

# **Renewable Portfolio Standards: What's Happening at the State Level and in Congress**

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Utility Wind Integration Group Annual Meeting  
Anchorage, Alaska  
July 24, 2007

# What Is a Renewables Portfolio Standard?

## **Renewables Portfolio Standard (RPS):**

- A requirement on retail electric suppliers...
- to supply a minimum percentage or amount of their retail load...
- with eligible sources of renewable energy.

**Typically** backed with penalties of some form

**Often** accompanied by a tradable renewable energy credit (REC) program, to facilitate compliance

**Never** designed the same in any two states

# Advantages and Disadvantages of a Renewables Portfolio Standard

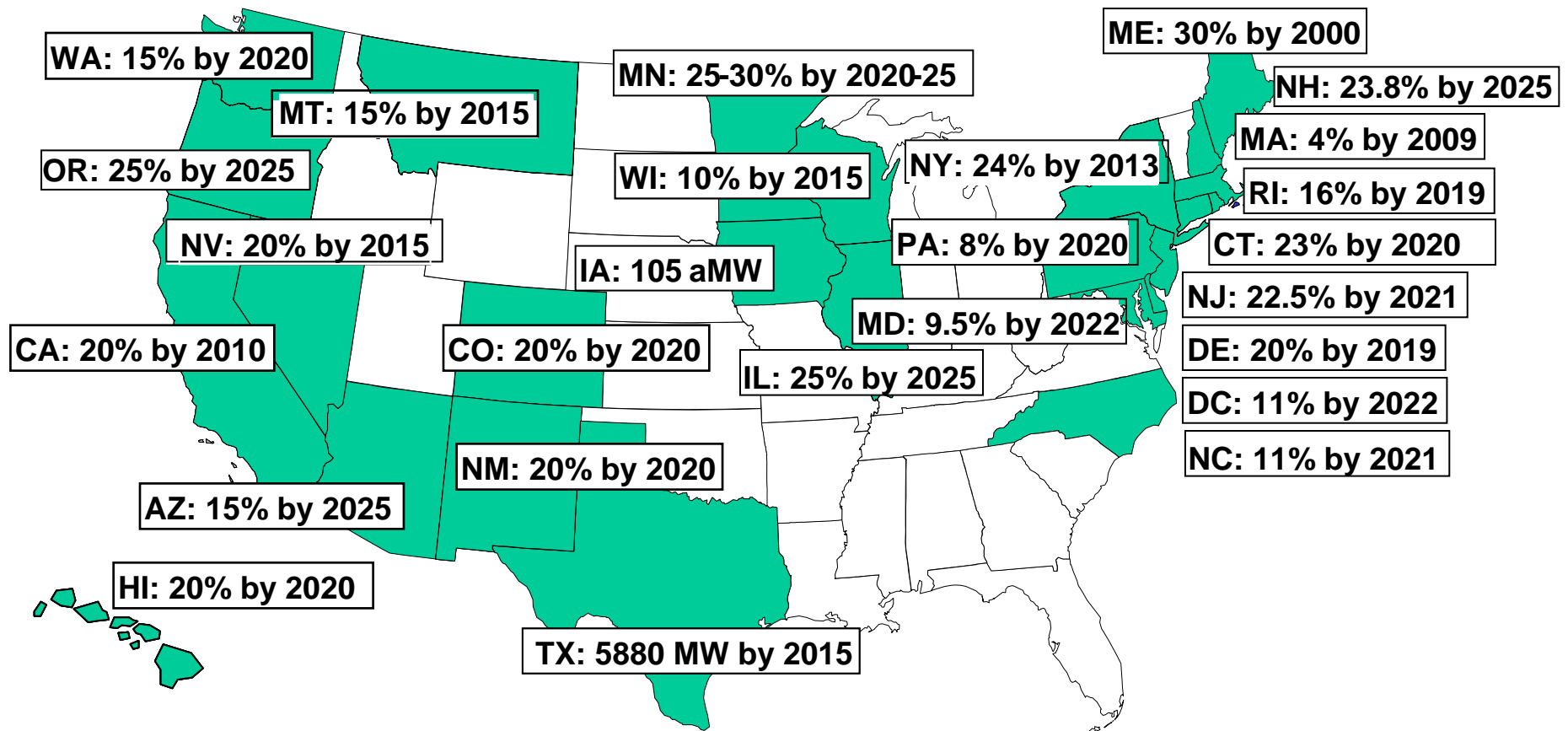
## ADVANTAGES

- Can ensure known quantity of renewable energy
- Can lower cost of achieving target by giving private market flexibility
- Competitively neutral if applied to all load-serving entities
- Relatively low administrative costs and burdens
- Can be applied in restructured and regulated markets

## DISADVANTAGES

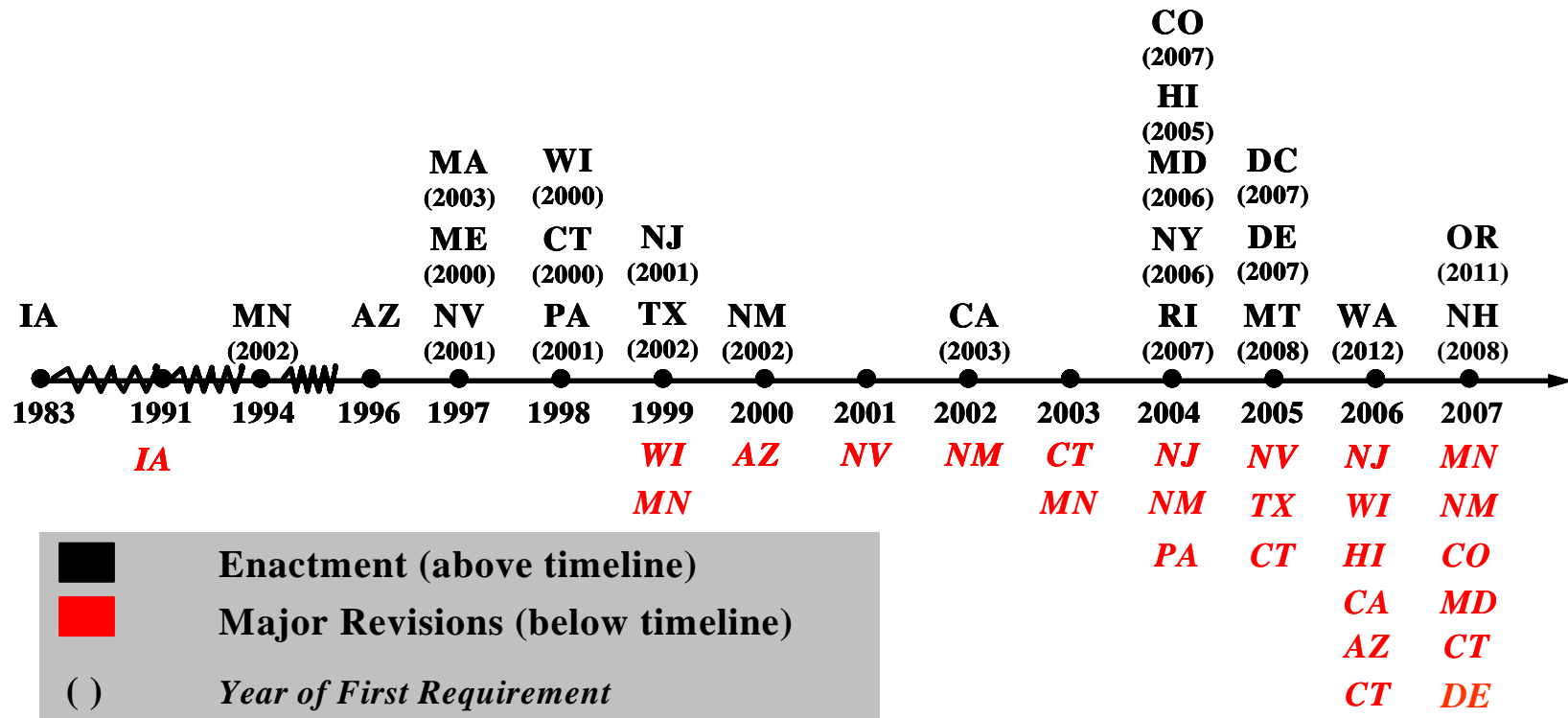
- Due to complexity, can be difficult to design well
- Less flexible in offering targeted support to *specific* RE sources, or ensuring resource diversity
- Cost impacts not known with precision in advance
- Questions over whether RPS policies will necessarily lead to long-term contracts
- Operating experience is limited

# State RPS Policies: 25 States and D.C.



Additional renewable energy “goals” established in IA, VT, VA, MO, ND, and ME

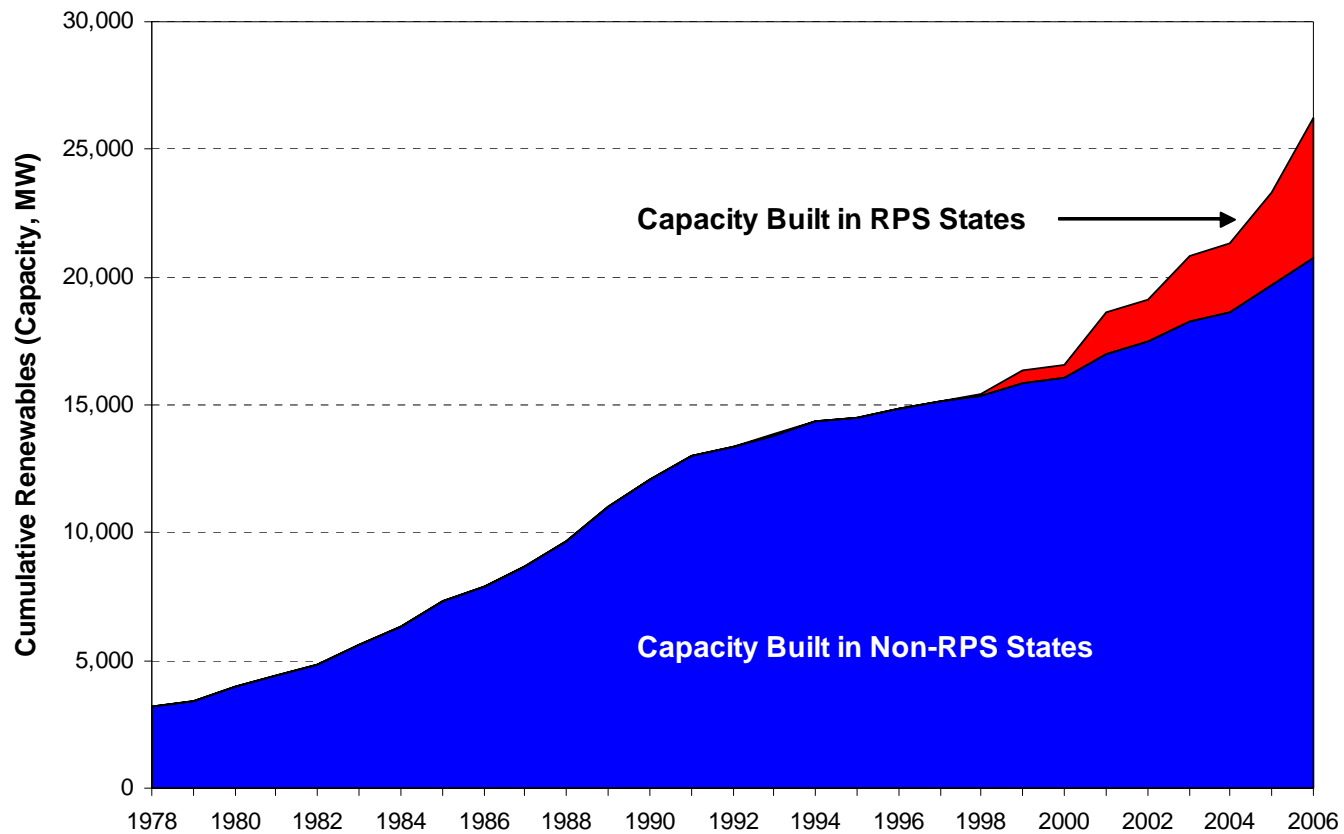
# State RPS Activity Is Significant in Recent Years



# State RPS Program Context

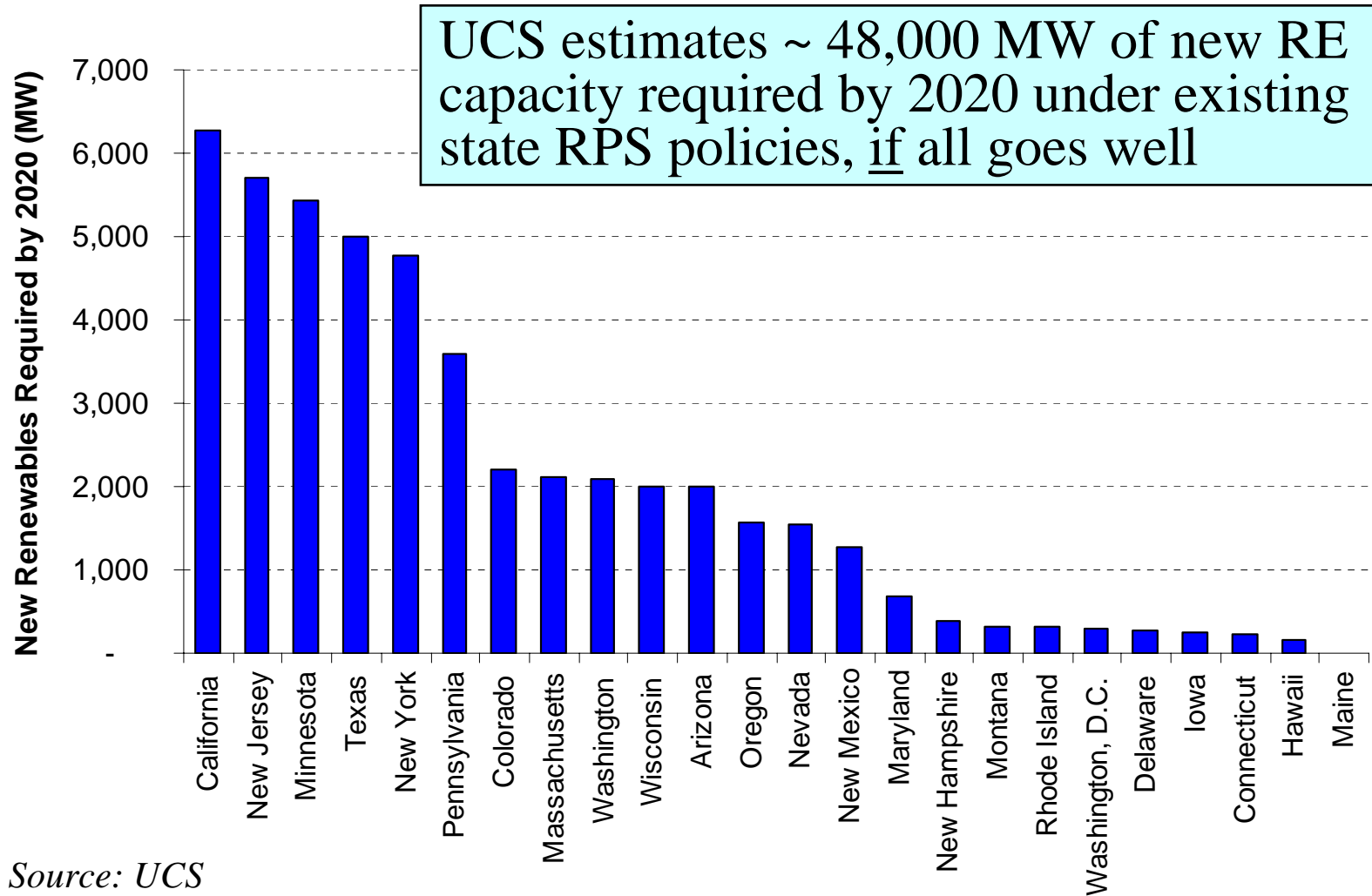
- **Load Covered:** Nearly 50% of U.S. load covered by a state RPS
- **RPS Development:** Most policies emanated from state legislation, but some from regulatory action (e.g., NY, AZ) and two from state ballot initiatives (CO, WA)
- **RPS Application:** RPS typically applies to regulated IOUs and competitive energy service providers; publicly owned utilities sometimes exempt
- **Regulated vs. Restructured:** Initially concentrated in restructured states, but now roughly half in monopoly markets
- **Operating Experience:** Experience with policy is growing, but few states have >5 years experience

# State RPS Policies Are a Significant Driver for Renewable Energy Growth



Development in RPS states predominantly, but not exclusively, wind power so far

# Looking Ahead, Existing State RPS' Could Be a Major Driver of New Renewables Capacity



Source: UCS

# RPS Design Varies Substantially From One State to the Next

Structure, Size and Application	Administration
Basis (energy vs. capacity obligation)	Regulatory oversight body(ies)
Structure (e.g., single tier or multiple tiers)	Compliance verification (RECs or contract-path)
Percentage purchase obligation targets	Certification of eligible generators
Start date	Compliance filing requirements
Duration of purchase obligation	Enforcement mechanisms
Resource diversity requirements or incentives	Cost caps
Application to LSEs - Who must meet targets?	Flexibility mechanisms (banking, borrowing, etc.)
Product- or company-based application	Implementing future changes to the RPS
Eligibility	Contracting standards for regulated LSEs
Geographic eligibility	Cost recovery for regulated LSEs
Resource type eligibility	
Eligibility of existing renewable generation	
Definition of new/incremental generation	
Treatment of multi-fuel facilities	
Treatment of off-grid and customer-sited facilities	

# The Most Important (and obvious) Lesson Learned to Date

## An RPS Can Be...

**An elegant, cost  
effective, flexible policy  
to meet RE targets**

?

**A poorly designed,  
ineffective, or costly way  
to meet RE targets**

**The legislative and regulatory  
design details matter!!!**

# Design Variations Have Yielded Mixed Results To Date

- **Some RPS policies seemingly working well...**
  - Texas, Minnesota, New Mexico, others
- **Other policies are under-performing so far...**
  - Under-compliance in Arizona, Nevada, Massachusetts, and California so far
  - Other policies have largely supported or will support existing (not new) renewable generation (ME, MD, etc.)
- **Many others are just getting underway, but there are reasons to be concerned**

# What Makes a Strong State RPS? Policy Design Requirements

- Broad applicability (*limited exemptions ok*)
- Carefully balanced supply-demand (*ensures new supply, but not overly aggressive*)
- Sufficient duration and stability of targets (*provides market confidence*)
- Well-defined/stable resource eligibility rules (*ambiguity erodes confidence*)
- Well-defined/stable out-of-state resource eligibility (*ambiguity erodes confidence*)
- Credible & effective enforcement (*to ensure compliance*)
- Flexible verification (*simplifies oversight, contracting; may lower compliance costs*)
- Adequate compliance flexibility (*to ensure that targets can be achieved at low cost*)
- Contracting standards/cost recovery for regulated utilities and providers of last resort (*to ensure reasonable compliance effort, and long-term contracts*)
- Product-based (not company-based) compliance (*supports voluntary sales*)

# Design Pitfalls

## **Lenient Geographic Boundaries/Eligibility Restrictions**

- Can enlarge the market for RECs, but may also moderate need for new renewable energy capacity and reduce local benefits

## **Force Majeure Clauses and Cost Caps**

- Compliance flexibility should be encouraged, but new RPS policies increasingly including a lot of “wobble room” to possibly allow escape from full compliance

## **Funding Caps**

- Where funding caps are in place, they may be insufficient to allow the RPS to be achieved

## **Application to Publicly Owned Electric Utilities**

- Publicly owned utilities often exempt or provided more lenient requirements

## Design Pitfalls (cont.)

### **Inadequate Enforcement**

- Where full compliance is apparently not being achieved...will penalties be used to enforce compliance?

### **Policy Instability**

- Uncertainty in RPS duration, target, or eligible technologies can impede development

### **Transmission Bottlenecks**

- Some states trying to be more proactive with transmission planning/ construction, but transmission remains a key barrier in many states

# Federal RPS Developments

- Federal RPS legislation has previously passed the Senate three times in the past five years
- Two RPS proposals currently being considered
- Analysis by UCS and EIA estimate large potential impact for renewables
  - UCS estimates 117 GW of renewables by 2020 from a 20% national RPS
  - EIA analysis of Bingaman bill—12% renewables by 2030 (because of exemptions and hydro/MSW baseline)
    - Current state RPS policies would get to 3%

# RPS Proposals Before Congress

## Bingaman

- 3.75% in 2010, 7.5% in 2014, 11.25% in 2018 and 15% in 2022. Sunsets in 2032.
- Energy efficiency can count up to 27%
- Non-compliance penalties of 2 cents/kWh
- 2x bonus credits for eligible RPS generation on Indian lands; 3x bonus credits for distributed technologies
- Hydro and MSW generation not included in base electricity sales
- Hawaii and retail providers < 4 billion kWh exempt
- DOE set up national REC tracking system
- REC prices capped at 2 cents/kWh; retail sellers can buy RECs from DOE

## Udall

- 1% in 2010, 2% in 2011, increasing 2% every year to 20% by 2020
- Exemption for retail sellers < 1 billion kWh
- Non-compliance payments of 4.5 cents/kWh (or 300% of RECs market price)
- 2x bonus credits for eligible RPS generation on Indian lands
- 3x bonus credits for distributed technologies
- REC prices capped at 3 cents/kWh or 200% of RECs market price; retail sellers can buy RECs from DOE
- DOE set up national REC tracking system

# Federal-State RPS Policy Interactions

- Compliance with a federal RPS and state RPS policies—can the same RECs be used for both or should some restrictions be imposed?
- Utility cost recovery at the state and federal level and the potential for state regulatory pre-emption
- Coordinating RPS tracking systems at the state and federal level
- Consistent basis for RECs (kWh vs. MWh)
- Double-counting voluntary green power purchases
- Ownership of RECs (particularly with QF contracts)
- Non-compliance payments for a federal RPS and state public benefit funds

## Where It All Stands...

- Senate energy bill did not include a RPS
  - May be reconsidered later this year
- Two House energy bills under consideration—  
RPS amendment scheduled to be offered on House floor by the end of July
- House Energy and Commerce Committee will consider RPS this fall as part of a larger energy bill

## Conclusions

- State RPS policies are a principal form of support for renewable energy, and are becoming increasingly popular
- Designing an effective RPS requires careful attention – the devil is in the details!!!
- The potential for suboptimal interactions between a federal RPS and state RPS policies has not been adequately considered

## For Further Reading...

*Evaluating State Renewable Portfolio Standards*, National Geothermal Collaborative, September 2003,  
<http://www.geocollaborative.org/publications/default.htm>.

“Renewable Portfolio Standards: A Factual Introduction to Experience from the U.S.” (Wiser, et. al), *Electricity Journal*, May 2007, <http://eetd.lbl.gov/EA/EMP/reports/62569.pdf>

Union of Concerned Scientists, *Renewable Electricity Standards Toolkit*, [http://go.ucsusa.org/cgi-bin/RES/state\\_standards\\_search.pl?template=main](http://go.ucsusa.org/cgi-bin/RES/state_standards_search.pl?template=main)

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