

Energy Efficiency Resource Standards Energy Efficiency Obligations Binding Efficiency Targets

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Energy Efficiency Resource Standards

- Electric and/or gas savings targets for utilities or energy suppliers
 - ❖ Includes end-use efficiency and sometimes combined heat & power (CHP)
- Similar to a Renewable Portfolio Standard
- Savings must be documented in accordance with evaluation rules established by gov't
- White certificate trading is possible, not usual
- Can be designed for regulated utilities (common in the US) or for liberalized markets (eg, retail suppliers in the UK)

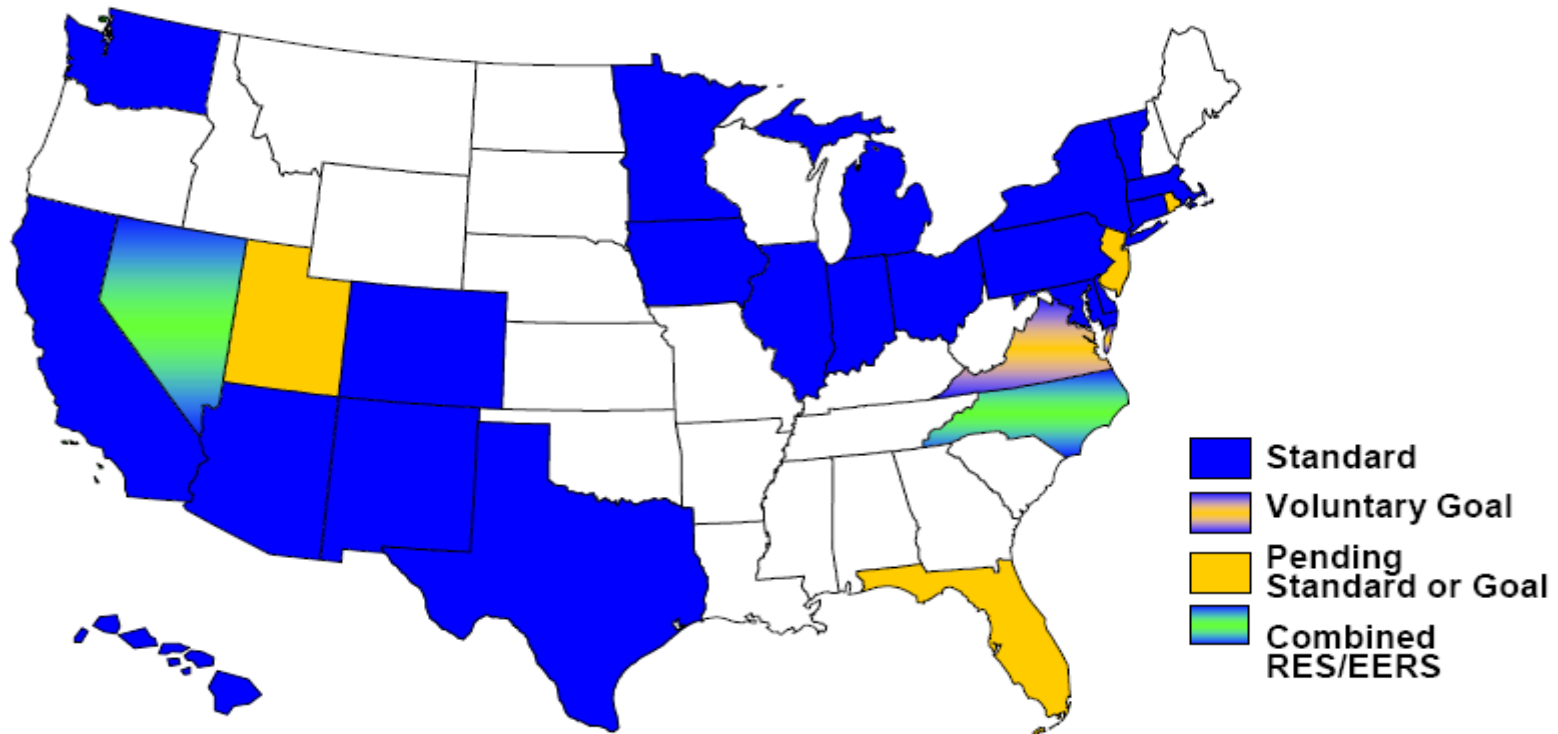


Why an EERS?

- Can achieve substantial energy and emissions savings
- Performance based – emphasizes savings, not spending
- *Can be easier to legislate savings targets than spending amounts*
- Can start programs quickly, without years of least-cost analysis (but targets should be based on cost-effective opportunities)

23 states in US with some sort of EERS

State EERS
as of December 2009



Source: ACEEE (2009)



Delivery Mechanisms Vary –

at least 5 options now used in US

- 1. Obligation on distribution utility**
 - ❖ Most states, including CA
- 2. Obligation borne by a state agency**
 - ❖ E.g., New York, Oregon
- 3. Energy Efficiency Utility**
 - ❖ *Efficiency Vermont* is the leading case
- 4. Performance contracts with 3rd parties**
 - ❖ Texas
- 5. Bidding into regional capacity market**
 - ❖ New England ISO Forward Capacity Market

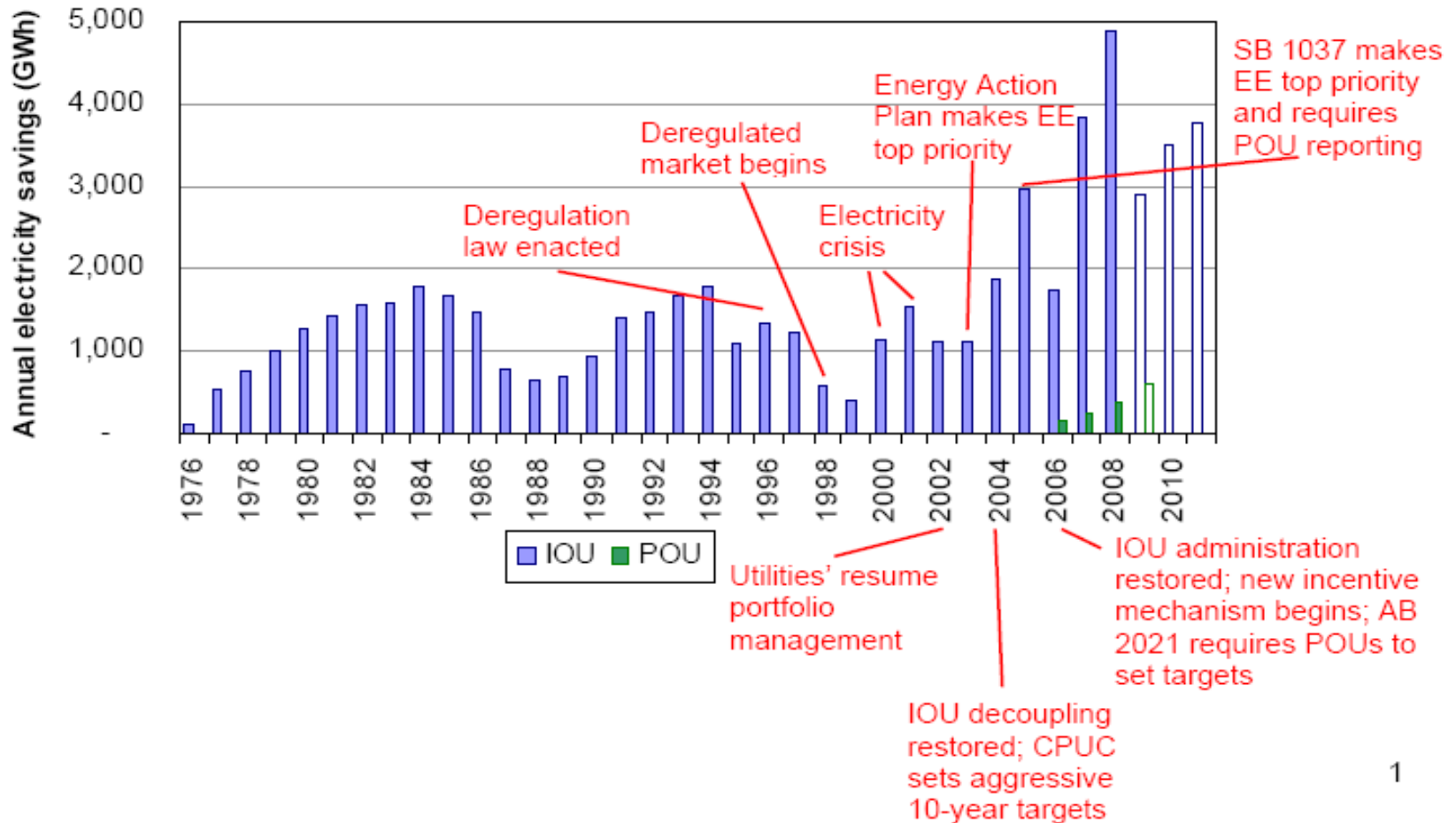


“Standard Performance Contracting” for EE (Texas)

- Legislature sets the goal (X% of load growth)
- Regulator sets the level of incentive payments to “project sponsors” for installing eligible energy efficiency measures in residences, businesses or industrial facilities.
- Incentives based on engineering estimates of the savings (“avoided costs”) for many measures.
- Utility has no role in delivery – simply pays for the resource delivered – akin to a feed-in tariff for EE
- In 2007, \$72.6 million was spent on EE through standard performance contracting
- EPPs build in 2007 = 122 MW saving 371 GWh annually
- Net benefits (resource savings minus costs) = \$155.4 million over the life of the EPPs

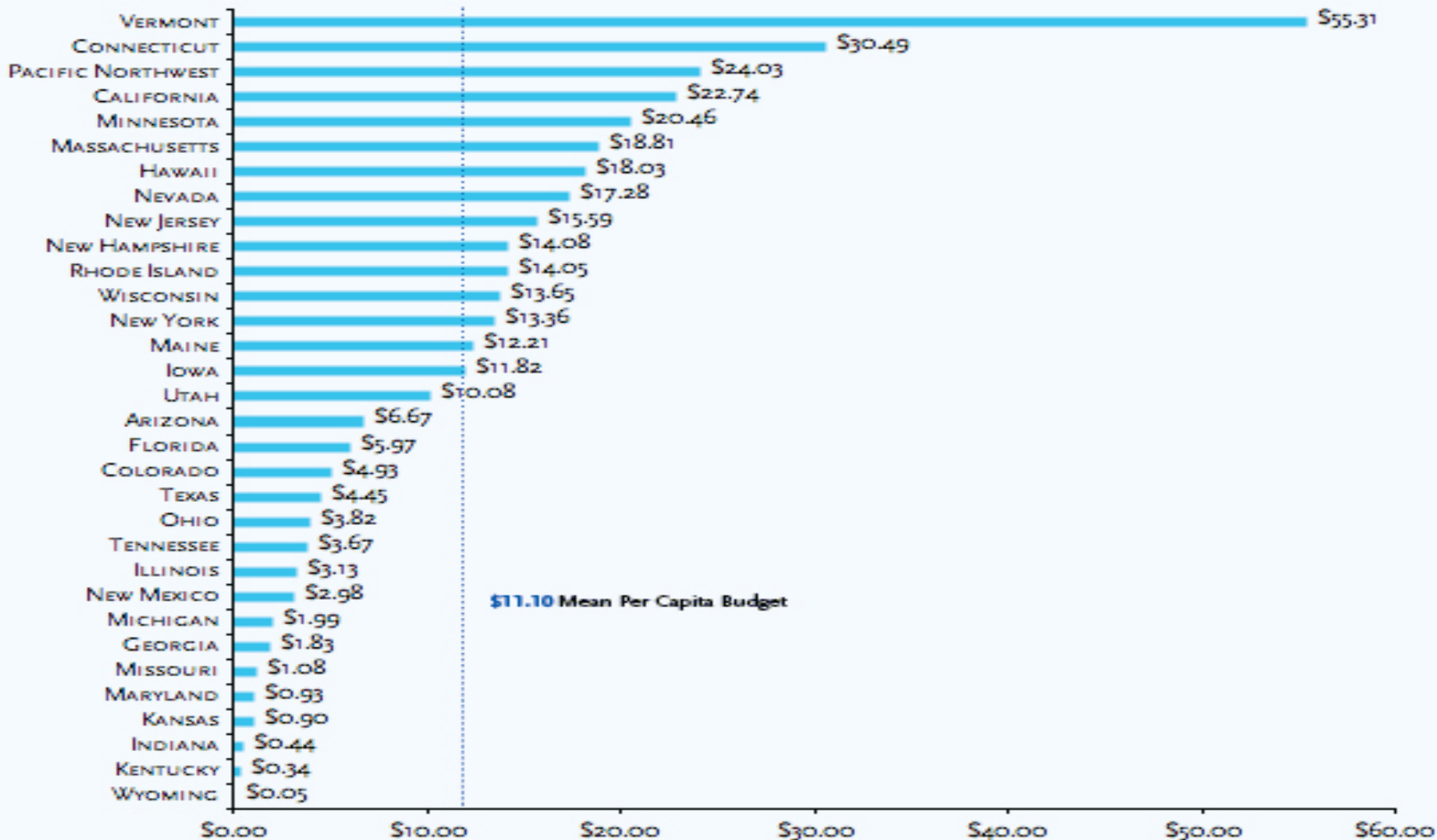
Why long-term EERS goals would help -- History of savings in CA

Figure 1: Annual Electricity Savings From California Utility Efficiency Programs



2008 Per Capita Budgets, Electric Programs

EXCLUDING LOAD MANAGEMENT



Federal EERS

- A stand-alone Federal EERS would:
 - Place requirements on electric utilities to meet electricity savings targets (e.g., GWh) by investing in energy efficiency.
 - Prescribe the types of EE investments that are eligible to count towards the EERS and the allowable methods for estimating energy savings from EE programs (i.e., EM&V)
 - Establish clear energy savings targets that can be utilized in utility/state/regional resource planning.
- Stand-alone EERS proposals include H.R. 2529 (Markey) and S. 548 (Schumer)
- Committee-passed Federal proposals (e.g., H.R. 2454 (Waxman-Markey); S. 1462 (Bingaman)) do not include a stand-alone EERS;
 - They do include a Renewable Electricity Standard (RES), with EE eligible to meet a portion of the standard

Energy Efficiency Obligations in the EU

Country	Obligated Company	Eligible Customers	Target set by	Administrator
Belgium-Flanders	electricity distributors	residential and non energy intensive industry and service	Flemish Government	Flemish Government
France	all suppliers of energy	All (including transport) except EU ETS	Government	Government
Italy	electricity & gas distributors	All including transport	Government	Regulator (AEEG)
UK	electricity & gas suppliers	Residential only	Government	Regulator (Ofgem)
Ireland	electricity (ESB)	all except transport	Regulator	Regulator (CER)
Denmark	electricity, gas & heat distributors	all except transport	Government	Danish Energy Authority



Efficiency Obligations - Design Issues

- **How should the target be expressed?**
 - ❖ Energy savings or carbon savings?
 - ❖ Final energy or Primary energy? (
 - ❖ Compared to what? BAU projections? Total residual sales?
- **Who is the obligated party?**
 - ❖ Retail energy sellers? Wires and pipes companies?
 - ❖ EU question – directly on companies, or just to Member States?
- **Should trading (e.g., white certificates) be included?**
 - ❖ Should 3rd-party prospecting, feed-in rates, etc. be allowed?
- **Should we impose conditions on credits ?**
 - ❖ Needed to bar cream-skimming? To target savings ?
- **Who supervises, measures, adjusts program over time?**



EERS discussion

- Should states retain an “all cost-effective” mandate or use fixed targets (or both) ?
- Where does the obligation lie? Disco? Retailer? State?
- If we require distribution utilities to deliver EE, should we also use decoupling and performance rewards?
- Should reductions from codes, education, market transformation, etc. count as EERS-qualified savings?
- Best balance of deemed savings and detailed M & V?
- Should “prospecting” by ESCOs be rewarded through a feed-in tariff or standard contract offer?
- Should EE trade against RE in a combined low-carbon standard?
- Should programs be expanded to use white tags and trading ?
- How to integrate EE mandates and CO2 cap and trade?

Impacts of a National EERS



(15% electric, 10% gas by 2020; savings over and above existing state EERS's; includes codes & standards)

- Peak demand savings of 90,000 MW (300 power plants, 300 MW each)
- CO2 emissions down 260 MMT in 2020 (equivalent to taking 43 million vehicles off the road for a year)
- 260,000 net jobs created
- Net savings of \$144 billion (B/C ~3:1)

Cost and Savings Performance – Ambitious programs can cost less per MWh saved

