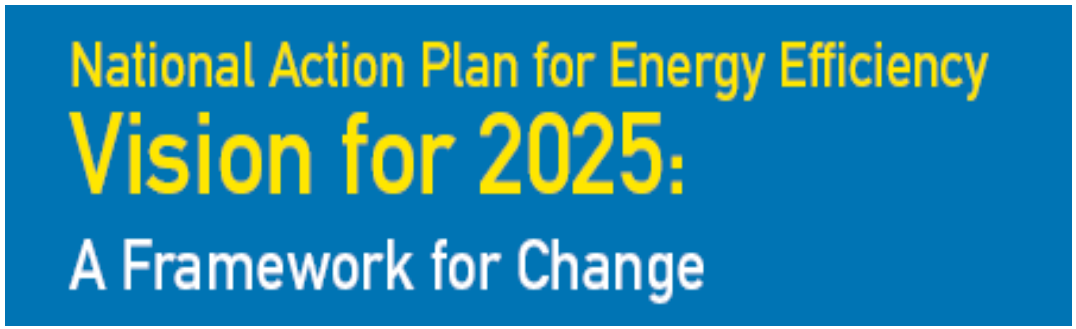
All Cost Effective DSM

What is it?

June 11, 2010

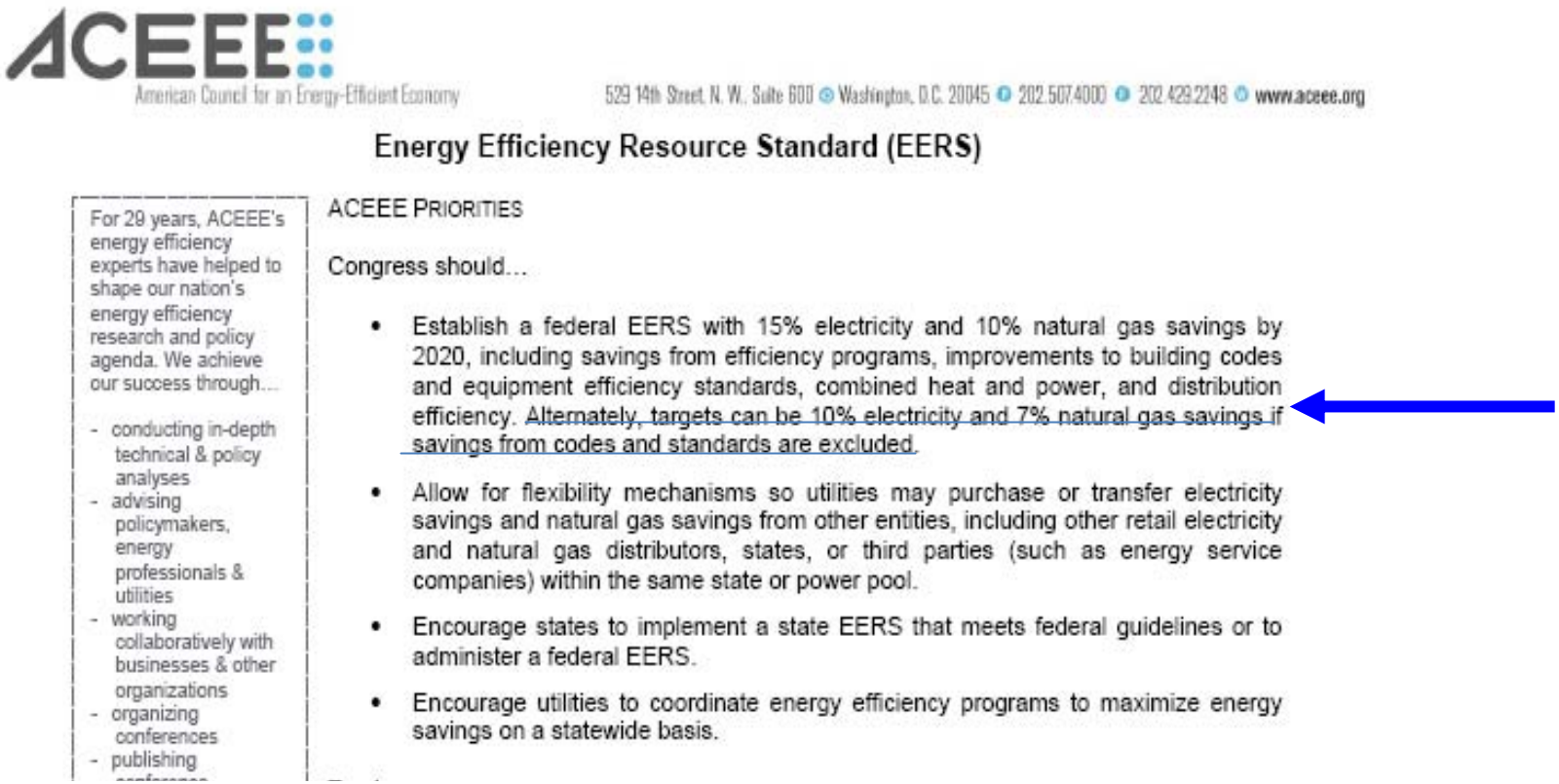
NAPEE'S VIEW



"The long-term aspirational goal for the Action Plan is to achieve all cost-effective energy efficiency by the year 2025. Based on studies, ***the efficiency resource available may be able to meet 50 percent or more of the expected load growth*** over this time frame…"

There is a big difference between 50% of load growth and 2% of load.

ACEEE's VIEW



ACEEE
American Council for an Energy-Efficient Economy

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Energy Efficiency Resource Standard (EERS)

For 29 years, ACEEE's energy efficiency experts have helped to shape our nation's energy efficiency research and policy agenda. We achieve our success through...

- conducting in-depth technical & policy analyses
- advising policymakers, energy professionals & utilities
- working collaboratively with businesses & other organizations
- organizing conferences
- publishing

ACEEE PRIORITIES

Congress should...

- Establish a federal EERS with 15% electricity and 10% natural gas savings by 2020, including savings from efficiency programs, improvements to building codes and equipment efficiency standards, combined heat and power, and distribution efficiency. Alternately, targets can be 10% electricity and 7% natural gas savings if savings from codes and standards are excluded.
- Allow for flexibility mechanisms so utilities may purchase or transfer electricity savings and natural gas savings from other entities, including other retail electricity and natural gas distributors, states, or third parties (such as energy service companies) within the same state or power pool.
- Encourage states to implement a state EERS that meets federal guidelines or to administer a federal EERS.
- Encourage utilities to coordinate energy efficiency programs to maximize energy savings on a statewide basis.

A 10% reduction over 10 years is equivalent to an average annual load reduction of less than 1% per year.

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California's View

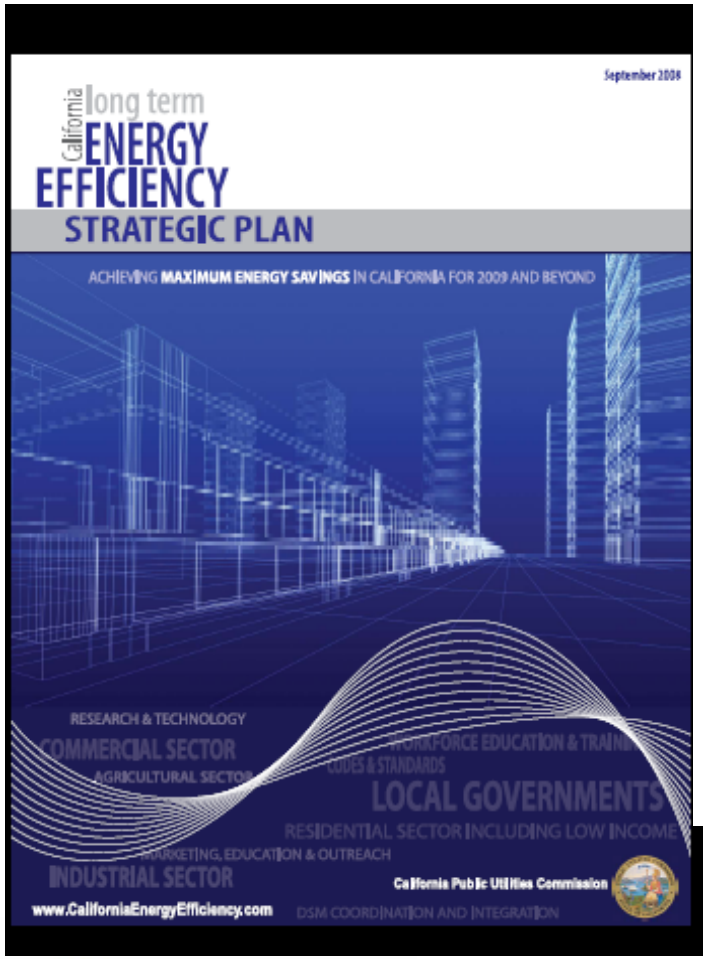

Table 6: Summary of Utility Proposed Savings Goals and Potentials by the Year 2016

Electric Energy Consumption						
Utility Type	Technical Potential (GWh)	Economic Potential (GWh)	Proposed Savings (GWh)	Economic as % of Technical	Proposed Savings as % of Technical	Proposed Savings as % of Economic
IOU	39,584	28,919	20,585	73%	52%	71%
POU	13,687	10,553	5,907	77%	43%	56%
IOU and POU	53,271	39,472	26,491	74%	50%	67%
Including Emerging Technology	65,752	51,953	26,491	79%	40%	51%

Note: In 2015, AmerenUE's RAP is 30% of Economic and MAP is 45% of Economic.

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Vermont's View

Vermont Comprehensive Energy Plan 2009
And Update to the 2005 Twenty-Year Electric Plan

PUBLIC REVIEW DRAFT

Page II-28: "It is critical to recognize that DSM is inherently difficult to measure. **In Vermont, the vast majority of published DSM savings are actually based on estimates before the programs were implemented.** In other words, these numbers are not based on any type of assessment after the programs have been put in place."

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Other States Reported Load Reductions

Table 6. 2007 Incremental Electricity Savings by State: Total, Percent of Electricity Sales, and Score

State	2007 Total Incremental Elec. Savings (MWh)	Savings as Percent of Electricity Sales	Ranking	Score
Vermont	105,203	1.8%	1	5
California	3,393,016	1.3%	2	5
Hawaii	124,830	1.2%	3	5
Connecticut	371,899	1.1%	4	5
Maine	107,734	0.91%	5	4.5
Oregon	437,494	0.90%	6	4.5
Massachusetts	489,622	0.86%	7	4
Rhode Island	64,995	0.81%	8	4
Washington	635,062	0.74%	9	3.5
Iowa	322,177	0.71%	10	3.5
New Hampshire	78,537	0.70%	11	3.5
Minnesota	463,543	0.68%	12	3.5
Wisconsin	467,725	0.66%	13	3.5
Nevada	233,212	0.65%	14	3.5
Utah	139,000	0.50%	15	2.5
Idaho	103,000	0.43%	16	2.5
Arizona	312,736	0.41%	17	2.5
New York	540,612	0.36%	18	2
New Jersey	242,270	0.30%	19	2
Colorado	146,572	0.29%	20	2
Montana	43,329	0.28%	21	2
Florida	348,208	0.15%	22	1
Texas	457,808	0.13%	23	1
Kansas	34,726	0.09%	24	0.5
Tennessee	63,547	0.06%	25	0.5
New Mexico	10,241	0.05%	26	0.5
Nebraska	6,902	0.02%	27	0
Alaska	1,419	0.02%	28	0
Kentucky	17,874	0.02%	29	0

Approximately 75% of Vermont's purported energy savings come from CFLs. Where will the savings come from post EISA?

Source: 2009 ACEEE State Scorecard

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What Is Massachusetts Up To?

Massachusetts approves 3-year, $2.2B efficiency effort

by Kelly Harrington

Massachusetts regulators have backed plans for the state's electric and natural gas utilities to invest roughly $2.2 billion in efficiency measures over three years.

- Funded over 3-years with **$1.7 billion** from distribution charges on electric bills
- Energy savings target of **2.4% of electricity sales** by 2012
  - Utilities have to meet 75% of goal to not be subject to penalties

This Plan calls for an increase by 2012 in annual savings of nearly triple 2008 levels and increased expenditures on energy efficiency programs of 310% when compared with 2008 expenditures.

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Massachusetts/Missouri

- Massachusetts
  - Pop: 6.6 million
  - Avg. retail rate: 14.36 cents/kWh
  - $1.7 billion 3-year electric EE plan is $257 per capita
  - DSM consistency: 20+ years experience
- Missouri
  - 6.0 million
  - Avg. retail rate: 4.32 cents/kWh
  - MO's equivalent EE budget to MA for 3-years would be **$1.5 billion**
  - DSM consistency: 5 years or less

Note: MA historical retail rate was closer to 18 cents/kwh but recent economic conditions have lowered the market price of power.

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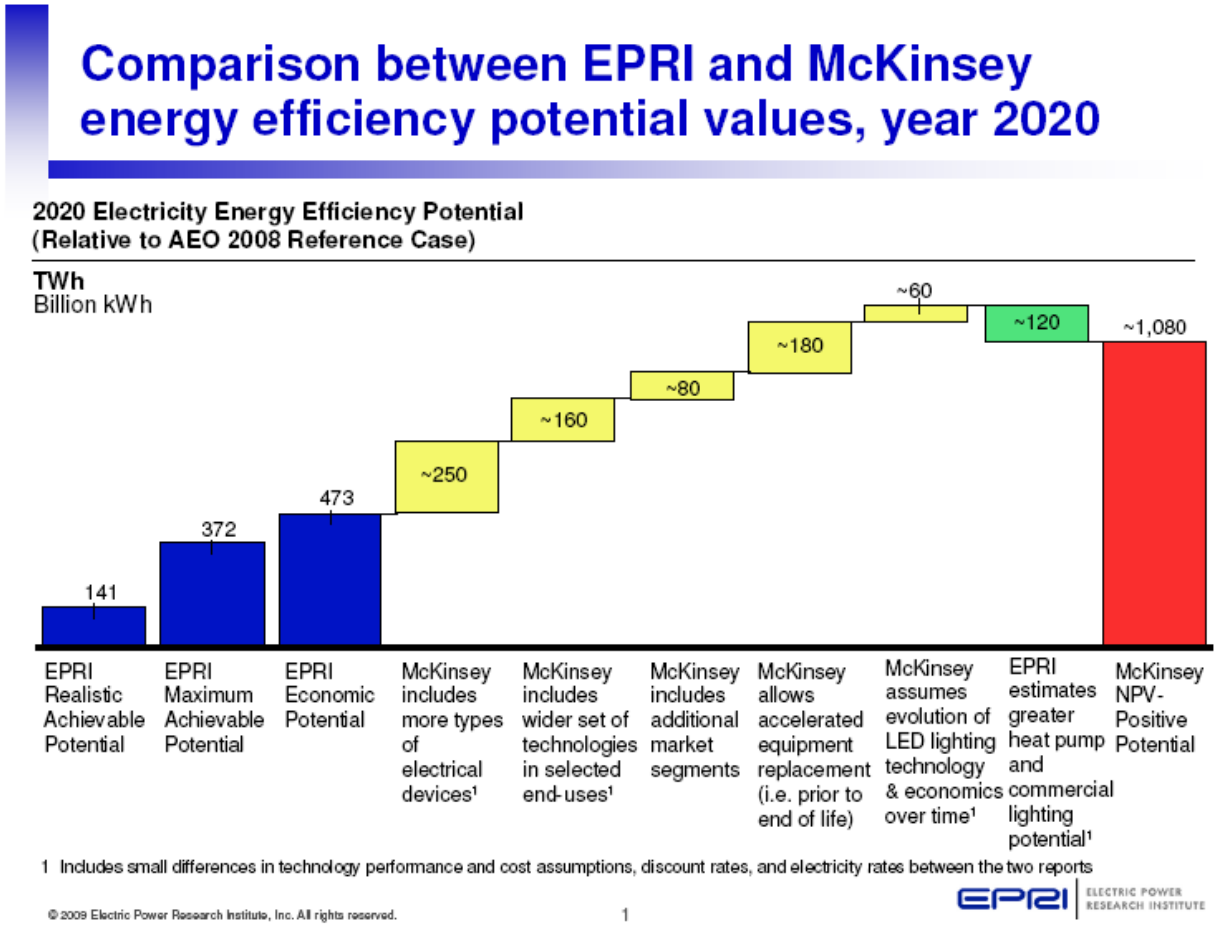
How Can Potential Studies Vary By Multiples??



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What Is All Cost Effective Energy Efficiency?

- It has not and probably will never be defined with any certitude
- It definitely is not defined as all energy efficiency with a total resource cost test > 1.0.
- Few organizations have achieved load reductions of 2% in a single year much less for multiple years. Those that have relied upon CFL sales for the majority of savings.
- States that dare to target 2% load reductions have concomitant budgets in the range of $1.7 billion for a 3-year electric implementation plan.

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States With Aggressive DSM Targets Typically Have…

- Rate caps that effectively limit load reductions to a fraction of the goal
- Re-openers to allow Commissions to reset goals based on state or utility specific evidence
- Inclusion of utility infrastructure efficiency investments towards meeting goals
- Reciprocity with a portion of renewable energy targets

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Observations

- **There is no evidence to support that an annual load reduction of 2% is reflective of all cost effective energy efficiency.**

- All cost effective energy efficiency and economic potential are not equivalent in any state

- Based on the 2009 ACEEE state scorecard, only 4 states have purported energy efficiency savings of greater than 1% of electricity sales. The vast majority of those sales are attributable to CFLs.

- To achieve 2% load reductions, studies show an appropriate budget would need to exceed $250 per capita which for a 3-year Missouri implementation planning period exceed $1.5 billion in energy efficiency program costs.

- For studies that claim there may be cost effective potential to reduce load by as much as 2% per year, it is imperative that workpapers that underlie the study be analyzed in detail.

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Recommendations

- All cost effective energy efficiency should be defined as realistic achievable energy efficiency developed using primary market research data in a utility specific energy efficiency potential study.
- Any customer opt out provisions should further reduce the realistic achievable potential.
- A regulatory framework that does not provide the financial basis to pursue all achievable energy efficiency should further reduce the realistic achievable energy efficiency potential.

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Appendices

- Energy efficiency legislation
  - Illinois
  - Minnesota
  - Iowa
  - Michigan
  - Ohio

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Illinois

- Illinois Power Agency Act of 2007
- 0.2% annual load reduction in 2008 increasing to 2% beginning in 2015 and continuing thereafter

- Rate cap of a cumulative 2% max. in 2011

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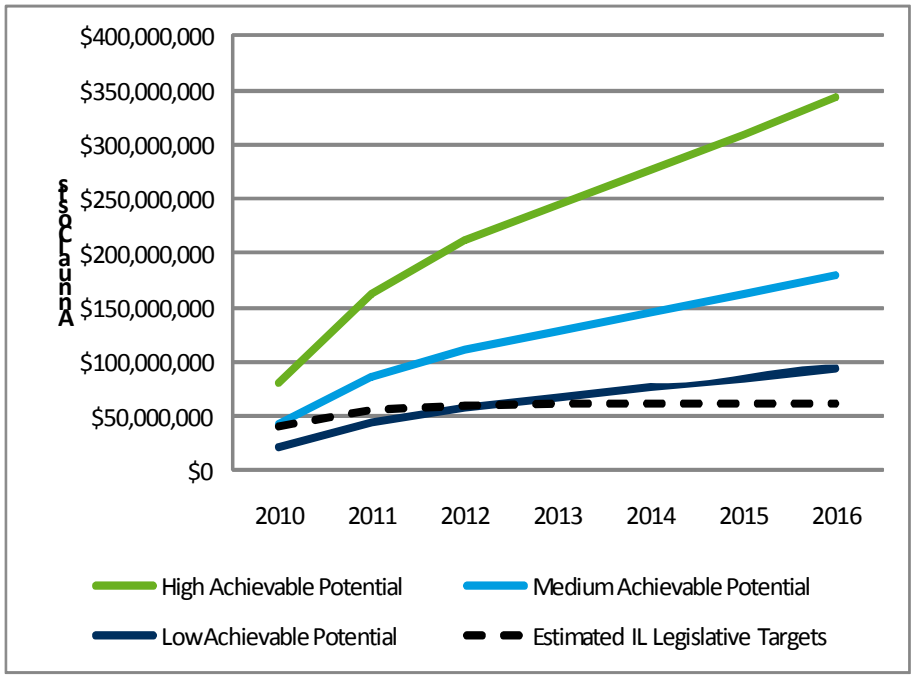
Can Illinois Achieve 2% Load Reductions With A Max. 2% Rate Cap?

Figure 1. Annual Electric Achievable Acquisition Costs and Legislative Spending Caps



No. Based on a study done by Cadmus, the Ameren Illinois Utilities are expected to reach their 2% max cap in 2011 while achieving 0.8% annual load reduction.

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Minnesota

- **Next Generation Act 2007**
  - Goal: Achieve annual energy savings of 1.5% of annual retail sales
    - O.5% may be met through utility infrastructure efficiency improvements
    - Rate designs, appliance efficiency standards, building codes also count towards meeting goals
  - Rate cap: 1.5% of gross operating revenues
  - Utilities may petition Commission for reduction of goals to 1.0% based on results of recent potential study
  - The Commission shall establish decoupling criteria and standards

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Iowa

- Senate File 2386
- SB 2386 also requires utilities to file energy efficiency goals. In accordance with this mandate, the IUB issued an order in 2008 asking IOUs to submit plans including **a scenario to achieve a 1.5% annual electricity and natural gas savings goal.**

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Michigan

- Senate Bill #213
  - Biennial incremental energy savings in 2008-2009 equivalent to 0.3% of total annual retail electricity sales in megawatt hours in 2007.
  - Biennial incremental energy savings in 2008-2009 equivalent to 0.3% of total annual retail electricity sales in megawatt hours in 2007.
  - Annual incremental energy savings in 2011 equivalent to 0.75% of total annual retail electricity sales in megawatt hours in 2010.
  - Annual incremental energy savings in 2012, 2013, 2014, and 2015 and, subject to section 97, each year thereafter equivalent to 1.0% of total annual retail electricity sales in megawatt hours in the preceding year

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Michigan (con't)

- For any year after 2012, an electric provider may substitute renewable energy credits …to meet the energy optimization performance standard, if the substitution is approved by the commission...subject to a maximum of 10%.
- Beginning 2 years after a provider begins implementation of its energy optimization plan, the provider may petition the commission to establish alternative energy optimization standards.
- A natural gas provider or an electric provider shall not spend more than the following percentage of total utility retail sales revenues, including electricity or natural gas commodity costs, in any year to comply with the energy optimization performance standard without specific approval from the commission:
- (a) In 2009, 0.75% of total retail sales revenues for 2007.
- (b) In 2010, 1.0% of total retail sales revenues for 2008.
- (c) In 2011, 1.5% of total retail sales revenues for 2009.
- (d) In 2012 and each year thereafter, 2.0% of total retail sales revenues for the 2 years preceding

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Ohio

- SB 221 Passed in 2008
  - 0.3% annual savings in 2009
  - 1.0% by 2014
  - 2.0% 2019-2025

(I) Benchmarks not reasonably achievable. If an electric utility determines that it is unable to meet a benchmark due to regulatory, economic, or technological reasons beyond its reasonable control, the electric utility may file an application to amend its benchmarks. To the extent that forecasted peak demand and peak prices do not materialize for economic reasons, the electric utility may be granted a waiver of its benchmark for the difference between actual performance and expected performance of demand response programs.

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