Stimulating Statewide Energy Savings through Savings Targets and Ratepayer Funded Programs

Annie Downs, American Council for an Energy-Efficient Economy
Dub Taylor, State of Texas
Sara Telano, State of Arkansas
Dan Saucier, State of Mississippi
Jenah Zweig, Southeast Energy Efficiency Alliance
National Trends in Energy Efficiency: Spending, Savings, and Targets

Better Buildings Summit
Annie Downs
May 9, 2014
2013 State Scorecard Results

[Map showing state rankings with the following categories: Most Improved, Ranks 1 - 10, Ranks 11 - 20, Ranks 21 - 30, Ranks 31 - 40, Ranks 41 - 51]
Key Findings: Utility Spending

Customer-funded Energy Efficiency Program Spending

- **Natural Gas**
- **Electricity**

Sources: ACEEE (1993-2011); CEE (2012)

*2009-2012 are budgets, 1993-2008 actual spending*
Key Findings: Electricity Savings

Net incremental savings (2011) = 22 million MWh (+20%)
Current EERS Policy Status

[Map of the United States showing different states with green and yellow colors indicating Standard and Combined EERS/RES policies.]
Year of EERS Adoption

- New policies
- Existing policies

Number of states with EERS policies

Year of enactment

- TX, VT
- 1999, 2000
- CA, HI, NV
- 2004, 2005
- RI, WA
- 2006
- FL*, MA, MD, MI, NM, NY, OH, PA
- 2007
- DE*, IA, IN, ME
- 2008
- AR, AZ, OR
- 2009
- CO, CT, IL, MN, NC, VA*
- 2010
- WI
- 2011
Electric Savings & Targets, 2011-2012

Source: http://aceee.org/research-report/u1403
Natural Gas Savings & Targets, 2011-2012

[Bar chart showing % of retail sales for different states and the total.]
Resources

http://aceee.org/state-policy/scorecard
NEW! “Score Sheets” for each state!

http://aceee.org/sector/state-policy/toolkit
Technical Assistance Toolkit for Policymakers

aceee.org/local-policy/scoring-tool
Tool for scoring any local gov’t on City Scorecard metrics
Thank you!

Annie Downs
State Policy Research Analyst
adowns@aceee.org
202-507-4002
Strategies to Build Consensus
MOU/Electric Co-op EE Programs

Dub Taylor
Director, SECO
About SECO

- **Mission**: to increase the efficient use of energy and water while protecting the environment
- One of 56 state/territory “energy offices”
- Focus is technology deployment – no R&D
- U.S. Department of Energy state level program conduit
  - State Energy Program (SEP)
  - Pantex/Waste Isolation Pilot Plant (WIPP)
Electricity Policy in Texas

• 1995 – wholesale competition
  – Integrated Resource Planning
    • Deliberative polling – EE/RE preferred by customers

• 1999 – retail competition
  – Renewable portfolio standard
  – Energy efficiency portfolio standard (IOUs)
  – MOU’s and Co-ops “opt in” provisions
    • Self regulated – boards/commissions/councils

• 2007 – MOU/Co-op EE reporting
DOE SEP Competitive - Proposal

“Accelerating Energy Efficiency Program Deployment in Locally-Governed Electric Service Areas”

• **Goal**: review, evaluate and incorporate successful EE best practices into a guide that will simplify the development and/or enhancement of EE program initiatives for residential and commercial customers
Why MOUs and Co-ops?

• Relationship with Texas Public Power Association
  – 72 municipal systems, 15% of customers in Texas
  – Self-regulated, local decisions
• Large MOUs setting the standard already
  – Austin Energy
  – City Public Service (San Antonio)
• Mid-sized MOUs with scattered EE programs
• Small MOUs/Co-ops not well positioned to develop and deliver EE programs
• Target = mid-sized MOUs/Co-ops
Key Subcontractor

• Professional services solicitation
• Nexant selected
  – Long history working with utilities on strategy and program design/implementation
  – Team included Cadmus Group
• Project elements
  – Survey of 400 EE programs in 7 categories
  – Identify local constraints, barriers, priorities
  – Provide support for planning and implementation
    • Budgets, EM&V, cost-effectiveness analysis, rate impact analysis, market considerations
Project Deliverables

• Energy Efficiency Best Practices Guide
  – Survey of utility EE programs nationwide
  – 308 page “compendium” published 10/31/2011
  – Transferable

• “Calculator” for selecting appropriate EE program structures
  – Transferable

• Individual consulting with select MOUs to design and initiate EE programs
Where are we?

Successes
• Increased and diversified EE program offerings over the last three years
• Enhanced visibility for EE program business case – not just a cost/rate increase

Challenges
• Smaller systems lack deep customer service team – limited bandwidth to even test EE
• Treatment of EE programs as marketing – no expectation of return and no impact tracking
Opportunities

Wednesday
March 9, 2011 5:15 PM
ERCOT Load: 31,262 MW
Temperature in Dallas: 64°

Wednesday
August 3, 2011 5:00 PM
ERCOT Load: 68,416 MW
Temperature in Dallas: 109°
Questions?

Dub Taylor, Director
State Energy Conservation Office
dub.taylor@cpa.texas.gov

www.seco.cpa.state.tx.us
Stimulating Energy Savings:
The Arkansas Initiative

Sara Telano
Arkansas Energy Office (AEO)
Department of Energy
Better Buildings Summit 2014
Background


Arkansas Public Service Commission (APSC): The APSC regulates jurisdictional public utilities (electric and natural gas investor-owned utilities and rural electric cooperatives) within AR.

Energy Conservation Endorsement Act (ECEA) of 1977: Authorizes the APSC to propose, require, approve, implement, and monitor energy conservation programs and measures and adjust utility rates accordingly.
Early Start 2006

• A very gentle start, but...

• In 2006, the APSC initiated a collaborative that led to a rulemaking. The collaborative was facilitated by the Regulatory Assistance Project (RAP).

• In 2007, the APSC adopted the Rules for Conservation and Energy Efficiency Programs.

• The rules required utilities to implement EE Plans and implement “Quick Start” EE programs beginning in the Fall of 2007.
Quick Start: Lessons

- Experience
- Collaboration
- Market Needs
- Program Development
Quick Start: Challenges & Opportunities

• **Fostering Communication:**
  - Workshops
  - Outside facilitation
  - Technical assistance provided by the Regulatory Assistance Project (RAP)
  - Commissioners, APSC Staff, utilities and other stakeholders

• **Topics included:**
  - EE effects on utility revenues and profits
  - Presentation by each IOU on demand side management
  - Programs for different sectors
Comprehensive EE Framework

• In 2010, the APSC required electric and gas IOUs to submit “comprehensive” plans to achieve new, rising energy savings goals over the next three years (2011-2013).

• EM&V with independent oversight by an Independent Evaluation Monitor (IEM)- an “evaluator of the evaluators.”

• Performance incentives structure:
  • Allowed utilities to collect “Lost Contribution to Fixed Cost” (LCFC).
  • Established a “shared savings” incentive structure to reward utilities for meeting and exceeding energy savings targets.
Energy Savings Target

- Energy savings target % of retail kWh or therm sales volume:

<table>
<thead>
<tr>
<th></th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
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</thead>
<tbody>
<tr>
<td>Electric</td>
<td>.25</td>
<td>.50</td>
<td>.75</td>
<td>.75</td>
<td>.90*</td>
</tr>
<tr>
<td>Gas</td>
<td>.20</td>
<td>.30</td>
<td>.40</td>
<td>.40</td>
<td>.50</td>
</tr>
</tbody>
</table>

*The baseline for targets starting in 2015 is total 2013 kWh sales. Baseline for prior years are total 2010 kWh sales.
## Energy Savings Success

<table>
<thead>
<tr>
<th>Utility</th>
<th>2011 Reported Savings</th>
<th>2012 Reported Savings</th>
<th>2013 Reported Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entergy Arkansas</td>
<td>41,958</td>
<td>107,627</td>
<td>188,557</td>
</tr>
<tr>
<td>SWEPCO</td>
<td>10,955</td>
<td>17,767</td>
<td>25,387</td>
</tr>
<tr>
<td>Oklahoma Gas &amp; Electric</td>
<td>4,985</td>
<td>125,552</td>
<td>13,411</td>
</tr>
<tr>
<td>Empire</td>
<td>3</td>
<td>158</td>
<td>177</td>
</tr>
<tr>
<td><strong>Total savings (all IOUs)</strong></td>
<td><strong>63,340</strong></td>
<td><strong>126,681</strong></td>
<td><strong>227,532</strong></td>
</tr>
<tr>
<td><strong>% of target achieved</strong></td>
<td><strong>91%</strong></td>
<td><strong>99%</strong></td>
<td><strong>100+%</strong></td>
</tr>
</tbody>
</table>

Source: Utility Annual Reports. Energy savings are net savings as reported by utilities (kWh). [http://www.apscservices.info/](http://www.apscservices.info/)
Comprehensive EE Framework
Success in 2013

- EM&V indicates that the benefit of the 2013 program year is about $109 million, net of program costs (gas and electric).

- The State’s largest electric IOU has submitted an IRP that plans to avoid 700 MW of capacity over the next 10 years—basically avoiding a power plant.

- 2013- Some evidence that cost-effectiveness is improving as start-up costs recede.
Where We are Today

- Recent orders approved joint motions by utilities and intervening parties to extend the same 2013 targets to 2014.

- In September 2013, the APSC issued Order No. 15 in Docket No. 13-002-U setting an electricity target of 0.9% and a natural gas target of 0.5% in 2015.

- 2016-2017 targets pending completion of the Arkansas Energy Efficiency Potential Study.
Arkansas EE Potential Study

- Collaboratively-designed RFP calls for the Study to lay the groundwork to help “maximize the achievement of cost-effective EE potential.”

- The Study will provide Arkansas-specific information that will assist the APSC in setting EE goals and targets.

- Reflect market conditions and other factors specific to Arkansas.
  - Such conditions include residential and commercial building codes, federal equipment codes and standards (e.g., lighting, appliances, and HVAC), availability of savings, and avoided costs.
Position and Perception

• February 2014, AEO was awarded DOE State Energy Program 2013 Competitive Award, Area of Interest #2

• Stimulating EE Action in Arkansas
  • Establish at least a one percent annual energy savings goal through EE programs.
  • Create and identify strategic mechanisms to expand EE scope and impact.
  • Broadening stakeholder support and engagement for EE in AR.
  • Develop market strategies that foster job creation and reduce energy demands.

• AR has already begun to “move the ball forward.”

• SEEA’s analysis indicates AR has the opportunity to save 1.76 trillion Btu in natural gas & 481.94 million kWh in electricity annually (based on 2010 baseline).
EERS Targets, but...

• Challenges and Opportunities
  • EERS do not apply to:
    • Rural electric cooperatives (granted waiver from full compliance with EE rules).
    • Municipalities (outside the jurisdiction of the APSC).
  • Large Customer Opt-Out Options, through Self-Directed EE Programs:
    • Commission implemented stakeholder proposal for Self-Direct option for large customers.
    • 2012-2013 the General Assembly amended the self-direct program so that large manufacturers may opt out with minimal requirements and no subsequent reporting.
    • Reduces utility EE program funding and knowledge about large customer savings.
Moving Forward: Strategies

- Stakeholder Support
- Potential Study
- Market Strategies

- Policy and Program Mechanism

- 1% Annual Energy Savings Goal
Stakeholder Collaboration

- Governor Mike Beebe, the Arkansas Department of Workforce Services, the Arkansas Energy Office, the Arkansas Technical Colleges.
- IOUs: Entergy Arkansas, Inc., SWEPCO, OG&E, Empire District, CenterPoint, Arkansas Oklahoma Gas, SourceGas.
- The Attorney General.
- General Staff, who often convenes the Parties Working Collaboratively (PWC).
- Contractors: CLEAResult, ICF, Frontier and Associates. HVAC contractors, engineering firms, and the Clinton Climate Initiative.
- Technical Assistance from Regulatory Assistance Project and US DOE.
- Intervenors, such as: Audubon, Sierra Club, Arkansas Association of Community Action Agencies, Wal-Mart, Ark. Electric Energy Consumers.
Sound Progress

• First state in the Southeast to implement an EERS.

• ACEEE publishes an annual ranking of states for EE overall.

• Arkansas moved from 45th overall in 2006 to 37th in 2013.

• Utility-related policy alone, in 2006 Arkansas was tied for last, now we are 25th.
Contact Us

Sara Telano  
AEDC-Energy Office  
Contracts and Grants Manager  
Stelano@arkansasedc.com  
(501) 682-7690

Eddy Moore, Managing Attorney  
Wally Nixon, Commissioner’s Legal Advisor  
Arkansas Public Service Commission (APSC)  
1000 Center Street  
Little Rock, AR 72201  
APSC Website: www.arkansas.gov/psc  
Commissioners’ Offices (501) 682-5806  
Secretary of the Commission (501) 682-5782
Resources and Additional Materials

The programs described in this presentation have been developed and implemented under the authority of the Arkansas Public Service Commission, which is comprised of three gubernatorial appointees: Chairman Colette D. Honorable, Commissioner Olan W. Reeves, and Commissioner Elana C. Wills. The data presented on this presentation is based on a presentation prepared by Eddy Moore of the Commission's advisory staff. More information may be found at the Commission's webpage: [http://www.apscservices.info/](http://www.apscservices.info/)


MISSISSIPPI:
STIMULATING ENERGY EFFICIENCY ACTION

2014 BETTER BUILDINGS SUMMIT
FRIDAY MAY 9, 2014
MISSISSIPPI DEVELOPMENT AUTHORITY
ENERGY AND NATURAL RESOURCES DIVISION

Work with state policymakers and other partners to develop and advance a comprehensive energy policy and ensure energy sector growth in Mississippi.

RESPONSIBILITIES:

• Oversee energy management programs
• Provide technical assistance to businesses and units of government
• Promote Mississippi as a prime location for energy-related business.
The Southeast Energy Efficiency Alliance (SEEA) promotes energy efficiency as a catalyst for economic growth, workforce development and energy security. We do this through collaborative public policy, thought leadership, outreach programs, and technical advisory activities.
PREVIOUS ENERGY EFFICIENCY LANDSCAPE

American Council for an Energy Efficient Economy (ACEEE)  
2012 State Energy Efficiency Scorecard

MS #51
COOPERATIVE AGREEMENT
STIMULATING ENERGY EFFICIENCY ACTION

2010-2013
STIMULATING ENERGY EFFICIENCY ACTION

2010 COOPERATIVE AGREEMENT OVERVIEW

• **Objective:** Establish policies and programs that support utility investment in energy efficiency.

• **Timeline:** Fall 2010 through September 2013.

• **Cooperative Agreement Allowed MDA and SEEA to:**
  • Provide technical expertise to the stakeholder engagement process
  • Build relationships with state policymakers, industry and utility officials, and PSC staff
  • Deliver informational materials and engage on issues surrounding the Energy Efficiency Docket
BARRIERS TO IMPLEMENTATION

• Low stakeholder engagement and support

• Lack of buy-in from policymakers

• Absence of policy infrastructure
SOLUTION FOR SUCCESS #1: STAKEHOLDER ENGAGEMENT

Public Service Commission Collaborative
  • Identify leadership, expertise and interest levels among key stakeholders
  • Include interested parties who had not previously been at the table

One-on-one meetings have created value
  • Establish long-term relationships with a broad range of stakeholders
SOLUTION FOR SUCCESS #2: EXECUTIVE BUY-IN

Governor Phil Bryant

*Energy Works:*

*Mississippi’s Energy Roadmap*

Released October 2012

Key Tenet:

Expanding Capacity through Energy Efficiency
SOLUTION FOR SUCCESS #3: LEGISLATIVE SUPPORT

The Mississippi State Legislature adopted landmark legislation strengthening the state’s investment in energy efficiency infrastructure.

They included:

• **HB 1296**: Mississippi Energy Sustainability and Development Act

• **SB 2654**: Repurposing an existing fund as an MDA-administered revolving loan fund (RLF) to assist with financing energy infrastructure projects

• **HB 1281**: Updating commercial building code to ASHRAE 90.1-2010

• **HB 1266**: Establishing ASHRAE 90.1-2010 as the statewide standard for public facilities
SOLUTION FOR SUCCESS #4: COMMISSION COLLABORATION

• Worked with commission to:
  • Address issues and answer questions
  • Facilitate conversation and share information
  • Identify best practices

• Initiated an energy efficiency policy/program analysis with ACEEE and SEEA
RESULTS AND IMPACT

• After 3 year collaborative process, on July 11, 2013, the MS PSC unanimously adopted Rule 29: Conservation and Energy Efficiency Programs

• In 2013 ACEEE State Energy Efficiency Scorecard Mississippi name “Most Improved”, ranked 47th

• Momentum from stakeholders to support energy efficiency policies and programs
RULE 29: CONSERVATION AND ENERGY EFFICIENCY PROGRAMS

- Rule builds on best practices from other regional energy efficiency utility regulatory models

**Implementation Includes:**

- **Three-year Quick Start phase**
  - All gas and electric utilities with **25,000 or more meters** were required to submit Quick Start plans by January 11, 2014

- **Comprehensive Portfolio phase**
  - All utilities in Mississippi subject to Comprehensive Phase
CONTINUING THE MOMENTUM
COOPERATIVE AGREEMENT
STIMULATING ENERGY EFFICIENCY ACTION

2014-2017
STIMULATING ENERGY EFFICIENCY ACTION

2014 COOPERATIVE AGREEMENT

Objectives:
• Advancement of energy efficiency in Mississippi through energy efficiency programs implemented by utilities or other program administrators;
• Evaluation of recently adopted energy efficiency rules and newly established programs developed to provide significant energy savings;
• Identification of new energy efficiency policies and programs that will provide significant energy savings and encourage long-term, sustainable energy efficiency investment; and
• Expansion of the base of stakeholder support and engagement for energy efficiency.
IMPLEMENTATION NEXT STEPS

- Adoption: July 11, 2013
- Quick Start Programs Filed: January 11, 2014
- Quick Start Program Approval
- Quick Start Program Implementation: 3 years (2014-2017)
- Comprehensive Portfolios: 2018+
POTENTIAL BARRIERS AND SOLUTIONS

**MATCHING RESOURCES TO SUPPORT IMPLEMENTATION**
- Identify stakeholder needs
- Connect resources to support the development and implementation of energy efficiency programs

**SUSTAINED STAKEHOLDER ENGAGEMENT AND AWARENESS**
- Disseminate targeted informational materials
- Conduct workshops
- Connect stakeholders to technical resources and experts

**LACK OF UTILITY CUSTOMER AWARENESS**
- Provide educational, “value-add” opportunities for customers to learn more about the benefits available to them through energy efficiency

**ENSURING PROGRAM SUSTAINABILITY**
- Identify policy mechanisms to sustain activities into the future
THANK YOU!

Dan Saucier
Bureau Manager
MDA
dsaucier@mississippi.org

www.mississippi.org/energy

Jenah Zweig
Policy Director
SEEA
jzweig@seealliance.org

www.seealliance.org