



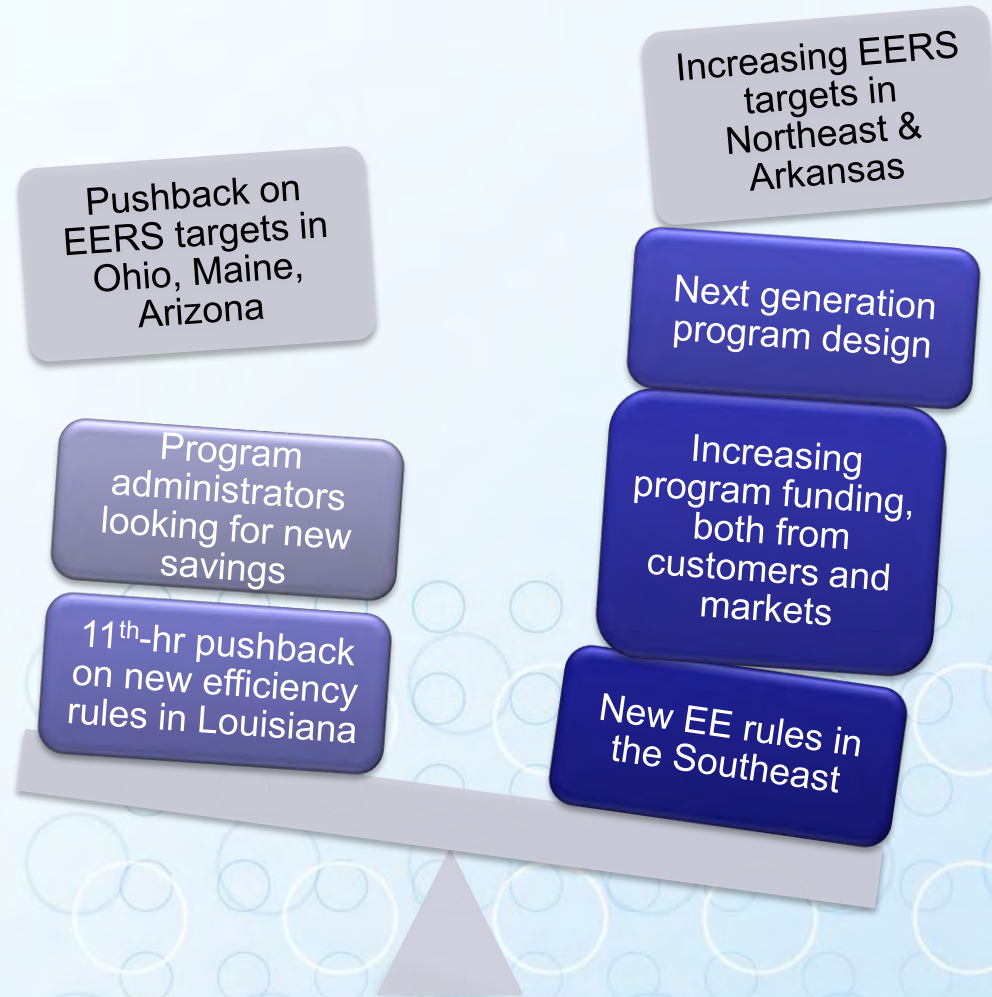
Energy Efficiency in the States: 2013 Outlook

Webinar for ACEEE Allies

March 5, 2013

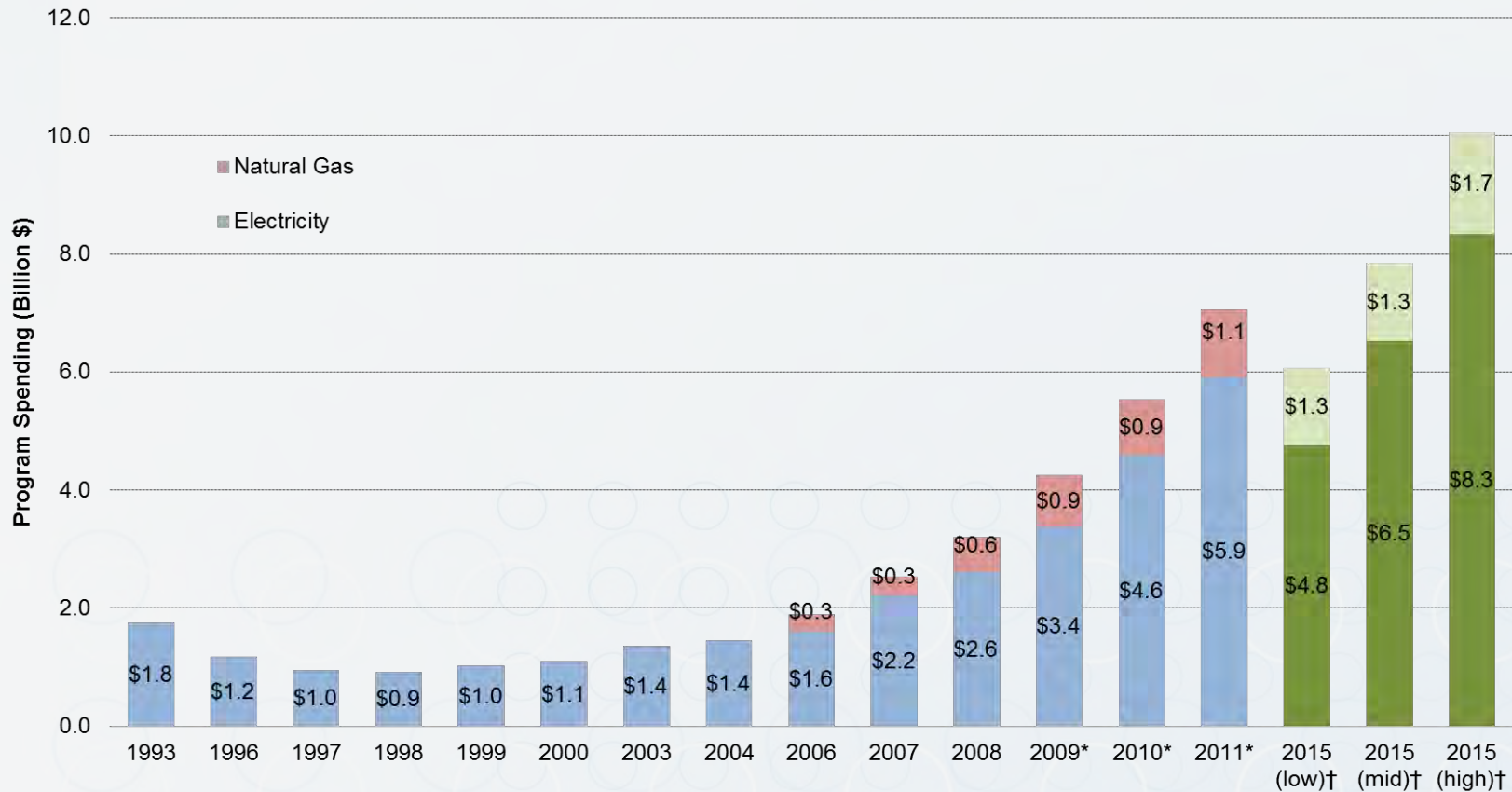
Ben Foster, Dan York, Maggie Molina, Steve Nadel

How Is Energy Efficiency Trending?



Energy Efficiency Spending

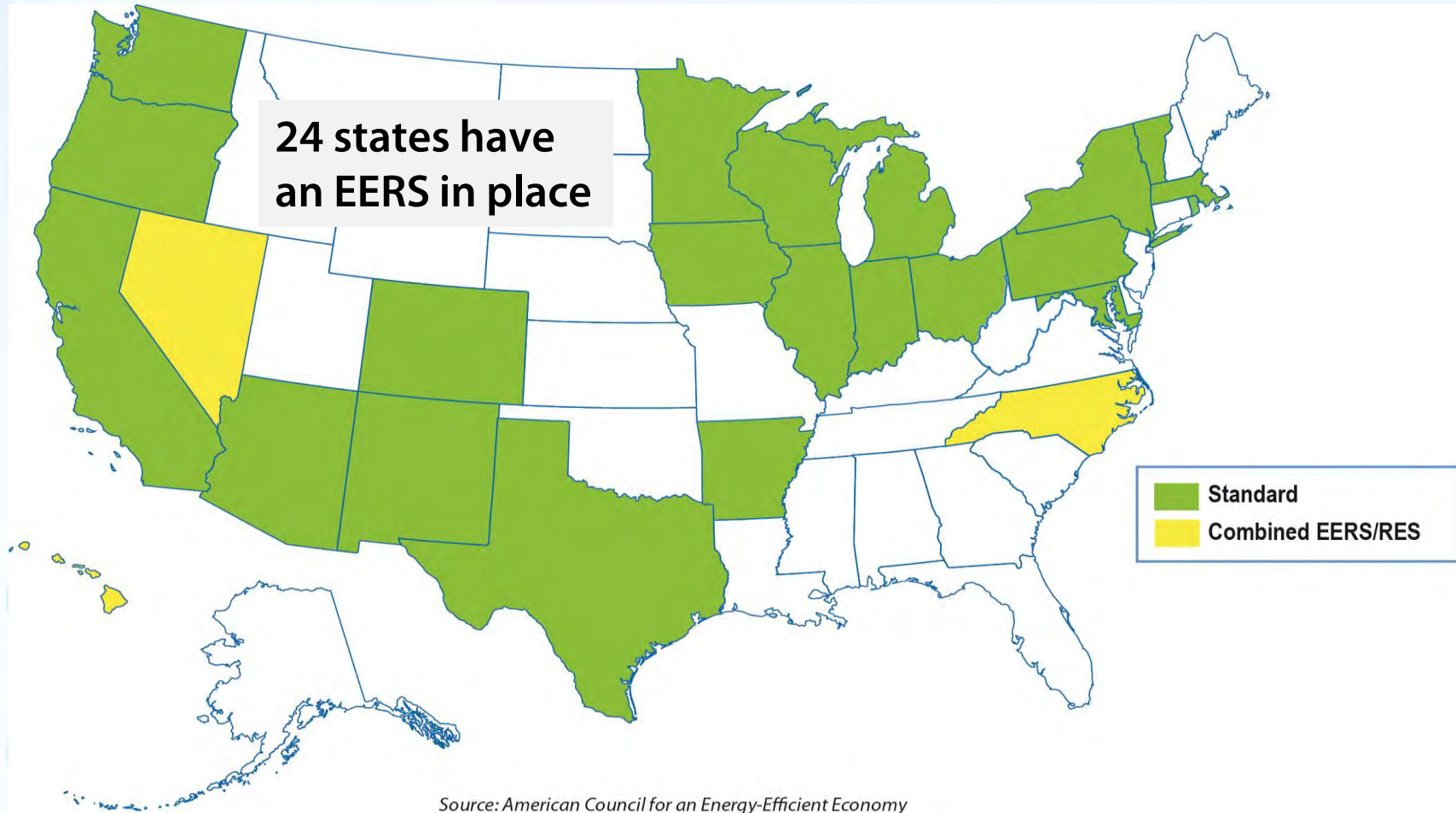
Customer-funded Energy Efficiency Program Spending



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

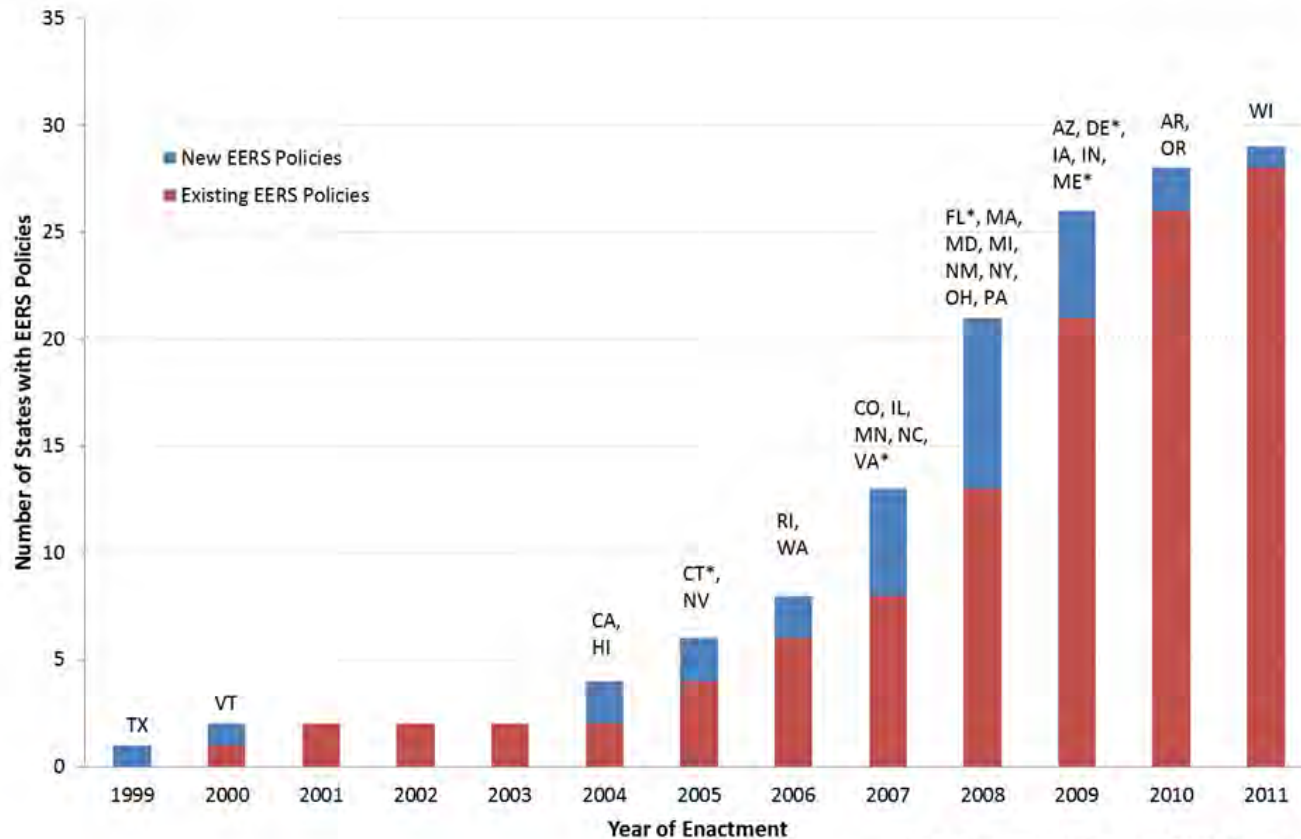
*2009-2011 are budgets, 1993-2008 actual spending
†Projections

Energy Efficiency Resource Standards



Source: 2012 State Energy Efficiency Scorecard. Also see: EERS Policy Brief (Sept 2012), www.aceee.org/files/pdf/policy-brief/state-eers-summary-0912.pdf

Energy Efficiency Resource Standards

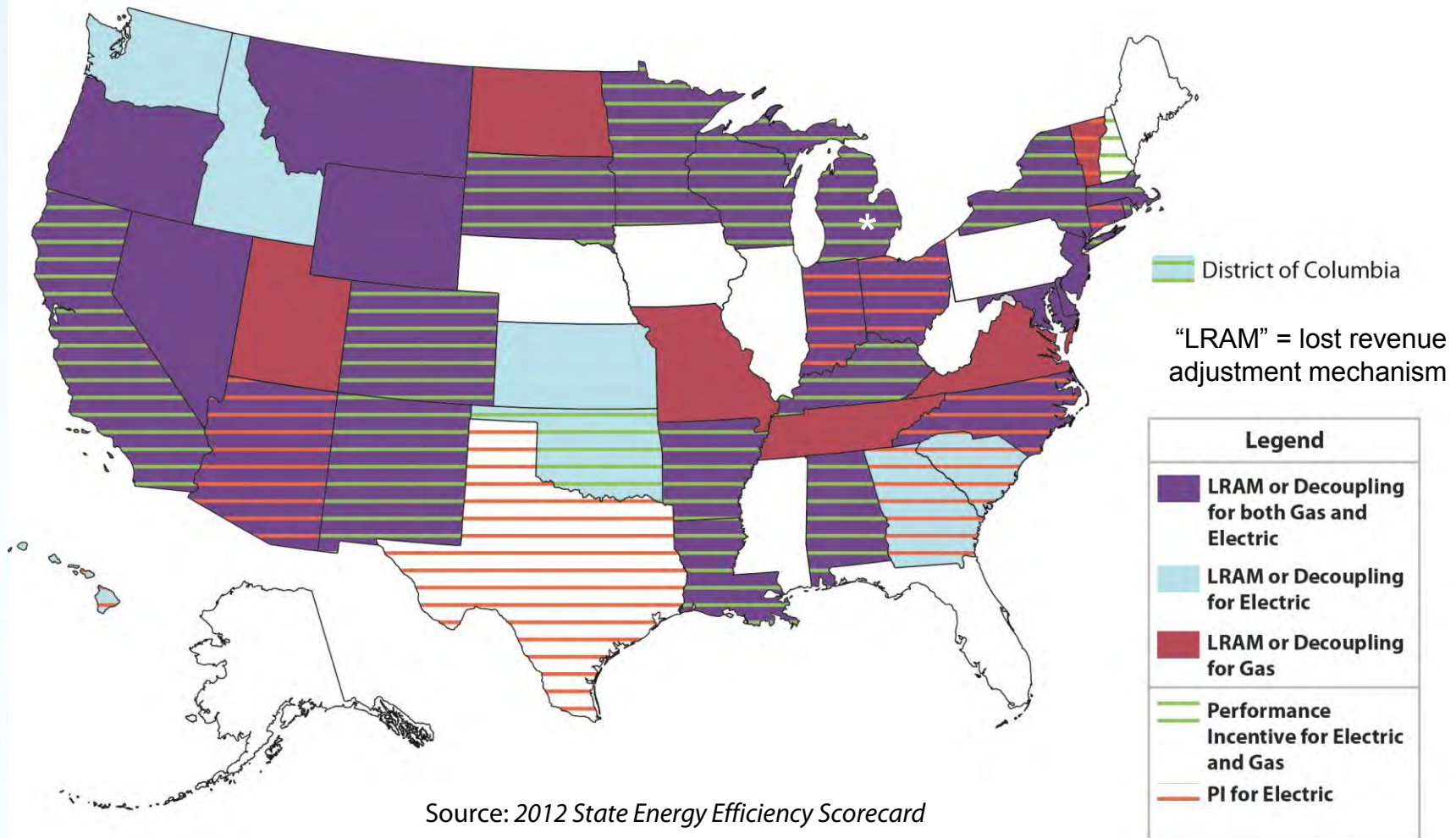


*Policy is not considered a true EERS because it is not yet implemented, is not binding, or is currently underfunded.

- Surge of new adoptions in 2007-2009. Levelled off since then. No recent adoptions.
- MA, RI, VT, AR are increasing targets for next 3-year cycle.
- AZ, OH, ME are seeing pushback against EERS targets.

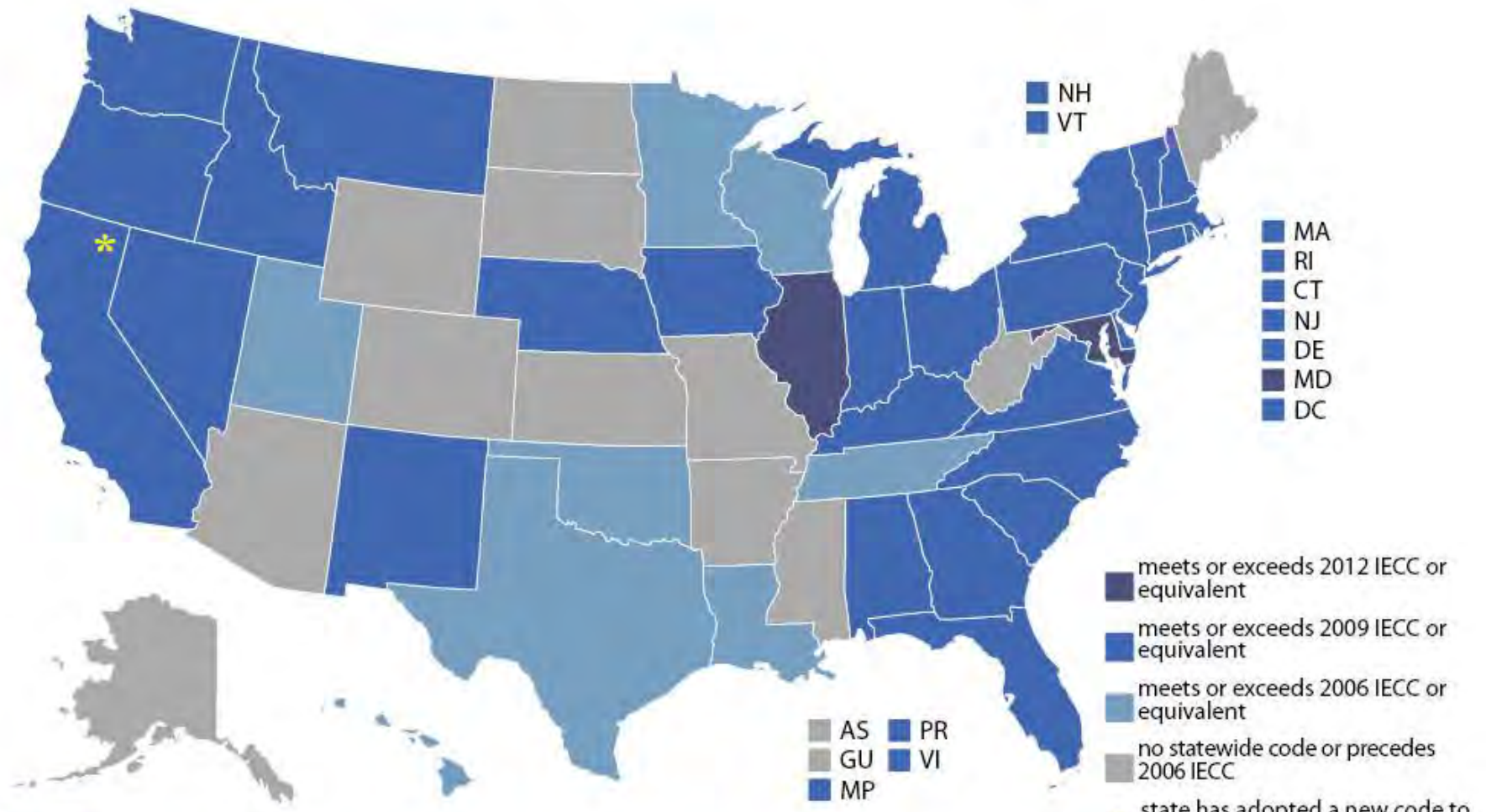
Utility Financial Incentives

States in which at least one major utility has an incentive in place



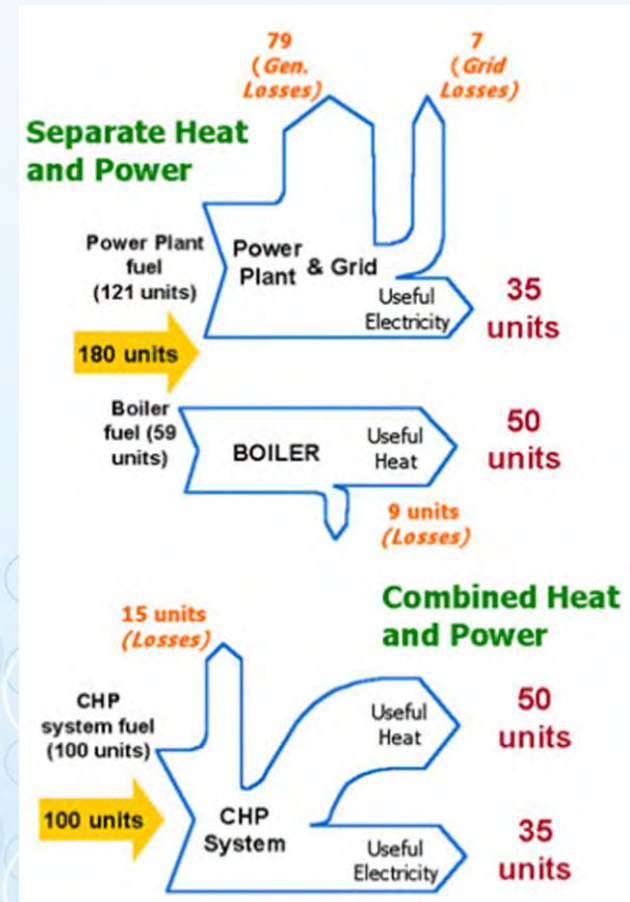
Residential State Energy Code Status

AS OF JANUARY 1, 2013

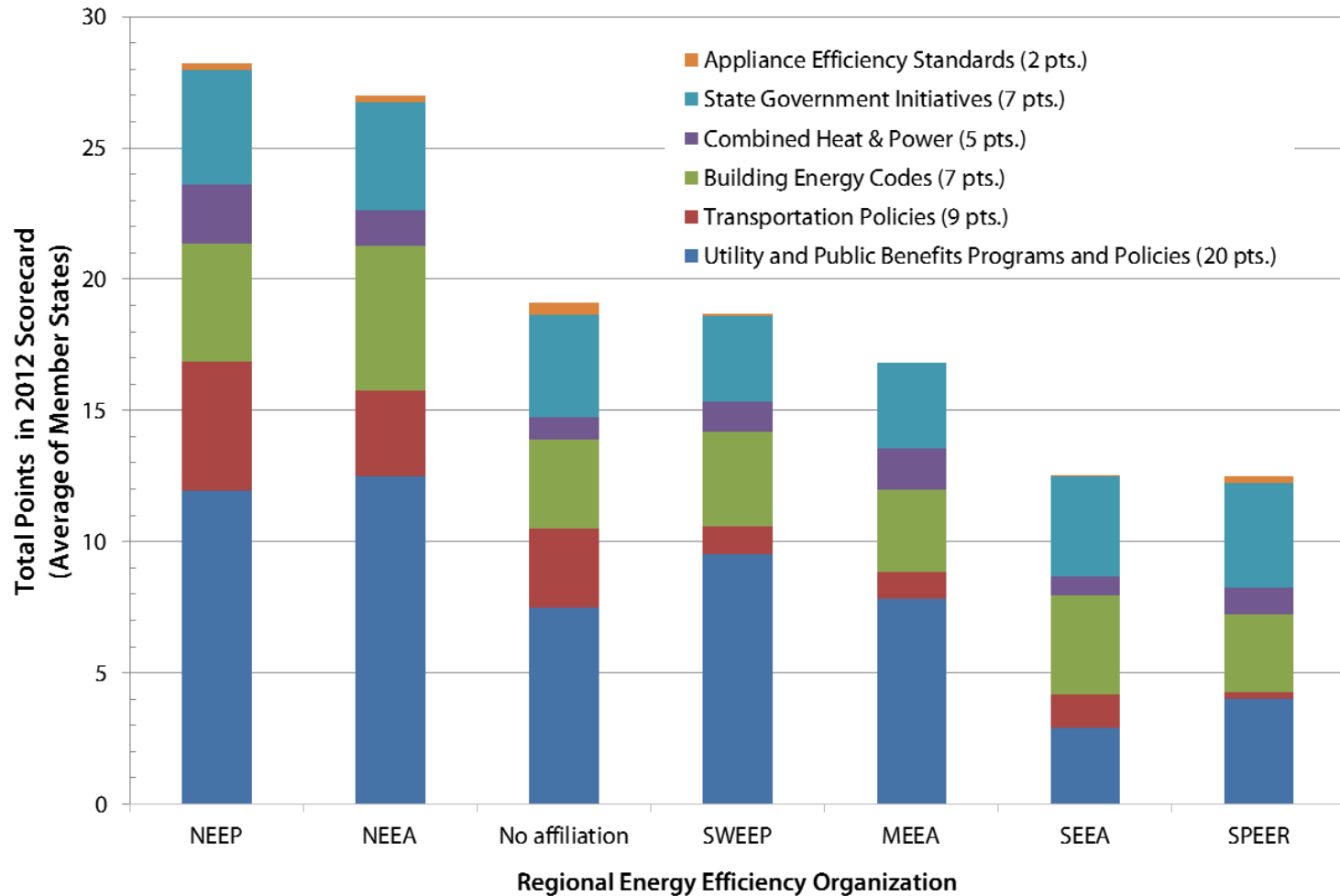


Combined Heat and Power

- **Texas** Commission on Environmental Quality established a rule that streamlines permitting for CHP installations and requires output-based emissions calculations.
- **Texas** and most recently **Louisiana** passed laws requiring all critical infrastructure buildings to consider CHP.
- Hurricane Sandy's arrival greatly increased nationwide interest in CHP as a critical part of community resiliency → **New Jersey's** Office of Clean Energy began a stakeholder process to consider how support for CHP could be strengthened to improve resiliency.



Regional Policy Environment 2012



NEEP states: CT , DE, DC, MA, MD, ME, NH, NJ, NY, PA, RI, VT

NEEA states: ID, MT, OR, WA

SWEEP states: AZ, CO, NM, NV, UT, WY

MEEA states: IA, IL, IN, KS, MI, MN, MO, NE, ND, OH, SD, WI

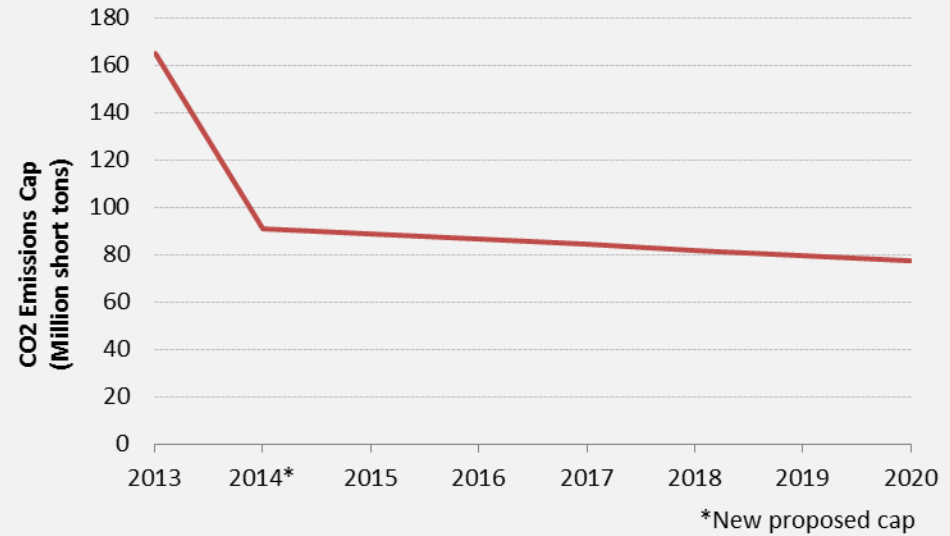
SEEA states: AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, VA

SPEER states: OK, TX

No affiliation: AK, CA, HI, WV

Regional Greenhouse Gas Initiative (RGGI)

- Proposed 45% reduction in CO₂ cap in 2014, with additional annual reductions of 2.5% from 2015-2020.
- Estimated to drive an additional \$2.2 billion (\$2010) of regional investment in energy efficiency and renewable energy projects. This is over and above previously estimated revenues of \$1.2 billion, for a total of ~\$3.5 billion.



States currently participating in RGGI include Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont.

Sources: RGGI, Bill Prindle (ICF)

Northeast



Regional summary:

- Increasing investment – program spending estimated to reach [\\$1.1 billion in 2013](#), a 3-fold increase over 2007
- Increasing savings – [annual electricity savings](#) up 80% and natural gas savings up 13-fold since 2007
- Energy efficiency and the falling price of natural gas have led to a [decline in electric load and wholesale electricity prices](#) in ISO-NE region.

Massachusetts:

- [2nd 3-year Energy Efficiency Plan](#) sets savings goals of 2.5 → 2.6% from 2013-2015. But, the state hit only 88% of its 2011 target, and 2012 is uncertain.
- Expanding market for EE with [proposed legislation](#) will create the nation's first fund to invest in efficiency programs for homes using heating oil.

Sources: NEEP, RGGI, ISO-NE, Bill Prindle (ICF)

Northeast (cont.)



Rhode Island & Vermont: Electricity savings targets for 2013 and 2014 that exceed 2% of retail sales; gas targets of 1% or more by 2014.

New York:

- Falling short of “15x15” targets (15% reduction in electricity use by 2015), but trying to catch up.
- Also in the midst of developing its [2013 State Energy Plan](#), which will drive energy policy and investment strategy over the medium term.

Maine: In its [Triennial Plan for 2014-16](#), Efficiency Maine’s base case funding projection would not deliver on “all cost-effective” energy efficiency statute (~\$900 million in lost savings). PUC will be [considering whether to increase the budgets](#).

New Hampshire: [Groundwork has been laid](#) to bring policy and funding in line with neighboring states. New legislation ([LSR 0922](#)) under consideration proposes an “all cost-effective” energy efficiency requirement for electric and gas utilities.

Sources: NEEP, Efficiency Maine Trust, Efficiency Vermont, state public utility commissions



Mid-Atlantic

Maryland:

- Has fallen short of [“15x15” targets](#) (15% reduction in per capita electricity consumption by 2015) in the first three years of the program, but trying to make up lost ground.
- Maryland Energy Administration [projects](#) that savings in 2013-2015 will be double those in 2010-2012, but will still increasingly fall behind targets.
- Beginning work on post-2015 targets (“EmPOWER 3.0”).

Pennsylvania:

- New "Phase II" EERS targets adopted last summer: range from 1.6% - 2.9% (cumulative targets) for 2013-2016.
- Philadelphia passed ordinance requiring commercial building benchmarking and disclosure to begin in Fall 2013.



Mid-Atlantic (cont.)

Virginia:

- Ending sole reliance on the Rate Impact Measure (RIM) test, which often precludes investments in energy efficiency.
- [Virginia Energy Efficiency Council \(VAEEC\)](#) was formed to identify barriers to and opportunities for energy efficiency as a resource in the state.

West Virginia:

- AEP and First Energy are currently offering residential and C&I programs.
- FE proposed saving 0.5% in 5 years, but missed first-year target.
- No proposals to expand offerings, although they are facing capacity shortages.

California & Southwest



California: [Proposition 39](#) directs revenues from the closing of a corporate tax loophole to energy efficiency and clean energy projects in schools. Estimated annual revenues of \$550 million for 5 years.

Southwest: Southwest Energy Efficiency Project (SWEET) estimates that program funding and savings in 2013 will increase in AZ, CO and NM. Possible increases in NV and UT.

Arizona: Commissioner Pierce of the Arizona Corporation Commission recently filed a letter [requesting the ACC re-examine the state's EERS rules](#). No changes are imminent, but may indicate pushback on energy efficiency in the state.

Northwest



6th Northwest Power Plan:

- Identified greater role for efficiency in the region in 2010-2014.
- As of August 2012, region [had achieved 44% of goal](#) and it is projected to reach 100% by 2014.
- Actual costs for EE acquisitions have remained well below the cost of other types of new resources.

Washington: Initiative 937 (I-937) requires utilities to “pursue all available conservation that is cost-effective, reliable and feasible” based on methods consistent with 6th Power Plan.

Energy Trust of Oregon: [2013 budget](#) increases slightly over 2012 – \$122m (electric) and \$27m (gas). 2014 projections are higher still.

Oregon: [Governor’s 10-year Energy Plan](#) calls for efficiency to offset 100% of load growth, and for benchmarking and identifying retrofit opportunities in all public buildings.

Southeast & South-Central



Arkansas: PSC staff [proposing to increase EERS goals](#) for next three-year cycle up to 1.5% (electric) and 1% (gas) savings; applies to [2015-2017 program cycle](#). Comments due this May.



Mississippi: [reissued order](#) of proposed energy efficiency rule modeled on Arkansas, including “Quick Start” programs. Commercial building codes legislation pending. ACEEE is working on statewide EE potential study (July 2013).



Louisiana: PSC issued [new “quick start” energy efficiency rules](#) in Dec. 2012, but rules were suddenly overturned last week. Advocates are mobilizing and ACEEE is providing technical assistance and has nearly completed a statewide EE study.

Southeast & South-Central



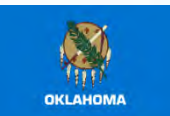
Georgia: Energy efficiency program offerings by Georgia Power have been increasing in recent years. In January, Georgia Power Company [filed 2013 IRP](#) with the PSC; vote expected this summer.



Tennessee: TVA is meeting its annual savings goals but EE budgets are less than were anticipated when current IRP was developed. TVA will begin updating IRP in late 2013.



South-Central: New regional EE group launched, [the South-central Partnership for Energy Efficiency as a Resource \(SPEER\)](#), covering Texas and Oklahoma. First annual forum held in February with good participation and a diverse group of stakeholders. Local leadership, e.g., Austin, San Antonio, and Houston.



Midwest



Minnesota: Positive political environment for more aggressive EE policies and programs. Advocates working on legislative proposals to increase customer EE program savings and support complementary policies to advance EE in the state. ACEEE involved in various proceedings.

Michigan: The governor has launched a statewide energy policy review and is using 2013 to gather information to see if any modifications to energy policy should be pursued in 2014. The governor has made positive statements about energy efficiency, which have counterbalanced negative comments by some legislators. ACEEE staff will be closely involved in providing input into this process.

Midwest (cont.)



Ohio: The Ohio EERS policy is under some attack, by at least one utility and some legislators. Legislative hearings are being planned to investigate the state's renewable energy and energy efficiency policies. Advocates have been very busy mobilizing support for the existing state policy. ACEEE staff are providing technical assistance to local groups in Ohio.

Wisconsin: No fundamental changes to funding level and structure of statewide program, Focus on Energy. Main effort appears to be to improve program effectiveness and delivery, yielding higher savings for same budget (increasing cost effectiveness). Some work to develop complementary EE policies. ACEEE working with key state advocates.

Next Generation Programs

“Next generation?”

- Near term (1-3+ years)
- Technologies commercially viable now or within the near term
- Program designs likely already in place (pilots or about to be launched) and able to go to full scale in near term
- Can also mean refinements and enhancements to successful existing programs

[Hint: mostly NOT rocket science!]



Residential Trends

Technologies:

- Promising new/advanced technologies: LED lighting, ductless heat pumps, heat pump water heaters, high efficiency clothes dryers and clothes washers, advanced power strips, home energy displays, smart meters (tools for EE)
- Increased emphasis on system efficiencies as well as installation and buildings practices
- Still plenty of market share to be gained by existing high efficiency technologies
- Using new construction programs to help leverage future code updates



Residential Trends

Program Design

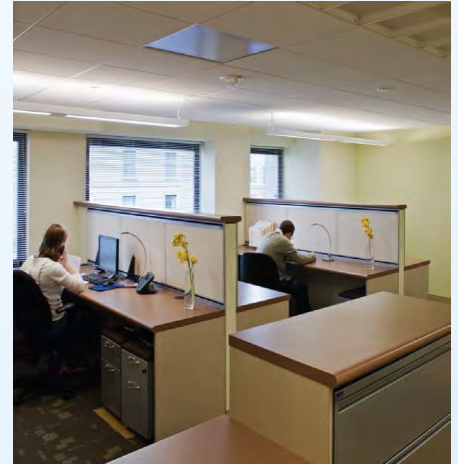
- More upstream approaches, e.g., “market lift”
- Refinements and enhancements to existing programs, like home performance
- Greater use of performance-based incentives, esp. new homes programs
- Behavior change both as a program area on its own and a way to enhance and improve technology-focused programs



Commercial Trends

Technologies

- Devices: LED lighting emerging; mechanical systems – continued improvements, including variable refrigerant flow systems, high efficiency rooftop systems, ground source heat pumps, radiant heating systems, condensing gas boilers
- Still much room for improvement due to operations through “smarter” operation and diagnostics
- Emphasis on systems, especially integrated, whole building solutions when possible



Commercial Trends

Program Design

- For new construction and major renovation structure incentives based on performance to achieve deep savings
- Facilitate whole building, integrated approaches by providing: (1) design assistance, (2) design tools, and (3) incentives
- Prescriptive approaches still can be important, but structure around systems – include installation and operations elements.
- Expand retro-commissioning.
- Comprehensive retrofits growing in importance; improve effectiveness and administration.
- Introduce and expand “strategic energy management”
- Refine and expand small business opportunities





Emerging Issue: Air pollution compliance benefits of energy efficiency

Energy Efficiency Portals +

About ACEEE

Home :

Energy Efficiency and Pollution Control Calculator:
www.aceee.org/research-report/e134



Solutions for States Energy, Economy & Environment

Many states are struggling to recover from a recession, meet budget shortfalls, and lower unemployment rates. At the same time, states must take action to comply with a number of federal air regulations. Proactive states can use energy efficiency to address all of these policy goals with a simple three-step solution:

1. **Adopt an Energy Savings Target**
2. **Capture Wasted Heat from Industry and Put It to Work**
3. **Make Buildings Better**

Why It Works

Federal air regulations require reductions in pollutants that come from power plants and industrial facilities including nitrogen oxides (NO_x), sulfur dioxides (SO₂), particulates, mercury, and potentially, greenhouse gases. Rather than addressing all of these requirements piecemeal, states can go straight to the source. Reducing energy waste reduces the amount of fuel burned, simultaneously reducing all of these pollutants.

Energy isn't free and saving energy saves money. Reduced energy costs provide local industry with a competitive advantage and help businesses to reduce their operating costs, making a state a more attractive place to do business. Energy efficiency measures help create new jobs in the construction sector and other small business sectors. Reduced energy costs save citizens money, too. Just like a tax

Energy Efficiency and Pollution Control Calculator

EEPC is an easy-to-use calculator that lets users get an idea of the costs and air quality benefits of some basic energy efficiency policies and compare those options with more piecemeal approaches to reducing air pollution.

- [Download the calculator](#) (registration required)
- [Download the user's manual](#) (registration required)

Fact Sheets

[EEPC Fact Sheet](#)

Other Emerging Issues

- Energy efficiency in the forward capacity markets
- City Energy Efficiency Scorecard
- Multi-family building programs
- Disclosure and benchmarking of building energy use
- Data access and privacy

Resources

State Energy Efficiency Policy Database: www.aceee.org/sector/state-policy

Frontiers of Energy Efficiency: Next Generation Programs Reach for High Energy Savings: www.aceee.org/research-report/u131

Energy Efficiency and Pollution Control Calculator: www.aceee.org/research-report/e134

2013 State Energy Efficiency Scorecard to be released in October:
www.aceee.org/sector/state-policy/scorecard

Scaling Up Multi-Family Energy Efficiency Programs to be released next week.

City Energy Efficiency Scorecard to be released mid-summer 2013.

Thank you!

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