets. Only savings data from regulated program administrators was analyzed in this report. **Rate cap has limited available efficiency measures, resulting in approval of targets below legislative levels.*

Implementation of EERS Policies in 2010



Source: Sciortino, ACEEE, 2011



Why Targets?

- Establish specific goals that can be measured and used by management and regulators
 - E.g. for performance incentives
- Drive more savings
 - Of the 15 states with the most electric savings in 2011, all have targets

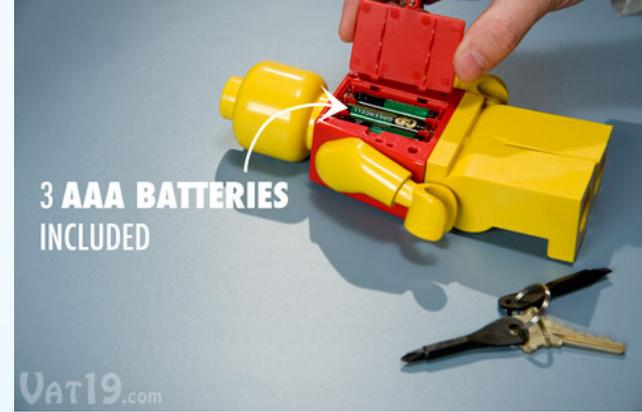
Key Issues



- Legal basis for setting targets – legislation or regulation
- Who the targets apply to – IOUs, public utilities, state agencies, 3rd party administrators
- Target levels and what's included
- State vs. utility-specific targets
- Flexibility and cost controls
- Evaluation
- Incentives, penalties, cost recovery

What's Included

- End-use energy efficiency
- Combined heat and power (net savings)
- Savings from codes and standards
- T&D improvements
- Consumption & savings from “self-direct” or “opt out” customers
- Net vs. gross savings





Metrics

- Commonly % of sales
 - Usually relative to sales in past year or two
- Almost always savings as determined in evaluations and not absolute consumption (latter also affected by weather and the economy)
- Can be annual or cumulative
 - Cumulative gets at measure life and is harder
 - Both useful

Establishing Target Levels



Typically ramp-up over time

Ways to determine:

1. Base on achievements in neighboring/
similar states
 - Need to consider what other states include
2. Conduct a study to estimate economic and
achievable potential
 - Not cheap or easy but can build
consensus, particularly if done well
 - Results depend highly on assumptions

Evaluation



- Who conducts, who reviews?
- Main approaches: deemed, engineering estimates, measurement/billing analysis
- Usually need to address net vs. gross
- Most common is to use deemed and engineering based on previous measurements and billing analysis
 - Need to revise periodically
- Largest programs particularly important

Utility policies to address lost revenues and financial incentives

	Decoupling or LRAM		Performance Incentives		Penalty Mechanism	
	Electric	Natural Gas	Electric	Natural Gas	Electric	Natural Gas
Arizona	Yes ²	Yes ³	Yes	No	No	No
Arkansas	Yes ²	Yes ²	Yes ¹	Yes ⁴	No	No
California	Yes	Yes	Yes	Yes	No	No
Colorado	Yes ²	Yes ²	Yes	Yes	No	No
Connecticut	Yes ³	Yes ²	Yes	Yes	No	No
Hawaii	Yes	No	Yes	No	No	No
Illinois	No	Yes	No	No	Yes	Yes
Indiana	Yes ³	Yes	Yes	No	Yes	No
Iowa	No	No	No	No	No	No
Maine	No	No	No	No	No	No
Maryland	Yes	Yes	No	No	No	No
Massachusetts	Yes	Yes	Yes	Yes	No	No
Michigan	No	Yes	Yes	Yes	No	No
Minnesota	No	Yes	Yes	Yes	No	No
Nevada	Yes ²	Yes ³	No	No	No	No
New Mexico	Yes ²	Yes ²	Yes	Yes	No	No
New York	Yes	Yes	Yes	Yes	No	No
North Carolina	Yes ³	Yes	Yes	No	No	No
Ohio	Yes ³	Yes ²	Yes	Yes	Yes	No
Oregon	Yes	Yes	No	No	No	No
Pennsylvania	No	No	No	No	Yes	No
Rhode Island	Yes	Yes	Yes	Yes	No	No
Texas	No	No	Yes	No	No	No
Vermont	Yes ¹	Yes ^{2,1}	Yes	No	No	No
Washington	Yes	Yes	No	No	No	No
Wisconsin	Yes	Yes ³	Yes	Yes	Yes	Yes

*Notes:*¹ Decoupling for electric or gas utilities, or both, or performance incentives are authorized according to legislation or commission order but are not yet implemented. ² No decoupling, but some other mechanism for lost revenue adjustment. ³ Both decoupling and some other mechanism for lost revenue adjustment. *Source:* 2013 State Energy Efficiency Scorecard

Conclusions

- Energy savings targets are now used in more than half the states and have been generally successful at promoting substantial cost-effective savings
- Promising policy for other states but several issues policy-makers need to address:
 - Who the target applies to
 - What's included
 - Target levels
 - How measured and evaluated



Contact Information

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Arkansas Public Utility Energy Efficiency Programs: 2007–2014

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Managing Attorney
Arkansas Public Service Commission

Arkansas Public Service Commission

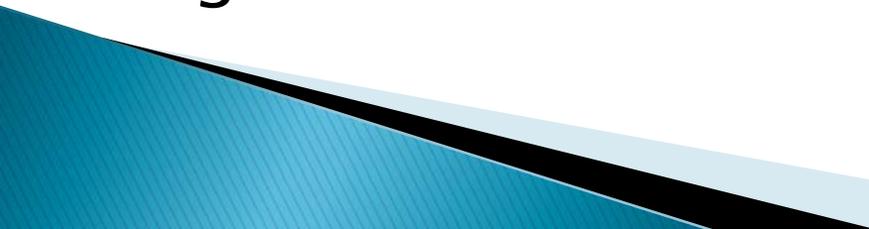
- ▶ Three Commissioners appointed by Governor.
 - ▶ Six-year staggered terms.
 - ▶ Quasi-judicial, quasi-legislative proceedings with its own practice rules.
- 

Energy Conservation Endorsement Act (“ECEA”)

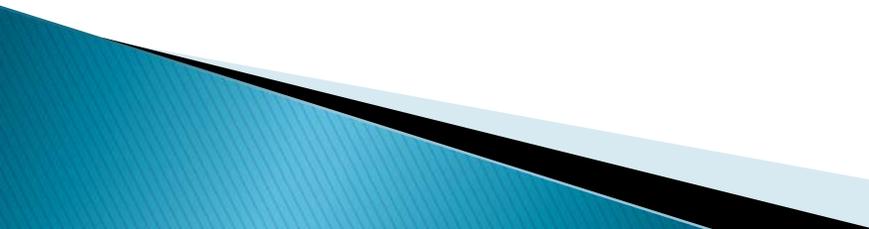


- ▶ (Ark. Code Ann. § 23–4–301 *et. seq.*)
- ▶ The ECEA authorizes the Commission to promote renewable energy, energy efficiency and demand response—but only if it is beneficial to utilities and ratepayers alike.
- ▶ To date, the Commission has focused on implementing energy efficiency programs.

Notes regarding statutory targets

- ▶ The ECEA does not set a target.
 - ▶ From 2007–2010, the Arkansas PSC required IOUs to implement “Quick Start” EE programs, without overall targets.
 - ▶ The EE Rules adopted in 2007 foresaw 3 years of Quick Start followed by “comprehensive” programs: i.e., un-specified growth.
- 

The Quick Start Period

- ▶ “Quick Start” of core programs already proven to work in other jurisdictions allowed interested stakeholders to gain experience with:
 - Program-related concepts, implementation, reporting and review
 - Some development of the market for qualified contractors through training and program growth;
 - Collaboratively responses to challenges.
- 

Comprehensive EE programs

- ▶ As 2010 approached, parties discussed* what “comprehensive” programs means.
 - ▶ The PSC decided that “Comprehensive” means adequately funded, managed, measured and evaluated programs, which serve every rate class and every major end-use, and which procure the maximum achievable cost-effective energy savings.
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APSC Sets Targets

- ▶ Initially set for 3 years.
- ▶ Energy savings targets, as a % of retail kWh or therm sales volume:

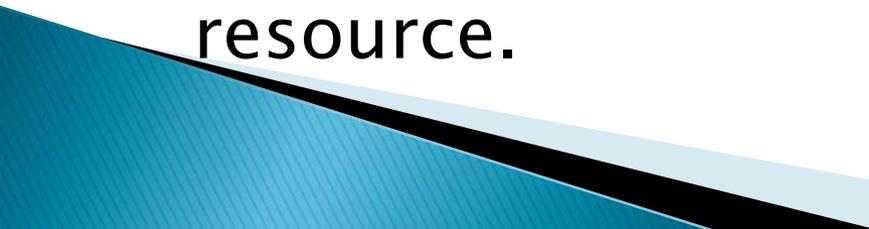
	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>
◦ Electric	0.25	0.50	0.75	0.75	0.90*
◦ Gas	0.20	0.30	0.40	0.40	0.50

- ▶ *The baseline for targets starting in 2015 is total 2013 kWh retail sales. Baselines for prior years are total 2010 kWh retail sales.

Context/Meaning of Initial Targets

- ▶ Not based on specific utility-funded Potential Study.
- ▶ Rather: expert opinion based on review of performance in many other states, on past performance, and on view that ACEEE study was reasonable.
- ▶ Targets were set by Order as one tool within a suite of related policies including:
 - Cost recovery
 - Administrative responsibility
 - EM&V

A note on cost recovery:

- ▶ Arkansas law provides that direct energy conservation program costs may be collected by rider:
 - ▶ The Commission expanded the rider to include LCFC and utility performance incentives.
 - ▶ Taken together, targets, LCFC and incentives establish the expectations and the financial conditions to require, and rely upon significant energy savings as a utility resource.
- 

Functions of Targets:

- ▶ Default value for maximum achievable cost effective EE.*
- ▶ Method of determining performance incentive:
 - ▶ incentive starts at 80% of target
 - ▶ Rises at 100% and tops out at 110%.
 - ▶ Rises with net benefits, capped at 5–7% of budget.
- ▶ Promotes good program management:
 - ▶ Independent EM&V.
 - ▶ Admin. Efficiency.

* Target not actually required—but plan is.

Actual Performance

- ▶ 2011: One of four electric IOUs and two of three natural gas IOUs met enough of their targets (over 80% of the target) to earn performance incentives.
 - ▶ 2012: The two largest electric utilities and all natural gas utilities exceeded their targets.
 - ▶ 2013: Early word is that largest utilities exceeded targets.
 - ▶ Program spending rose from \$25 million in 2011 to just under \$50 million in 2012, and a similar increase is expected for 2013.
- 

More Results

- ▶ Robust EM&V indicates **net** benefit of 2012 program year was about \$26 million.
 - ▶ Some evidence that cost-effectiveness is improving as start-up costs recede.
- 

Looking Forward

- ▶ Largest electric IOU plans to avoid 700 MW of capacity over the next 10 years—basically avoiding a power plant.
 - ▶ New Potential Study will help set targets for 2015–2016–2017.
 - ▶ 111(d) compliance?
- 

Further Impacts

- ▶ Customer Satisfaction.
 - ▶ New businesses in the state.
 - ▶ ACEEE ranking rose from 45th in 2006 to 37th in 2013 (but better for PSC policies).
- 

This has been a lot of work and there is a lot of credit to go around:

- ▶ IOUs: Entergy Arkansas, Inc., SWEPCO, OG&E, Empire District, CenterPoint, Arkansas Oklahoma Gas, SourceGas.
 - ▶ General Staff, who often convenes the collaborative.
 - ▶ The Attorney General.
 - ▶ Intervenors, such as: Audubon, Sierra Club, Arkansas Association of Community Action Agencies, Wal-Mart, Ark. Electric Energy Consumers.
 - ▶ Governor Mike Beebe, the Arkansas Department of Workforce Services, the Arkansas Energy Office, the Arkansas Technical College System.
 - ▶ Contractors: CLEAResult, ICF, Comverge, Frontier and Associates. HVAC contractors, engineering firms, and the Clinton Climate Initiative.
 - ▶ Advice, technical assistance, and longstanding experience from ACEEE, Regulatory Assistance Project and US DOE.
- 