



Energy Efficiency and Market Transformation Progress

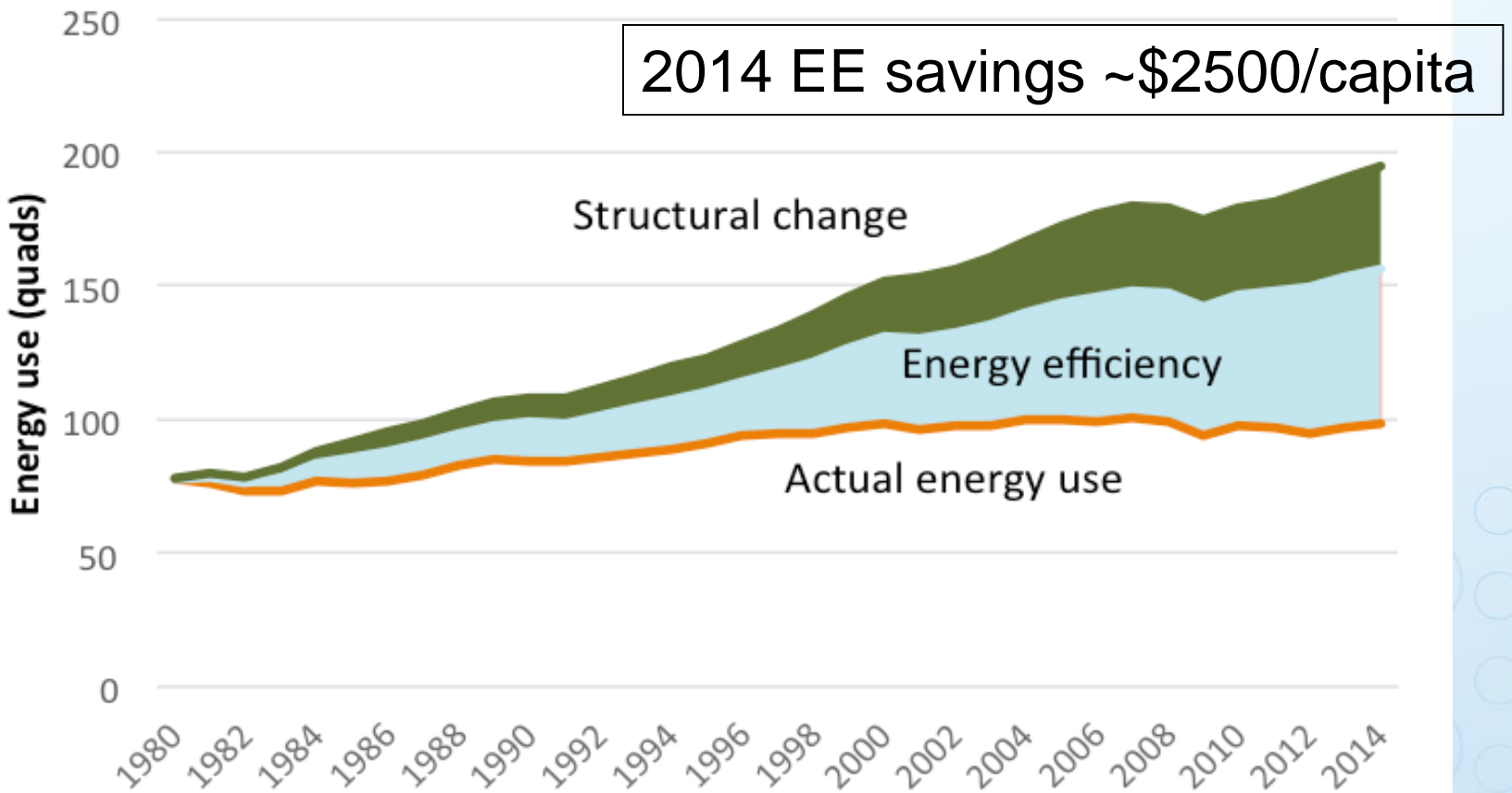
Steven Nadel

**American Council for an Energy-
Efficient Economy (ACEEE)**

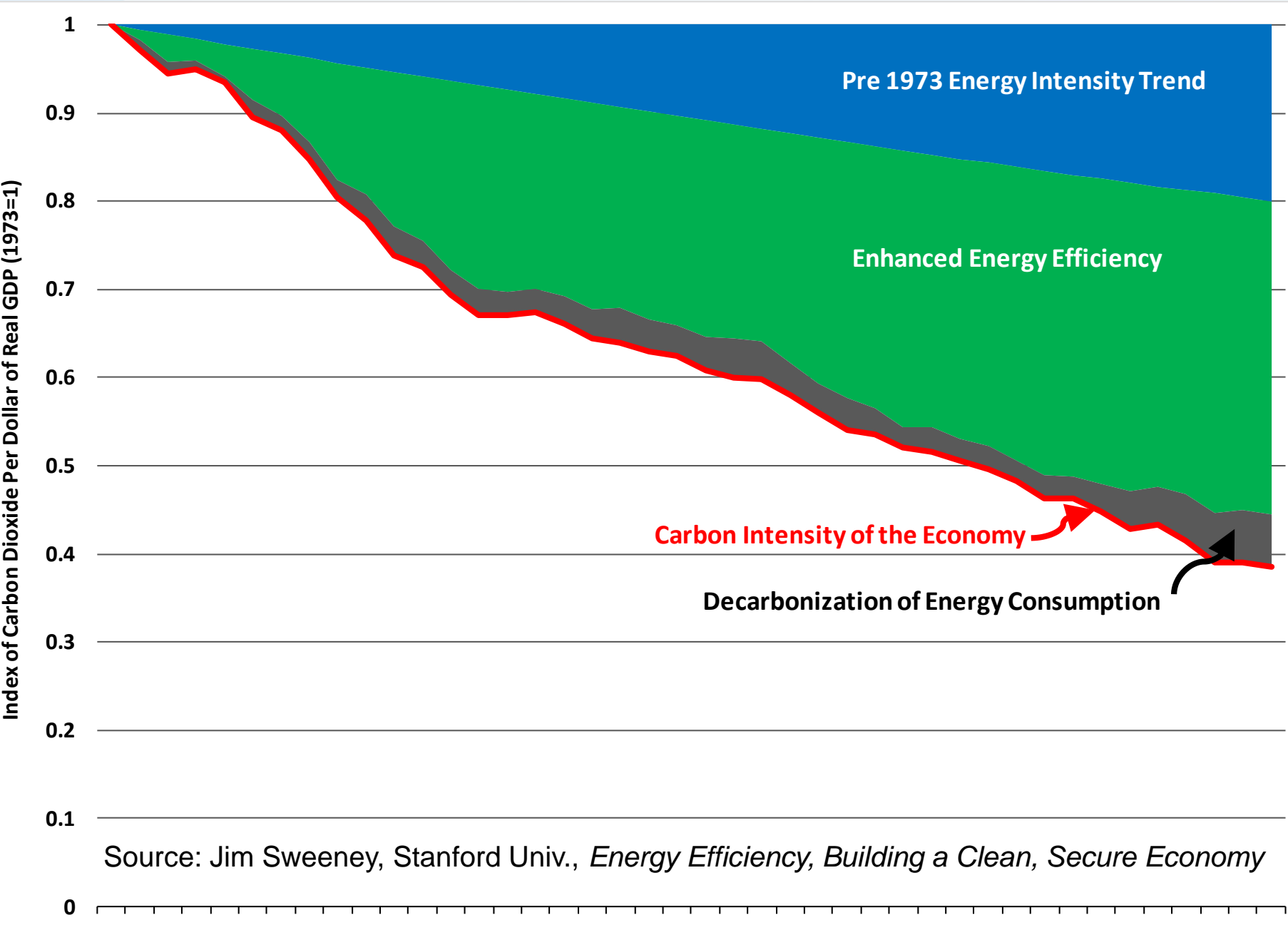
April 2017



U.S. Energy Use Since 1980



Factors Reducing US Carbon Dioxide Intensity

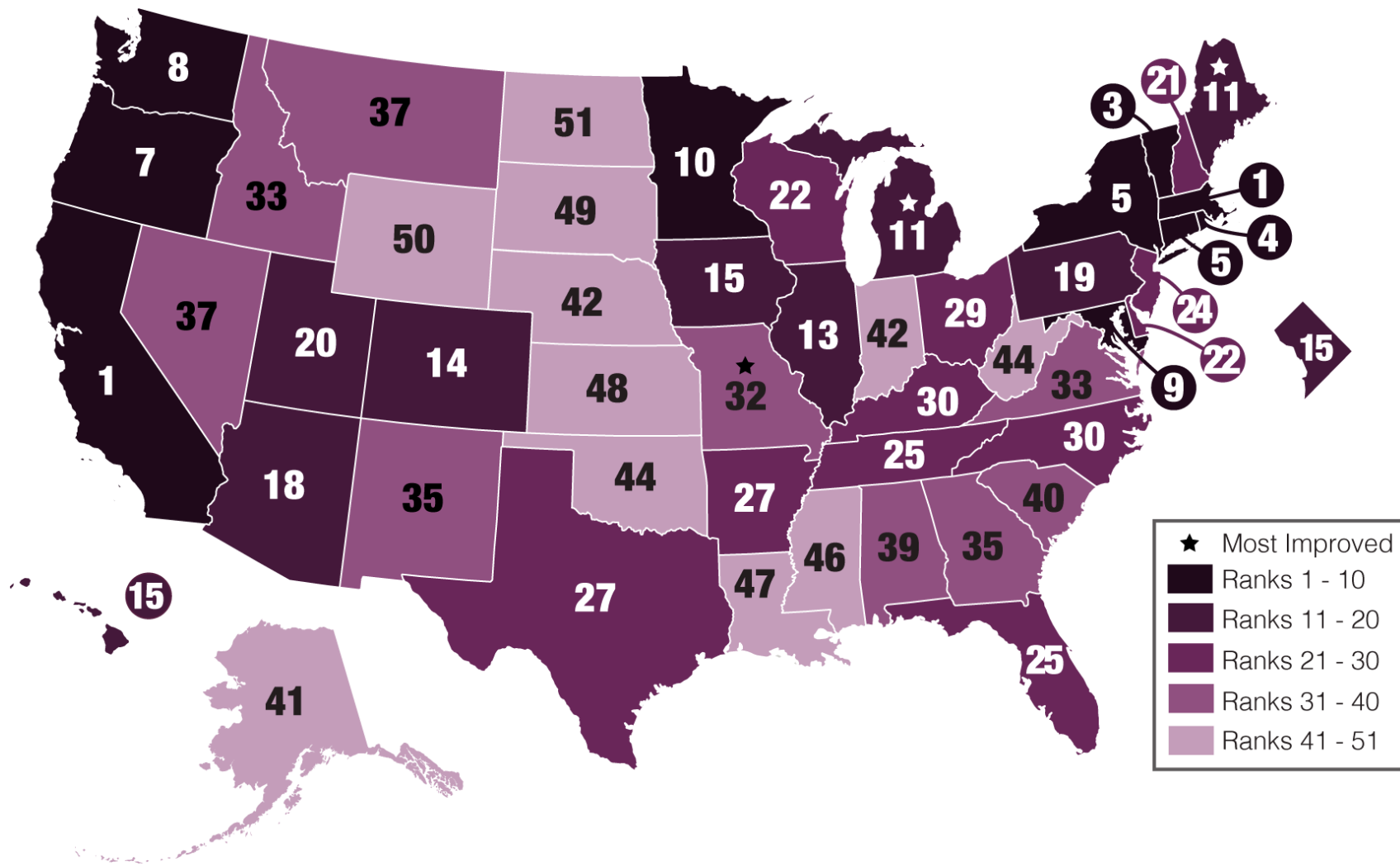


Source: Jim Sweeney, Stanford Univ., *Energy Efficiency, Building a Clean, Secure Economy*

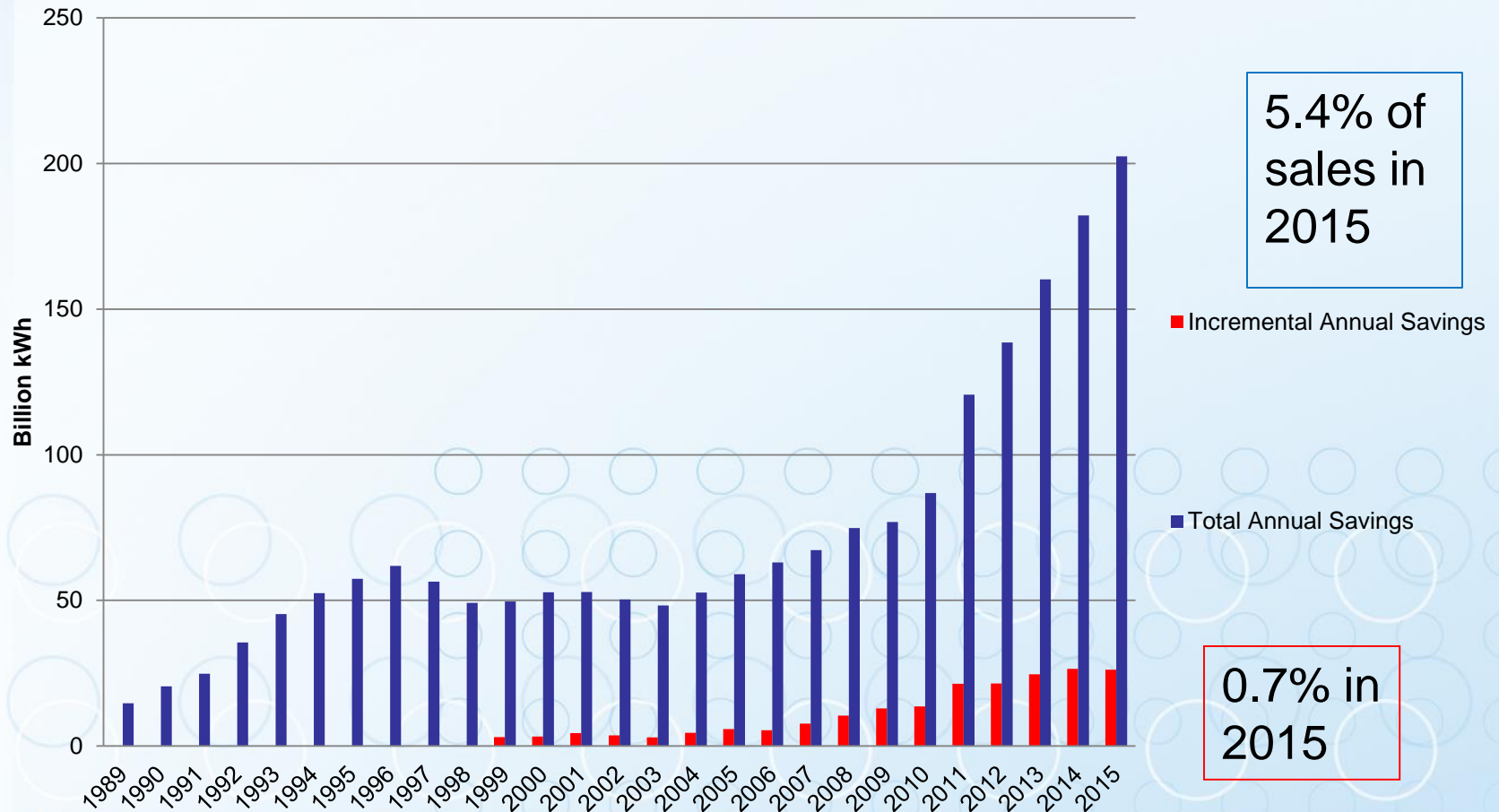
International Scorecard



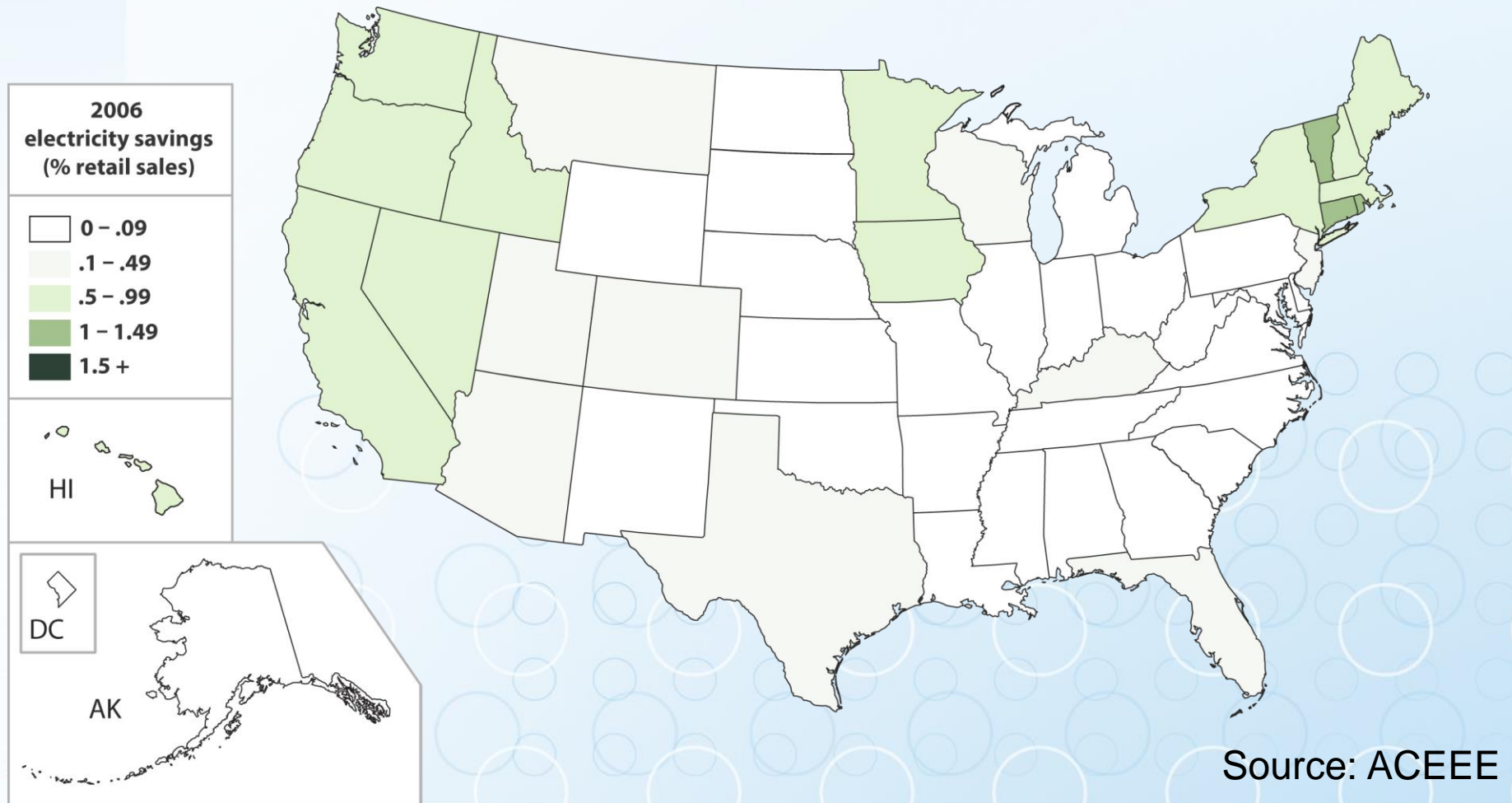
State Scorecard 2016



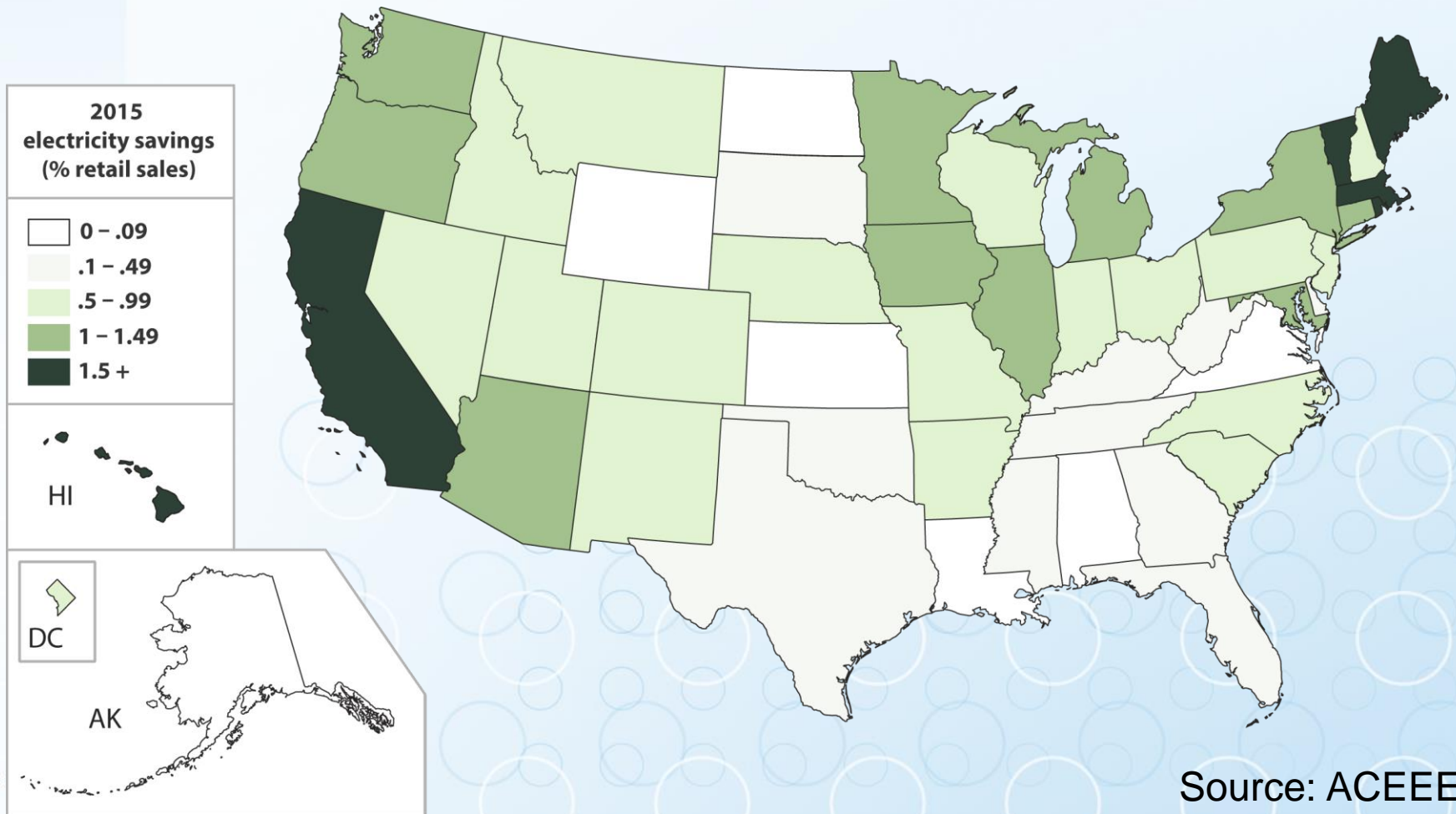
Savings from Utility-Sector Energy Efficiency Programs



Total Savings in 2006 from Utility Efficiency Programs



Total Savings in 2015 from Utility Efficiency Programs



Results by State

State	Electric			
	Average Target	Percent Covered	2015 Achieved	Estimated 2020
Rhode Island	2.6%	99%	2.91%	21.3%
Massachusetts	2.9%	86%	2.74%	21.9%
Vermont	2.1%	100%	2.01%	19.6%
California	1.2%	78%	1.95%	12.6%
Maine	2.4%	100%	1.53%	15.9%
Haw aii	1.4%	100%	1.52%	13.4%
Connecticut	1.5%	93%	1.48%	13.2%
Arizona	2.5%	56%	1.19%	17.4%
Michigan	1.0%	100%	1.16%	8.9%
Minnesota	1.5%	100%	1.15%	12.2%
Illinois	0.7%	89%	1.13%	11.2%
Oregon	1.3%	69%	1.09%	11.1%
Washington	1.5%	81%	1.06%	11.8%
New York	0.7%	100%	1.05%	6.9%
Maryland	2.0%	100%	1.01%	12.5%
low a	1.2%	74%	1.00%	10.6%

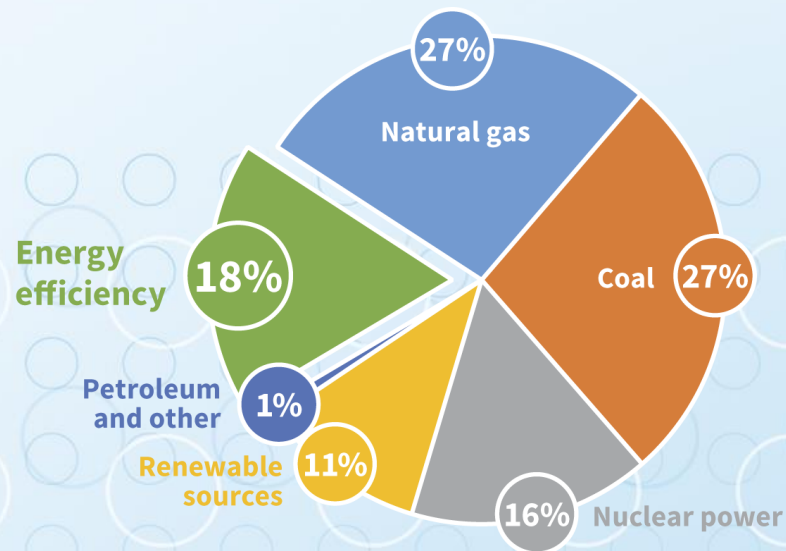
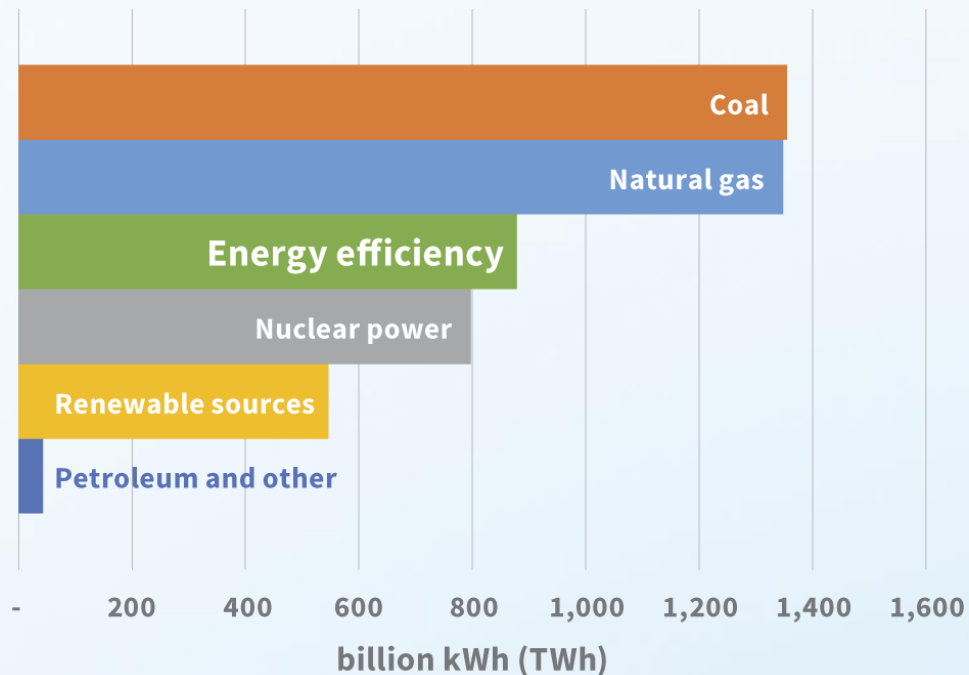
Source:
ACEEE
analysis for
forthcoming
ECEEE
paper

Progress on MT Initiatives

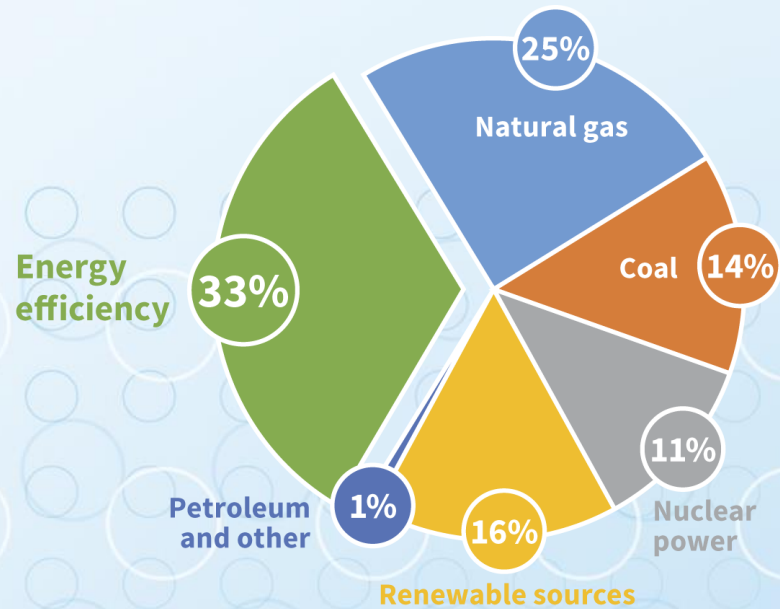
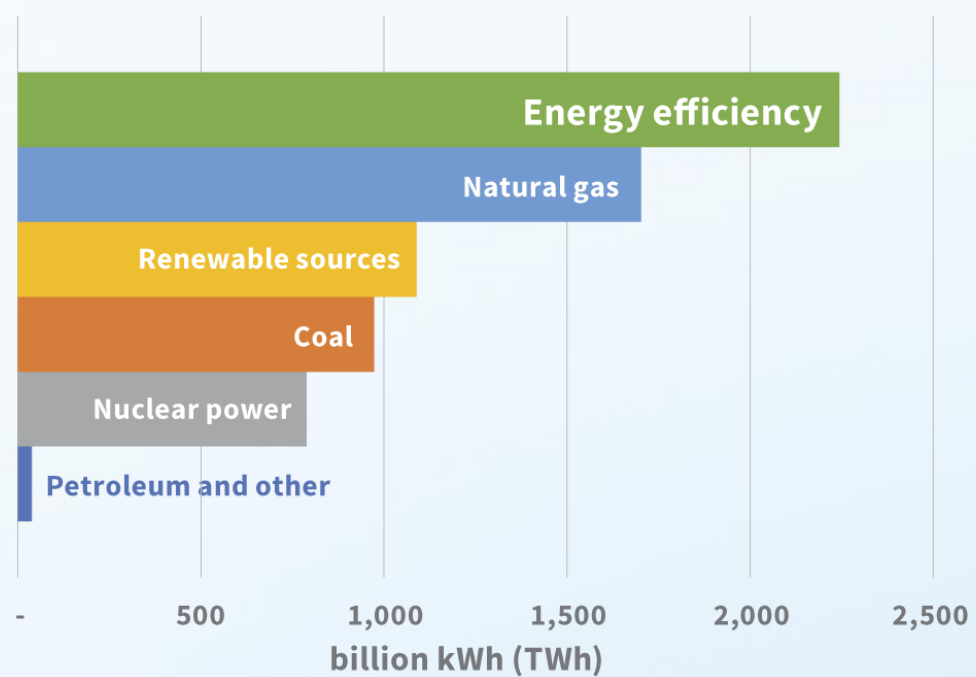
- LED's 32% of screw-ins in 3Q 2016; LEDs also more common in C&I
- Over 200 ZNE commercial buildings
- Cold climate HP offerings continue to grow
- New DOE standards on comm'l AC, battery chargers, pumps and hopefully AC/HP and pool pumps

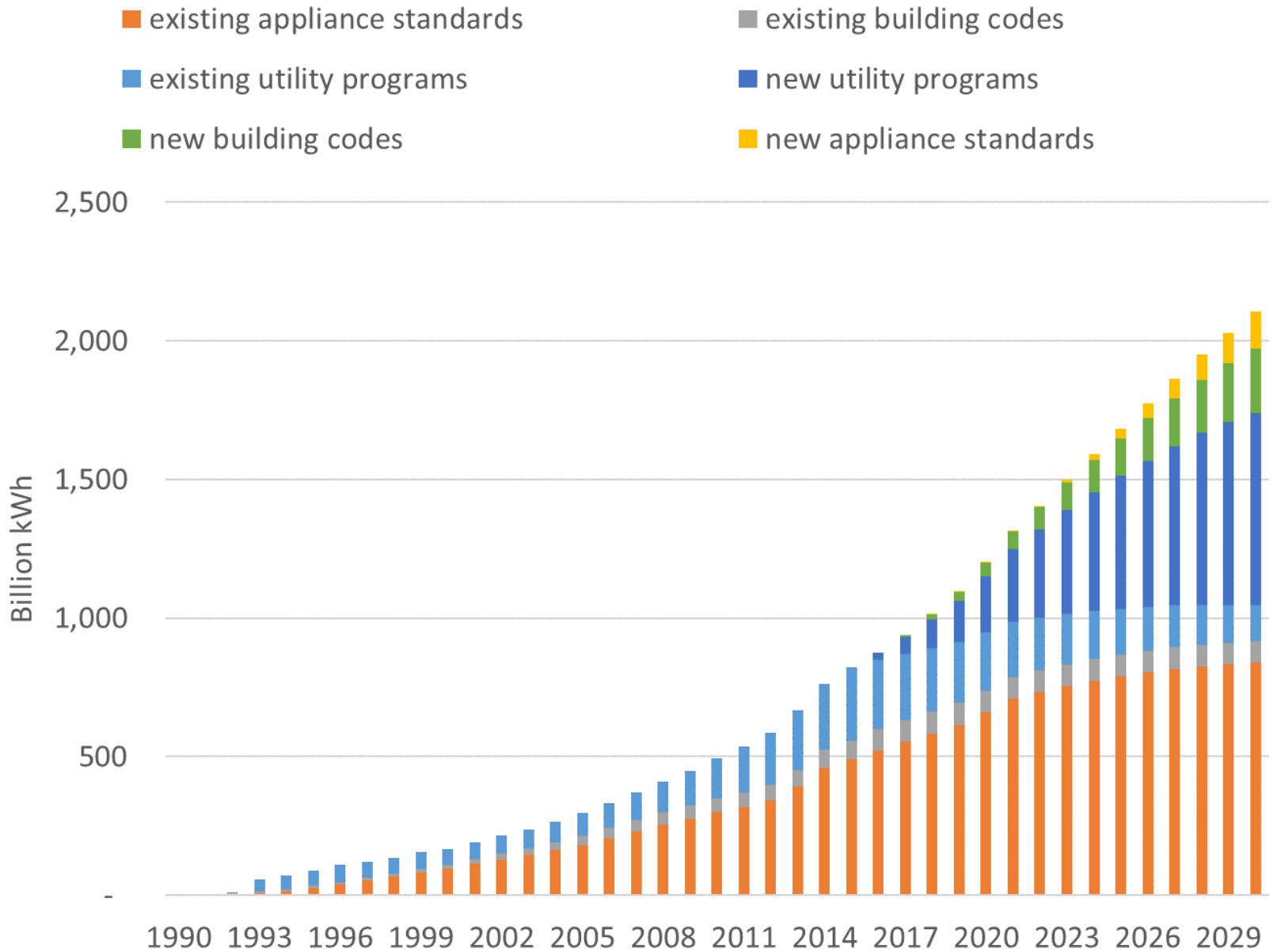


In the electricity sector, efficiency is now our 3rd largest resource...



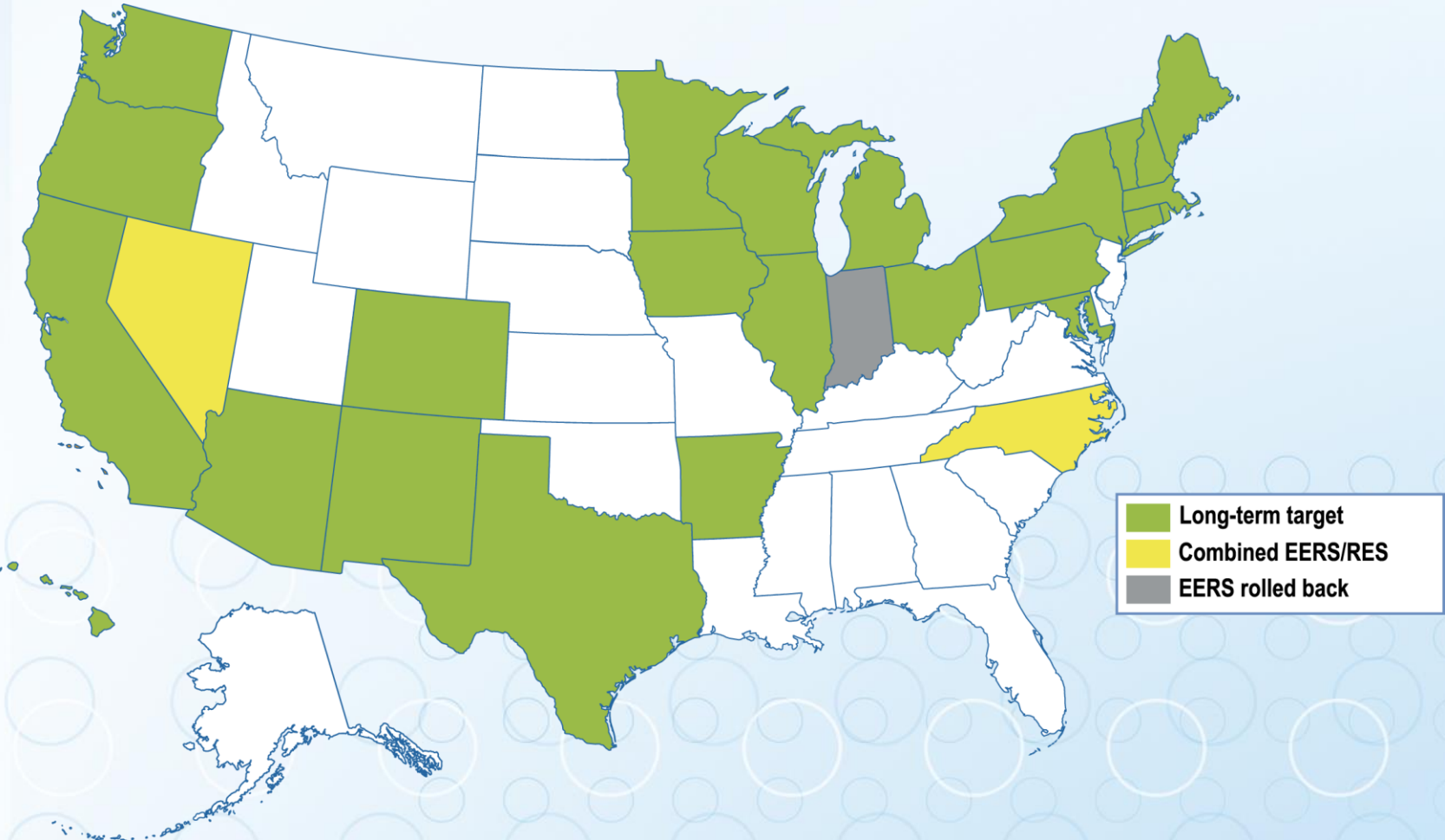
...and could become our largest resource by 2030





Electric Energy Efficiency Targets

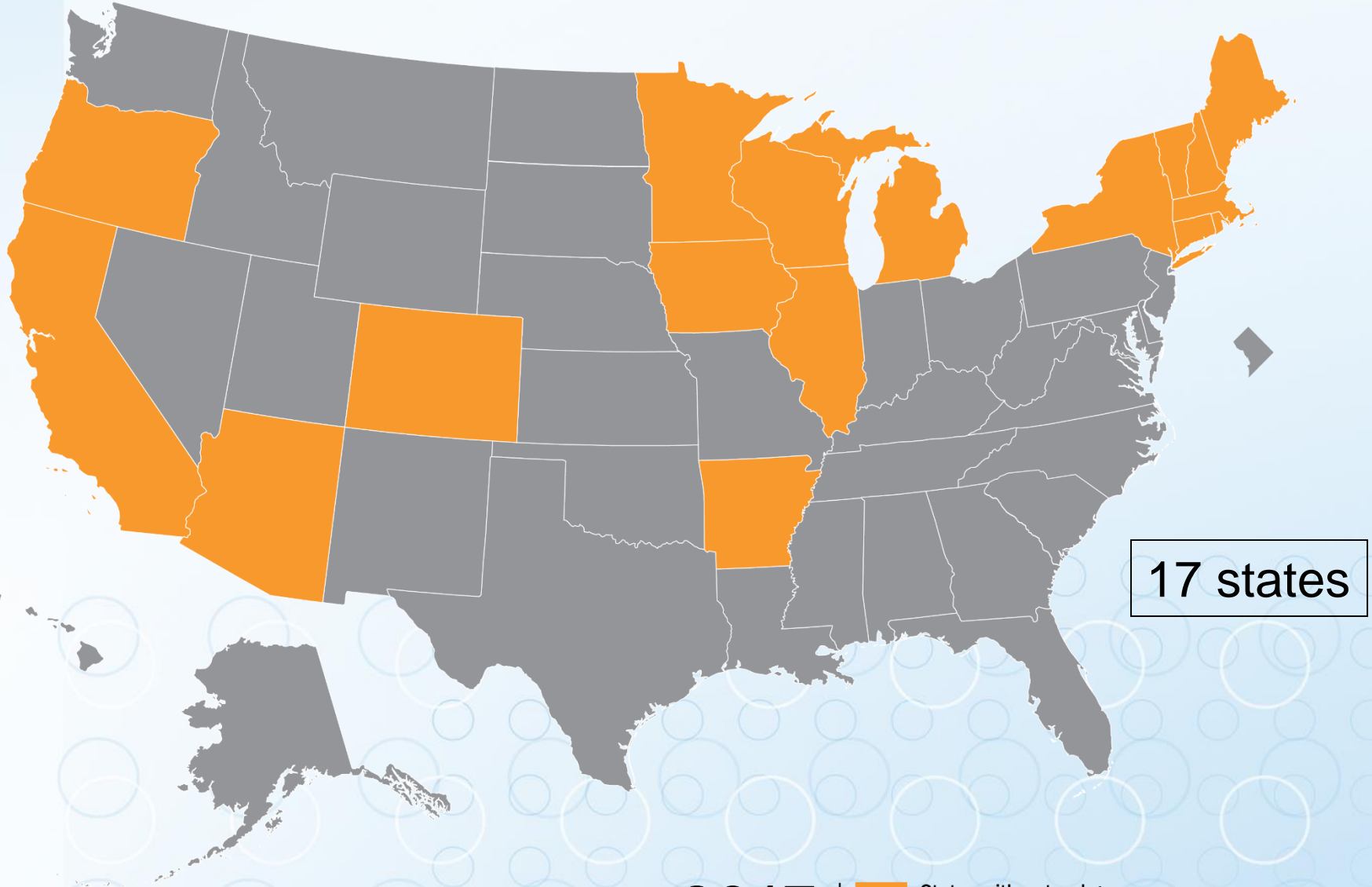
26 states with EERS in place and fully funded



Impact of EERS (2015 data)

Policy	No. of states	Average EE investments as % of revenues*	Average EE savings as % of sales*
No EERS	24	0.7	0.3
Yes EERS	26	2.6	1.2

Gas Energy Efficiency Targets



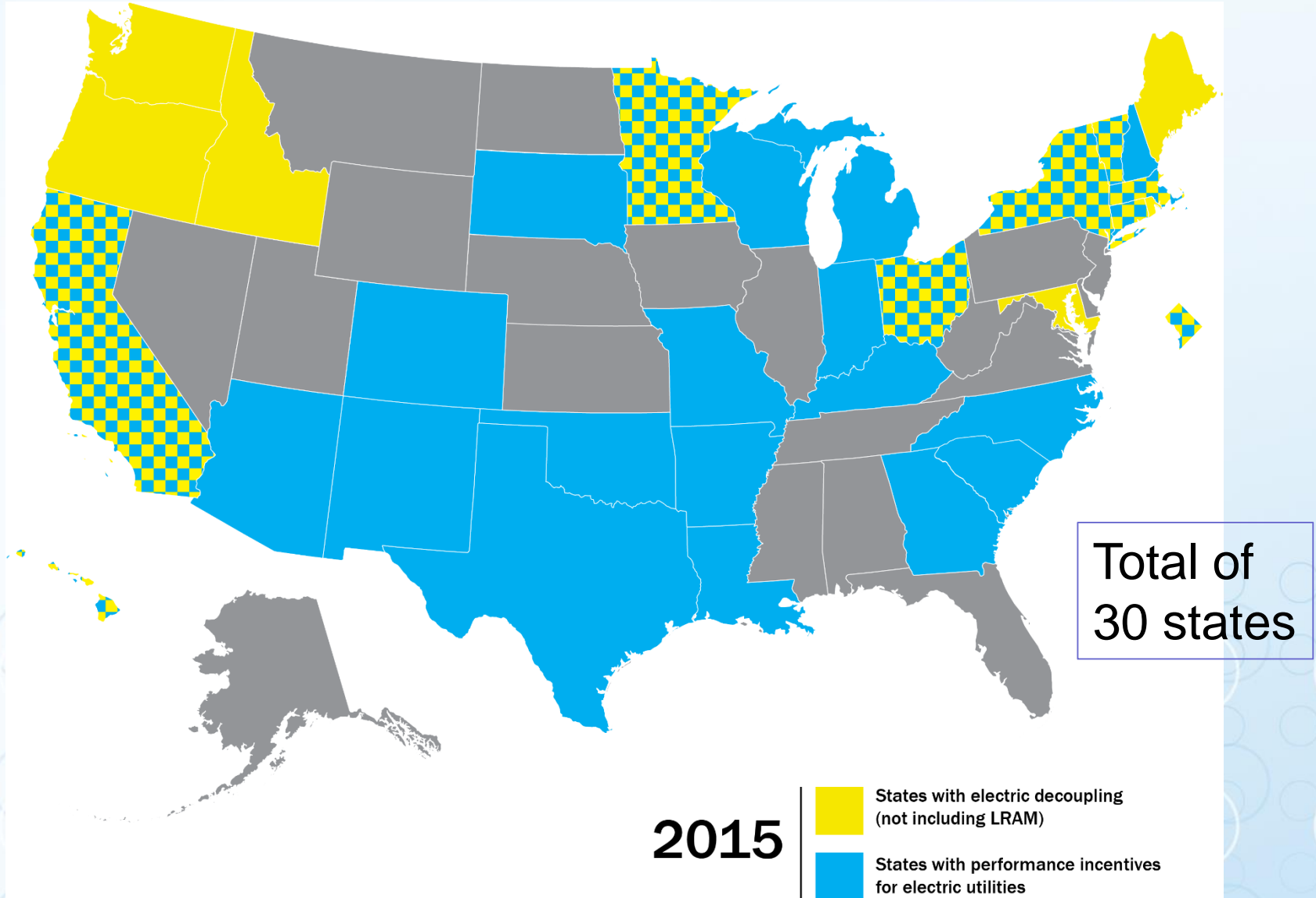
17 states

2017

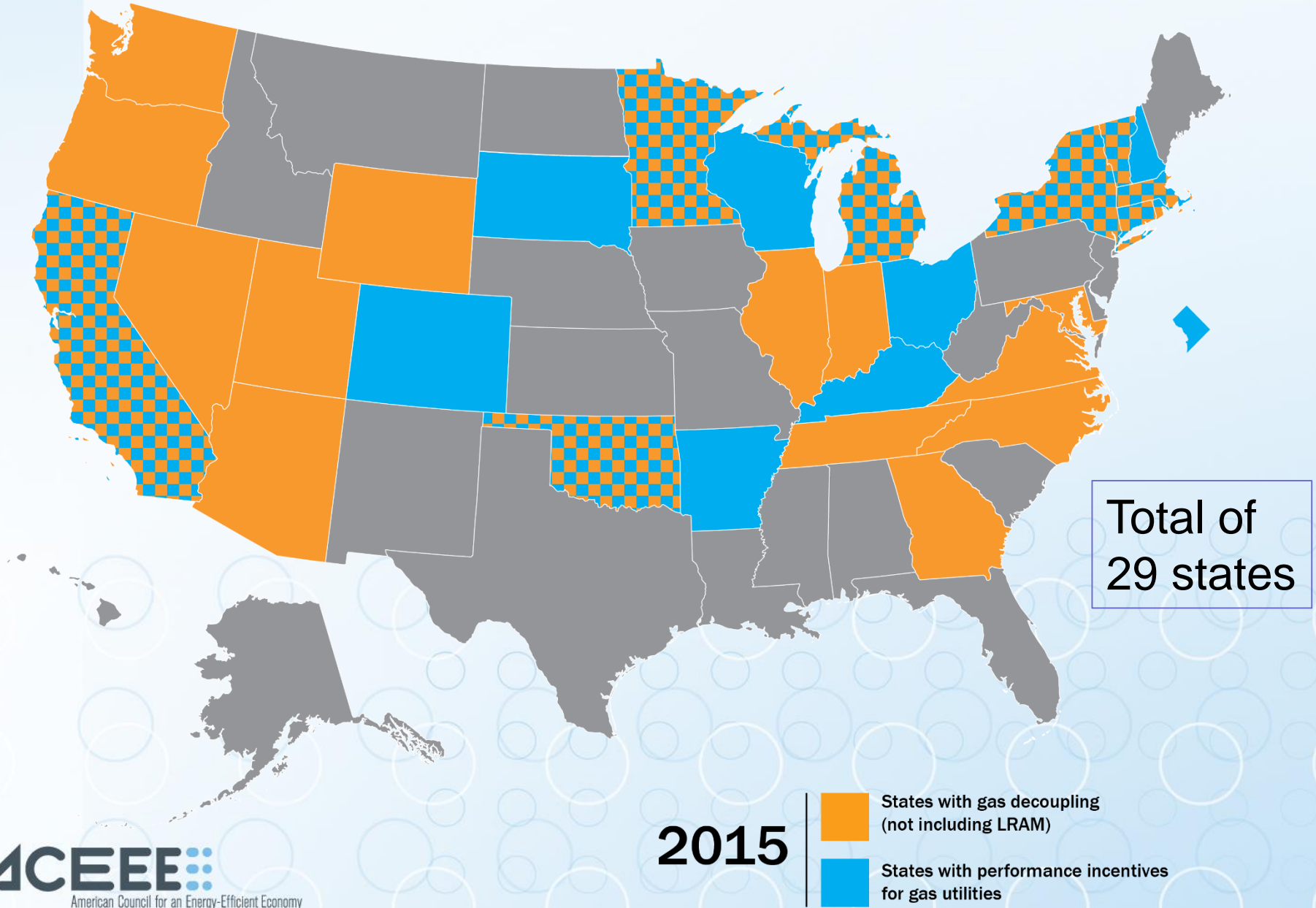


States with natural gas targets

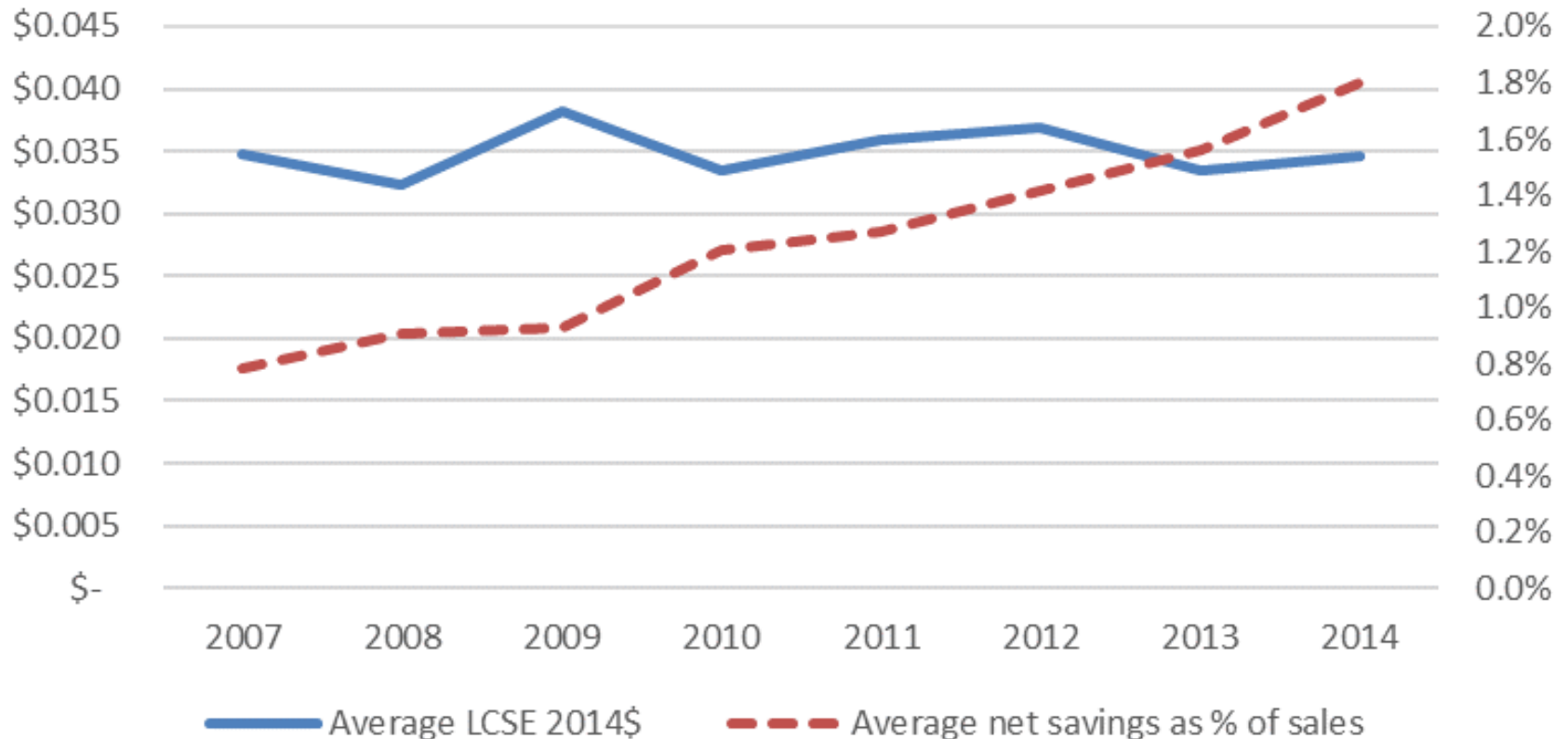
Business Model for Electric Utilities



Business Model for Gas Utilities



Average Cost of Saved Energy and Energy Savings as a % of Retail Sales for Major Utility Programs



Emerging Savings Opportunities

- Intelligent efficiency – smart buildings & manufacturing, controls
- Industrial process & CHP
- Variable speed HVAC including cold climate heat pumps; quality installation
- Plug & misc. loads
- Conservation voltage reduction
- ZNE and ZNE-ready new buildings
- Deeper residential & commercial retrofits; financing



Our Panel



Jay Fisette, Arlington County
Board

Sue Gander, National Governors
Association

Jennifer Schafer, Cascade
Associates