CNTenergy

ACEEE
American Council for an Energy-Efficient Economy

Engaging as Partners in Energy Efficiency: Multifamily Housing and Utilities

Anne McKibbin, CNT Energy
Eric Mackres, ACEEE

February 2012

Project Overview

- **Highlight opportunity** in multifamily energy efficiency
- **Describe utility motivations** around multifamily energy efficiency
- **Describe policies** that promote multifamily energy efficiency
- **Identify states** that would benefit most from improved policies
- **Provide recommendations** to improve policy in specific circumstances

CNTenergy

ACEEE
American Council for an Energy-Efficient Economy

Acknowledgements

- This report was made possible by support from Living Cities and the John D. & Catherine T. MacArthur Foundation.

- The authors would like to thank the numerous housing and energy efficiency experts who contributed comments, interviews, and case studies to the report.

The Opportunity

- Over 22 million U.S. households live in multifamily buildings and spend billions on energy.
- The market for energy efficiency is fragmented.
- Multifamily building owners need:
  - technical assistance
  - financing
  - qualified contractors
  - financial incentives

CNTenergy

ACEEE
American Council for an Energy-Efficient Economy

The Opportunity

- At scale, comprehensive programs can save 30% of natural gas use and 15% of electricity use.
- The nationwide potential savings from multifamily energy efficiency are huge.
  - $3.4 billion per year in savings.
- Utilities invested $4.3 billion in efficiency in 2009.
  - Utilities expected to invest $7.5 to 12 billion annually by 2020.

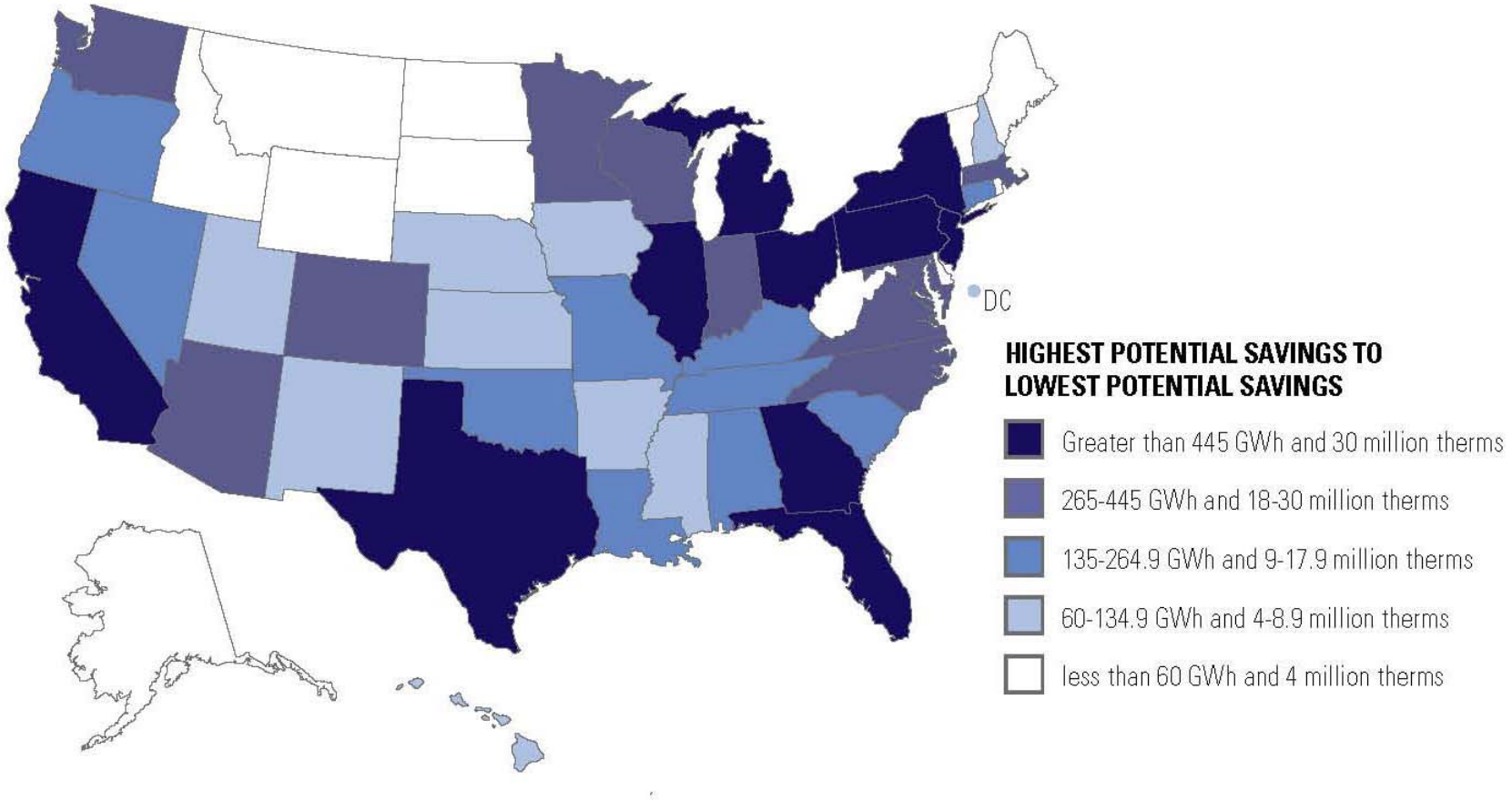
CNTenergy

ACEEE
American Council for an Energy-Efficient Economy

The Opportunity

FIGURE 1

ANNUAL SAVINGS BY STATE WITH 15% ELECTRIC AND 30% NATURAL GAS EFFICIENCY IMPROVEMENT IN MULTIFAMILY BUILDINGS



CNTenergy

ACEEE
American Council for an Energy-Efficient Economy

The Opportunity

- NYSERDA Energy $mart Multifamily Performance
- 135 Broadway, Saranac, New York
  - 13 residential units, downtown, over 90 years old
  - New boiler, controls, and water heater
  - More efficient appliances
  - More efficient windows
  - Upgraded lighting

  - Energy savings: 27%
  - Annual cost savings: $6,495
  - Lifetime cost savings: $41,913
  - Payback: 7 years

CNTenergy

ACEEE
American Council for an Energy-Efficient Economy

The Opportunity

- Public utilities represent an outstanding opportunity for engagement and leveraging of resources for improved energy efficiency.
- Case studies of excellent utility multifamily efficiency programs are in the report.
- Partnerships between multifamily building owners and utilities are needed to improve under-performing programs.

CNTenergy

ACEEE
American Council for an Energy-Efficient Economy

Aligning Utility Business Models and Energy Efficiency

- Utility programs vary substantially
  - Simple programs are most common, but . . .
  - Comprehensive programs get higher savings
- Utility business models vary dramatically and determine motivations around energy efficiency:
  - Utility type
  - State energy efficiency laws, if any
  - Regulatory requirements

Business Case is a 3-Legged Stool

1. Cost recovery

2. Address “throughput incentive”

3. Return on investment

More in ACEEE’s White Paper:

The Old Model Isn’t Working: Creating the Energy Utility for the 21st Century

CNTenergy

ACEEE
American Council for an Energy-Efficient Economy

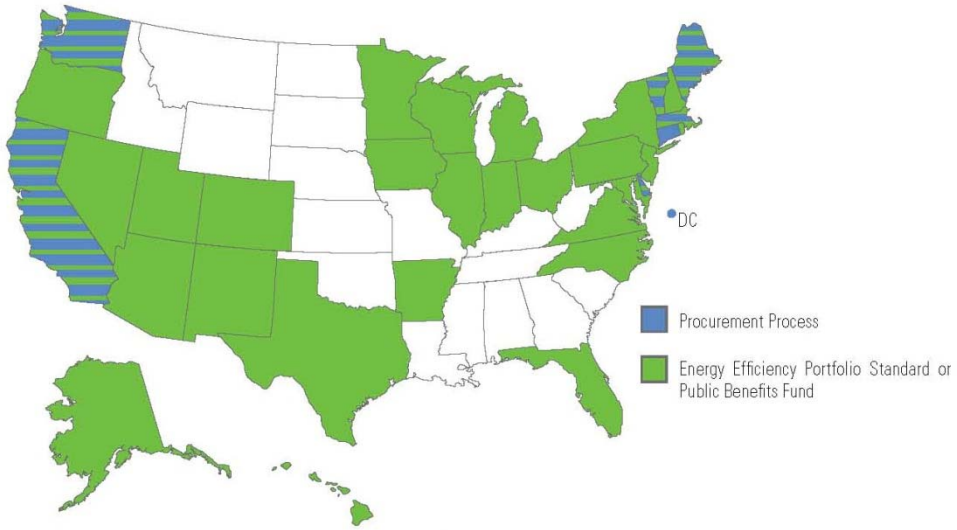
Utility Circumstances and Efficiency

- No single strategy for aligning utility business models and building owner needs nationwide.
- Several types of laws drive utility efficiency investments in the states:
  - Energy efficiency portfolio standards
  - Public benefits funds
  - Integrated resource plans
  - Procurement processes
  - Data-sharing rules
  - On-bill finance

Utility Circumstances and Efficiency

- Energy efficiency portfolio standards and public benefits funds are the main drivers for energy efficiency in 32 states.
- Details of these standards vary, and can have a dramatic impact on multifamily program availability and resources.

FIGURE 4
RULES THAT GUIDE UTILITY ENERGY EFFICIENCY INVESTMENT[25]



CNTenergy

ACEEE
American Council for an Energy-Efficient Economy

Utility Circumstances and Efficiency

- Examples from the states

TABLE 1

MULTIFAMILY ENERGY EFFICIENCY PROGRAM BUDGETS AND SAVINGS GOALS COMPARED TO TOTAL RESIDENTIAL PROGRAM PORTFOLIOS

	Arizona	California	Colorado	Illinois	Massachusetts	New York
% of housing units in MF 5+ units	15.9%	22.5%	19.9%	20.2%	19.9%	32.4%
2010 Multifamily budget (gas and electric)	$14,053	$26,729,513	$479,073	$3,228,752	$31,830,246	$52,751,515
- as % of total residential budget	0.06%	12.5%	1.8%	5.2%	20.0%	28.3%
- as % of MF and SF combined budget	0.12%	29.2%	5.0%	47.3%	33.0%	34.0%
2010 Funding per unit of MF 5+	$0.03	$8.96	$1.14	$3.05	$58.63	$20.51

* Programs included in this comparison are: Arizona Public Service Company's Multifamily Energy Efficiency program (planning stage, numbers are actual spending and savings), California's Statewide Multifamily Energy Efficiency Rebate Program, Colorado's Low-Income Multifamily Weatherization, ComEd's Multifamily All Electric Sweep, Ameren's Multifamily In-Unit Efficiency Program and Common Area Lighting Programs, IL Department of Commerce and Economic Opportunity's Low Income Energy Efficiency Moderate Rehab program, Massachusetts' Multifamily Retrofit low income program, and NYSERDA's Multifamily Performance program and utility multifamily energy efficiency programs.

Case Study: Energy Savers

- Chicago-area program has upgraded over 7,500 units
- Joint project of CNT Energy and the Community Investment Corporation
- Provides building owners:
  - Comprehensive assessment
  - Low-cost financing
  - Construction management
  - Quality control
  - Post-retrofit savings analysis

CNTenergy

ACEEE
American Council for an Energy-Efficient Economy

Case Study: California's MEERP

- Statewide Multifamily Energy Efficiency Rebate Program
- Bulk of product installation has occurred in individually metered tenant units.
- Rebates for energy efficiency products and improvements, including:
  - Interior and exterior lighting
  - Appliances
  - Water heaters
  - Natural gas furnaces
  - Boilers and controls
  - Insulation

CNTenergy

ACEEE
American Council for an Energy-Efficient Economy

Multifamily Energy Efficiency in the States

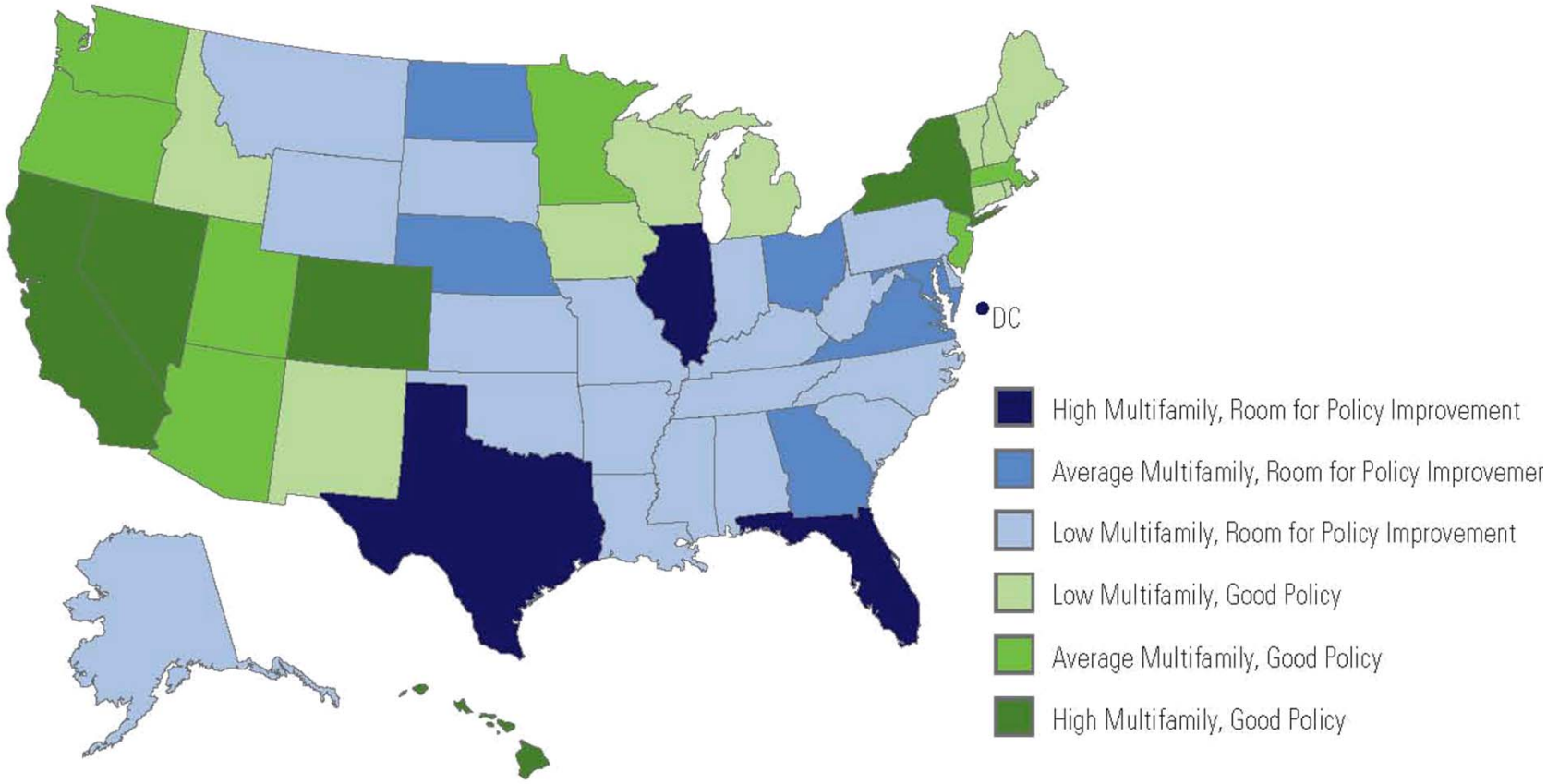
- Which states would benefit most from improved energy efficiency policy?

- What are the best forums to engage utilities?

Multifamily Energy Efficiency in the States

FIGURE 5

STATES THAT WOULD BENEFIT MOST FROM IMPROVED MULTIFAMILY ENERGY EFFICIENCY POLICY.



CNTenergy

ACEEE
American Council for an Energy-Efficient Economy

Multifamily Energy Efficiency in States

- What are the best forums to engage utilities?
- First, talk to your utility directly. Informal interactions are often the most successful.
- State regulatory agencies
  - Discretionary regulatory actions
  - Utility rate cases
  - Merger approval cases
- State legislatures
- Local franchise agreement negotiations

Conclusions

- Potential savings in the multifamily sector of up to $3.4 billion per year.
- Utilities invest heavily in energy efficiency as a result of state laws. However, those laws vary widely.
- Even where they are strong, energy efficiency laws vary in their treatment of multifamily.
- Multifamily building owners and utilities must partner to improve multifamily energy efficiency.
- Multifamily buildings in IL, TX, FL, and DC would benefit most from improved energy efficiency policy.

Utility Engagement in Practice

- **NHT & its partners** are convening forums to engage utilities in select states**: Colorado, Illinois, Minnesota, Pennsylvania and Rhode Island.** Funded by the Doris Duke Charitable Foundation. Just starting work in **Ohio, Michigan and Maryland.**
- **Key local and national partners: CNT Energy, ACEEE, NCLC**; the R.I., MN., CO & PA Housing Finance Agencies; MN Green Communities, Energy Outreach CO, PA Utility Law Project, etc.
- NHT & its partners are developing utility programs that benefit all through:
  - Increased energy efficiency
  - Helping to sustain affordable housing for the long term
- Goal: Utilities will increase funding for multifamily housing in at least 3 of the 5 states using our model; documenting what works and what doesn't

NATIONAL HOUSING TRUST

ACEEE
American Council for an Energy-Efficient Economy

CNTenergy

Contact Information

Report available at: www.cntenergy.org/publications and www.aceee.org/publications

Anne McKibbin
Policy Director
CNT Energy
amckibbin@cntenergy.org

Eric Mackres
Local Policy Lead
ACEEE
emackres@aceee.org

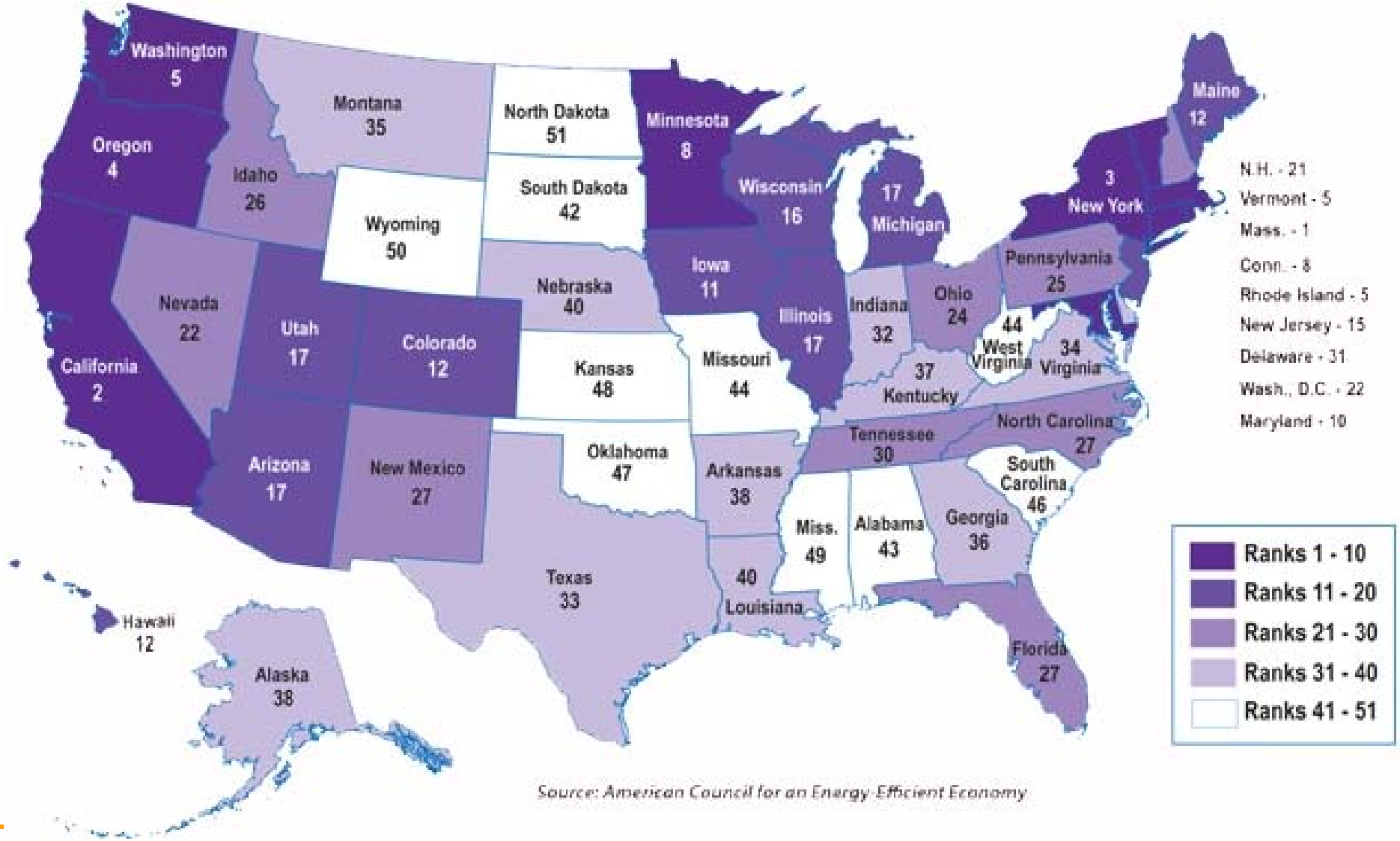
Anne Evens
Executive Director
CNT Energy
aevens@cntenergy.org

Steven Nadel
Executive Director
ACEEE
snadel@aceee.org

Appendix:
2011 ACEEE State Energy Efficiency Scorecard

http://aceee.org/sector/state-policy/scorecard

2011 ACEEE State Scorecard Rankings

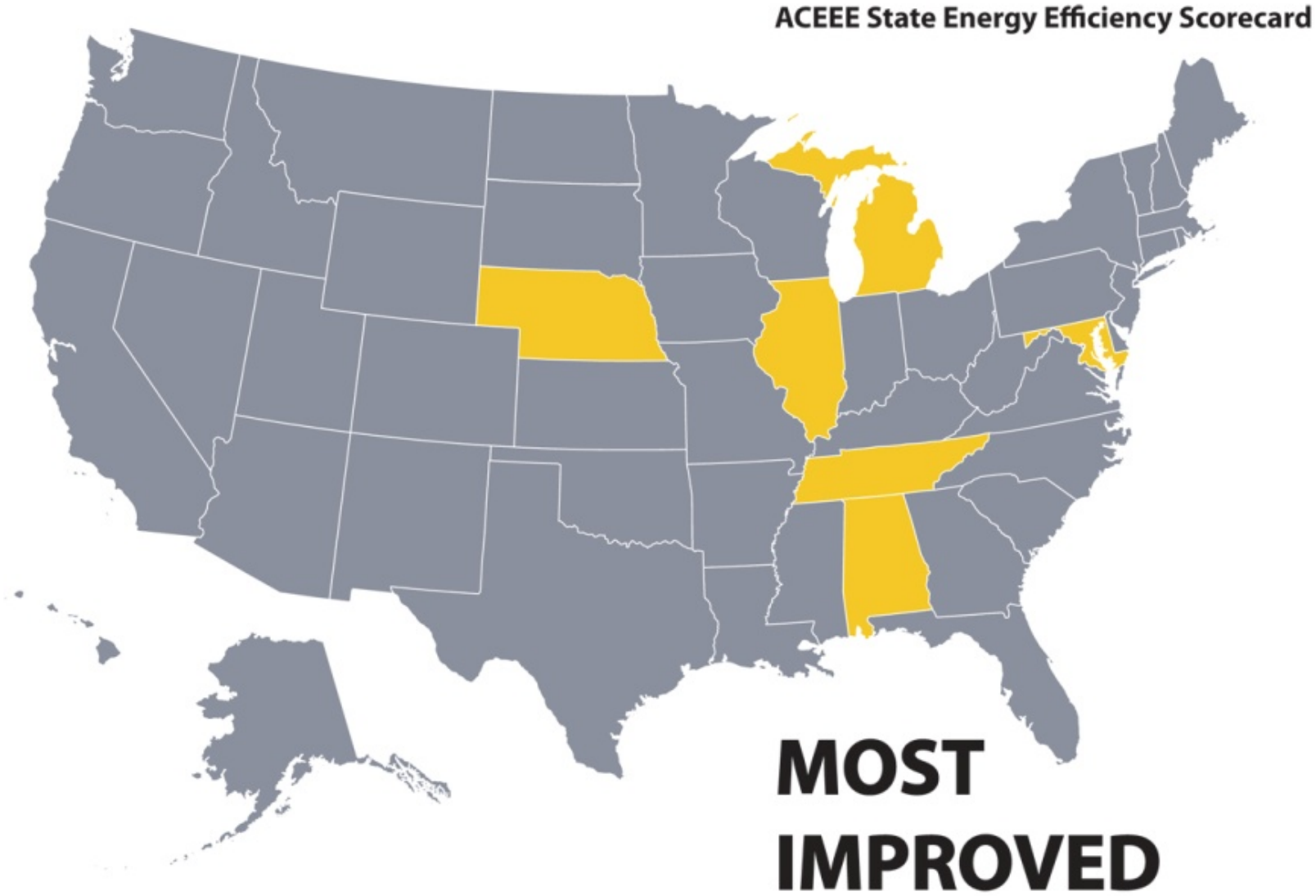


Source: American Council for an Energy-Efficient Economy

CNTenergy

ACEEE
American Council for an Energy-Efficient Economy

Most Improved States



CNTenergy

ACEEE
American Council for an Energy-Efficient Economy

Methodology, Part 1

Policy	Maximum Score
1. Utility and Public Benefits Programs and Policies	**20**
Electricity Efficiency Program Budgets	5
Natural Gas Efficiency Program Budgets	3
Annual Savings from Electricity Efficiency Programs	5
Targets (Energy Efficiency Resource Standards)	4
Performance Incentives/Alternative Regulatory Business Models	3
2. Transportation Policies	**9**
Integration of Transportation and Land Use Planning; VMT Targets; Complete Streets Legislation	5
GHG Tailpipe Emission Standards	2
Transit Funding	1
High-Efficiency Vehicle Consumer Incentives	1

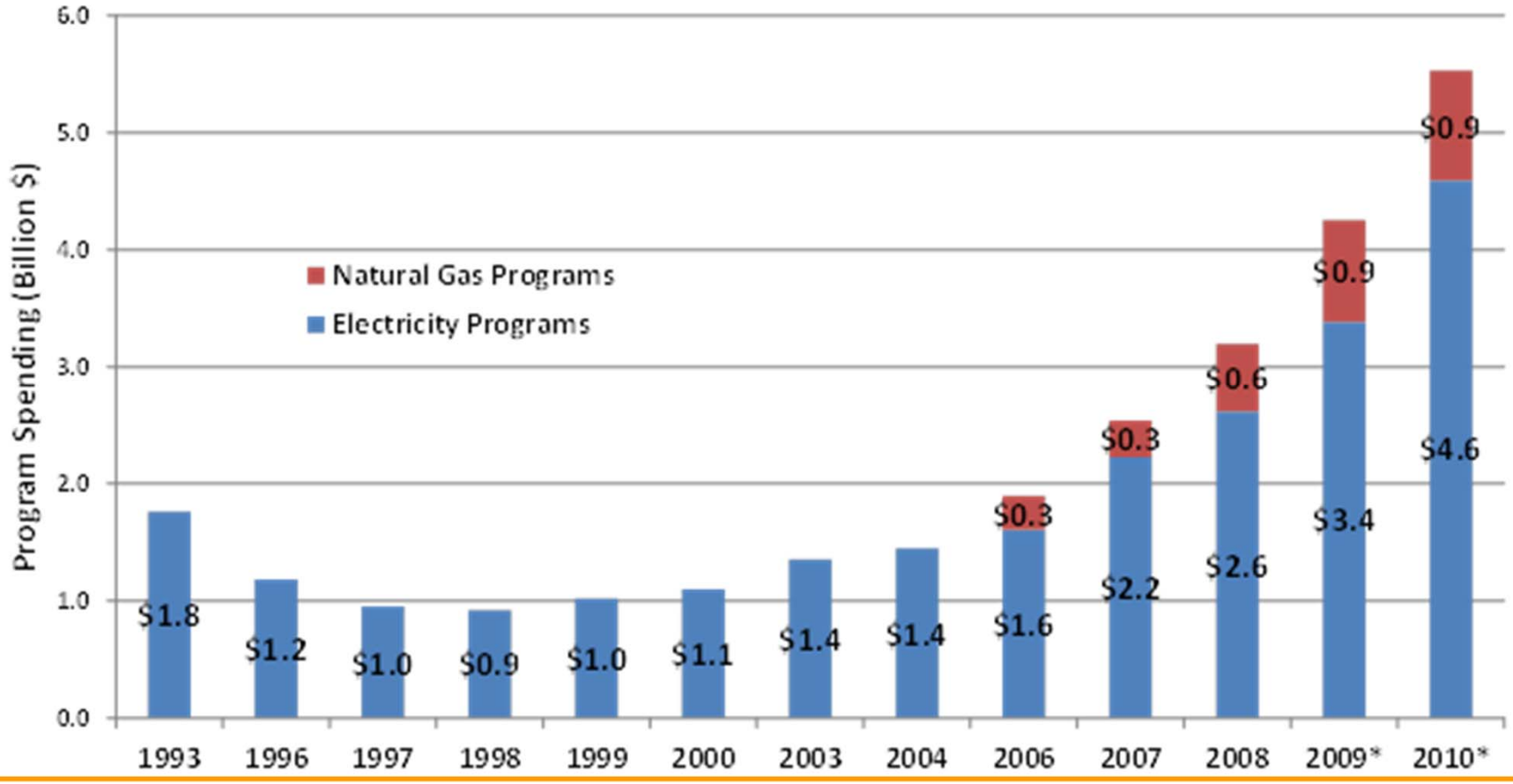
Methodology, Part 2

Policy	Maximum Score
3. Building Energy Codes	**7**
Level of Stringency	5
Enforcement/Compliance	2
4. Combined Heat and Power	**5**
Interconnection Standards	
Standby Rates	
Incentives for CHP	
Output-based Emissions Regulations	
CHP in EERS or RPS	
Net Metering	
5. State Government Initiatives	**7**
Financial and Information Incentives	3
Lead by Example in State Facilities and Fleets	2
Research, Development, and Demonstration	2
6. Appliance and Equipment Efficiency Standards	**2**
Maximum Total Score	**50**

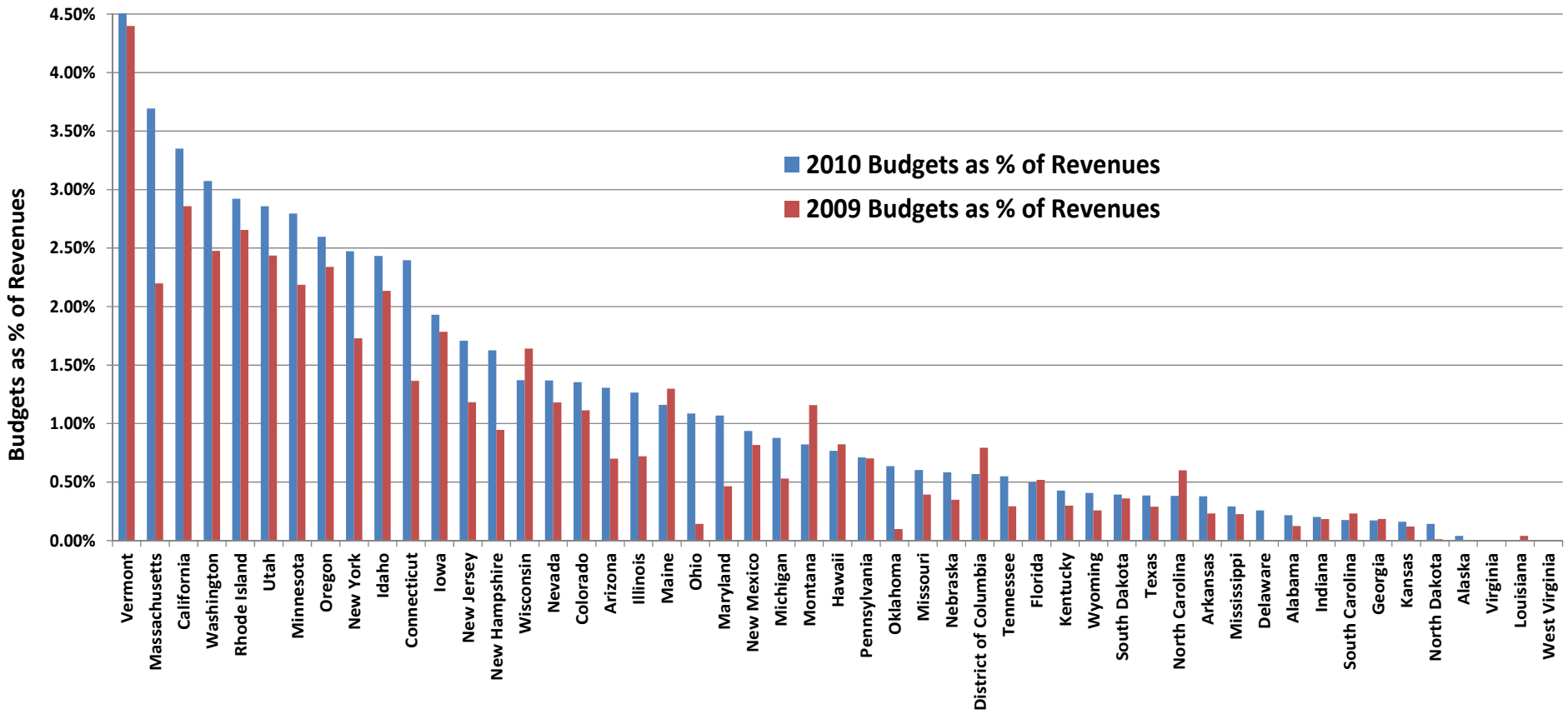
CNTenergy

ACEEE
American Council for an Energy-Efficient Economy

Trends in Utility-Sector EE Program Spending/Budgets



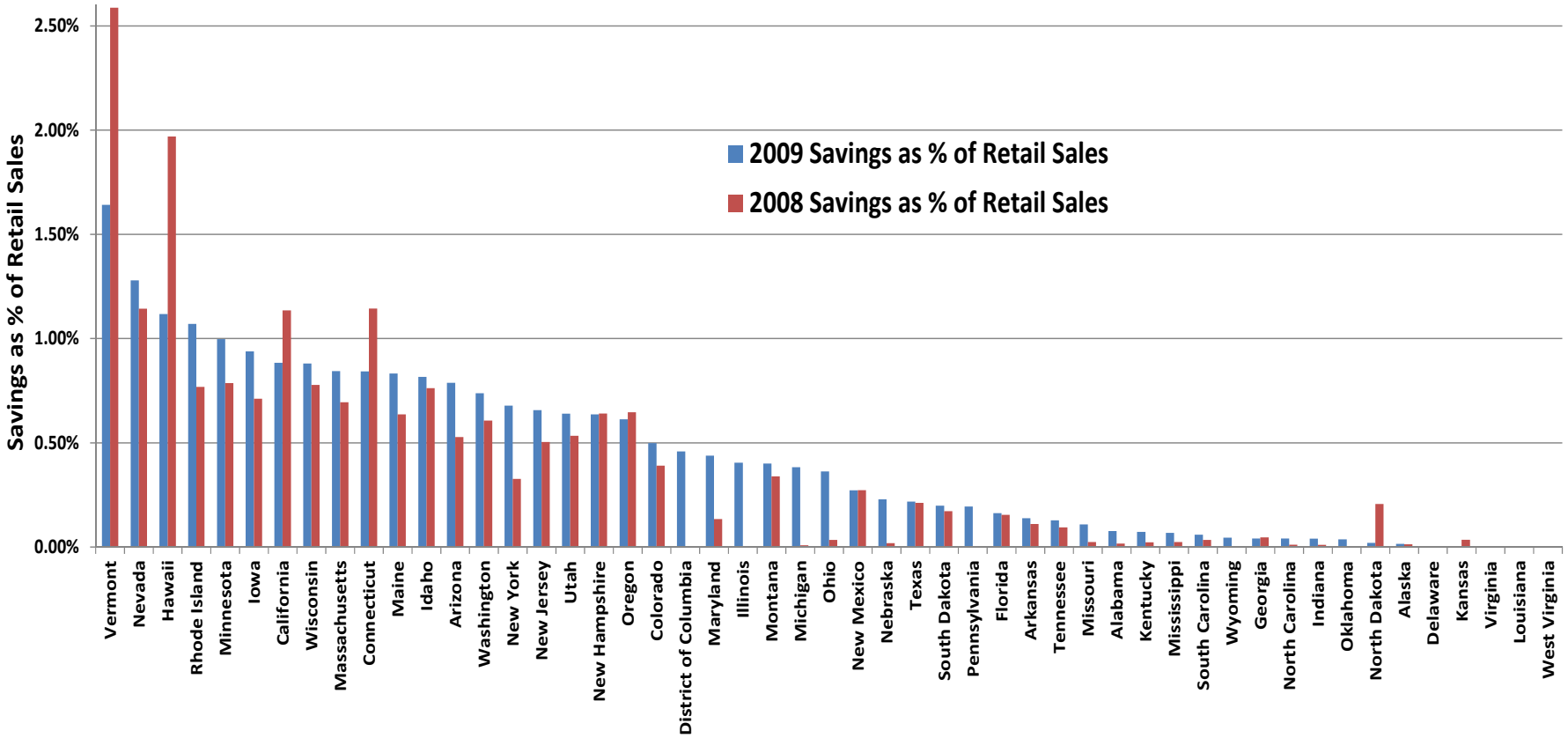
Electric Energy Efficiency Program Budgets in 2009 and 2010



CNTenergy

ACEEE
American Council for an Energy-Efficient Economy

Electric Energy Savings from Ratepayer-Funded Programs in 2008 and 2009



CNTenergy

ACEEE
American Council for an Energy-Efficient Economy