



American Council for an Energy-Efficient Economy

# Making it work: Administrative models for MT (and EE) Programs

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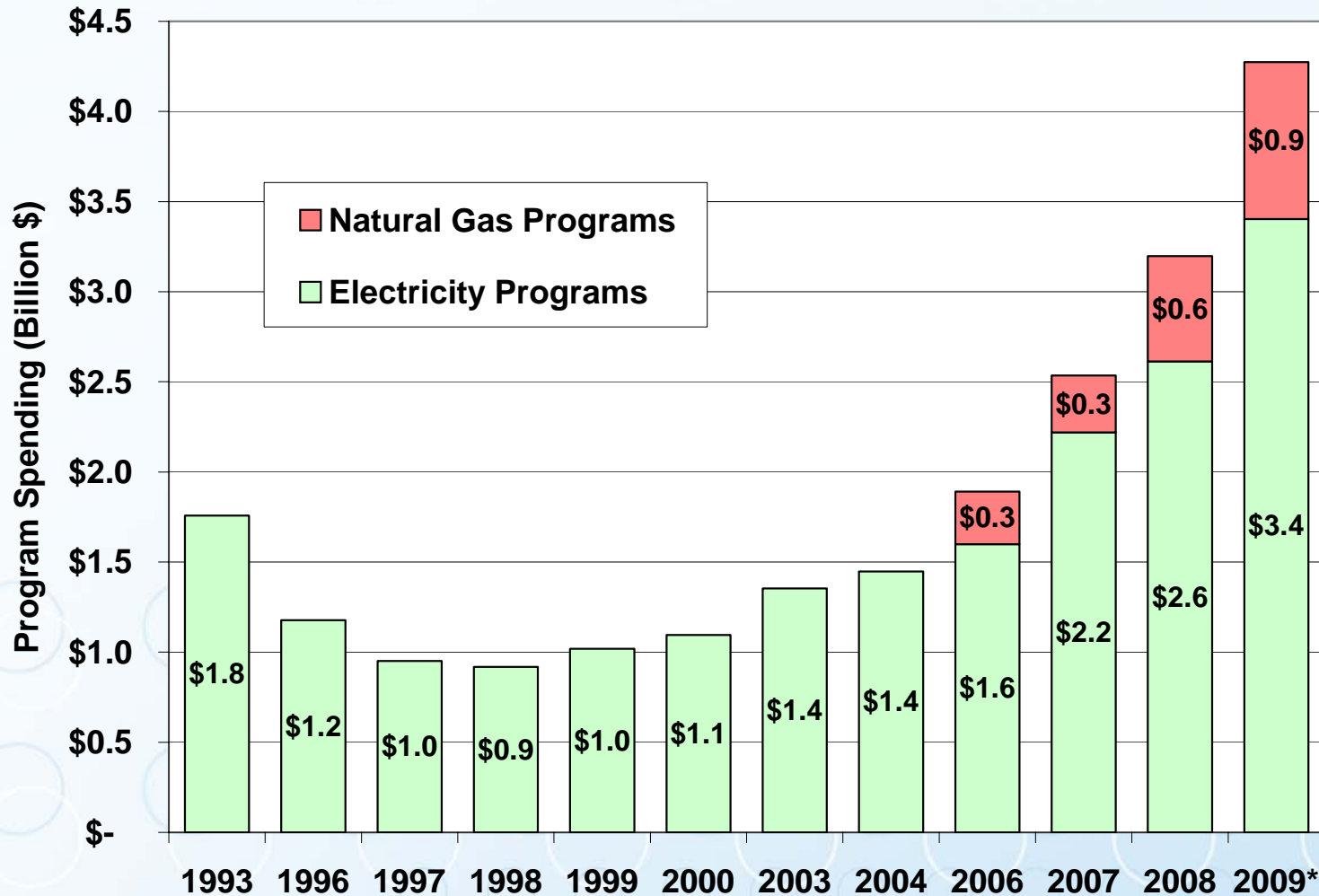
# Market transformation is an integral part of today's energy efficiency program portfolios

- To examine administrative models for market transformation is to examine administrative models in general for providing utility sector customer energy efficiency programs.
- Most portfolios of today's energy efficiency programs contain market transformation programs and models to varying degrees.
- So today's look at administrative models is really a look at how this applies to all utility sector EE programs—market transformation and other models. We'll also look at characteristics of “exemplary programs” and how these programs fit within utility energy resource portfolios.

## Energy efficiency programs for end-use utility (electricity and natural gas) customers:

- Have endured, evolved and recently have experienced unprecedented growth in response to high energy costs, energy security concerns, environmental objectives (GHG reductions) and creating a “green economy.”
- Vary considerably in funding levels, administration and implementation from state to state.
- Were established in many states in the 1980s (even 1970s) and into the early 1990s—the era of “demand-side management (DSM)” and “integrated resource planning (IRP)” in many states.
- Were significantly affected by electric industry “restructuring” (or “deregulation”) of the mid- to late-1990s; funding dropped dramatically (~50% nation-wide) while program requirements and structures changed dramatically in many states.

# Ratepayer-Funded Energy Efficiency: Spending and Budget Trends



## Two main structures in place today for energy efficiency programs available to electric and/or natural gas utility customers:

1. **Utility demand-side management (DSM)**: Utilities administer programs as required by regulation or legislation; are overseen by state regulatory authorities; program costs are covered via regulated rate setting processes.
2. **Public benefits programs**: Programs are funded through “public benefits charges”—usually associated with utility restructuring, fees assessed on all “distribution” utility customers. A way to fund programs in “competitive” utility market structure. (WI and VT have PB programs w/o restructuring)

# Public benefits energy efficiency programs -- two main approaches:

- **Non-Utility Administration**: Non-utility organizations administer and may also implement programs---state government agencies, non-government contractors, or independent non-profit organizations. Still generally some kind of regulatory/government oversight.
- **Utility Administration**: Utilities receive public benefits funding to administer programs with oversight by state regulatory authorities (very similar to DSM—mostly a difference of funding mechanisms and program requirements).

# Non-Utility Administration – Public Benefits Programs:

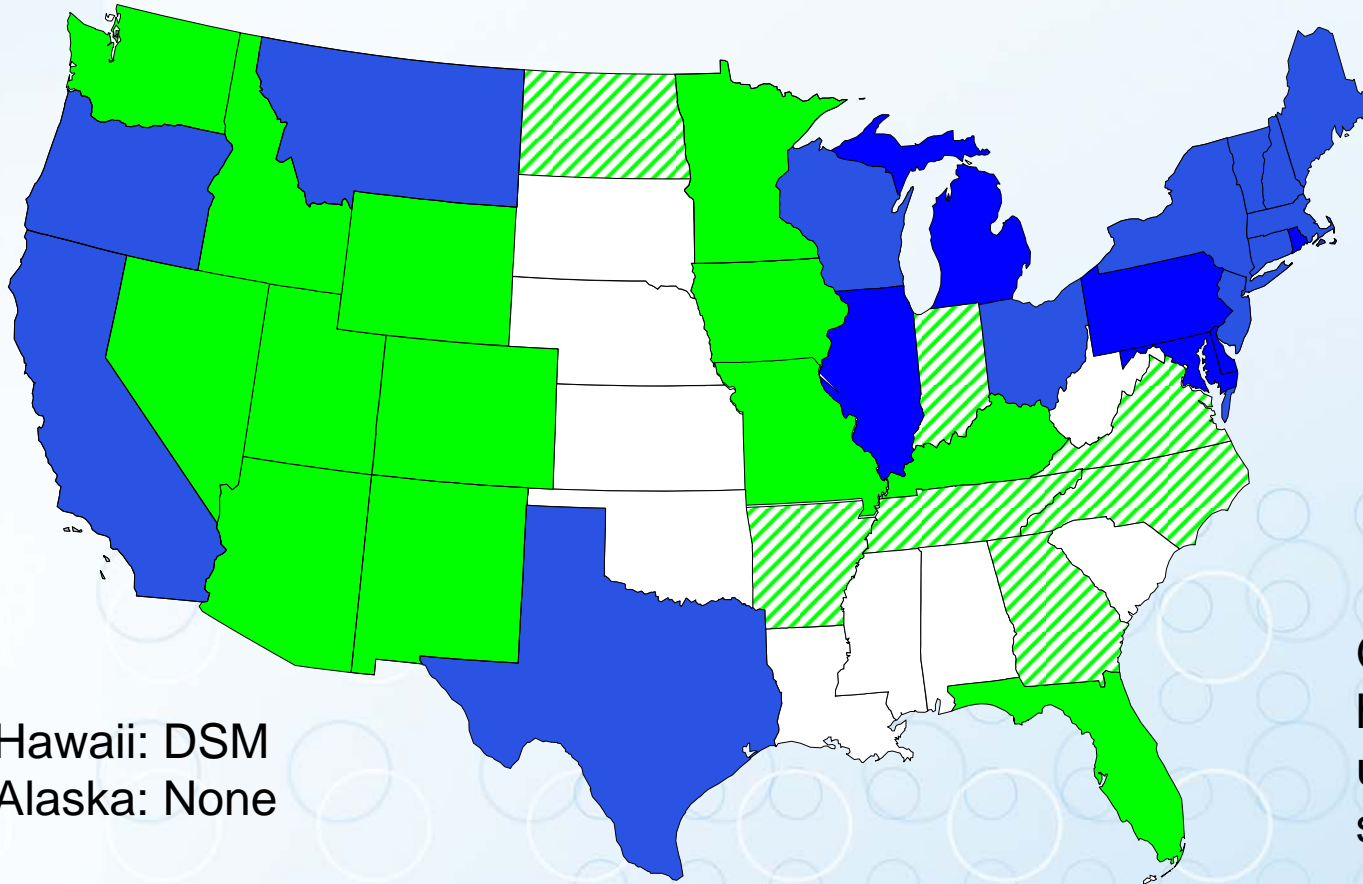
- Efficiency Vermont
- Energy Trust of Oregon
- New York Energy \$mart Program (NYSERDA)
- Focus on Energy (Wisconsin)
- Efficiency Maine
- New Jersey Clean Energy Program
- Delaware Sustainable Energy Utility

# Utility administration of public benefits programs, examples:

- California
- Massachusetts
- Connecticut
- Texas
- Illinois
- New Hampshire
- Rhode Island



# The Landscape of Utility Sector Energy Efficiency Programs in the US



Hawaii: DSM  
Alaska: None

Blue states have public benefit funds that support EE

Green states have utility DSM under regulated structure

Striped states are developing programs

# If you think the national landscape is confusing....

- Within states, there is rarely a true “statewide” program---in many cases there are mixed models, such as a “statewide” public benefits programs *and* separate or parallel utility programs (e.g. Wisconsin and New York).
- And then typically municipal and cooperative utilities (or other publicly owned utilities) may be exempt from EE program requirements---or may offer their own programs.

# Advantages of utility administration

## Utilities:

- Are well recognized, generally trusted by customers.
- Have direct, routine customer contact and established relationships.
- Are organizations structured to serve large numbers of customers and manage necessary resources.
- Are potentially a good fit for “energy services” such as MT and EE, which can clearly fit a business model of a modern energy company.
- Have easy, direct access to customer accounts (energy use history and characteristics).
- Generally have in-house expertise on customer energy use—along with other aspects of administering and delivering programs—marketing, accounting, field services, customer representatives, evaluation, etc.

# Disadvantages of utility administration

- Markets don't stop at utility service territory boundaries.
- May miss economies of scale for marketing and working with major suppliers/other market actors.
- Can be confusing for customers regarding eligibility for programs.
- Can be internal business conflicts for utilities---saving energy through energy efficiency can erode revenues and corresponding profits.
- Not a “core” business function or operation—may lack upper management support relative to other functions.

# Advantages of non-utility administration

- Generally a single-purpose organizational objective: saving energy through improved customer energy efficiency (and possibly developing customer-sited renewable energy).
- Generally a statewide, uniform program---greater consistency, uniformity and coordination. Better economies of scale for marketing and relationships with key stakeholders/market actors.
- Eliminates the potential internal business conflicts (energy savings reduce utility revenues) that can arise within utilities doing energy efficiency programs.
- Can become a trusted, independent authority---no mixed motives—  
"We're here to serve you and save you energy."

# Disadvantages of non-utility administration

- Lack of customer recognition: Who are you?
- Lack of customer confidence/trust/credibility: Do you really know what you're doing—Will you be here tomorrow?
- It takes time to build infrastructure---can't create new organizations and corresponding capabilities to administer and implement programs overnight.
- Customer data/account information may not be as readily accessible/available.

# And the winner is? The search for the best model.....



# There is no “best” model.

- All models can work well.
- In ACEEE’s work identifying and reviewing exemplary programs, we found exemplary programs operating under all different types of administrative models.
- Utility administration is still dominant model (if measured by program budgets and customers served).



# States represented by nominations for ACEEE's "Exemplary Program Review"—pretty representative of states with strong EE programs and funding

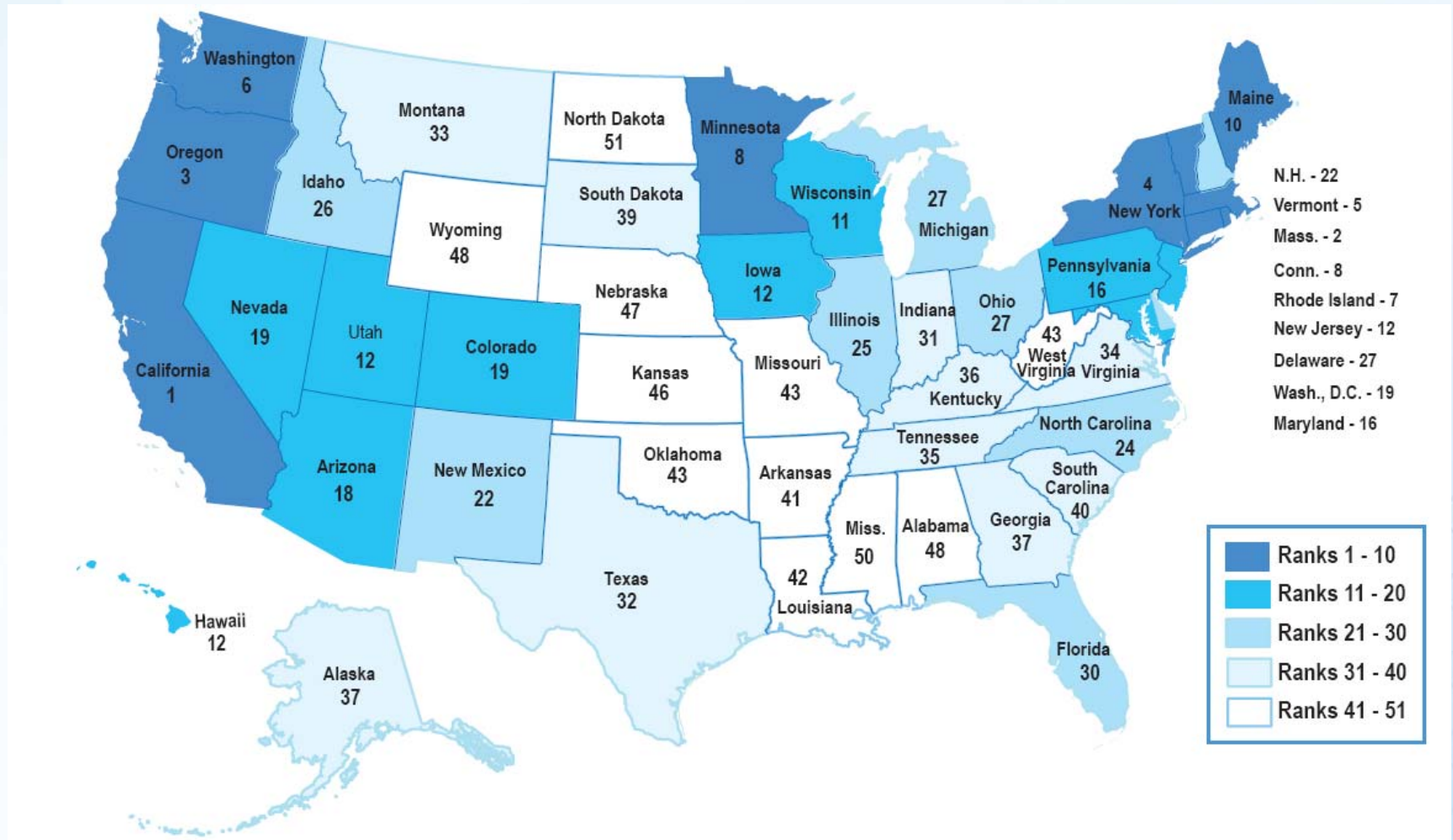
Also received nominations from 2 Canadian Provinces



# Types of organizations nominated for their programs

- Utilities: IOUs and POUUs: 71%
- Non-utility public benefits orgs: 7%
- State agencies or authorities: 14%
- Regional MT orgs: 3%
- Collaboratives of various types: 5%

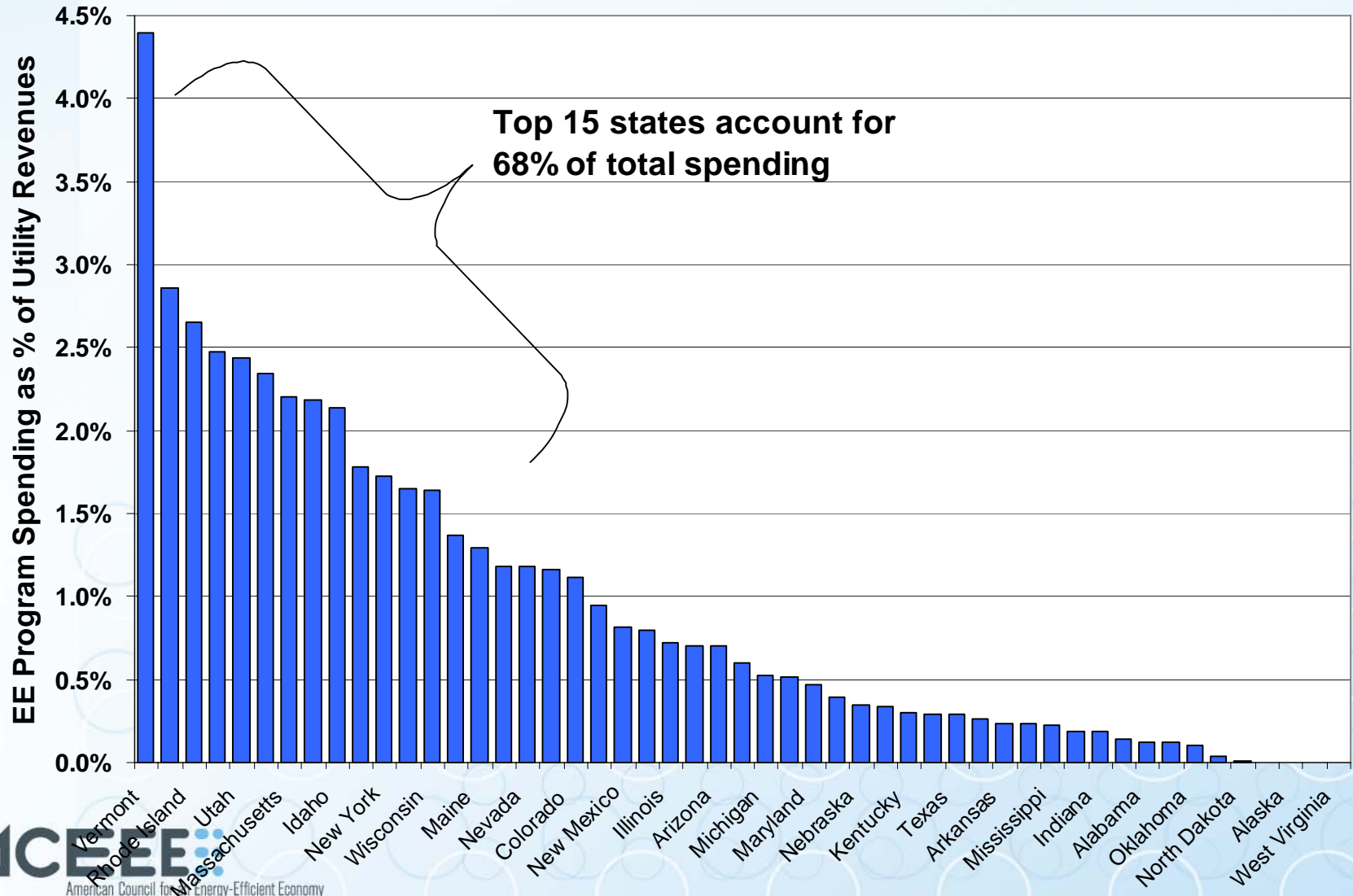
# ACEEE's 2010 State Energy Efficiency Scorecard Results



## Annual spending and savings by electric energy efficiency programs in leading states (2009 spending data; 2008 savings)

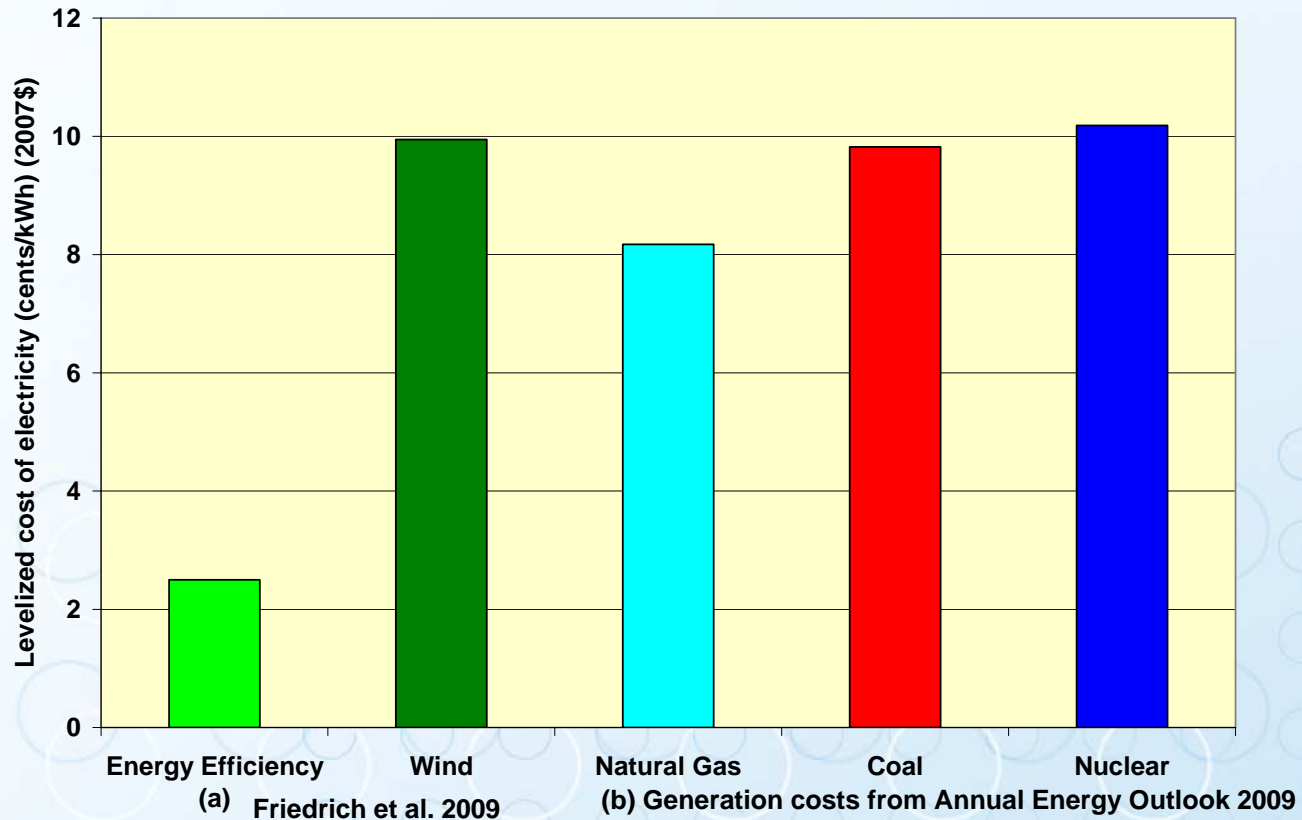
State	Total Program Spending	Spending as % of Total Revenues	Spending per capita	Annual Savings	Savings as % total energy sales
	\$ million	%	\$/capita	MWh	%
Vermont	30.7	4.4	49.38	148,549	2.6
California	998.3	2.9	27.01	4,792,739	1.8
Rhode Island	32.4	2.9	22.31	31,551	0.4
Connecticut	96.8	1.8	27.51	354,228	1.1
Massachusetts	180.4	2.2	27.36	388,254	0.7
Minnesota	111.2	2.2	28.05	626,391	0.9
Oregon	84.7	2.3	22.14	318,239	0.6
Wisconsin	101.1	1.6	17.88	545,062	0.8
Hawaii	35.5	1.6	27.41	204,596	2.0
Washington	146.5	2.5	21.98	530,029	0.6
<b>US Total (Mean)</b>	<b>\$3,466</b>	<b>1.0%</b>	<b>11.19</b>	<b>12,404,526</b>	<b>0.33</b>

# 2009 Ratepayer-Funded EE Budgets



# Why do it? Top reason: cheapest resource available

The cost of saving energy vs. generating it from new sources.



# Cost of saved energy through program energy efficiency improvements (based on 2006 and 2007 data--preliminary findings)

State	Cents/kWh
California	0.03-0.05
Massachusetts	0.032-0.038
New Jersey	0.024-0.05
New York	0.009-0.018
Oregon	0.013-0.016
Connecticut	0.032-0.045
Vermont	0.024-0.035
Iowa	0.036-0.044
Mean (of broader set)	0.031

# Signals for greatly increased levels of spending for utility energy sector efficiency programs

- State total budgets have grown rapidly over the past few years (see graph).
- Several states that had not had programs in place are now funding and implementing significant programs—notably in the Midwest and Rocky Mountain West
- Well-established long running programs are pushing to much greater savings (EERS) and have increased budgets accordingly.
- New policy drivers:
  - Greenhouse gas reduction—may bring in additional program funding and drive much higher energy savings goals (EERS).
  - Reliability and capacity markets—Energy efficiency starting to contribute as a resource in addressing system reliability and bidding in capacity markets.
  - Building the “green economy”—part of economic stimulus and economic development policies



**There are numerous “exemplary” energy efficiency programs across the US, covering wide range of customers and applications, including:**

### **Commercial/Industrial**

- Lighting
- Motor systems
- HVAC
- New construction
- Retrofit
- Food service
- Industrial processes
- Schools
- Agriculture
- Small business
- Emerging technologies

### **Residential**

- Lighting
- Appliances
- Mechanical (HVAC)
- Multifamily units
- New homes
- Retrofit
- Weatherization/shell improvements
- Low-income
- Emerging technologies

# **ACEEE reviews of exemplary programs have revealed common traits of leading programs:**

- **Proven approaches are yielding proven results—some programs have been in place for ten years or more in various forms. Have had time to grow, mature and evolve.**
- **EE is high cost-effective: typically delivering energy efficiency at 2-4 cents/kWh (levelized cost of saved energy—utility cost perspective).**
- **Innovation is occurring in many areas---within programs and for programs reaching new markets and types of customers.**
- **Personal contacts yield strong results.**
- **Industry experts---not just energy experts—are critical in many types of programs, esp. industrial.**

## Common traits of leading programs (2)

- Comprehensive program *portfolios* offer customers many options and opportunities (many different programs available).
- Comprehensive program designs offer customers many specific *service options* (many different services available within a given program).
- Are successful long-standing programs as well as new, start-up programs, which apply lessons learned from existing programs.
- Collaborations support successful programs.
- Statewide approaches are common—yielding numerous benefits for cost savings and greater impact.

## Common traits of leading programs (3)

- ENERGY STAR® (a US EPA/DOE labeling and marketing program) is prominent—a widely used program platform for appliances, lighting, new homes and a growing number of applications.
- Programs are especially targeting “lost opportunities” in many customer markets.
- Programs are looking for “deeper” savings—by expanding programs into new customer segments or by expanding services and incentives within existing programs and markets.

# **“Markets know no boundaries”---the need for regional and national approaches to MT**

- Most states are “small” relative to markets for the products and services targeted by energy efficiency programs.
- Utility and state-wide public benefits programs have long recognized the need for regional and national approaches

# Regional Market Transformation Organizations

- Play varying roles: facilitator, coordinator, administrator, implementer.
- Are especially critical for market transformation---match geographic scale and market size of key players---manufacturers, major suppliers, etc.

# Regional market transformation organizations; US is well covered

- Northwest Energy Efficiency Alliance (NEEA)
- Northeast Energy Efficiency Partnerships (NEEP)
- Midwest Energy Efficiency Alliance (MEEA)
- Southwest Energy Efficiency Project (SWEEP)
- Southeast Energy Efficiency Alliance (SEEA)
- California (its own region!)

# Finally, we need to recognize importance of national efforts:

- US EPA/DOE's ENERGY STAR program has provided a key national platform and label/brand for energy efficiency.
- Consortium for Energy Efficiency (CEE) also is a key force in helping advance high efficiency specifications and working with manufacturers, suppliers and utilities accordingly.
- Other national groups also play key roles—Appliance Standards Awareness Project (ASAP), Building Codes Awareness Project (BCAP), New Buildings Institute and others.



# Conclusions (1)

- A number of different program administrative models and funding mechanisms are in place—no single model, varies state by state.
- Utility sector energy efficiency programs are well established, cost effective and achieving significant savings—contributing significantly to utility energy resource portfolios.
- Success is wide and deep—most types of customers have programs and services available—covering a full range of end-use applications.

# Conclusions (2)

- A solid program foundation is in place to launch energy efficiency programs into a new phase with bigger savings and targets, which is being driven by both environmental and economic policies and greater reliance on energy efficiency as a resource.
- Statewide, regional and national efforts are vital to successful market transformation.
- Market transformation is integral to leading state energy efficiency program portfolios.
- Despite success, there are still lagging states and regions, although many of these are beginning to fund and implement programs—many for the first time.

## For more information on these topics, see ACEEE publications (available as free downloads):

<http://aceee.org>

- *Compendium of Champions: Chronicling Exemplary Energy Efficiency Programs from Across the U.S., Report #U081.*
- *The 2010 State Energy Efficiency Scorecard, Report #E107.*
- *Meeting Aggressive New State Goals for Utility-Sector Energy Efficiency: Examining Key Factors Associated With High Savings Report #U091).*
- *Saving Energy Cost-Effectively: A National Review of the Cost of Energy Saved Through Utility-Sector Energy Efficiency Programs, Report #U092*
- *Established Savers and Rapid Starts: States Stretch to Reach High Energy Savings (working title; final may differ – forthcoming May 2011)*