



# Regional Roundup: Efficiency as a Utility Resource

*ACEEE's 2017 Energy Efficiency as a  
Resource Conference*

**Maggie Molina**

**Senior Director for Policy**

**October 31, 2017**

# Regional Energy Efficiency Organizations (REEOs)



CEDMC  
California

# Our “Super Hero” REEO Lineup

- **Will “Batman” Baker**, Midwest Energy Efficiency Alliance
- **Sue “Superwoman” Coakley**, Northeast Energy Efficiency Partnerships
- **Susan “Spiderwoman” Stratton**, Northwest Energy Efficiency Alliance
- **Michelle “Catwoman” Vigen**, California Efficiency and Demand Management Council
- **Howard “The Hulk” Geller**, Southwest Energy Efficiency Project
- **Chris “Captain America” Herbert**, South-Central Partnership for Energy Efficiency as a Resource
- **Cyrus “Iron Man” Bhedwar**, Southeast Energy Efficiency Alliance
- Moderating, **Maggie “Magneto” Molina**, ACEEE



# Midwest EE Updates

ACEEE EE as a Resource  
October 2017



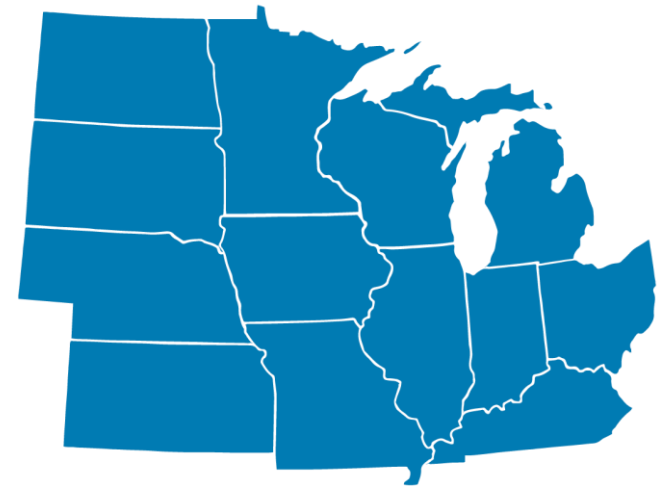
# About MEEA

## *The Trusted Source on Energy Efficiency*

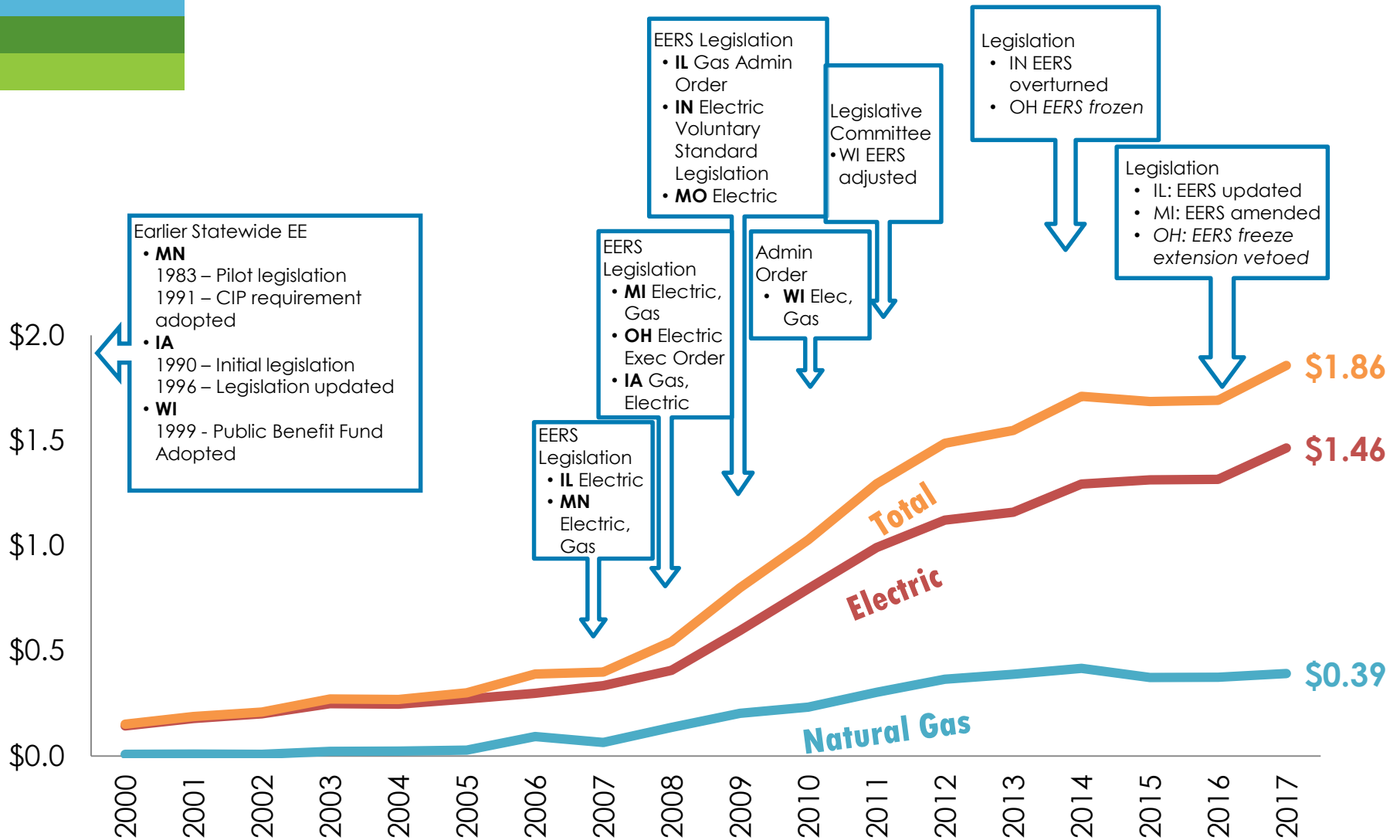
We are a nonprofit membership organization with **160+ members**, including:

- Utilities
- Research institutions
- State and local governments
- Energy efficiency-related businesses

As the key resource and champion for energy efficiency in the Midwest, MEEA helps a diverse range of stakeholders understand and implement cost-effective energy efficiency strategies that provide economic and environmental benefits.

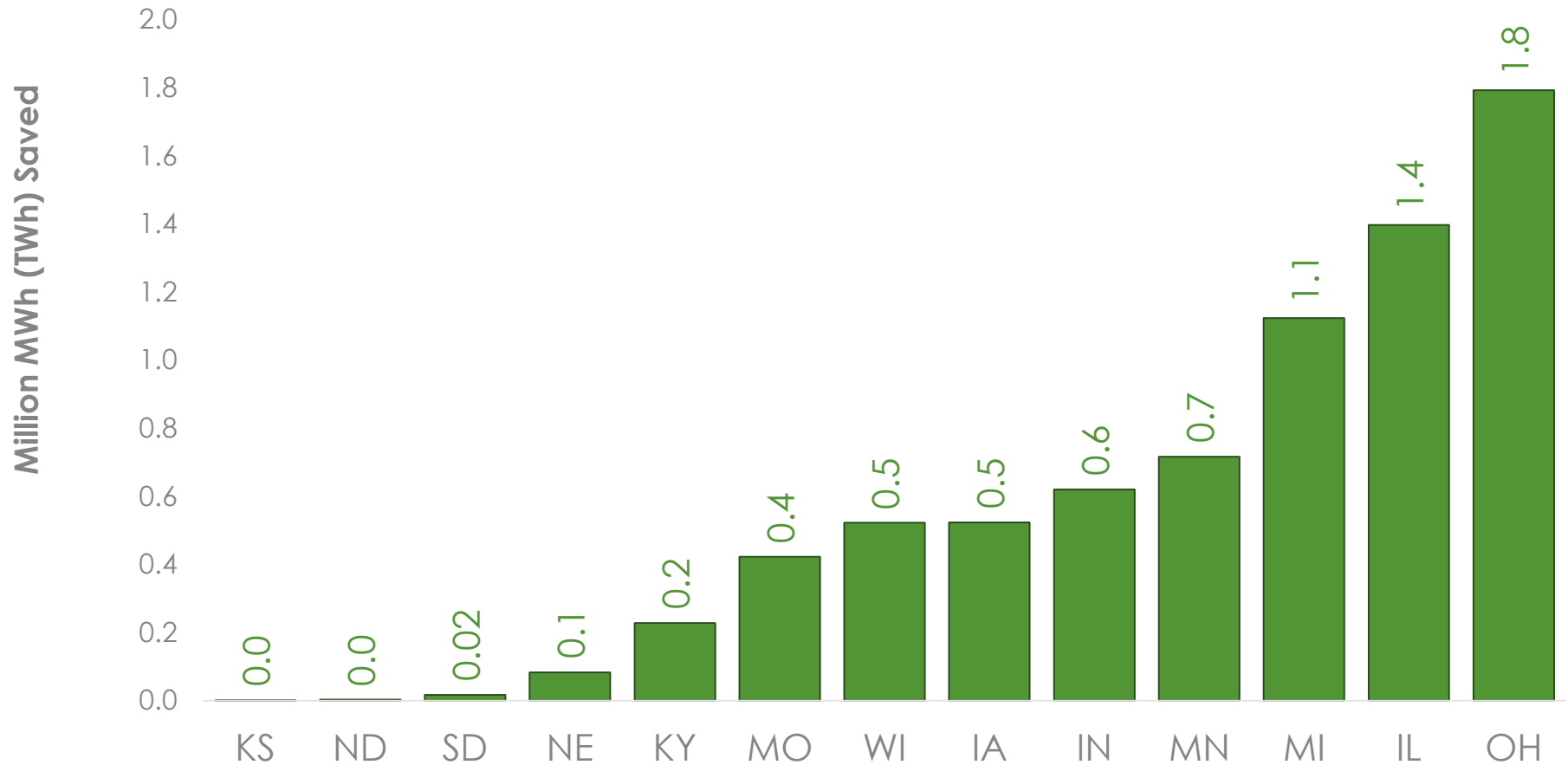


# Estimated Annual Utility Investment in EE



# Energy Savings in Midwest States

Electricity



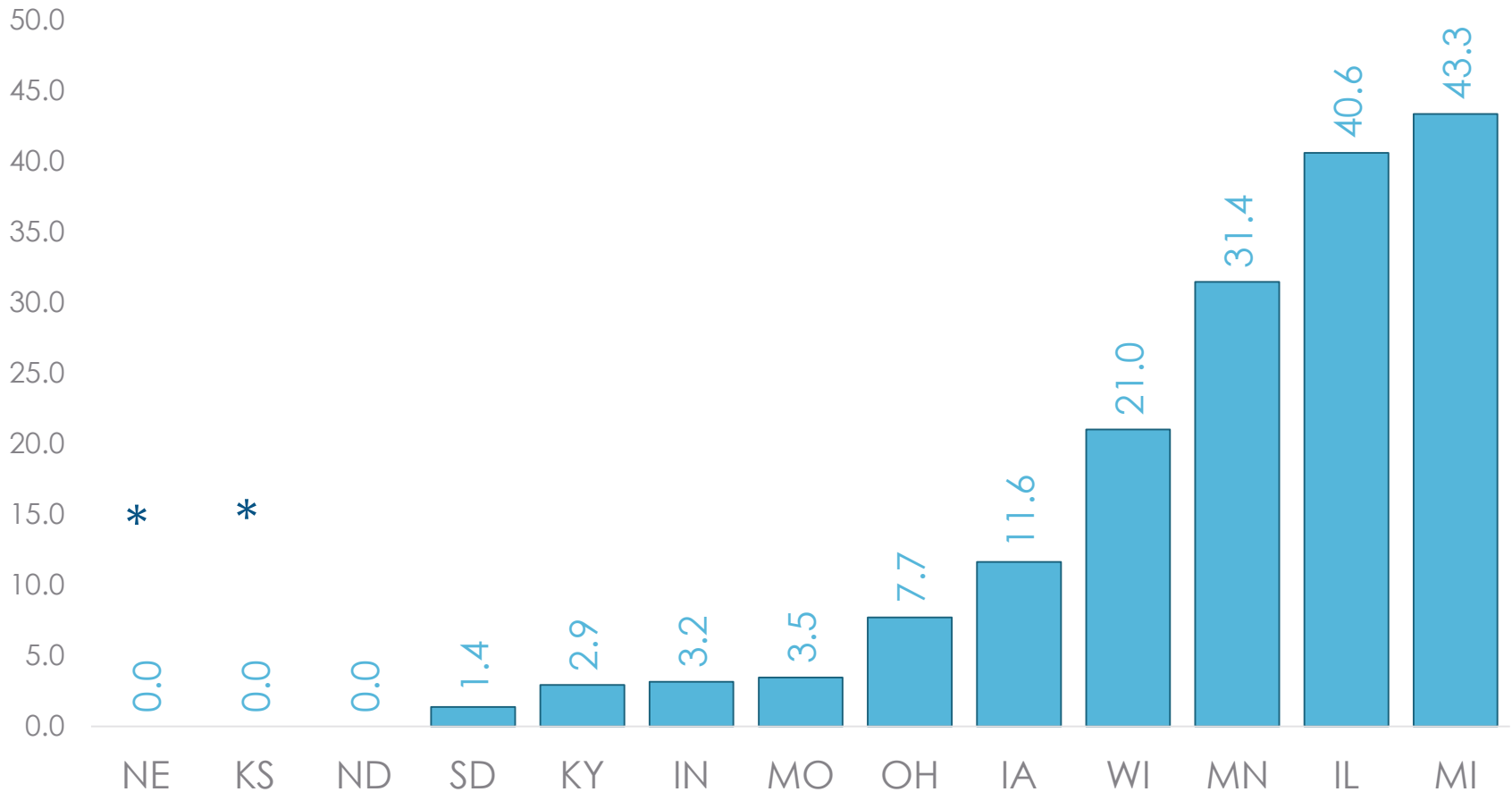
2017 Planned Savings Estimate



# Energy Savings in Midwest States

Natural Gas

Million Therms Saved



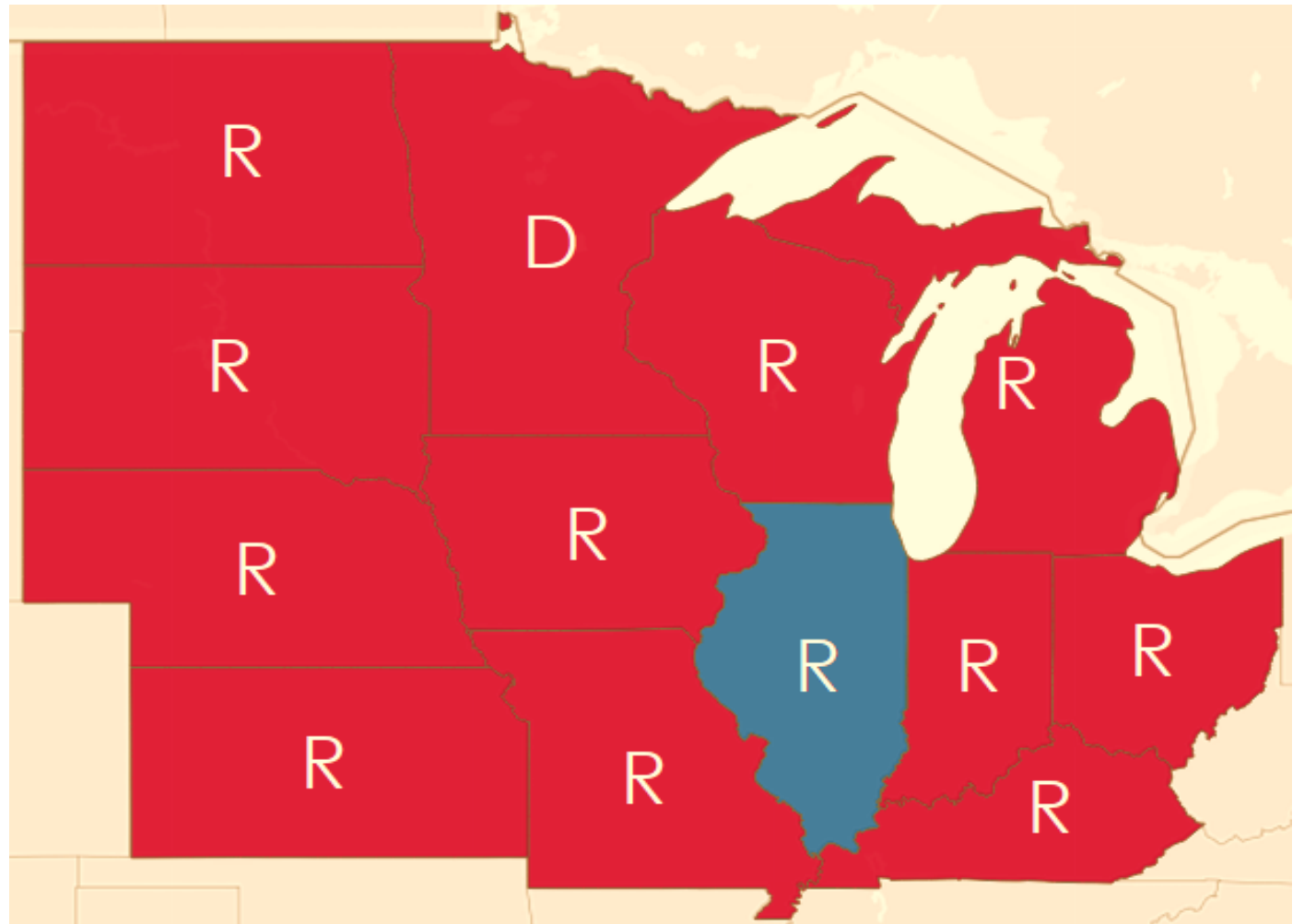
2017 Planned Savings Estimate








# Midwest Political Makeup 2017



## *Party Majorities and Governor Party*



**Majority party in legislature**

		
Rep	Dem	Mix

**Governor party**

	
Dem	Rep



- Rollback?
- Bipartisan support
- Committed to standard
- Tiered incentives
- Set statewide IRP parameters & modeling assumptions

## Legislation & Rulemakings

Illinois

*FEJA: PA 99-0906 (SB2814 of 2016)*

- Future Energy Jobs Act
- Large customer exemption (not an opt-out)
- Utilities responsible for all EE
- Annual targets set as Cumulative Persisting Annual Savings (CPAS)
- Tiered incentives
- Statutory minimum spend on low-income

- 2 year freeze
- March up Mandate Mountain
- Governor Kasich's Veto

## Legislation & Rulemakings

Missouri

*MEEIA: SB 376 of 2009*

- Strengthened rules tied to MEEIA
- Non-energy benefits included where quantifiable
- Utilities can use statewide TRM or utility-specific
- Statewide collaborative
- Opt-out customers must document savings

- Rollback followed by voluntary standards and IRP
- Rulemaking #15-06
- Common IRP filing requirements
- IRP stakeholder process
- Common EE plan & reporting requirements
- Draft proposed rule has been published, formal rulemaking has not yet started

<http://www.in.gov/iurc/2843.htm>

## Broader Steps

# Utility of the Future

**Working  
Case EW-  
2017-0245  
Missouri**

**NextGrid  
Illinois**

**e21  
Minnesota**

**Power  
Forward  
Ohio**

## Broader Steps

## Additional areas

*Some of the other areas being explored*

- Electric markets 
- Efficiency financing 
- Integrated system planning 
- Policy resiliency 
- Pilot projects 



# Midwest EE Jobs Study

- 2014 Midwest EE investments create jobs (nearly 105,000), boost personal income and increase spending (over \$13.7 billion value)
- Program-year activities generate substantial positive impacts, and additional positive impacts result from sustained energy savings lasting most of the study period
- Most impacts are local, but neighboring economies benefit as well

# Takeaways

- There is political support for EE in the Midwest
  - Need to message it correctly
- Aligning/re-aligning regulations with legislation
- Consistency
  - Potential studies & assumptions
  - IRP modeling parameters & scenarios
  - Reporting standards
- Utility rate of return for EE
  - Performance incentives & lost revenues
- Specific customer classes
  - Large customer / industrial opt-outs
  - Emphasis on low-income customers & programs
- Public participation & stakeholder involvement
- The future of the grid & energy regulation

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**MIDWEST**  
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# Energy Efficiency as a Resource in the Northeast – Mid-Atlantic U.S.

Presented by Susan Coakley, Executive Director, NEEP

October 31, 2017

at the 2017 ACEEE National Conference on Energy Efficiency as a Resource

# Northeast Energy Efficiency Partnerships



*“Assisting the Northeast & Mid-Atlantic Region in Reducing Total Carbon Emissions 80% by 2050”*

## Mission

Accelerate energy efficiency as an essential part of demand-side solutions that enable a sustainable regional energy system

## Vision

That the region embraces next generation energy efficiency as a core strategy to meet energy needs in a carbon-constrained world

## Approach

Overcome barriers and transform markets through *Collaboration, Education, and Enterprise*



***One of six REEOs funded in-part by U.S. DOE to support state and local efficiency policies and programs.***

# Trend #1: The Northeast Mid-Atlantic Region Continues to Lead the Nation in Energy Efficiency



## 2017 ACEEE State Efficiency Scorecard

### Northeast Rankings

- #1 - Massachusetts (7th year as #1)
- #3 - Rhode Island
- #4 - Vermont
- #6 - Connecticut
- #7 - New York
- #10 - Maryland
- #13 - Maine

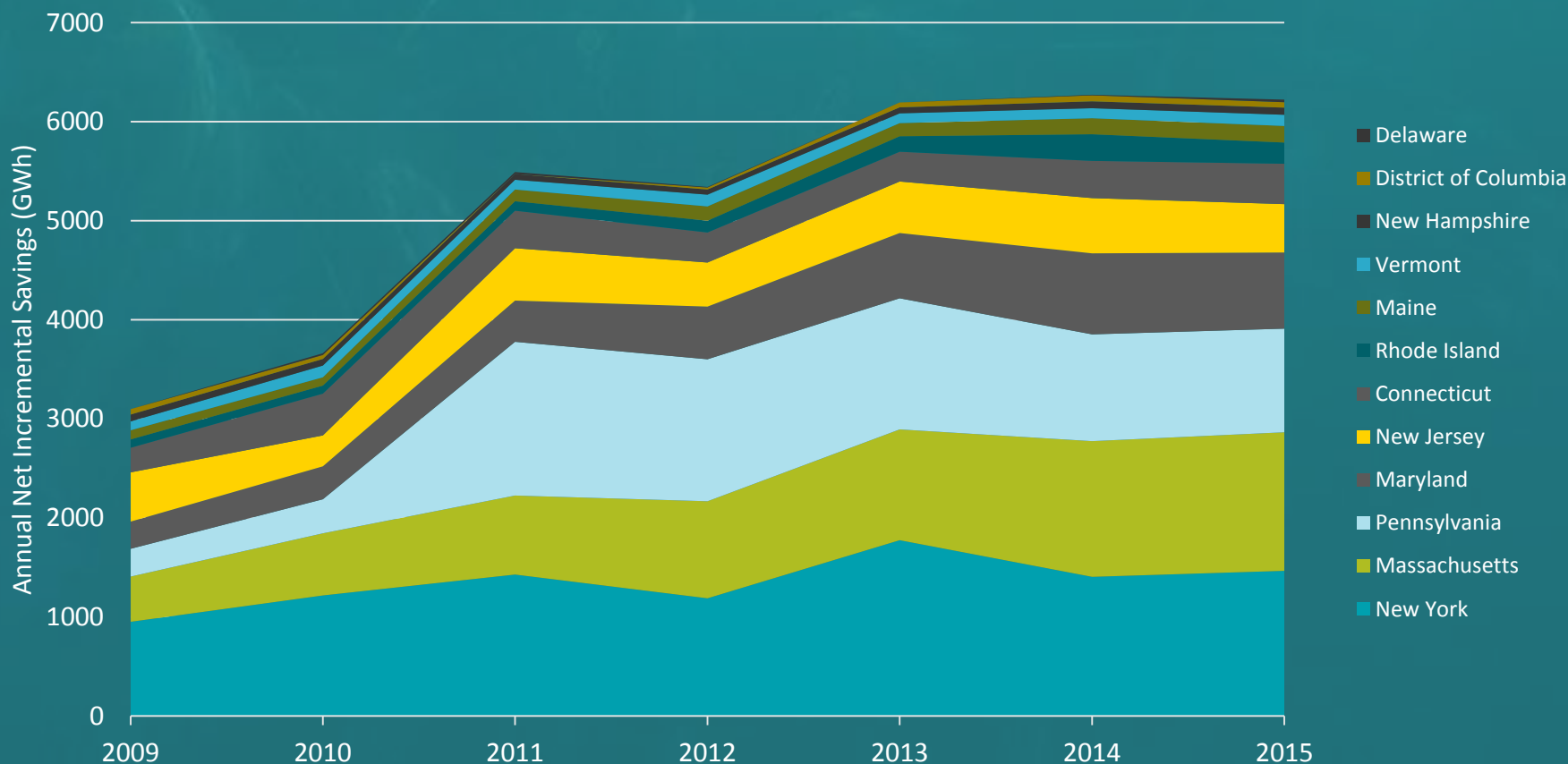


*But even leading States have room to improve*

# Trend #2: Ratepayer-Funded Efficiency Investments and Savings Continue to Grow



Annual verified electric savings have more than doubled in recent years, moving from ~3,100 GWh in 2009 to ~6,300 GWh in 2015. This is a direct result of regulatory policies and executive leadership in states supporting energy efficiency as a first order resource.



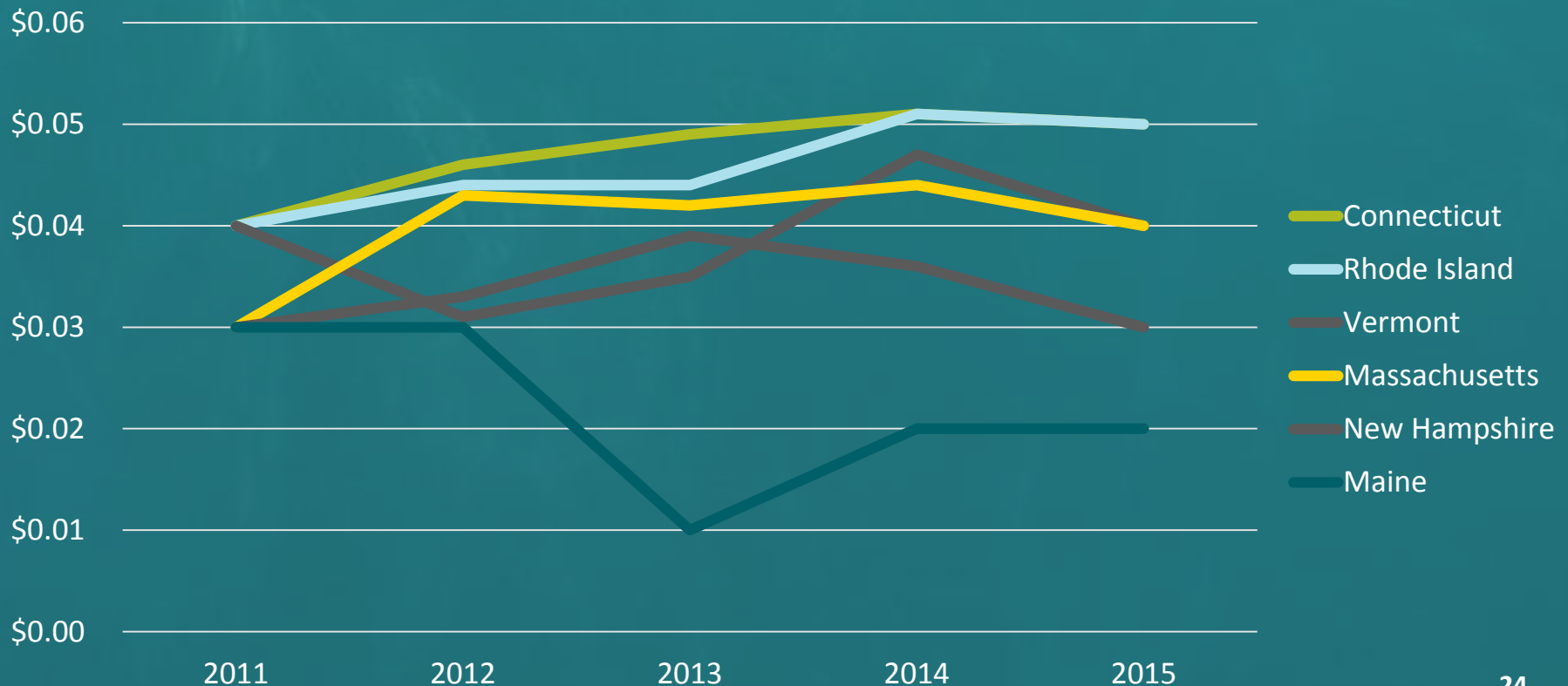
Sources: 2013-15 data is drawn from EIA form 861. 2011-12 and 2015 data is drawn from NEEP's [REED Database](#), ACEEE Scorecard/program administrator reports (D.C. Del., NJ. Pa.). 2009-12 data is drawn, in part, from ACEEE scorecards.

# Trend #3: Efficiency is Still Least Cost

## Levelized Cost of saved energy per kWh, New England States



While the costs of saved energy may vary according to state-specific factors such as program scale, maturity, and depth, one thing remains constant: **the cost of saved energy is a fraction of cost of retail electricity, which is more than \$0.16**. The LCOE figures in this graph are based on a consistent discount rate across states, derived from the long-term U.S. treasury bond.

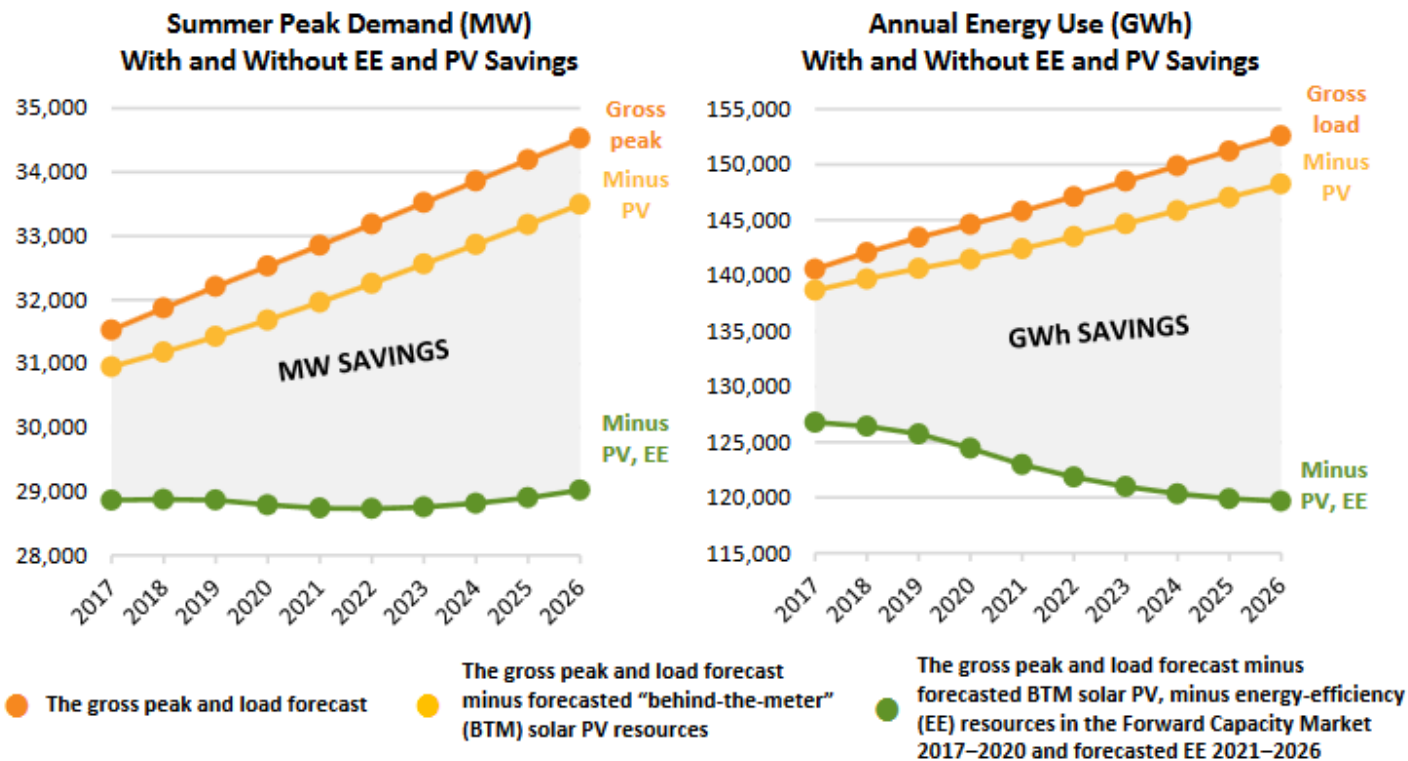


Source: NEEP REED Database. For further information, see the NEEP REED [footnotes](#) page.



# Trend #4: Efficiency Is an Impactful Grid Reliability Resource

## Energy Efficiency and Behind-the-Meter Solar Reduce Peak Demand and Annual Energy Use



Note: Summer peak demand is based on the "90/10" forecast, which accounts for the possibility of extreme summer weather (temperatures of about 94° F).

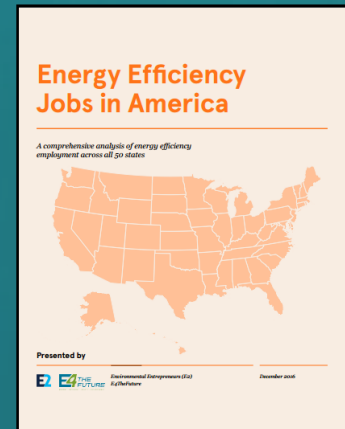
Source: [Final ISO New England Energy-Efficiency Forecast 2021-2026](#) and [Final 2017 Solar PV Forecast](#) (May 2017)

# Trend #5: Energy Efficiency Is Growing Valuable Jobs

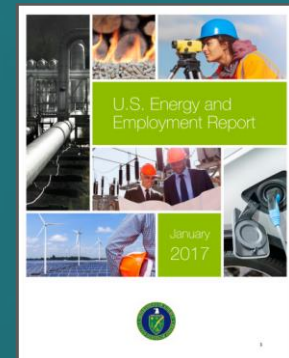


	Percent Total Population Employed By EE	Total Direct Jobs in Energy Efficiency
DC	2.23%	14,681
VT	1.37%	8,585
MA	1.23%	82,848
MD	0.78%	46,724
RI	0.77%	8,112
ME	0.66%	8,843
NH	0.51%	6,833
NJ	0.43%	38,378
PA	0.42%	53,175
NY	0.35%	69,704
CT	0.35%	12,460
DE	0.25%	2,334

Source: E2/E4TheFuture  
Energy Efficiency Jobs in America  
 (December 2016)



Resource: U.S. Department of Energy  
U.S. Energy and Employment Report  
 (January 2017)



# Trend #6: Ratepayer-Funded Program Strategies to Harvest “High Hanging Fruit”



## Efficiency as a Grid Resource:

- Integration of EE, demand response & storage
- Geo-Targeting: Defer T&D with demand-side resources

## Market Segmentation:

- Multifamily Focus
- Community Collaboration
- Industrial – Strategic Energy Management and CHP

## Automation:

- Data Collection, Analytics, Customer Relations, TRMs

## New Approaches

- Behavioral-based programs
- Pay-for-Performance Pilots
- Home and Building Energy Rating
- Codes & Standards: Support with Savings Attribution

## Rethinking Cost-Effectiveness:

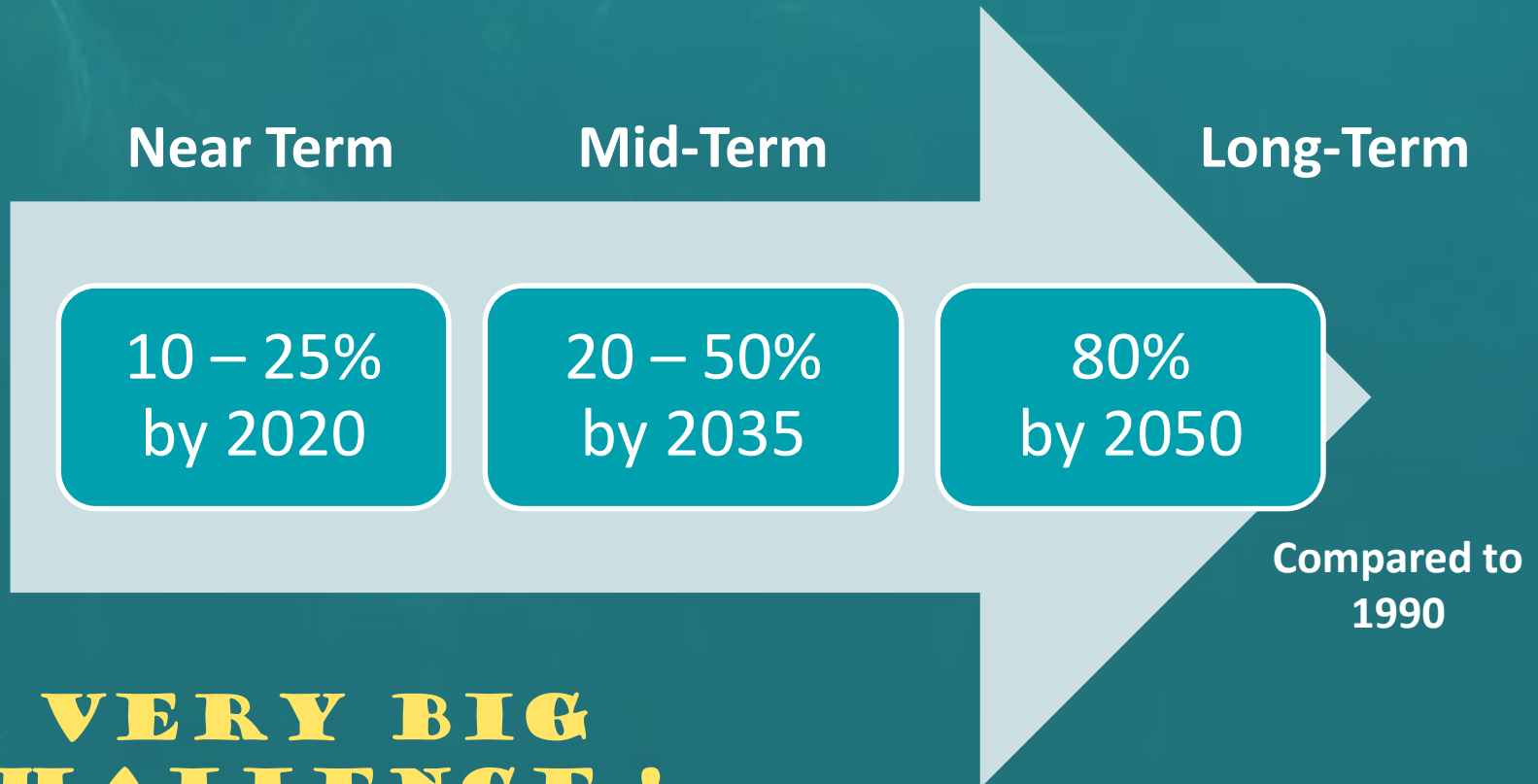
- Low avoided energy costs
- High value of Peak Reduction
- The rise of non-energy benefits to align analyses with policy goals



# Trend #7: From Efficiency as Least Cost Gas & Electricity to *Least Cost Carbon Reduction*



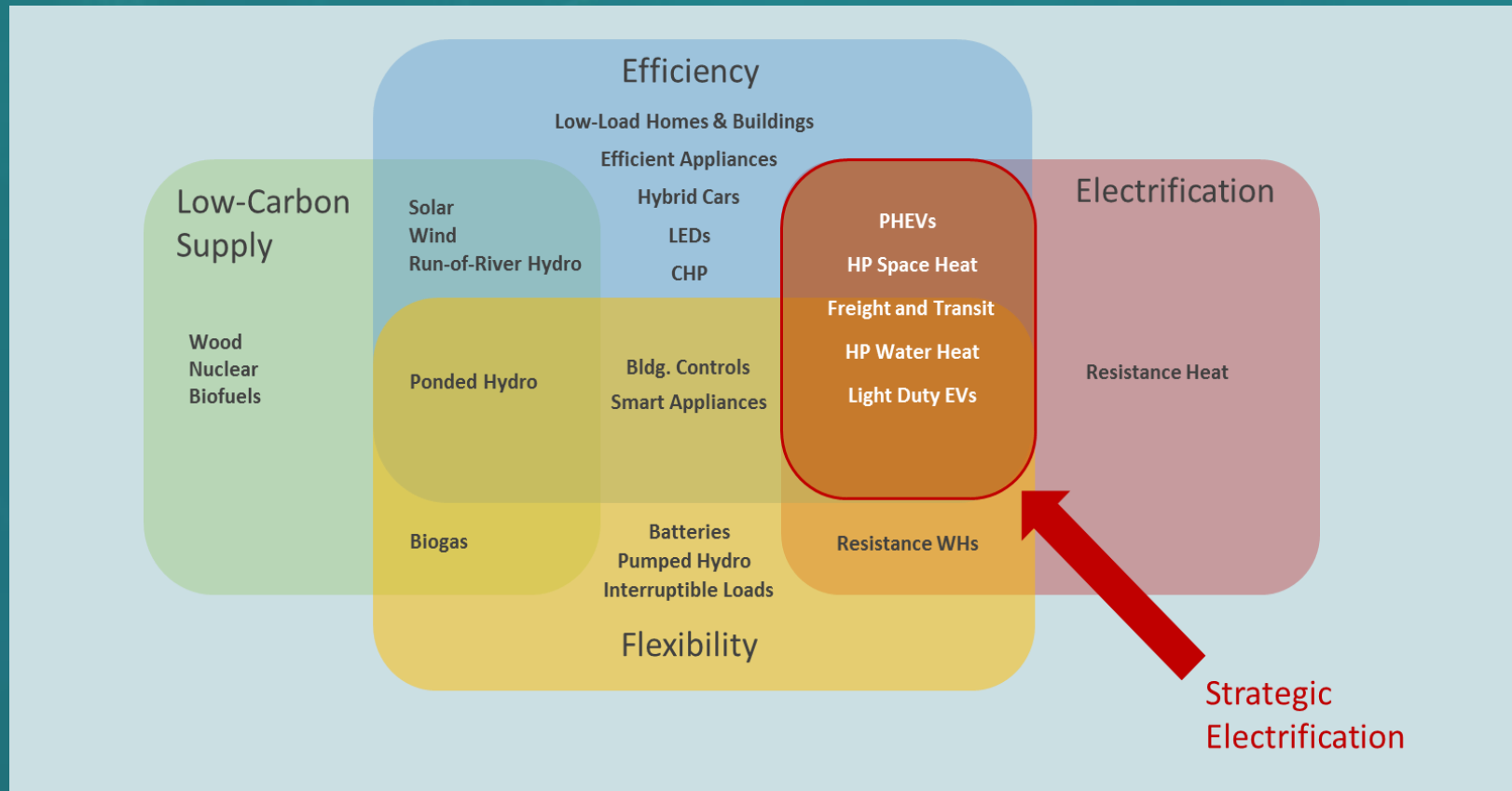
## Northeast & Mid-Atlantic State Carbon Emission Reduction Goals



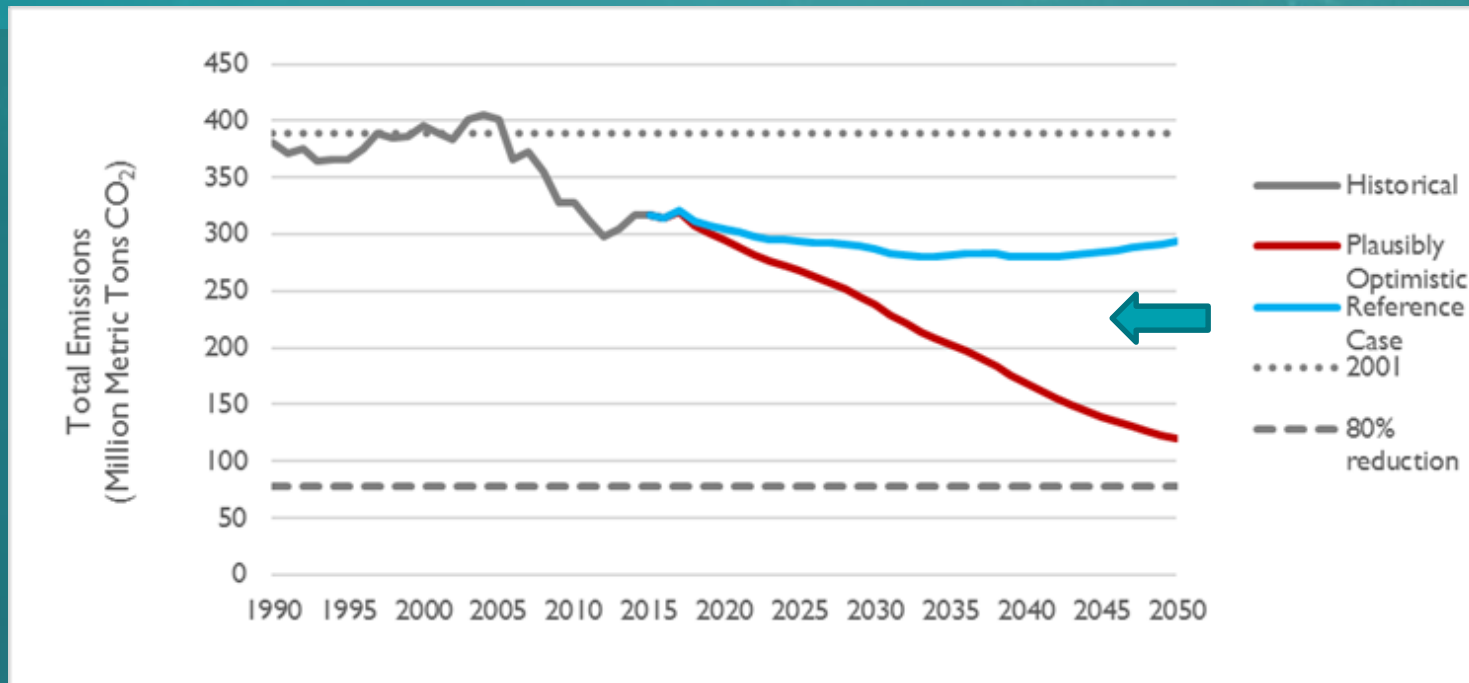
**A VERY BIG  
CHALLENGE !**

# Trend #7: From Efficiency as Least Cost Gas & Electricity to *Least Cost Carbon Reduction*

## Efficient Strategic Electrification is Critical to Achieve State Carbon Reduction Goals



# Trend #7: Getting to 70% Carbon Reduction: Plausibly Optimistic Scenario New York & New England



## Plausibly Optimistic Scenario:

- Efficiency = 2% annual savings continues with Electric Supply 95% clean by 2050
- Residential Heat Pumps = 89% oil/propane, 68% natural gas replaced by 2035
- Commercial Heat Pumps = 80% oil/propane, 66% natural gas replaced by 2035
- Light Vehicles - EVs = 70% of sales in 2035 + Heavy Vehicles = 25% of miles electric by 2035
- Process Heat & Steam - 13% fossil energy displaced in 2035

# Trend #7: Strategic Electrification

## Thorny Issues



- How to build market capacity to replace fossil heat at scale?
- Potential for growth in winter peak electric use?
  - Can defer with thermal efficiency in homes and buildings
- Implications for:
  - Electric utility business model and regulation?
  - Rate structures and advanced meters?
  - Future of natural gas utilities and their pipeline networks?
  - Equity & Fairness → Energy Justice?
- Appropriate roles for electric distribution utilities?
- Who will pay for programs and incentives?

# Getting to Climate Stabilization: Where There's a Will - There's a Way...



Lara Rodgers, 13 years old practices the long jump.



**THANK YOU!**

**For more information:**

**[www.neep.org](http://www.neep.org)**

**Susan Coakley, Executive Director**

**[scoakley@neep.org](mailto:scoakley@neep.org)**

**Northeast Energy Efficiency Partnerships (NEEP)**

**81 Hartwell Avenue Lexington, MA 02421**

10/31/2017



# *2017 ACEEE National Conference on Energy Efficiency as a Resource*

Susan E. Stratton

Executive Director,  
Northwest Energy Efficiency Alliance



# *Northwest Energy Efficiency Alliance*



# *Energy efficiency acquisition in the Northwest continues apace*

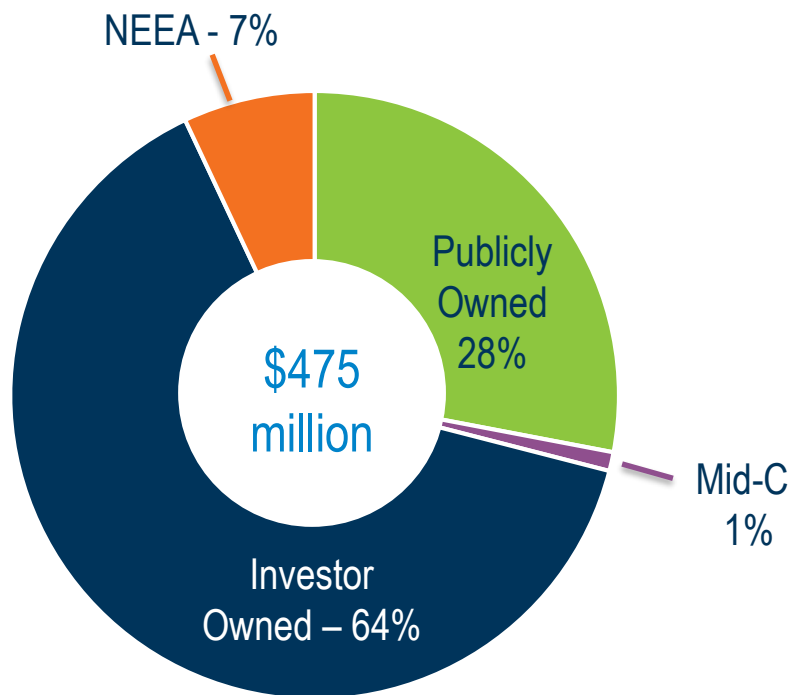


**Hungry Horse Dam, MT**

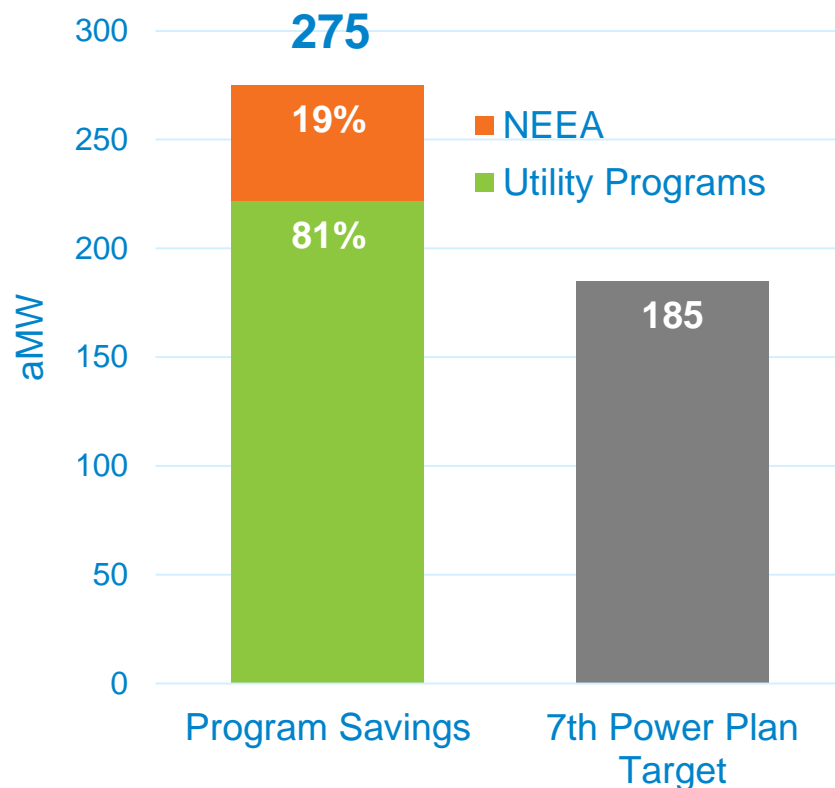
More than 2000 aMW  
acquired between 2010-2016  
(> 17.5 million MWh)

Conservation is region's  
second largest resource after  
hydroelectricity

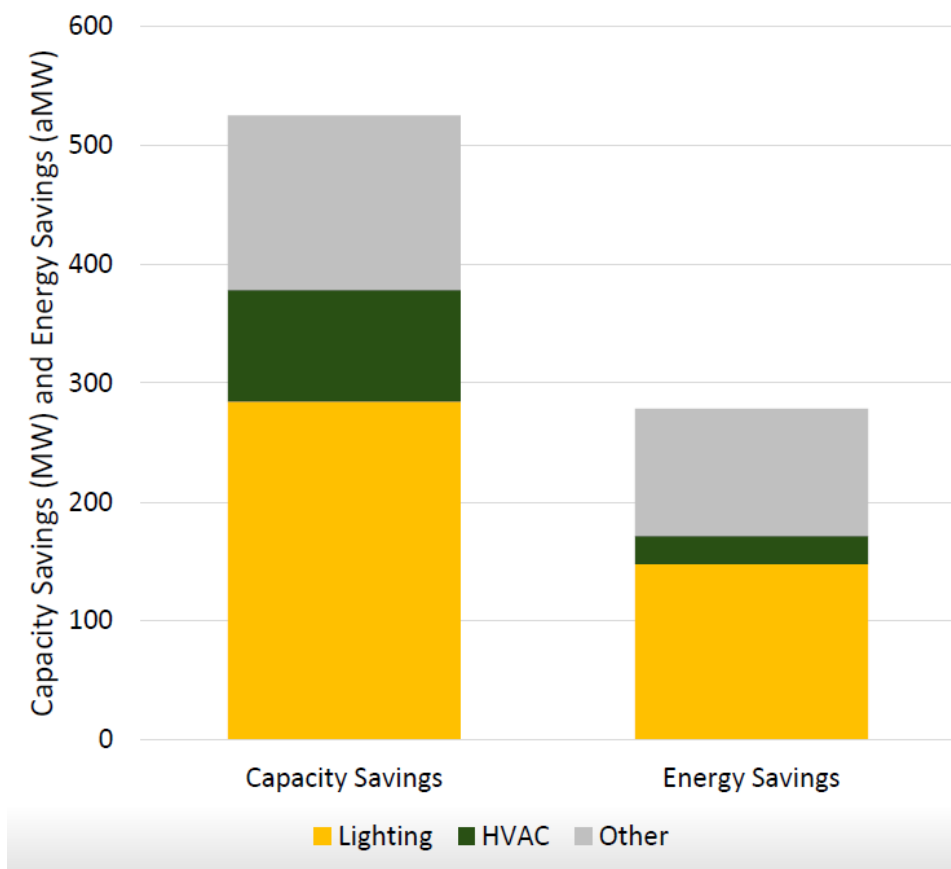
# 2016 Regional Electric Utility EE investment was \$475 million



Share of utility-funded expenditures by source  
(Source: Northwest Power and Conservation Council)



# Utility funded efficiency provided 524 MW of winter capacity in 2016



- Lighting contributes significantly to capacity savings
- Approximately 1.6% reduction on 2016 winter peak
- Deeper savings in HVAC will have a greater impact on capacity savings

Source: Northwest Power and Conservation Council

# Research and Program Emphasis

## Heat Pump Technologies



- Space and water heating combined
- Electric and natural gas
- NEEA is working to validate savings, increase product availability and lower costs

## Commercial Lighting, New Construction



- Bridging the gap between market capability, code and utility programs
- Working with electric distributors to influence stocking and sales and collect market data

## End Use Load Research



- 5-year, \$12.5 million effort
- First end-use load data since the 1980's
- Data will support regional planning, program design, etc.

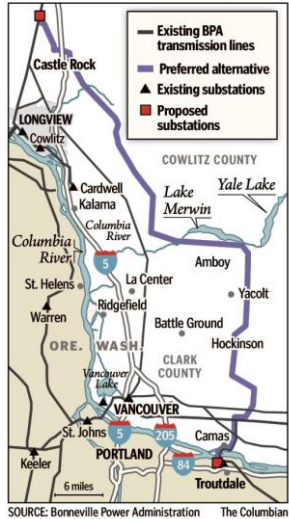
## Building Stock Assessments



- Residential and Commercial Stock Assessments currently underway
- RBSA wrapping up in 2018; CBSA in 2019
- Data and reports available on [nea.org](http://nea.org)

# Regional Updates

Proposed route for the mixed I-5 Corridor Reinforcement Project



BPA cancels plans for first major transmission line in 4 decades.



Wild fire in the Columbia River Gorge threatens Bonneville Dam



## Oregon and Washington pursuing clean power agenda







[ss Stratton@neea.org](mailto:ss Stratton@neea.org)  
[neea.org](http://neea.org)

**TOGETHER** *We Are Transforming the Northwest*



# California Roundup

**ACEEE Energy Efficiency as a  
Resource**

**October 31, 2017**



*Advancing Our Clean Economy*

# About Us

- California Efficiency and Demand Management Council

The Council is a statewide trade association of non-utility companies that provide efficiency, demand response and data analytics products

*Mission: To support appropriate energy efficiency and demand response policies, programs, and technologies to create sustainable jobs, long-term economic growth, stable and reasonably priced energy infrastructures, and environmental improvement.*

Learn more at <http://www.cedmc.org/>

# ➔ Market-Driven EE Delivery

- Energy Efficiency Rolling Portfolio and Business Plans
  - 10-year cycle
- 60% Third-Party Designed and Delivered by 2020
- New Opportunities and Challenges
  - Cost-effectiveness
  - SB 350: Double EE by 2030
  - AB 802: Existing Conditions Baseline
  - Meter-based savings
  - Community Choice Aggregators (CCAs)

# → Time and Locational EE

- “Anytime EE” vs. Time and Locational EE
  - Multiple proceedings and demo All-Source RFOs for distribution deferral and non-wires alternatives (NWA) applicability
  - EE competing with other resources
- Proceedings exploring
  - IRP – EE as optimizable resources
  - DRP – Locational Net Benefits valuation
  - IDER – Cost Effectiveness framework for across DERs
  - Valuation and the role of EE among DERs
  - Prioritization: EE first *and also* RPS and storage requirements



# Questions/Contact

Michelle Vigen, Senior Policy Manager

[mvigen@cedmc.org](mailto:mvigen@cedmc.org)

612-807-5272

# Update on Utility Energy Efficiency Policies and Programs in the Southwest

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Howard Geller



ACEEE Energy Efficiency as a Resource Conference  
Phoenix, AZ  
Oct. 30-31, 2017

# Electric Utility DSM Program Spending Trends in the Southwest

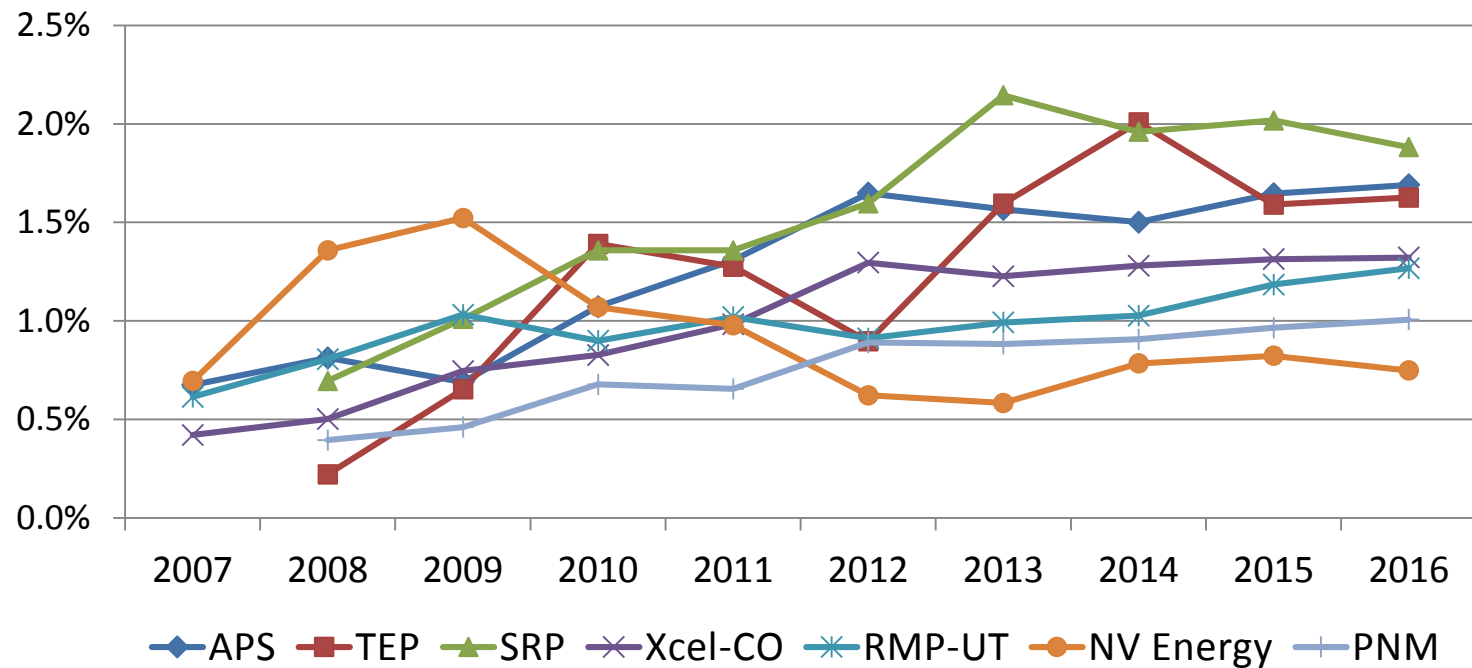
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State	Electric DSM Program Spending (million \$ per year)								
	2002	2004	2006	2008	2010	2012	2014	2016	2017 (est.)
AZ	4	4	19	45	94	130	126	127	135
CO	11	21	18	28	66	96	96	106	116
NV	3	11	30	55	46	39	52	49	55
NM	1	1	1	10	24	228	34	40	41
UT	9	16	27	36	51	47	82	60	61
WY	~0	~0	~0	~0	3	4	5	8	9
Region	29	54	95	174	284	343	395	390	417



# First Year Energy Savings as a Fraction of Retail Electric Sales

Annual Energy Savings as a % of Retail Sales,  
by program year



# Key Issues - Arizona

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- ❑ Investor-owned utilities continuing to meet or exceed EERS or internal goals (SRP), at least for now
- ❑ SRP ramping up its EE budget this year
- ❑ But IOU energy efficiency budgets facing challenges
  - TEP has suspended 2017 C&I programs and some res. programs due to inadequate budget
  - APS has cut some C&I incentives due to insufficient budget
- ❑ APS has proposed eliminating some of its most effective energy savings programs in 2018, using increasing rooftop solar penetration/duck curve effects as the rationale
- ❑ Utilities have drafted IRPs that reduce role for EE resources post 2020, when current EERS expires

# Key Issues – Colorado

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- ❑ Legislature approved PUC setting energy savings goals for Xcel Energy and BHE for 10 more years
- ❑ PUC has approved decoupling for Xcel Energy
  - Applies to residential and small comm. customers
  - Based on authorized revenues, not revenues per customer
- ❑ DSM Strategic Issues underway for Xcel Energy
  - Xcel has proposed lower energy savings goals starting in 2019, changes to the shareholder incentive mechanism, more emphasis on DR going forward
- ❑ Gov. Hickenlooper Executive Order – calls for 2% annual energy savings by 2020

# Key Issues – Nevada

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- Major EE legislation passed in 2017 and signed into law by Governor Sandoval
  - Requires PUCN to adopt energy savings goals
  - Requires accounting for non-energy benefits
  - Dedicates 5% of total DSM budget to low-income programs
  - Cost effectiveness at portfolio not program level
  - Rulemaking underway to implement new legislation
- NV Energy files new 3-year DSM plan June 2018
- PUCN expected to direct NV Energy to restart a residential lighting program
- Retail energy choice under consideration

# Key Issues – Utah/WY

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- ❑ Rocky Mountain Power (RMP) shifted to capitalization of DSM expenditures in Utah
- ❑ RMP's EE programs are being refined, leading to greater energy savings
  - New midstream residential HVAC program
  - New comm. HVAC tune-up and maintenance program
  - Shifting emphasis to LED fixture replacement and advanced controls in C&I lighting program
  - MF program to be launched in 2018
- ❑ But PacifiCorp's 2017 IRP calls for 20-30% less energy savings in Utah during 2018-2030, compared to the previous PacifiCorp IRP
- ❑ RMP proposing to expand EE programs in WY

# 2017 ACEEE Utility Energy Efficiency Scorecard

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<b>Utility</b>	<b>Ranking</b>
Xcel Energy - CO	10th (tie)
APS	15th (tie)
SRP	21st (tie)
PacifiCorp - UT	23rd
Nevada Power	35th (tie)

**Source: American Council for an Energy-Efficiency Economy**

# SWEEP:

*Dedicated to More Efficient Energy Use in the Southwest*

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Resources available online at:

[www.swenergy.org](http://www.swenergy.org)

Howard Geller, Executive Director

303-447-0078x1

[hgeller@swenergy.org](mailto:hgeller@swenergy.org)

# Who is SPEER?

## Newest REEO serving Texas and Oklahoma

- Collaborative network of 58 industry and public partners focused on the region's massive potential for energy efficient practices, products and services.
- These two states include nearly 30 million people, 18% of new building stock each year, and many of the fastest growing cities in America.
- Independent energy grid with an energy-only competitive market.



# Project Areas

- Addressing policies regarding data access, utility programs, alternative ratemaking, and emissions reduction.
- Sponsor of three 2030 Districts with the goal to voluntarily reduce waste and improve commercial building performance - with growing participation in Dallas, Austin, and San Antonio.

# Other Project Areas

- Texas adoption of the 2015 Energy Code and supporting 32 Energy Code Ambassadors in the region, to increase compliance and implementation.
- Facilitating the Cities Efficiency Leadership Council – expanding municipal resources and collaborative efforts.
- Conducting research and implementing programs like the Building Operator Certification and 50001 Ready.

# Regional Collaborative Efforts

Facilitate a number of Collaborative Groups:

- Focus on business-based solutions to encourage the energy efficient economy.
- Coordinate efforts to multiply outcomes.
- Provide technical support and training.
- “The Trusted Resource” to advance affordable improvements in buildings.

# Recent Developments

**Energy Market** – Data Access, Non-wires Alternatives both in discussion by PUCT.

**Cities** – Leadership Council engaging 45 cities and developing a resource guide.

**Codes** – Adoption and compliance in home rule states seeing market transformation.

**Street Lighting** – Rate design to enable retrofits.

**Disaster Response** – Hurricane Harvey...

# Contact:

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Executive Director, SPEER

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SPEER Website – Reports and Resources:

[www.eepartnership.org](http://www.eepartnership.org)



**SEE EA**  
SOUTHEAST ENERGY EFFICIENCY ALLIANCE

## Southeast Policy Highlights

ACEEE Energy Efficiency as a Resource, October 2017

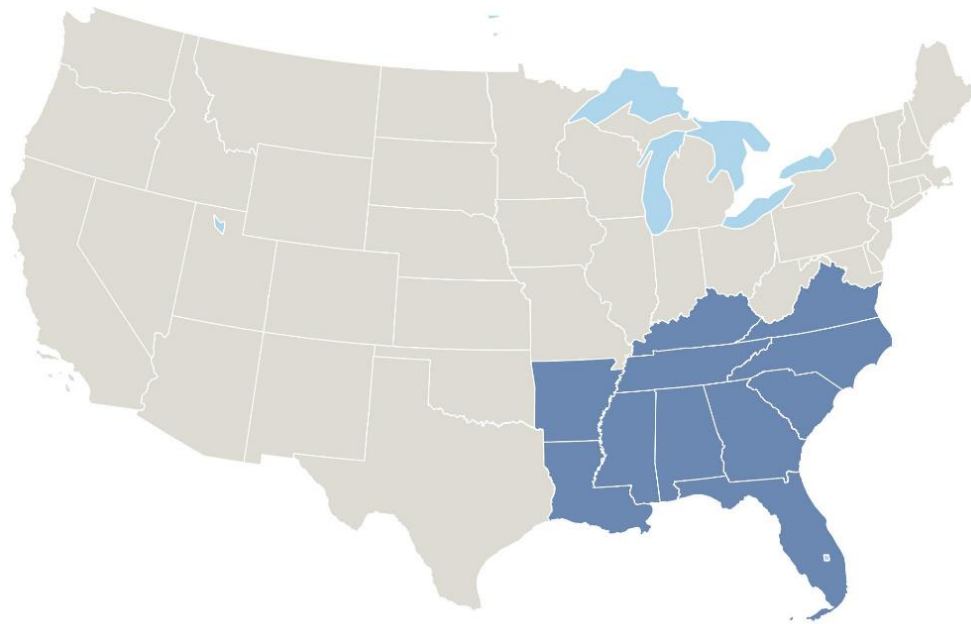
# SEEA Serves the Southeast

## Mission

The **Southeast Energy Efficiency Alliance (SEEA)** works to ensure people in the Southeast have the knowledge, resources, and opportunities to optimize energy use.

## Vision

Energy efficiency is a primary driver of a prosperous, healthy and sustainable Southeast.



## Work Areas:

**Built Environment**

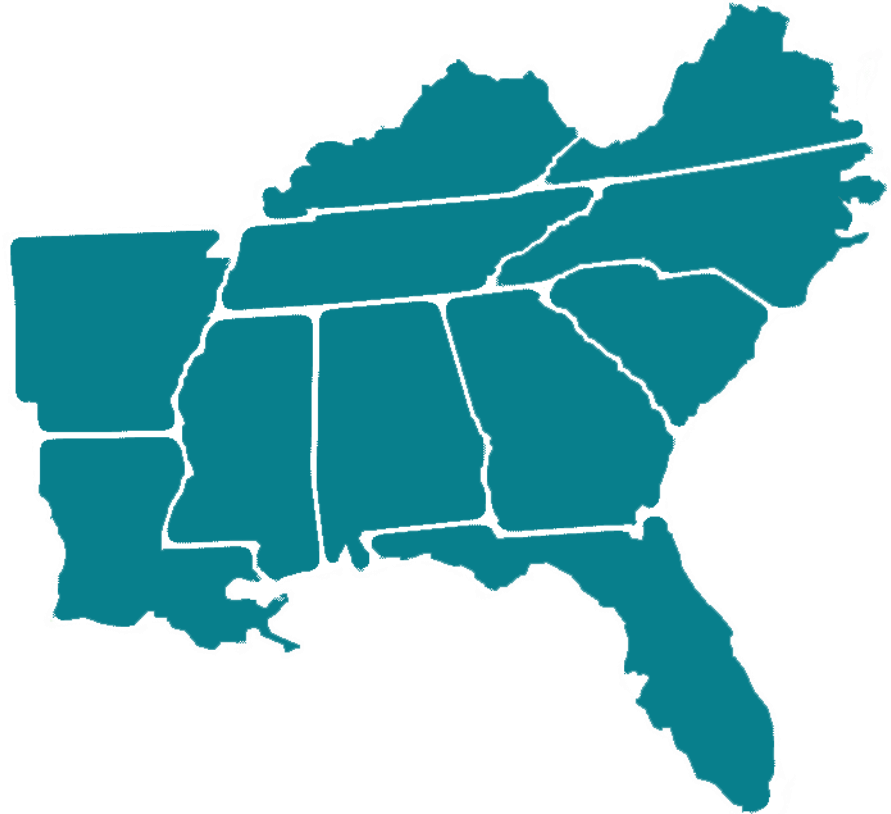
**State, Local & Utility Policy**

**Energy Efficiency Finance**



# General Background

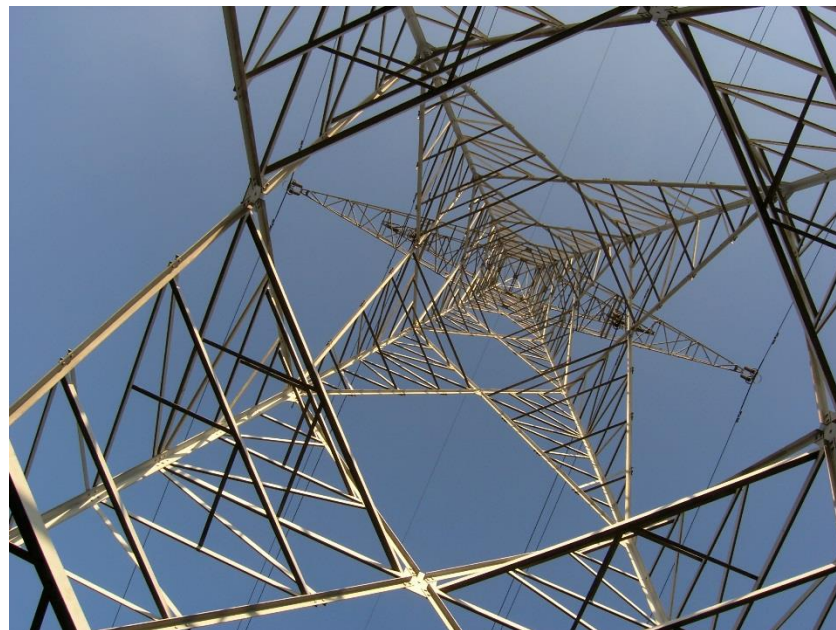
- State Policy Updates
  - Regulatory
  - Legislative
  - Executive
- Local Updates
- Policy Survey
- Trends





# State Policy Updates: Regulatory

- Energy Efficiency Rulemaking
  - [Mississippi: 2010-AD-2](#)
  - [Louisiana: R-31106](#)
- Fixed Charge Increase Proposals
  - [Gulf Power](#): **Withdrawn**
  - [OG&E](#): **23% Increase**
  - [AL Power](#): **Pilots approved**
- Utility-Run EE Programs
  - [Dominion Proposed DSM Portfolio](#): Largely rejected
  - Virginia SCC [Request for Comments on EM&V rules](#)
  - Georgia Power DSM Working Group



# State Policy Updates: Legislative

- North Carolina H. 589: **PASSED HOUSE**
  - Omnibus bill focused primarily on provisions affecting solar development and leasing
- Georgia H.B. 238: **SIGNED INTO LAW**
  - Bill allowing solar development on conservation use properties in Georgia
- Florida S.B. 90: **PASSED BOTH CHAMBERS**
  - Bill to exempt solar from ad valorem taxation
- South Carolina: **WORKING GROUPS**
  - [State Energy Plan](#)



# State Policy Updates: Executive

- Governor's Executive Council on Energy Efficiency
- Executive Order 57
  - Promulgate regulations to limit carbon dioxide emissions
  - Update state building codes to reflect current technology and standards
  - Improve state and corporate access to clean energy resources
  - Develop an energy efficiency accounting and registry tool
  - Establish a statewide Environmental Justice Advisory Council
- Executive Directive 11



# Local Updates





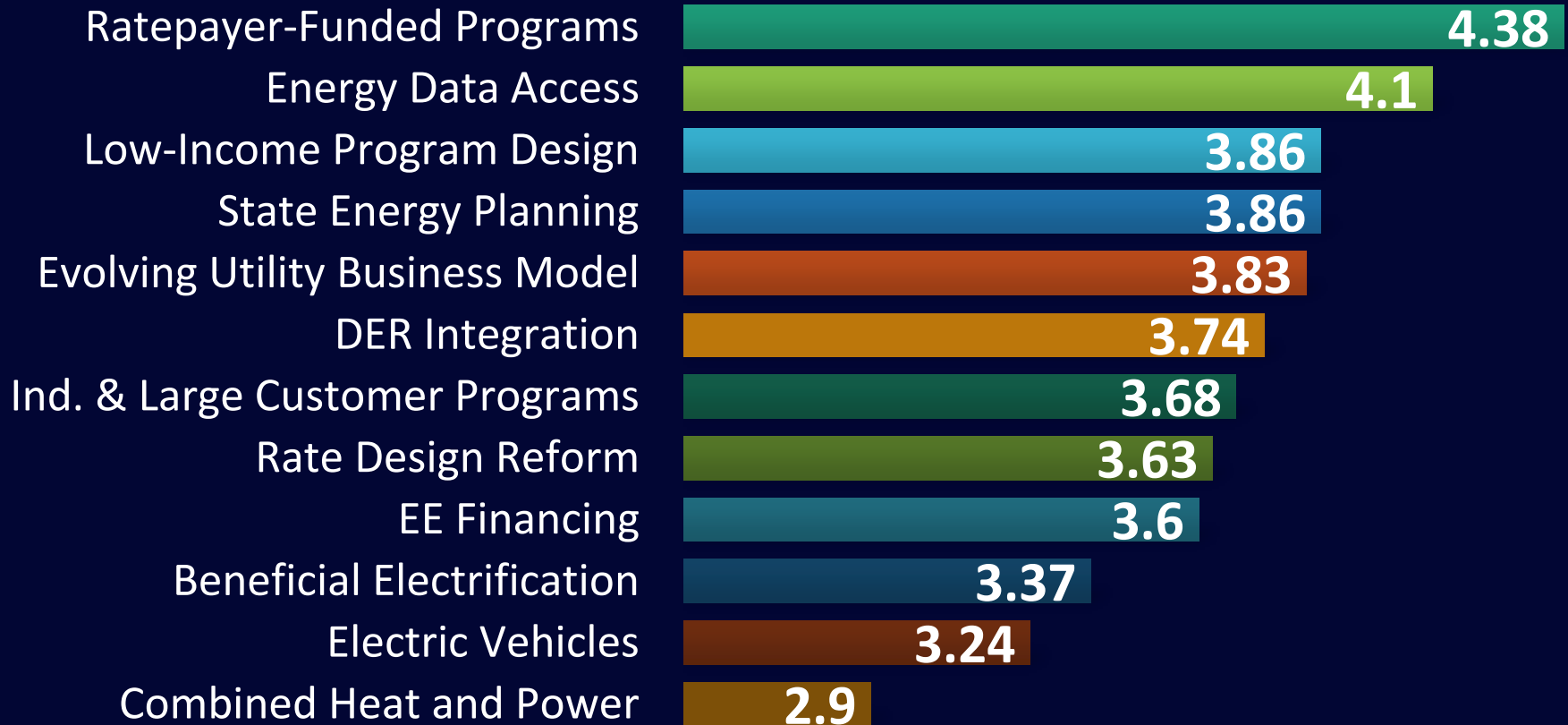
# SOUTHEAST ENERGY EFFICIENCY POLICY SURVEY

TRANSFORM





# ISSUES BY WEIGHTED PRIORITY RANKING





Common issues of concern include cost-effectiveness, participation levels, and cross-subsidization



Strong interest in more information-sharing



No correlation between the “newness” of an issue and its priority level



For many issues, we are at the beginning of the discussion!



# AN EVOLVING INDUSTRY

- What We're Seeing
  - Utilities responding to flat/declining sales
  - Emerging technologies empowering customers
  - Multiple emerging "energy benefits"
- What We're Evaluating
  - Are conventional approaches working?
  - Trends in capital expenditures
  - Customer demand
- What's Next
  - Beneficial electrification
  - Resilience
  - Health and EE
  - ...and more!



# Questions?

Feedback to:

[klee@seealliance.org](mailto:klee@seealliance.org)

[cbhedwar@seealliance.org](mailto:cbhedwar@seealliance.org)

