



Regional Roundup: Efficiency as a Utility Resource

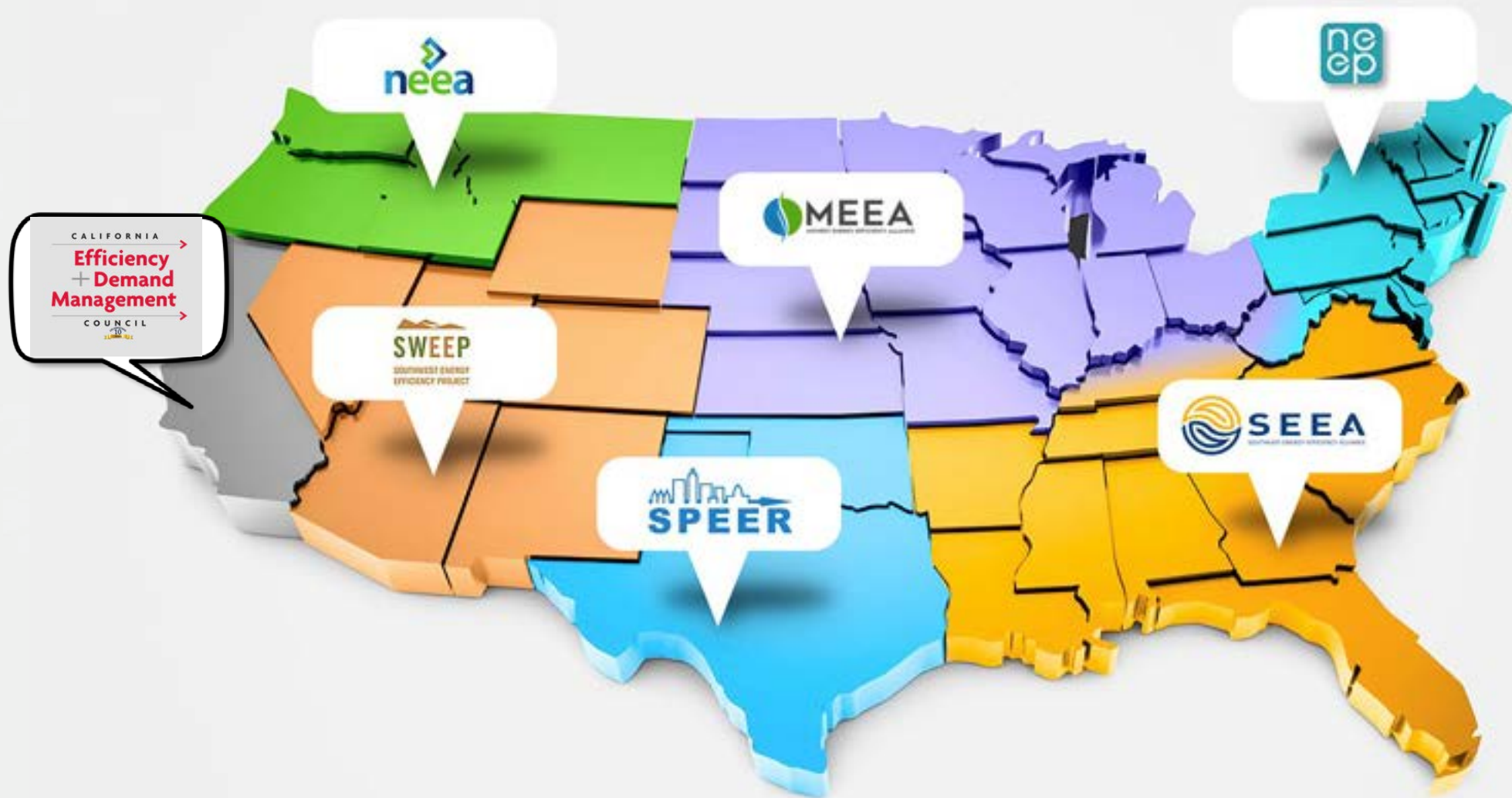
ACEEE's 2019 Energy Efficiency as a Resource Conference

Rachel Gold

Senior Manager, Utilities Program

October 16, 2019

Regional Energy Efficiency Organizations (REEOs)



Our REEO Line Up

- Susan Stratton, Northwest Energy Efficiency Alliance (NEEA)
- Greg Wikler, California Efficiency and Demand Management Council (CEDMC)
- Justin Brant, Southwest Energy Efficiency Project (SWEEP)
- Todd McAlister, South-Central Partnership for Energy Efficiency as a Resource (SPEER)
- Cyrus Bhedwar, Southeast Energy Efficiency Alliance (SEEA)
- Sue Coakley, Northeast Energy Efficiency Partnerships (NEEP)
- Stacey Paradis, Midwest Energy Efficiency Alliance (MEEA)

Northwest Energy Efficiency Alliance (NEEA)



***ACEEE Regional Roundup
October 2019
Susan Stratton, Executive Director***

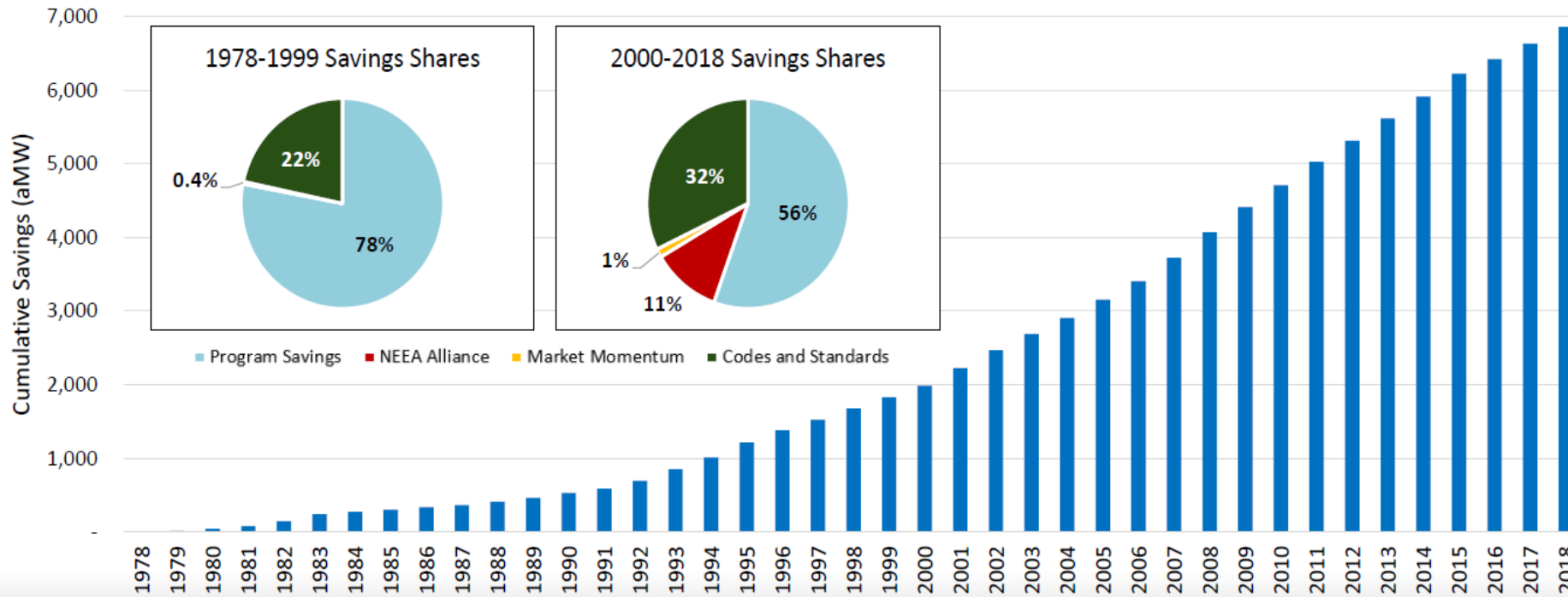
TOGETHER We Are Transforming the Northwest



Northwest Progress: Energy Efficiency

Energy efficiency has provided almost 6900 aMW of savings since 1978

Cumulative Regional Savings, all Mechanisms



Source: Northwest Power and Conservation Council

Regulatory and Legislative Update

IDAHO--100% clean/renewable

Idaho Power commits to 100% clean energy by 2045

MONTANA--Figuring out Coal

To extend the life of a major coal generation facility legislators proposed legislation that would have allowed Northwestern to take direct ownership. This failed. At the same time other NW utilities announce the earlier than planned retirement of other regional coal facilities.

OREGON Carbon Legislation

Efforts to create a carbon market like California and Quebec's failed despite widespread support from advocacy groups and utilities

WASHINGTON—Governor Inslee goes for the gold

- **Clean Energy Transformation Act** requires utilities to be: Coal free by 2020; GHG Neutral by 2030; and 100% renewable by 2045
- **Appliance standards** updates 17 appliance standards, requires DR/grid-enabled new water heaters
- **Clean building legislation** sets (EUI) reqs for **existing** commercial buildings starting in 2026; establishes natural gas conservation standards; and creates EV charging reqs for new buildings



10 GW
of permanent peak
reduction potential



4%

NW share of national
water heater market

19%

NW share of national heat
pump water heater sales



Call to Action

- Engage the HPWH supply chain
- Raise consumer awareness
- Use NEEA as a resource

Thank You!

www.neea.org

sstratton@neea.org



TOGETHER We Are Transforming the Northwest



California Efficiency and Demand Management Council (CEDMC)

Energy Efficiency Policy Update from California

Presentation at ACEEE National
Conference on EE as a Resource,
Minneapolis

October 16, 2019



Advancing Our Clean Economy



➤ Energy Efficiency in California: Rolling Portfolio Process

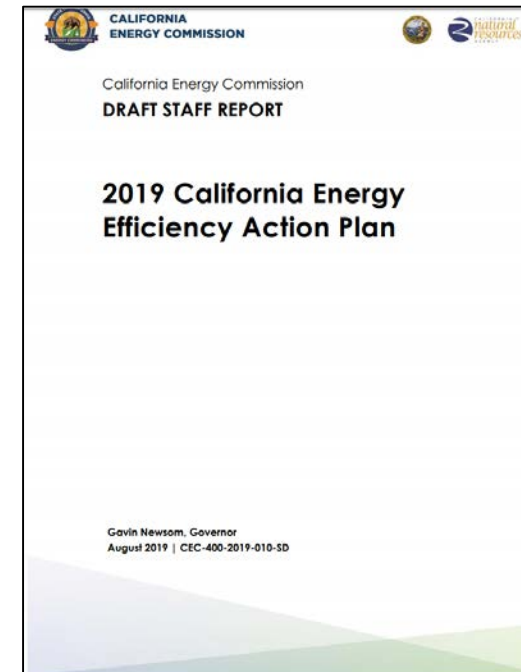
- The CPUC sets 10-Year Goals and Rolling Funding Cycle for Investor-owned utilities (PG&E, SCE, SDG&E and SCG)
 - Intended to reduce stops & starts of prior 3-year cycles
- \$1 Billion Annually (until changed)
- CA Energy Efficiency Coordinating Committee or CAEECC is the oversight body
- Statewide vs Local Administration
- 60% of Portfolio bid to Third-Parties
- Publicly-owned utilities including LADWP, SMUD and 20 small municipal utilities around the state are not subject to these policies
 - They are self-governed with oversight by the CEC

➤ Energy Efficiency in California: EE Utility Programs

- CPUC Potential & Goals Studies
- Annual & 10-year EE savings goals; analyzes energy & demand (new) savings potential in the service territories of four IOUs
 - a. Adopts goals & targets
 - b. Guides IOUs in portfolio planning; supports CEC, CAISO in forecasting
 - c. Informs EE savings contributions to GHG targets
- Results: Significant reductions in savings starting in 2020 are now place jeopardizing the achievement of state's carbon reduction goals

➤ Energy Efficiency in California: SB 350 and AB 802

- SB 350 sets goal of doubling efficiency by 2030; CEC is the lead agency to make it happen
 - Doubling EE by 2030
 - Cumulative Targets - Based on the California Energy Demand Updated Forecast, 2015 to 2025, extended to 2030.
 - Electricity 80,000 GWh
 - Natural Gas 1200 MM Therms
 - Utility Program & Non-Utility Program Savings
 - Utility Program Savings – EE rebates & incentives
 - Non-Utility Program Savings – CEC Programs, Other State Agencies, Private Financing, Local Governments, CVR, Etc.
- AB 802 allows for the use of normalized metered data as a means by which to count program savings
 - Baselines for all buildings must be set to existing conditions (vs. code baselines)
 - CPUC is the implementation agency for AB 802

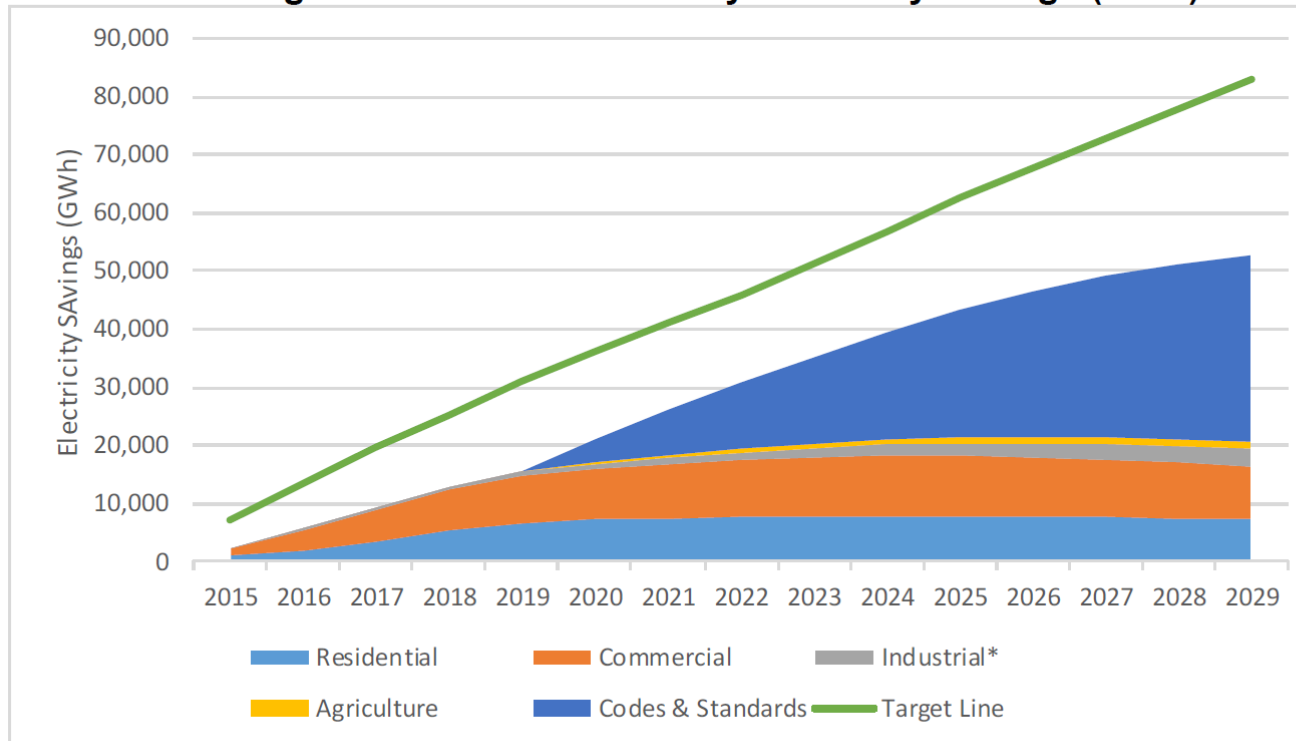


→ SB 350 Electricity Savings are not on target relative to goals

SB 350 Doubling Efficiency Targets- Electricity

The statewide cumulative savings target for electricity is updated in Figure 28. The majority of savings are expected to come from codes and standards. Expected savings are still below the 2030 electricity goal and have changed X percent from the initial target setting.¹⁵⁹

Figure 28: SB 350 Electricity Efficiency Savings (GWh)



Source: CEC

➤ Trends and Future Directions for EE in California

- California has solid policies/laws in place and the political willpower to scale the EE resource
- Significant interest is in place for broader integration of EE into other customer-facing clean energy resources:
 - EE is increasingly looked at to play a role in distribution upgrade/deferral resource and fits into resiliency efforts
 - EE and DR resources are also becoming more integrated
- Unfortunately, significant barriers are standing in the way:
 - Excessive regulation and bureaucratic inertia has led to a sharp drop-off of EE potential and thus commitment on the part of the regulators and investor-owned utilities who are responsible for implementing EE programs
 - Methods to measure EE program cost-effectiveness currently don't account for a wider variety of resources and applications





Thank you!



Greg Wikler

Executive Director

California Efficiency + Demand Management Council

Tel: +1 925-286-1710

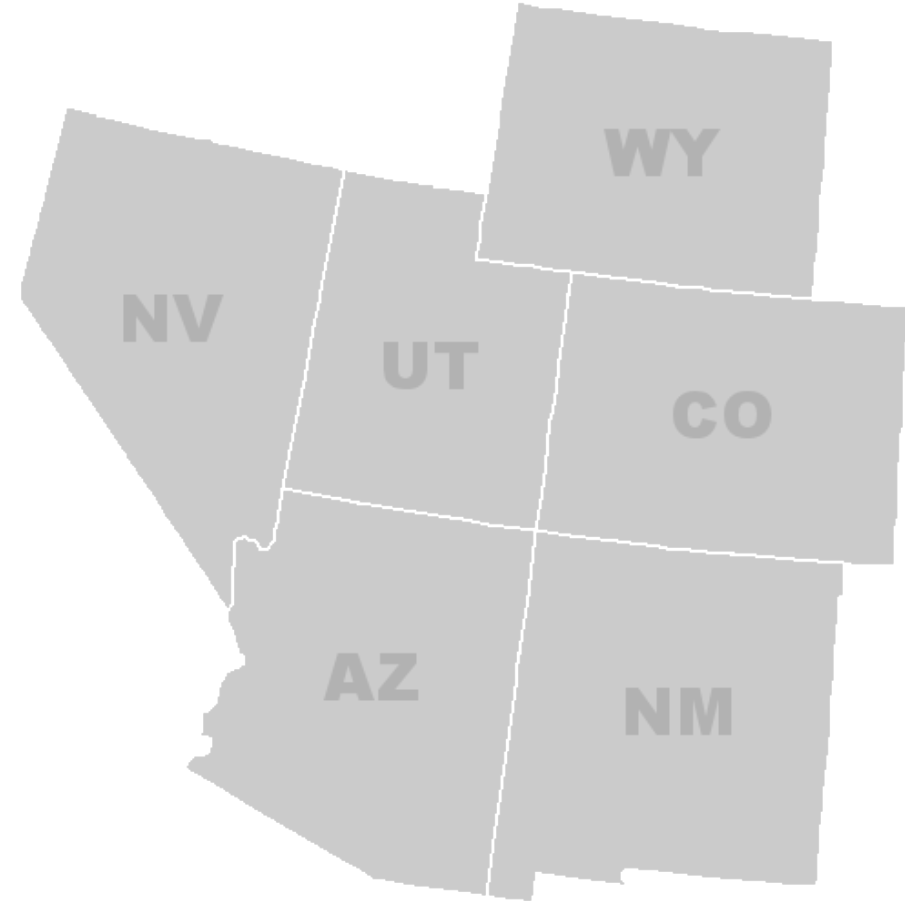
Email: gwikler@cedmc.org



Southwest Energy Efficiency Project (SWEEP)

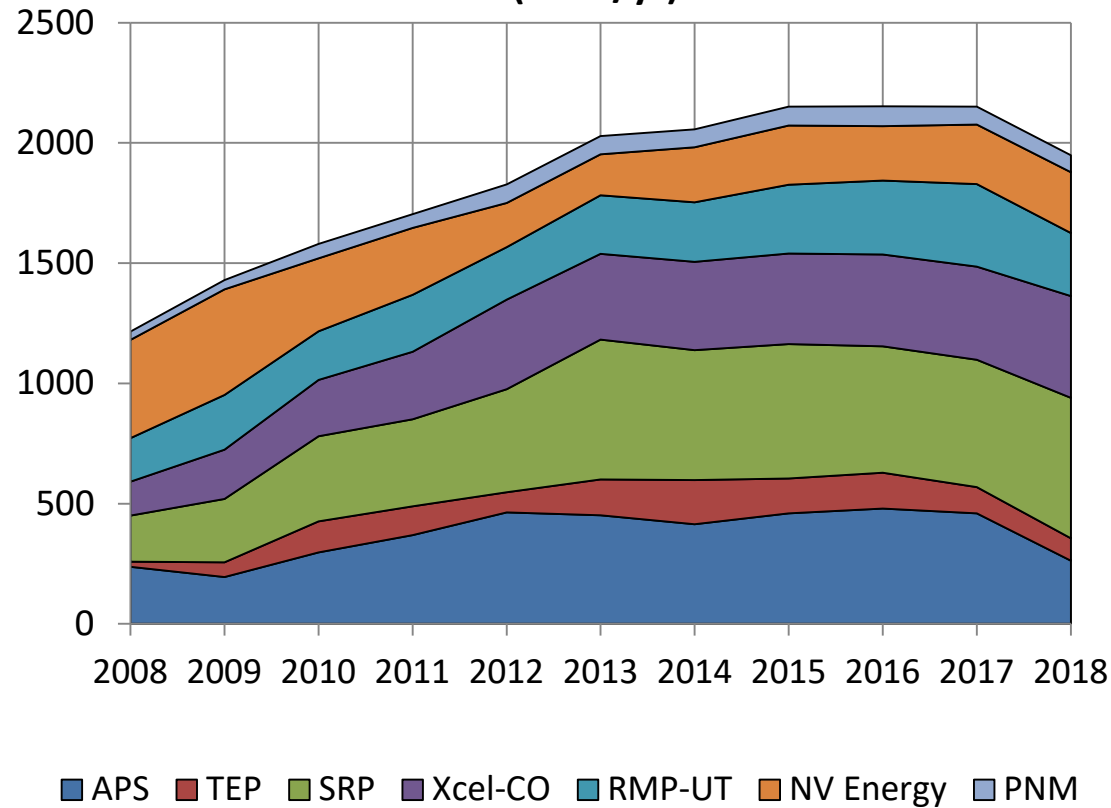
Southwest Energy Efficiency Project (SWEEP)

- ❑ Public interest organization promoting greater energy efficiency and clean transportation
- ❑ Learn more:
 - www.swenergy.org
 - Twitter: @SouthwestEE

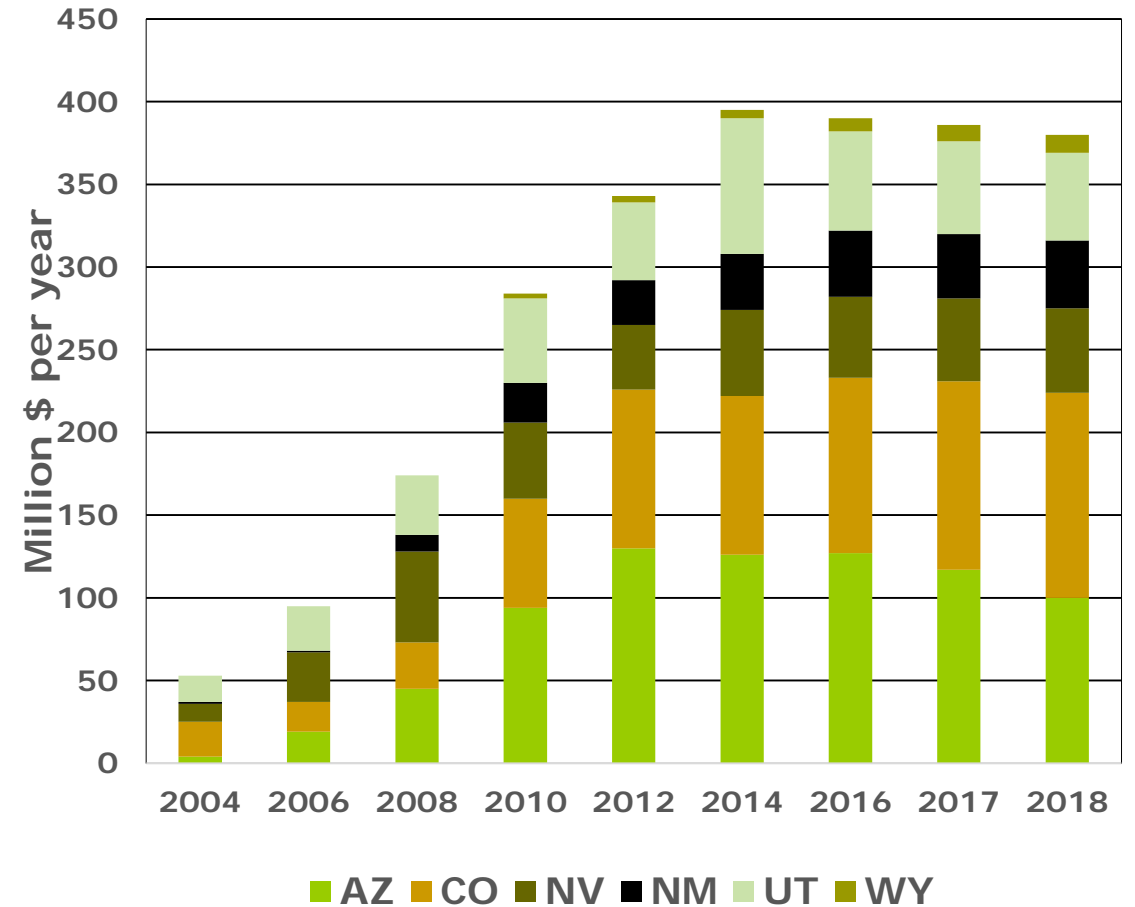


Energy Efficiency Trends in the Southwest

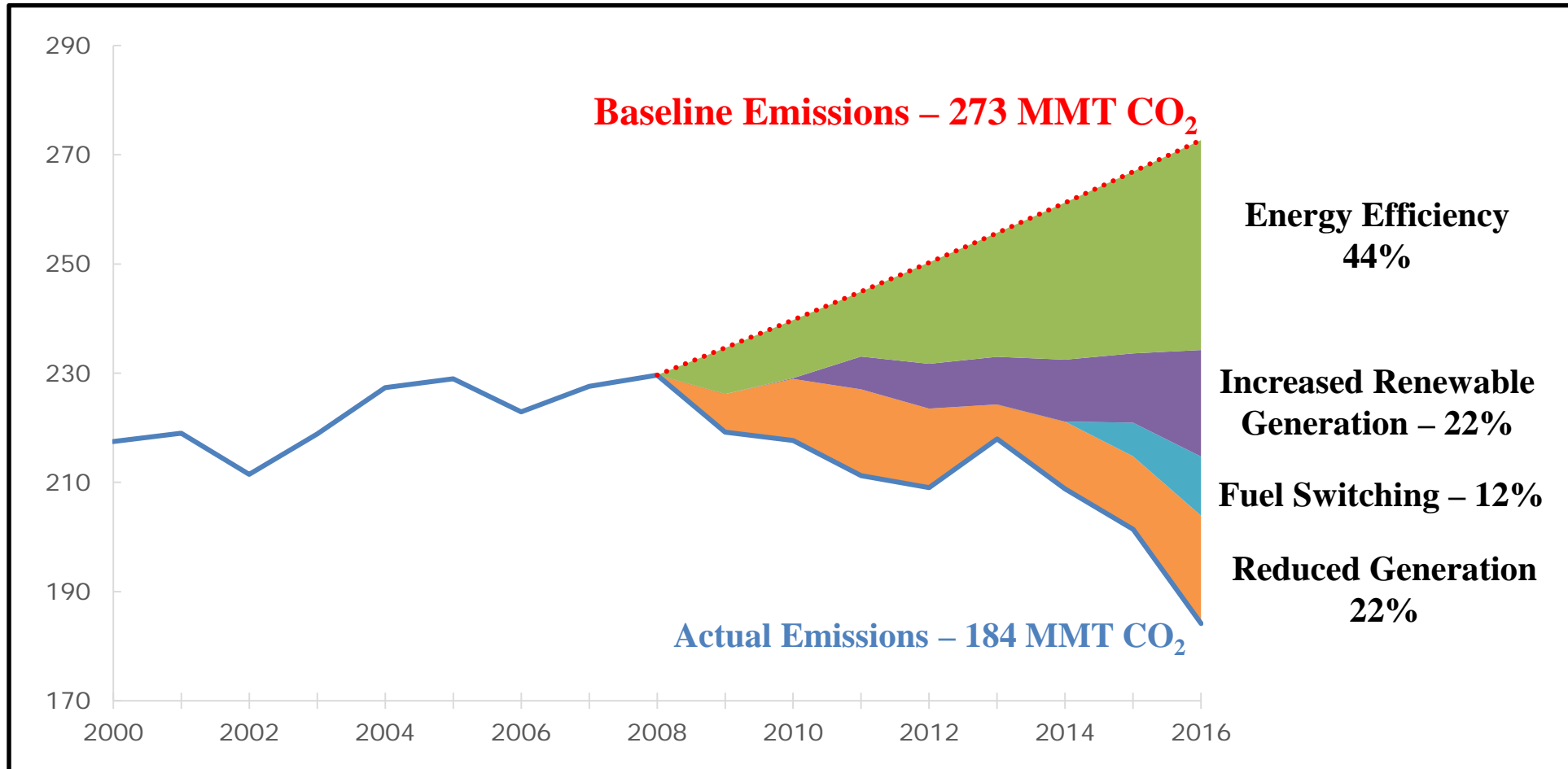
Savings from Programs Implemented each Year
(GWh/yr)



Electric Utility DSM Spending Trends

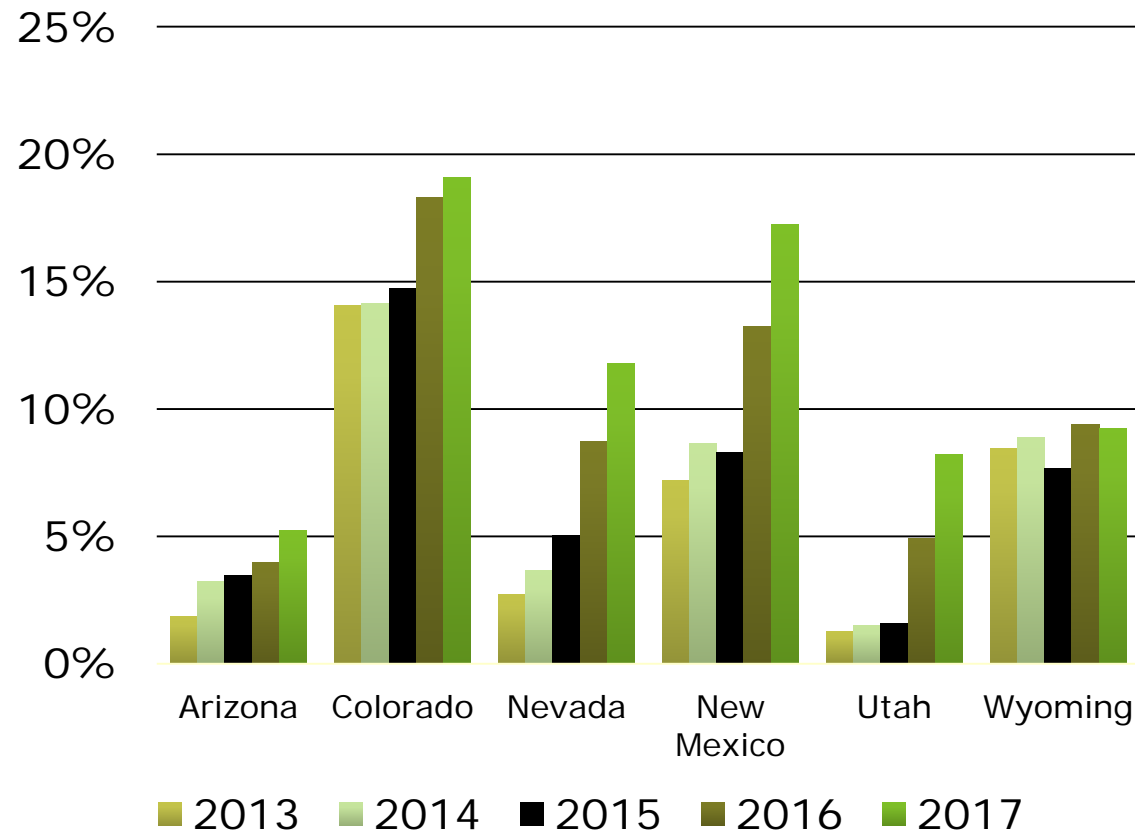


Role of EE in Reducing GHG Emissions in the Southwest



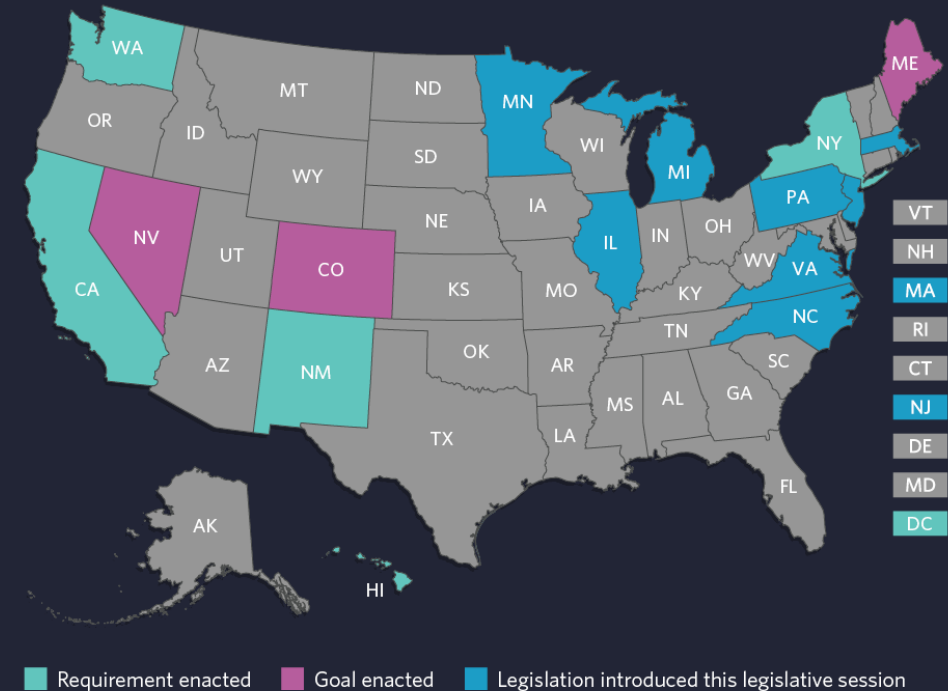
100% Renewable Energy Goals

Percentage of Total Electricity Generation from Wind and Solar



States Embrace Renewable Electricity

Five states and the District of Columbia have directed their utilities to switch to 100% renewable or zero-carbon sources by 2050 or earlier.



Source: EQ Research

© 2019 The Pew Charitable Trusts

How Do we Continue To Move Energy Efficiency Forward?

- Integration of variable renewable energy
 - Grid-connected products
 - Integrated EE/DR programs
- Beneficial electrification
- Properly accounting for energy efficiency in Resource Planning
- Account for all benefits in cost-effectiveness testing
- Target high-value savings
 - Geo-targeting EE
 - Energy reductions in most valuable hours
- Leverage non-energy and health benefits

SWEEP:

Dedicated to More Efficient Energy Use in the Southwest

Resources available online at:

www.swenergy.org

Justin Brant, Senior Associate Utility
Program

303-447-0078x2

jbrant@swenergy.org

South-Central Partnership for Energy Efficiency as a Resource (SPEER)

SPEER

South-central Partnership for Energy Efficiency as a Resource

- **Texas/Oklahoma Region – 33.5 million residents – expectation for 350K per year into area**
- **Texas Power Grid – Energy Only – ERCOT/energy-only pricing and consumption. Survived 2019 Summer...new plants online 2020**
- **GINORMOUS EE potential – Utilities continue to “meet” goals through PUC incentive programs...MORE CAN BE DONE!**



About SPEER:

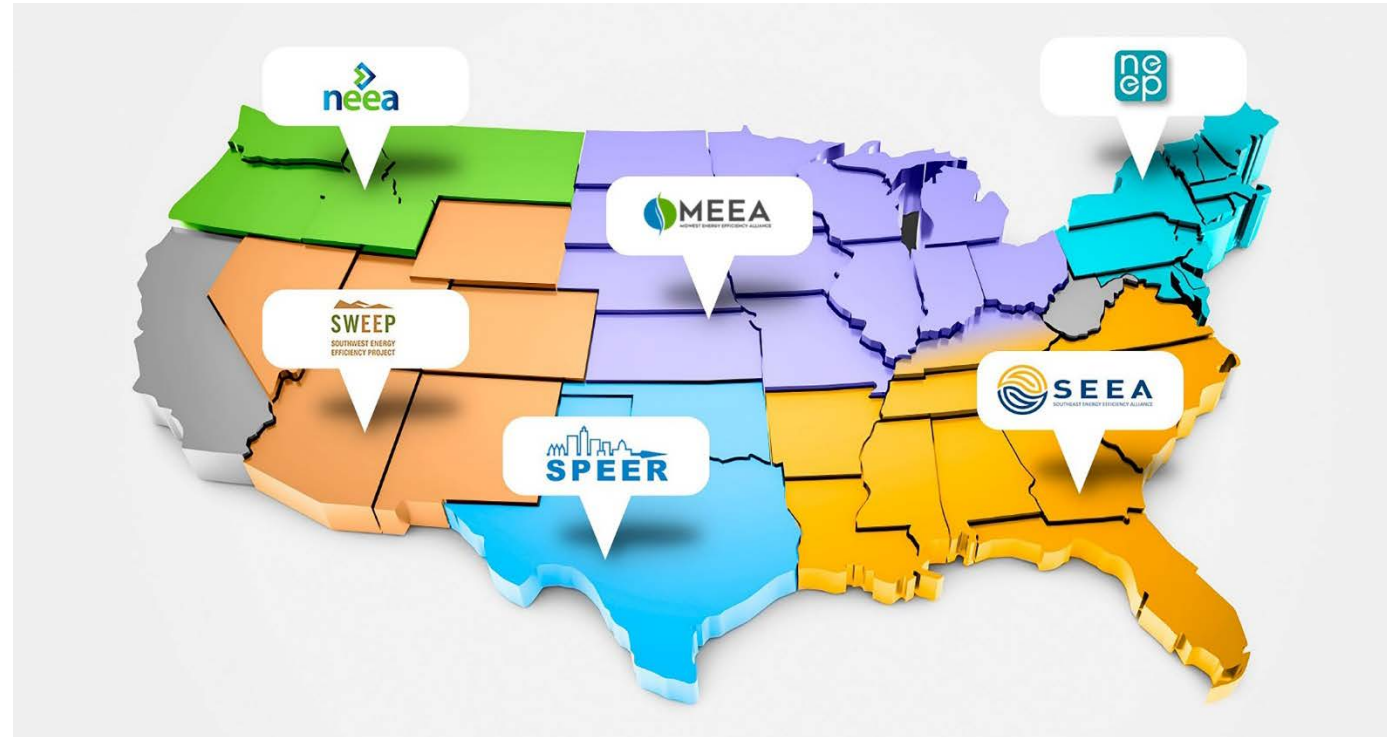
SPEER's mission is to accelerate the adoption of advanced building systems and energy efficient products and services in the South-central US.

Our Work

- Policy
- Building Codes
- High Performance Buildings
- Local Government

Our Members

- Advocacy Orgs
- Cities
- ESCOs
- Manufacturers
- Trade Associations
- Utilities



Did I Mention We Are #1?

- ❑ 1st in consumption (2/3 C&I)
- ❑ 1st in the nation in the production of crude oil, natural gas and electricity
- ❑ 1st in installed wind capacity
- ❑ 1st in EE potential (US DOE)
- ❑ EE Jobs – 162,000 + employed in the EE industry – technically, #2 in this category...FAKE NEWS!


475K in Demand Reduction 2018

577,804,709 kWh in Energy Savings 2018

More foothold in OK

**More incentive programs for Texas and
Oklahoma consumers**

Southeast Energy Efficiency Alliance (SEEA)



The Southeast Efficient Energy Alliance (SEEA) promotes energy efficiency as a catalyst for economic growth, workforce development and energy security across 11 southeastern states including Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee and Virginia.

Areas of Work



Energy Efficiency
Policy



Built
Environment



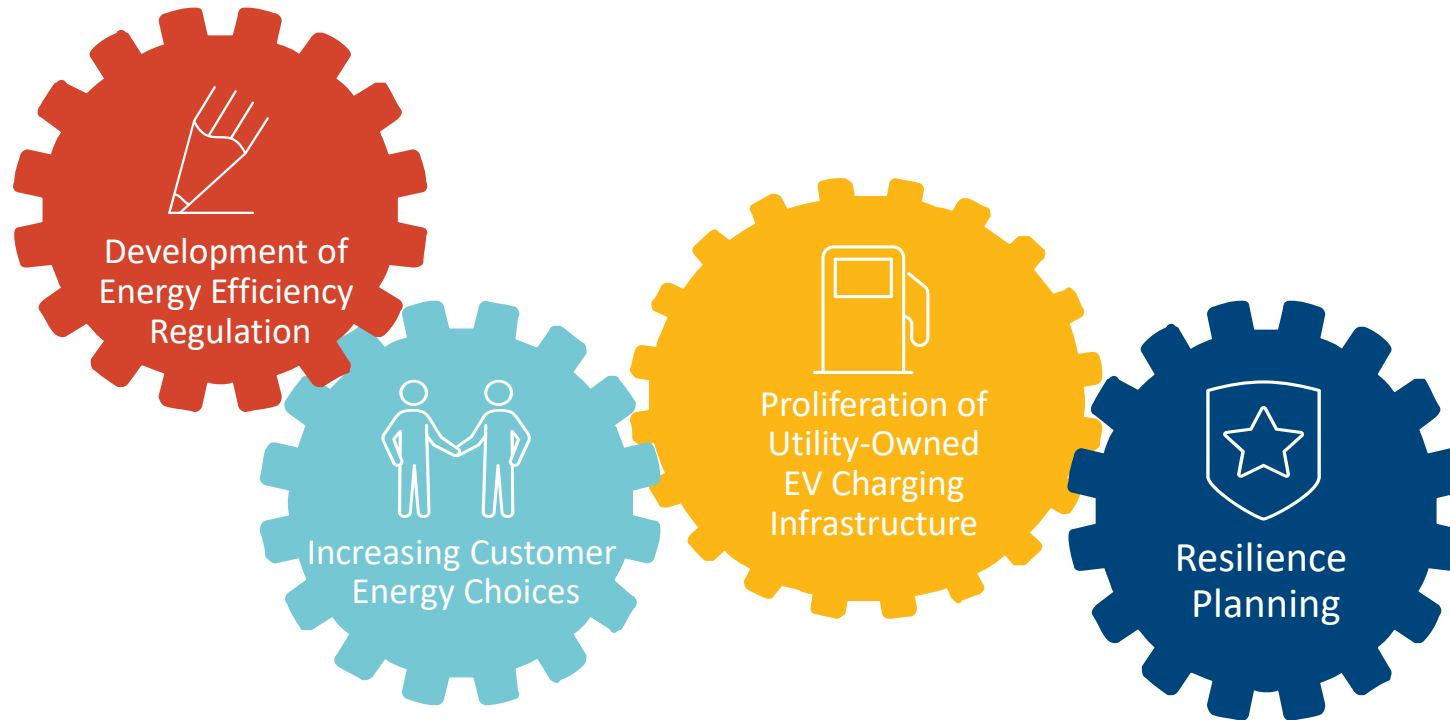
Energy Efficient
Transportation

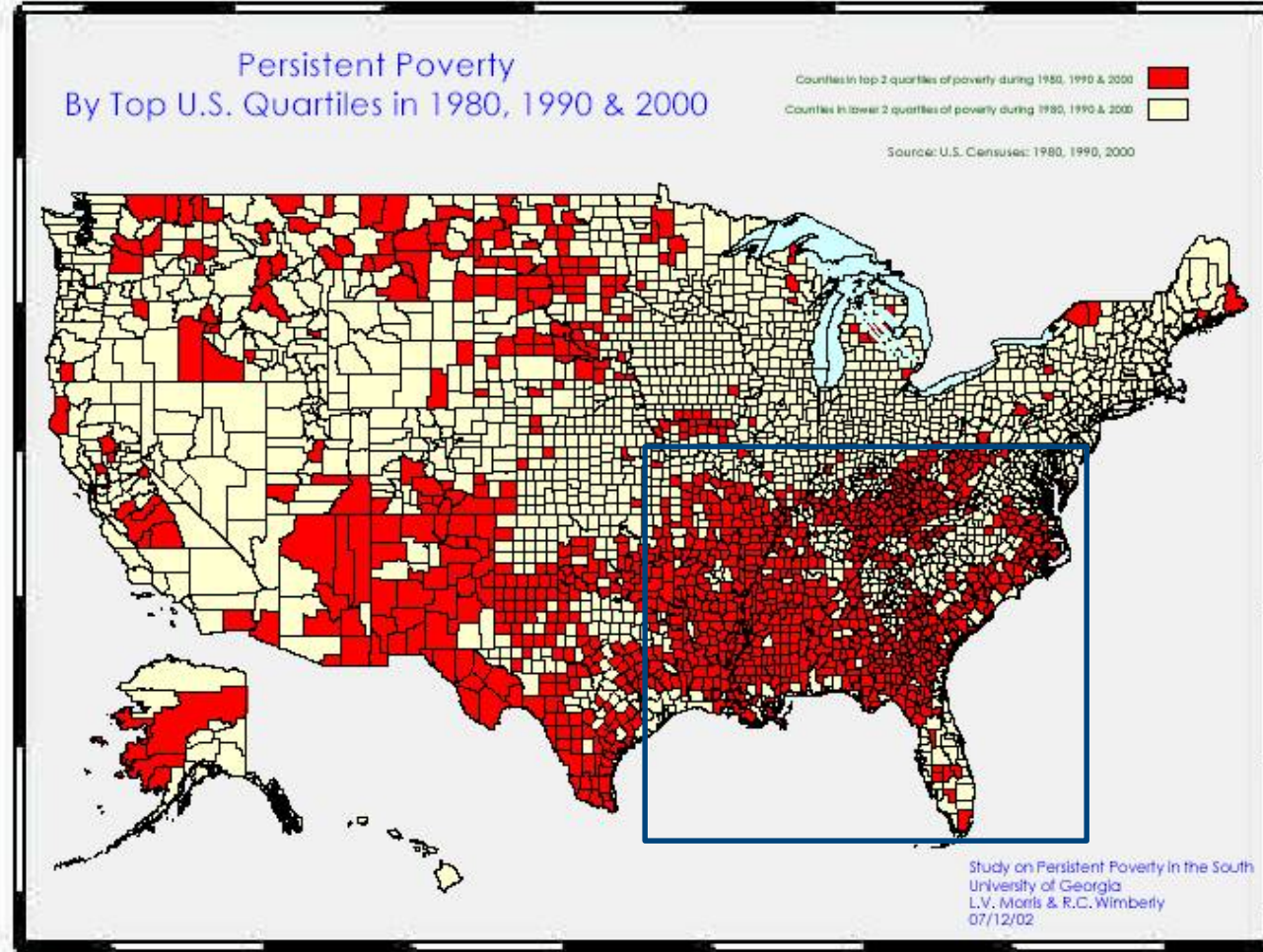


Regional
Investments

Quarterly Highlights: Southeast Policy Trends

Notable Developments from April through June 2019





2019 Energy Efficiency Policy Survey

1. Given current political, economic, and other conditions, select three strategies that you believe are most likely to generate sufficient support to result in increased energy savings from utility-sponsored energy efficiency programs over the next five years.
2. Given the current economic, political and cultural landscape, the non-regulatory actor with the greatest potential to drive energy savings in the region is...
3. The strategy this actor would employ that is most likely to increase energy savings above current levels is...

2019 Energy Efficiency Policy Survey: Results

- Regulatory Solutions
 - Performance Incentives
 - Rate Design
 - Energy Data Access
- Local Governments
 - Building Energy Codes
 - Local Energy Planning
- State Energy Offices and Legislatures
 - Building Energy Benchmarking and Transparency Requirements
 - Financial Incentives

Thank You



SMART ENERGY. STRONG ECONOMY. FOR ALL.

WWW.SEEALLIANCE.ORG

Northeast Energy Efficiency Partnerships (NEEP)



Energy Efficiency as a Resource: Northeast U.S. - Regional Roundup

By: Sue Coakley, Executive Director
Northeast Energy Efficiency Partnerships
At: ACEEE Efficiency as a Resource
October 16, 2019

Northeast Energy Efficiency Partnerships



“Assist the Northeast and Mid-Atlantic region to reduce building sector energy consumption 3% per year and carbon emissions 40% by 2030 (relative to 2001)”

Mission

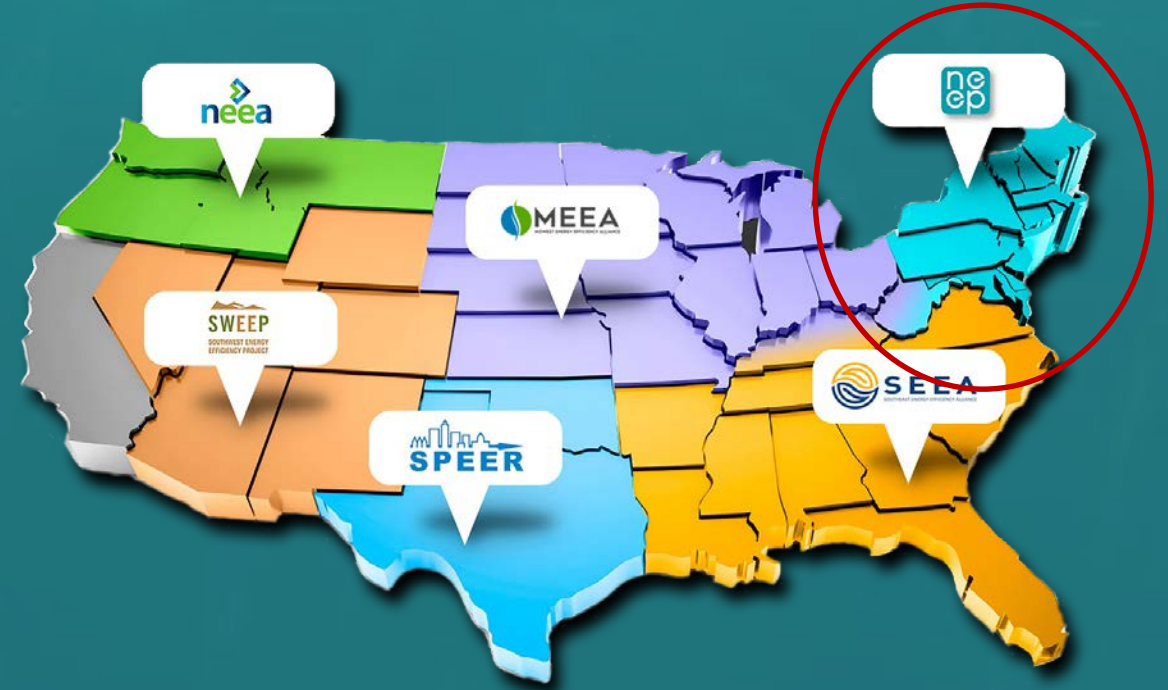
We seek to accelerate regional collaboration to promote advanced energy efficiency and related solutions in homes, buildings, industry, and communities.

Vision

We envision the region's homes, buildings, and communities transformed into efficient, affordable, low-carbon, resilient places to live, work, and play.

Approach

Drive market transformation regionally by fostering collaboration and innovation, developing tools, and disseminating knowledge



One of six Regional Energy Efficiency Organizations (REEOs) funded in-part by U.S. DOE to support state and local efficiency policies and programs.

Northeast Energy Efficiency – Key Trends



**Trend 1:
Broader
Public Policy
Goals**



**Trend 3:
Growing
Efficiency
Program
Budgets**

Per Capita Energy Efficiency Investments
Electric and Natural Gas Programs Combined

Efficiency investments are increasing across New England and the Mid-Atlantic. In 2017, combined efficiency program investments averaged \$46.60 per capita.



Sources: A combination of NEEP's REED Database, ACEEE Scorecard, and EIA Form 901. For information on which program administrators are included in REED, please see the REED Footnotes.

**Trend 2:
New
Goals &
Metrics**

Proposed 2019-2021 Efficiency Plans

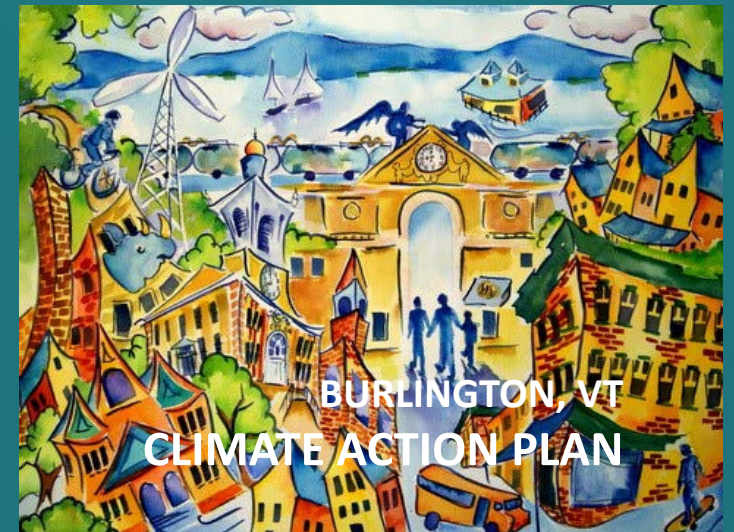
- **Electric Efficiency Plan → Energy Efficiency Plan**
 - 2.7% annual average electric savings
 - Expanded savings goals include lifetime MMBtus, summer peak, and winter peak to reflect broader Energy Optimization strategy
- **Natural Gas Efficiency Plan**
 - 1.25% annual natural gas savings
 - Highest savings ever in MA, 12% increase in lifetime therm savings compared to 2016-2018

MassSave Statewide Programs (Electric and Gas)	2019-2021 PROPOSED/FILED
Net Lifetime MMBTUs	261,931,735
CO2e Reductions	2,759,578
Benefits (\$M)	\$ 8,560.8
Budget (\$M)	\$2,794.5

Creating a Clean, Affordable and Resilient Energy Future for the Commonwealth

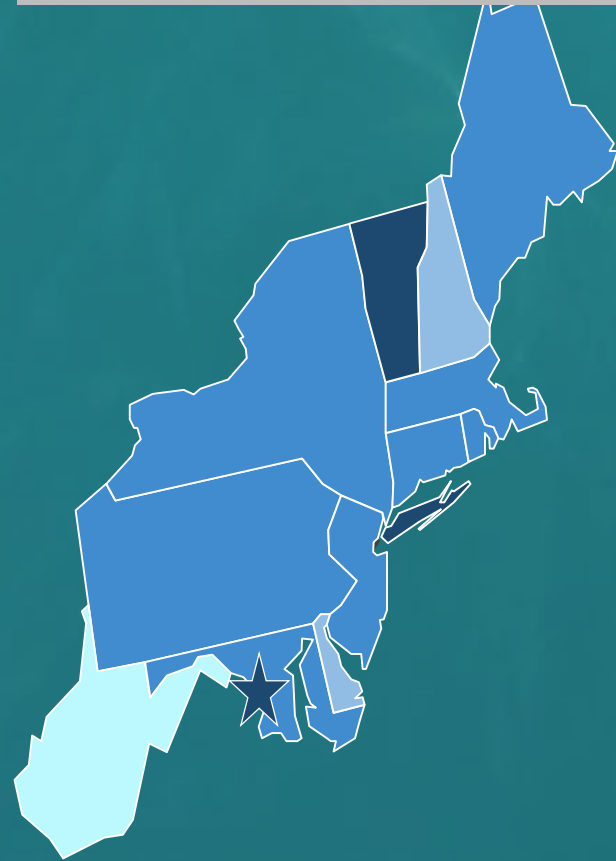


**Trend 4:
Expanded
Pathways
& Partners**



Northeast Region's Aggressive Carbon Emission Reduction Targets

2030 Carbon Reductions Goals



Aggressive 2030 Goals

State of Vermont

By 2028 - 50%

New York City

By 2030 – 30% citywide from 1990 levels, large buildings 40% from 2005 levels

Washington D.C.

By 2032 50% below 2006 levels, ENERGY STAR building status required by 2026

Burlington, VT

By 2025 - 10% from 2010 levels

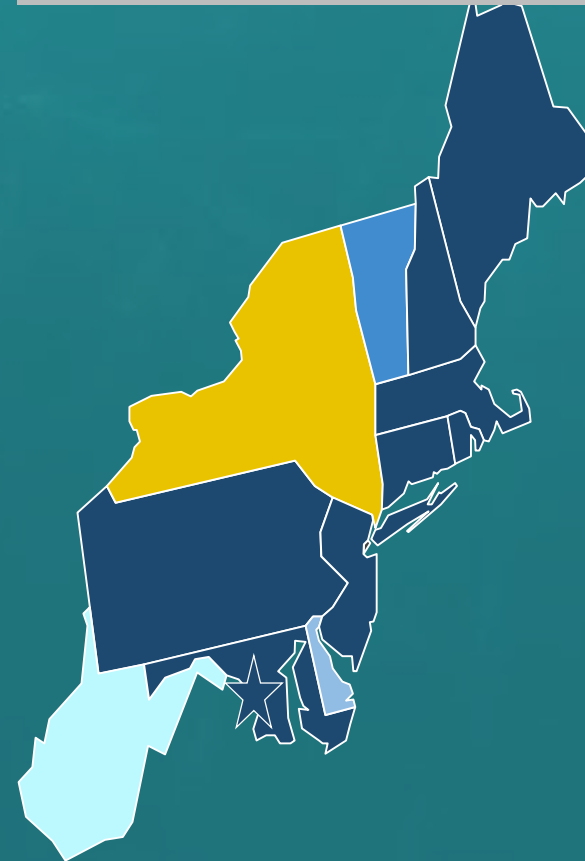
Montpelier, VT

By 2030 – 80%



0% <30% <45% 50%

2050 Carbon Reductions Goals



Carbon Free Cities by 2050

- New York City
- Washington D.C.
- Boston, MA
- Cambridge, MA
- Somerville, MA

100% Renewable by 2050

For example:

- Concord, NH
- Reading, PA
- New Brunswick, NJ

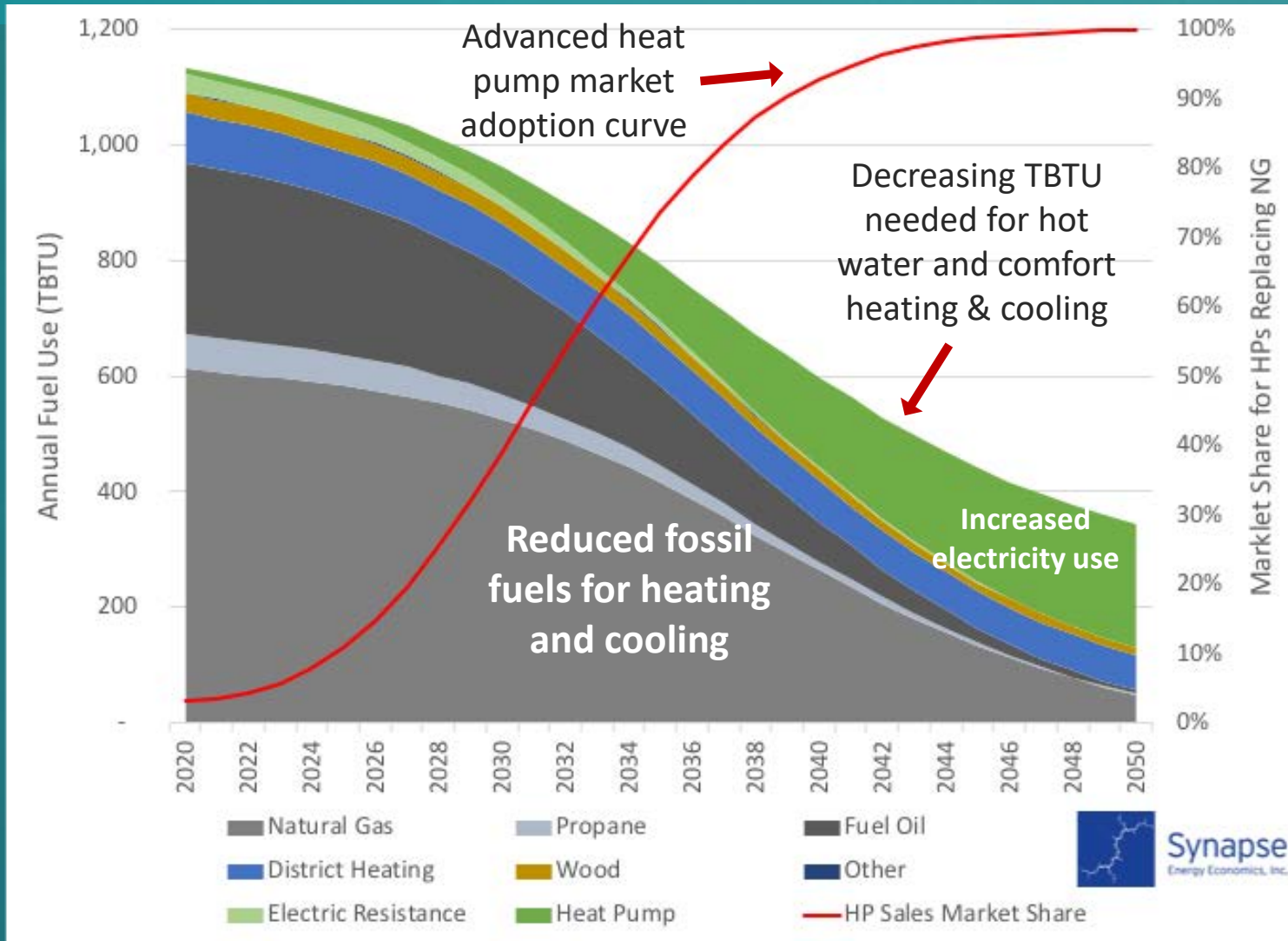
And many more...



0% <65% 75% 80% 100%

Advanced Heat Pump Market Transformation by 2050

New England + New York: Plausibly Optimistic Scenario

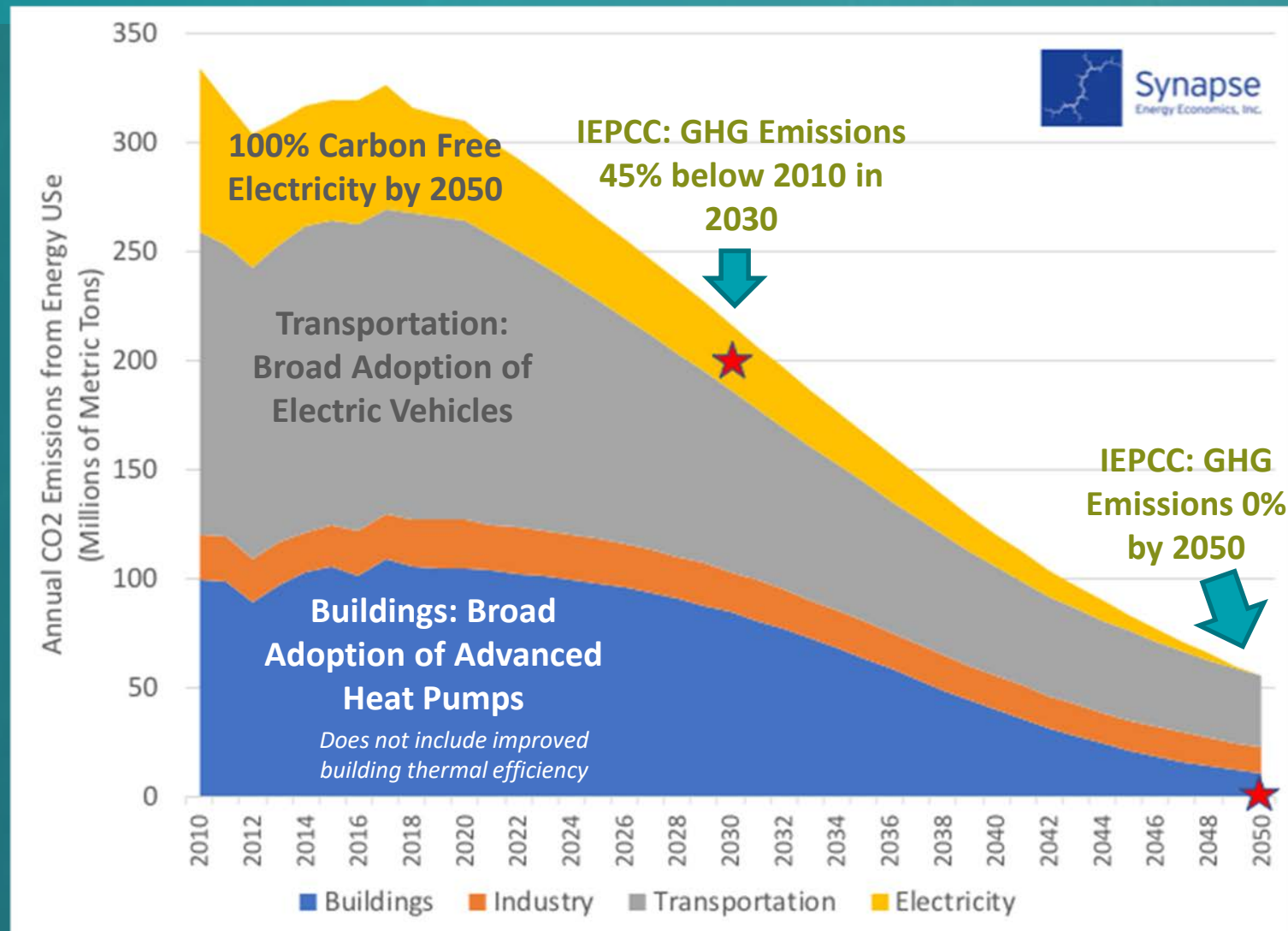


DEEP ENERGY EFFICIENCY

Residential and commercial sector advanced heat pump market adoption *in natural market cycles*

- *New construction*
- *Renovation*
- *Equipment replacement*

Beneficial Electrification = Major Progress Towards IEPPC Climate Stabilization Goals



DEEP ENERGY EFFICIENCY

Advanced heat pumps and electric vehicles powered by carbon-free electricity
KEY to Climate Stabilization

For More Information:

www.neep.org



Sue Coakley, Executive Director

scoakley@neep.org



Dave Lis

Director of Technology & Market Solutions

djlis@neep.org



Carolyn Sarno Goldthwaite

Director of Building & Community Solutions

cgoldthwaite@neep.org

Midwest Energy Efficiency Alliance (MEEA)



Midwest Trends for Energy Efficiency

ACEEE EE as a Resource
October 16, 2019

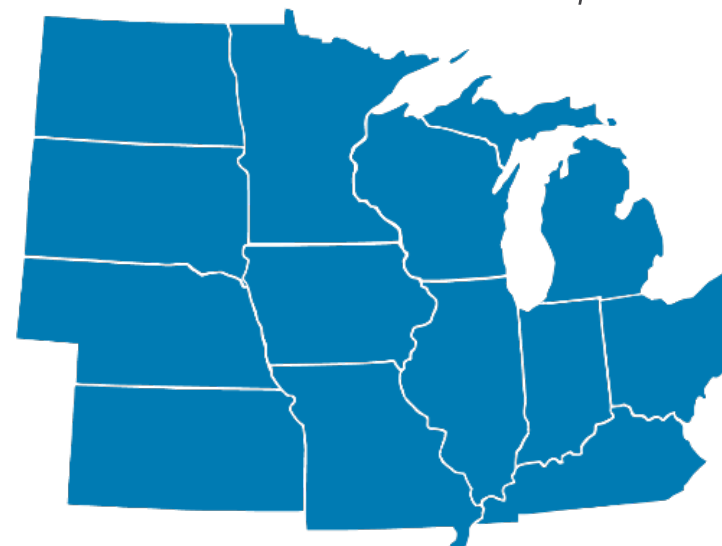


About MEEA

The Trusted Source on Energy Efficiency

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

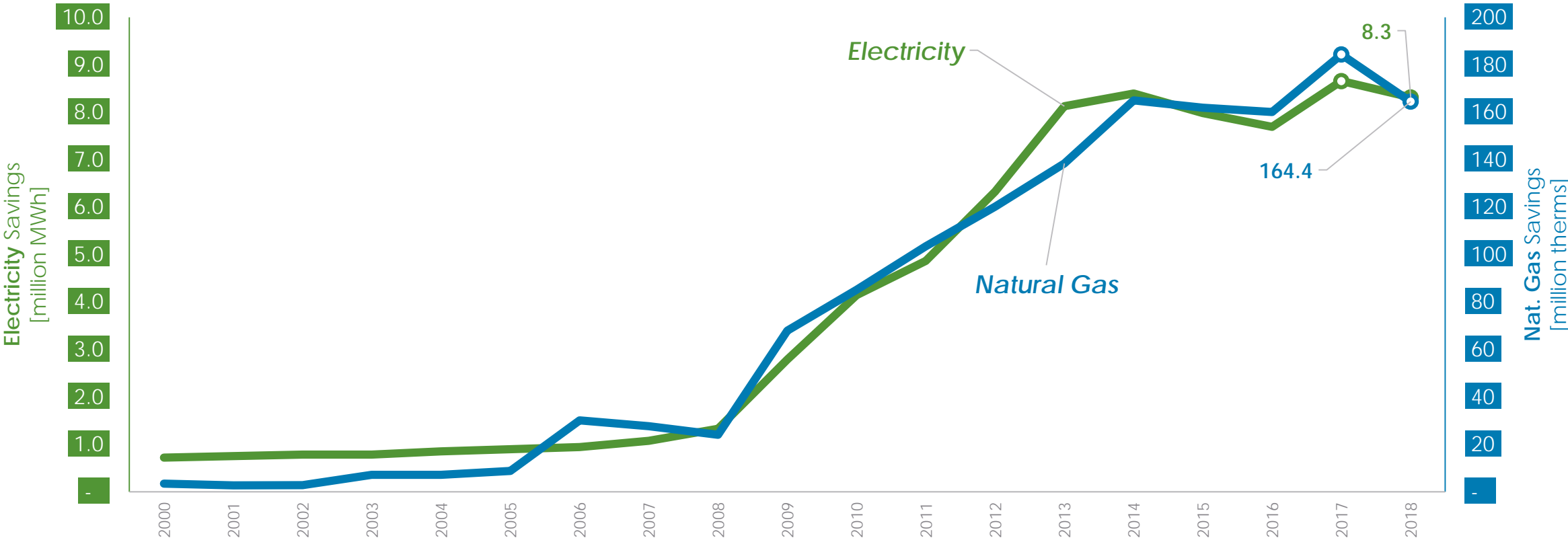
- Utilities
- Research institutions
- State and local governments
- Energy efficiency-related businesses



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.

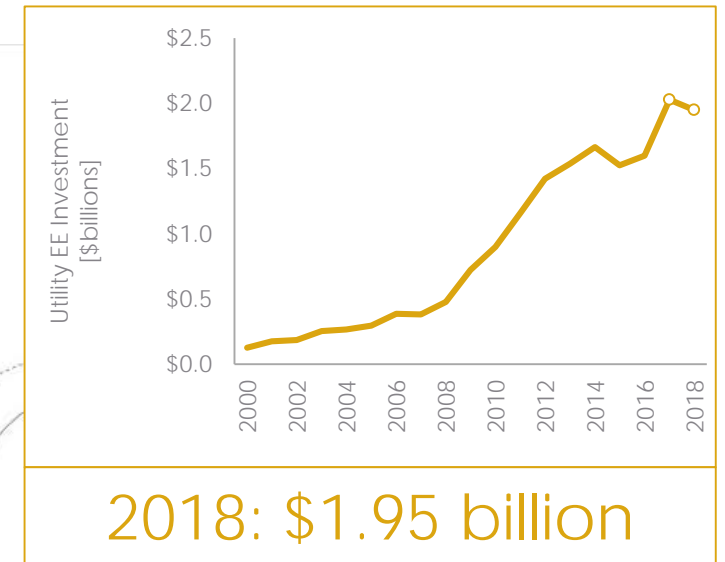
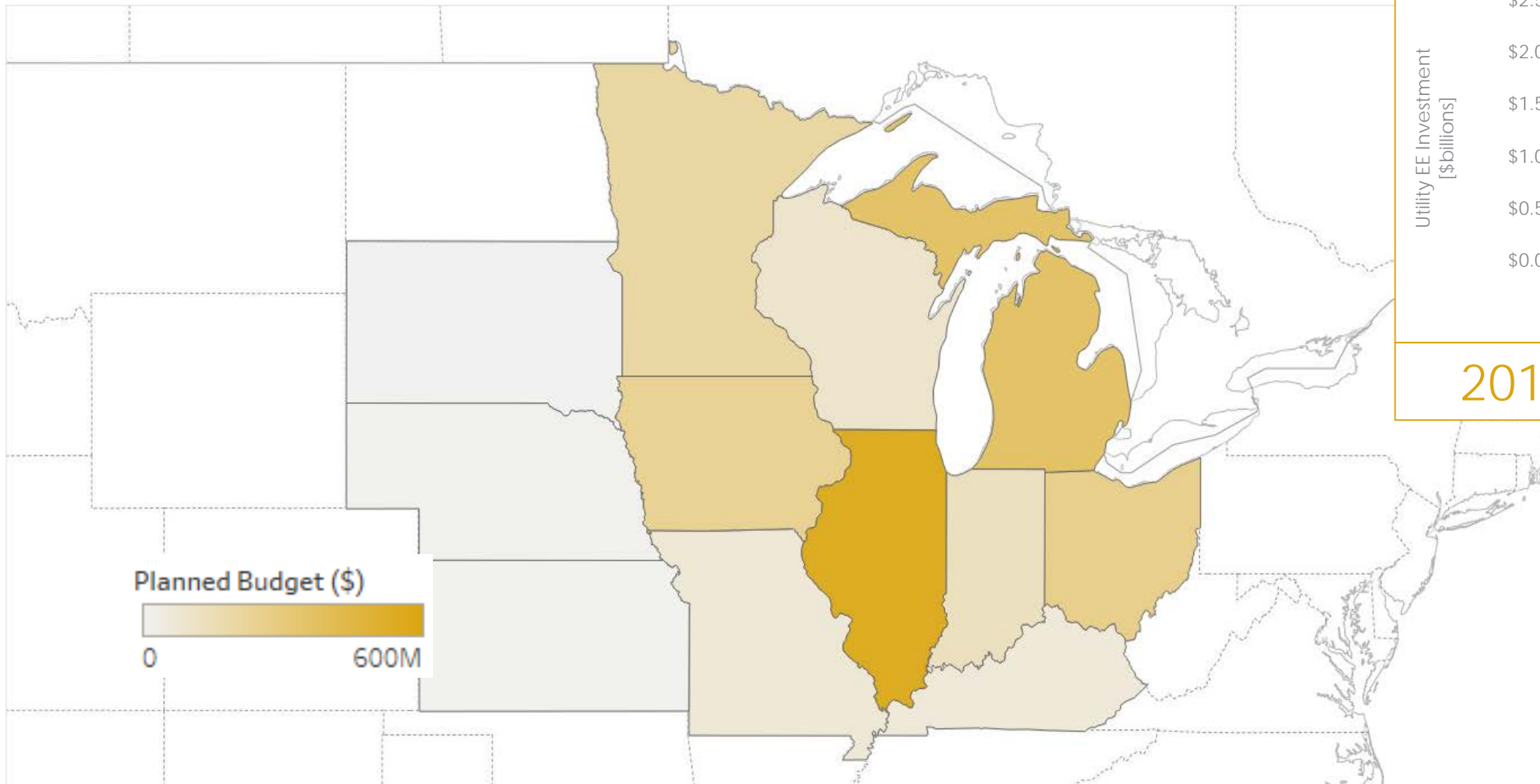


Midwest Energy Savings through Utility Energy Efficiency



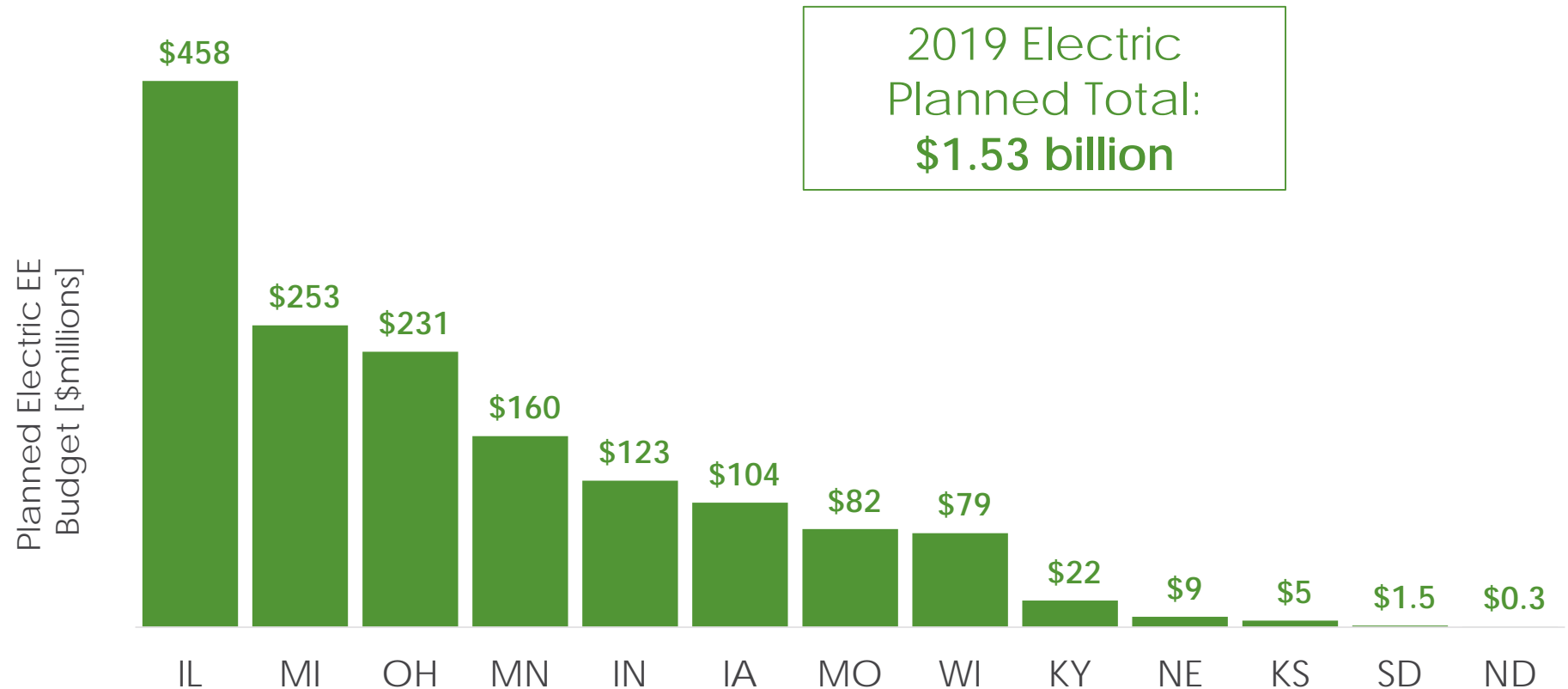
Energy Efficiency Investment in the Midwest

*Statewide **Total** Energy Efficiency Budget*



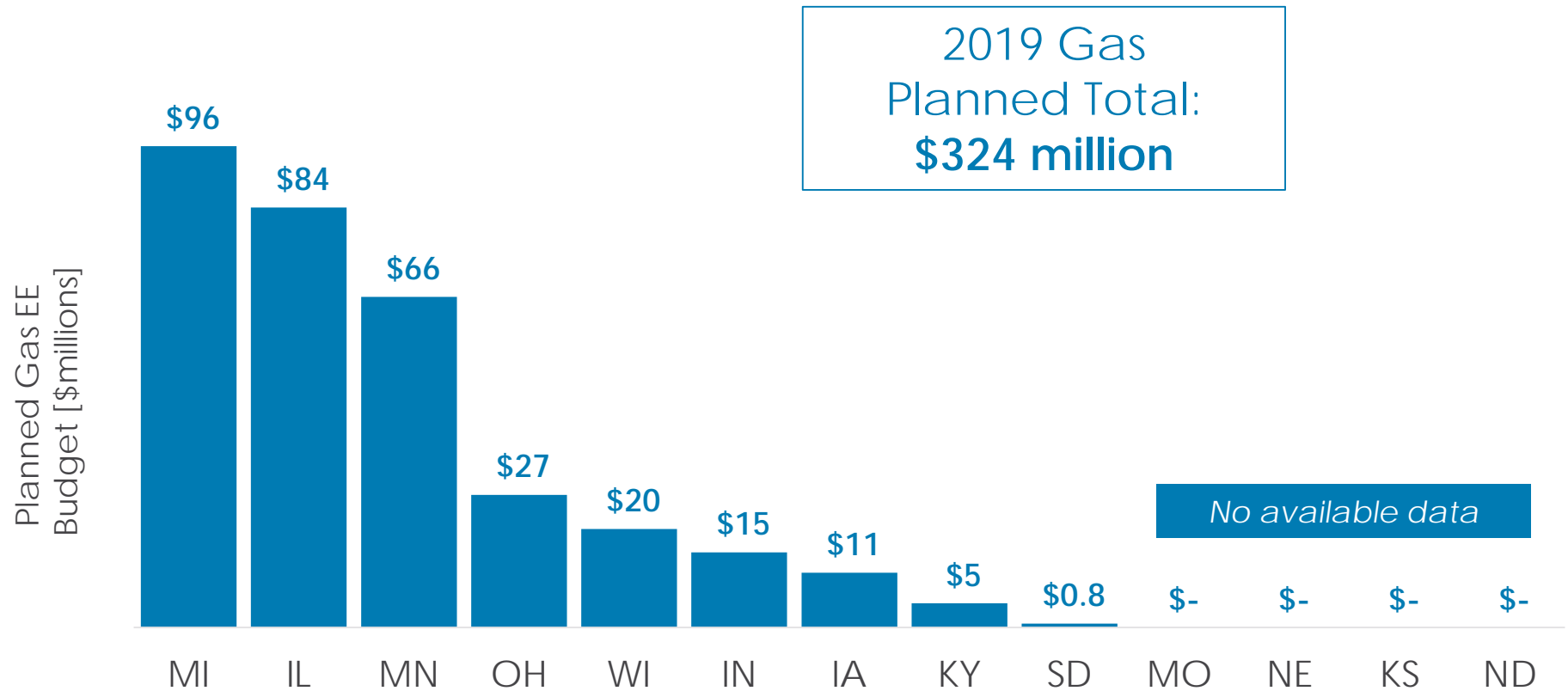
Statewide Energy Efficiency Budget

Electricity



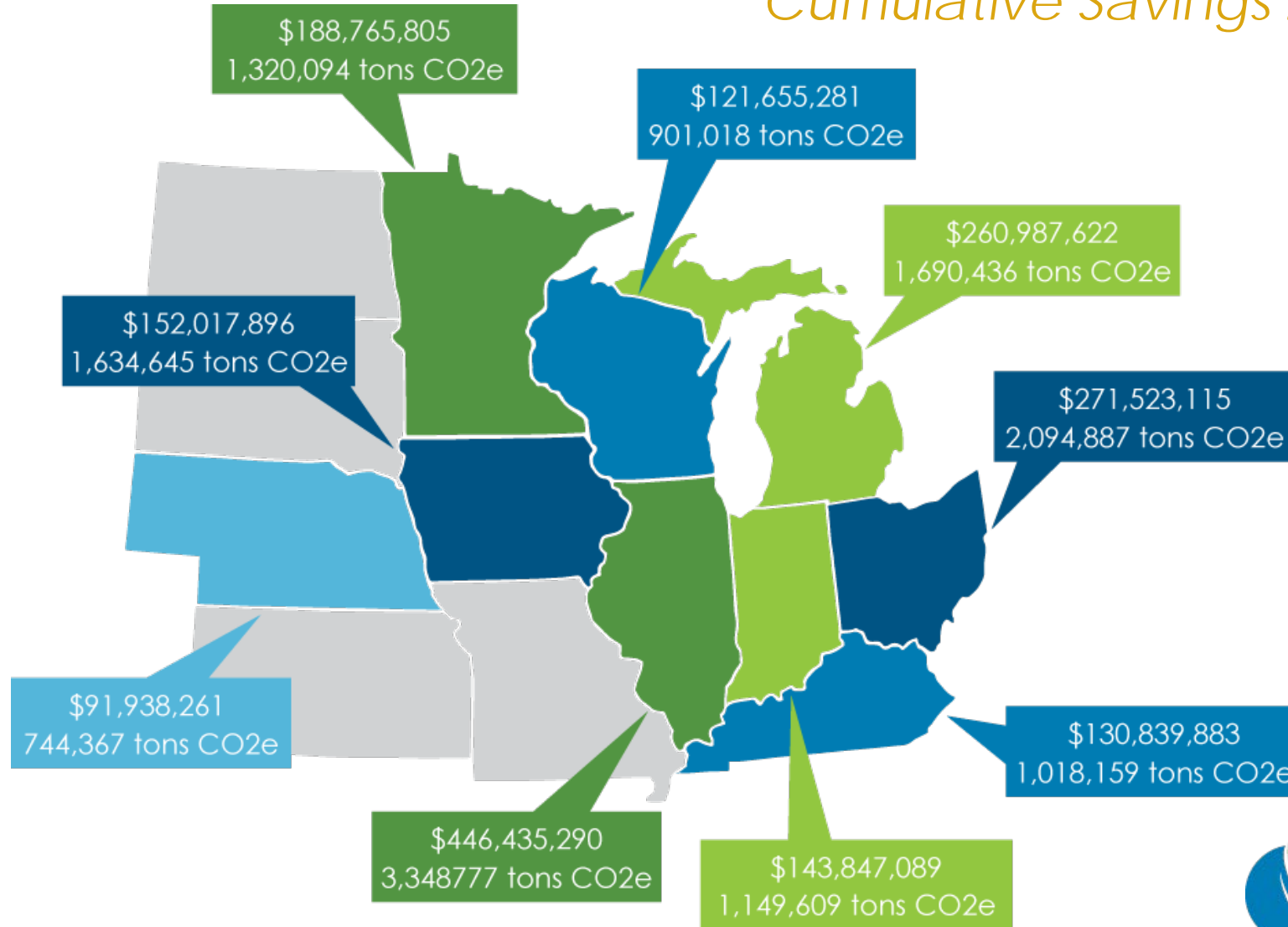
Statewide Energy Efficiency Budget

Natural Gas



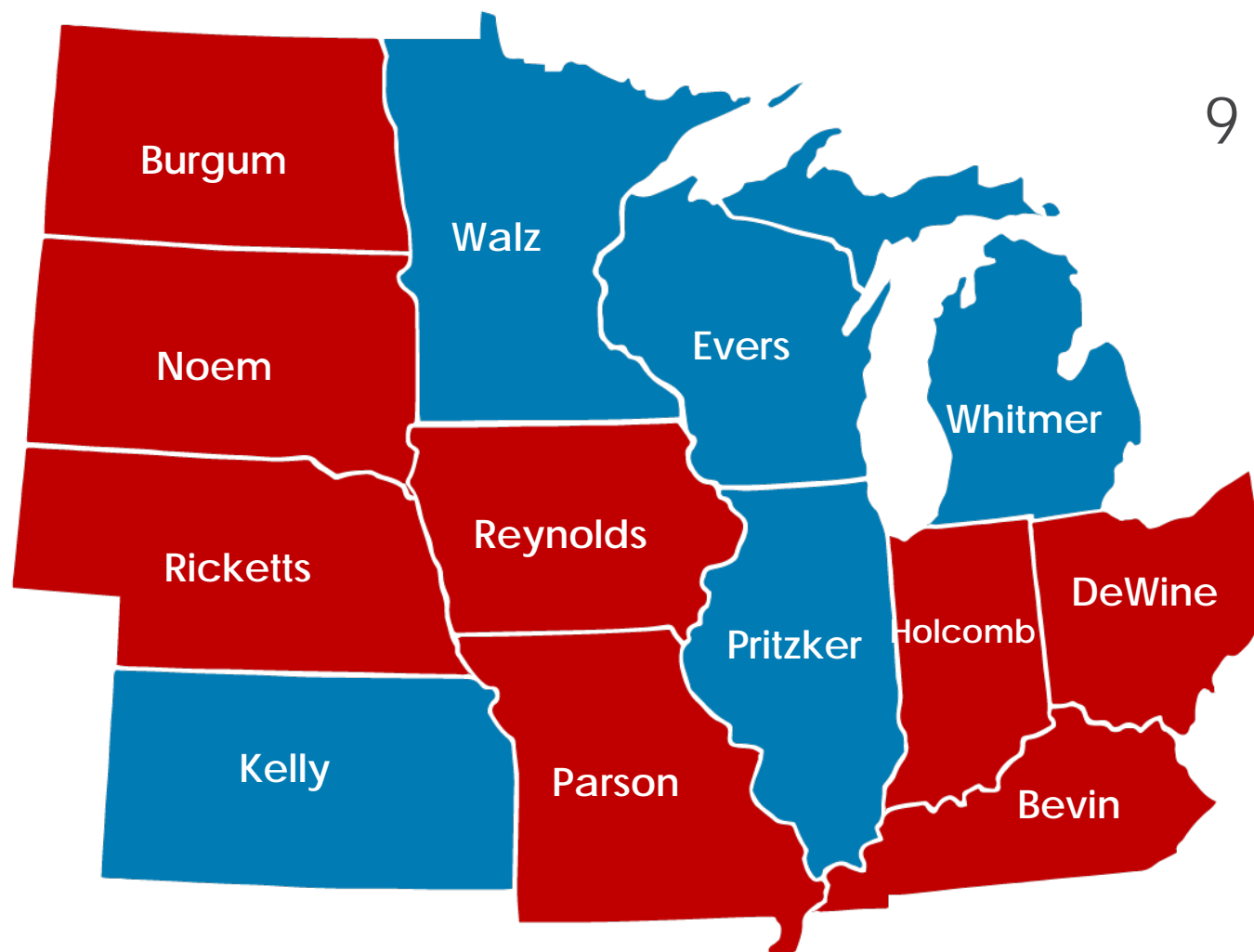
Building Energy Code Impacts in the Midwest

Cumulative Savings 2009-2017



Political Landscape: 2018 Elections

Governor's Party

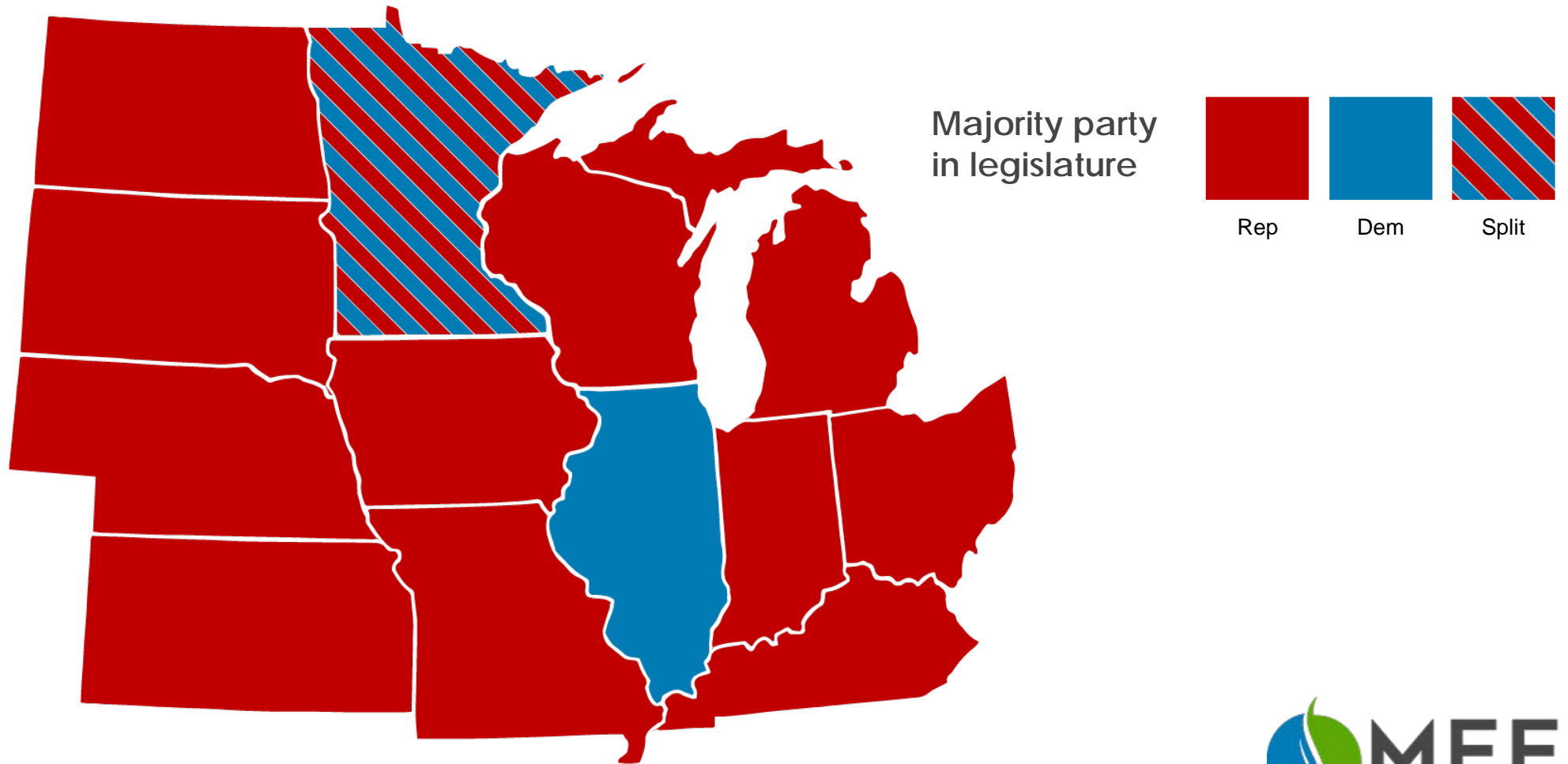


9 gubernatorial races

- 7 new governors
 - 3 same party: MN, OH, SD
 - 4 flipped party: IL, KS, MI, WI
- 2 incumbents re-elected: IA, NE

Political Landscape: 2018 Elections

Legislative Majority



100% Carbon-Free Goals

Illinois, Minnesota, and Wisconsin

- **IL:** Clean Energy Jobs Act (CEJA)
 - 100% carbon-free by 2030, and 100% renewable (no nuclear) by 2050. Expands gas EE and eliminates industrial exemption.
- **MN:** Clean Energy First Act:
 - 100% carbon-free by 2050, guidelines for future generation build that prioritizes EE, DR and in-state renewables before fossil fuel generation.
- **WI:** Office of Sustainability and Clean Energy
 - Tasked with transforming the state's power sector to 100% carbon-free by 2050 and increase EE in state facilities and operations.

Regressive Policies in 2019

Iowa and Ohio

- **Ohio HB 6:** effectively ends the state's EERS after 2020 (and RPS by 2026) and subsidizes nuclear and coal facilities in Ohio and Indiana.
- **Iowa SF 2311:** places hard caps on total EE portfolio spending and overrides the 2018 law that created "soft caps."

Midwest Policy Trends

What's driving EE in 2020 and beyond

- Increasing divide between states that invest in EE and those that don't
- Industrial opt-outs continue
- Low-income and multifamily focus
- EE & Integrated Resource Plans
- Increased EE investment in IL and MI
- New opportunities in WI, NE and KS
- Decreased EE investment in IA, KY and OH (MO?)
- Increased utility incentives in IL and MI

Midwest Program Trends

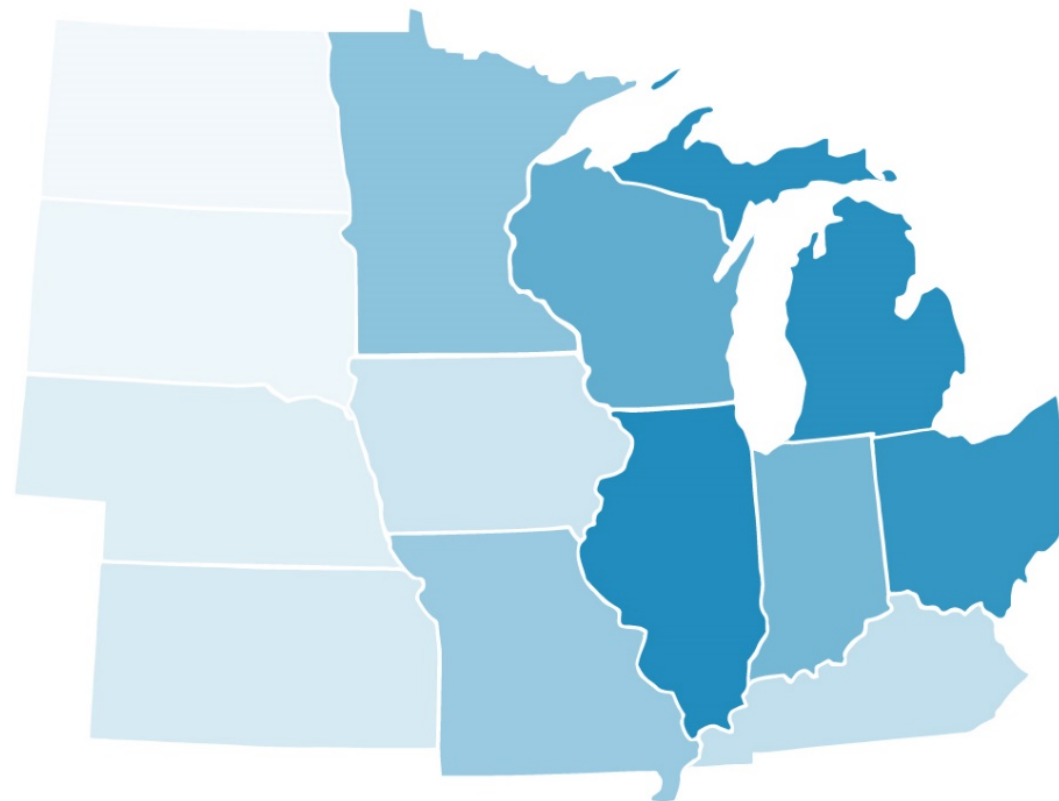
New programs need more long-term savings

- Clean Energy Priorities
 - 100% Clean energy proposals in IL, MN, MI, WI
- Electrification
- Integrated Buildings & New Technologies
- Market Transformation
- Low Income and Multifamily Programs
- Diversity & Inclusion
- Workforce Development



538,274

**Energy Efficiency Jobs
(as of 2017)**



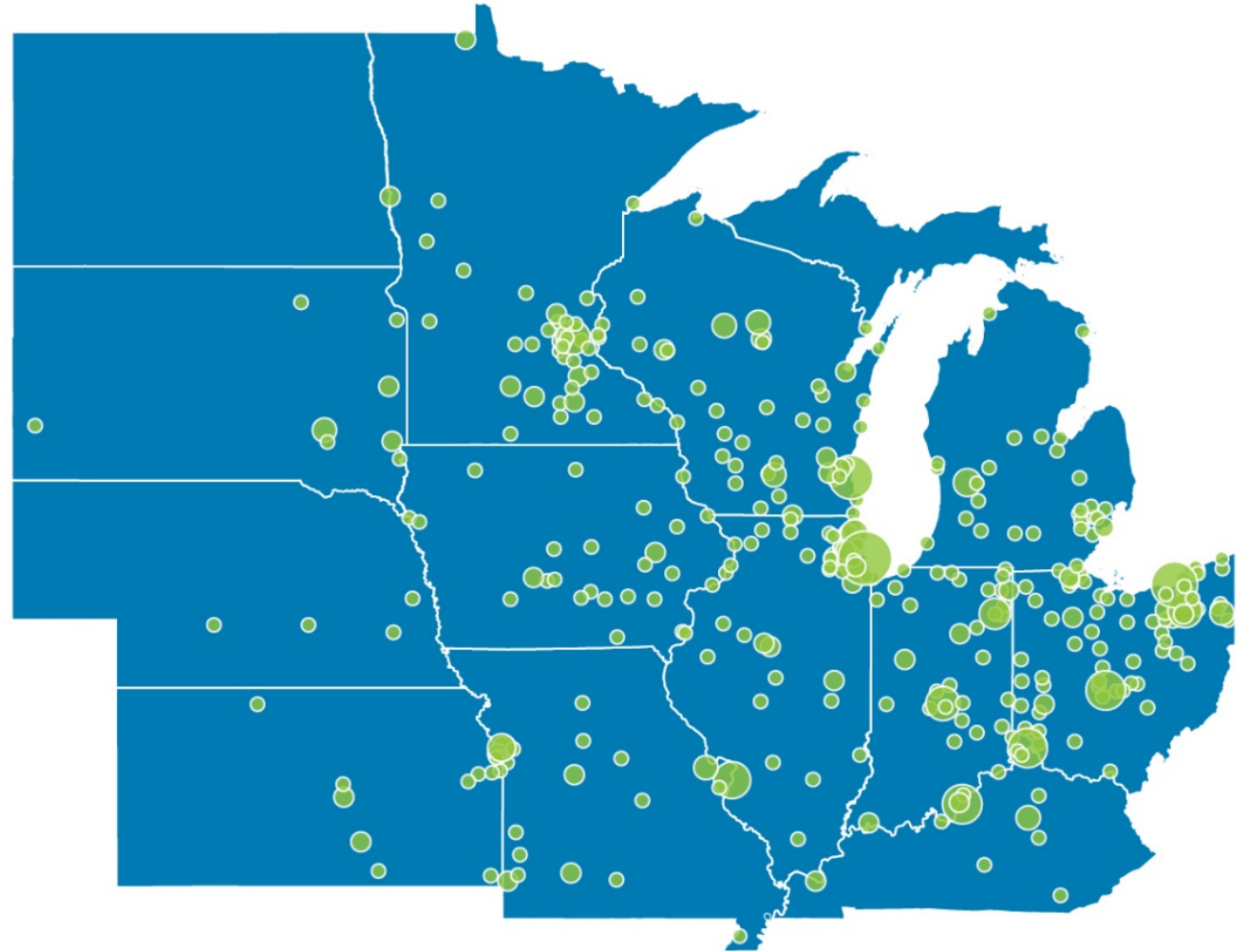
0

100,000





Manufacturers of Energy Efficient Products



Thank you!

*Stacey Paradis, Executive Director
Midwest Energy Efficiency Alliance
sparadis@mwalliance.org*



Panel Discussion

Q&A