



Renewable Energy Markets 2009

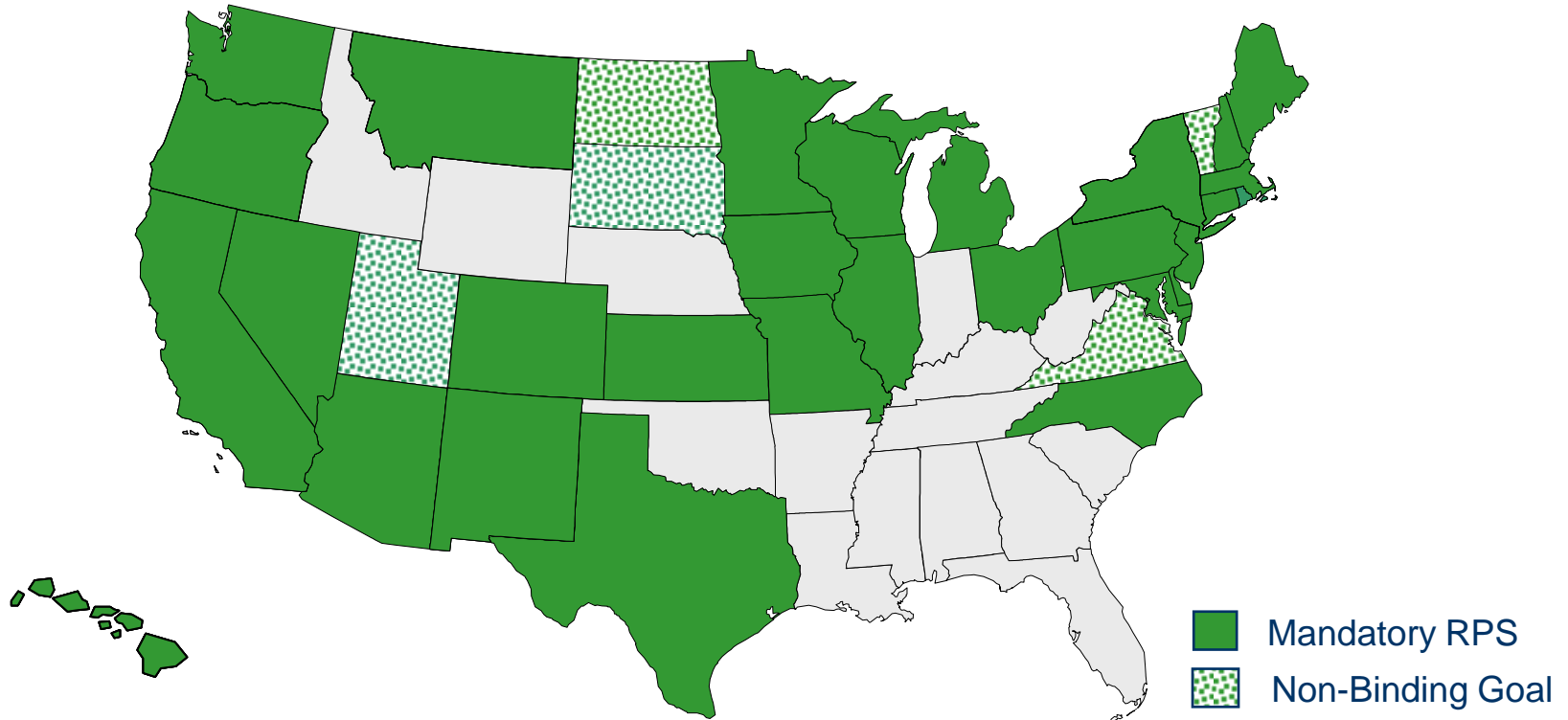
# State Renewable Portfolio Standards: An Update

Charlie Kubert  
Project Director

# Acknowledgements

- National RPS Collaborative supported by US Department of Energy and Energy Foundation
- Galen Barbose and Ryan Wiser of Lawrence Berkeley Laboratories for updated data and graphics

# RPS': 29 States and Counting



Source: Berkeley Lab

# State Targets Are Aggressive

## “Super-RPS”: >20%

HI: 40%  
OR: 25%  
CA: 20%  
NV: 25%  
MN: 25%  
IL: 25%  
NY: 24%\*  
ME: 40%\*  
NJ: 22%  
NH: 24%  
CT: 23%

## Middle-Roaders: 15-20%

CA: 20%  
WA: 15%  
CO: 20%  
NM: 20%  
TX: 5,880 MW  
KS: 20%  
MO: 15%  
MD: 20%  
MA: 20%  
DE: 20%  
DC: 20%

## Conservatives: <15%

WI: 10%  
MI: 10%  
OH: 12.5%  
PA: 8.5%  
NC: 12.5%  
IA: 108 MW

\*Includes baseline hydropower

# Significant Changes in 2009

**HI:** From 20% by 2020 to 40% by 2030; also 30% EEPS by 2030

**IL:** Extended 25% RPS to ARES, effectively doubling requirement; also added solar carve-out

**NV:** From 20% by 2020 to 25% by 2025; solar carve-out from 5% to 6%

**MA:** Solar carve-out; many definitional changes

**OR:** 2:1 solar multiplier for larger systems

**VA:** From 12% by 2022 to 15% by 2025 (non-binding)

# Pending Changes

**CA:** From 20% to 33% (in General Assembly)

**NJ:** From 22% to 30%; also solar carve-out from percentage to fixed amount and off-shore wind target (Governor's Energy Master Plan)

**NY:** From 25% by 2013 to 30% by 2015, effective doubling over baseline (under administrative review)

**FL:** PSC issued 20% RPS draft rule (but not ratified by Legislature)

**PR:** RPS Legislation being drafted

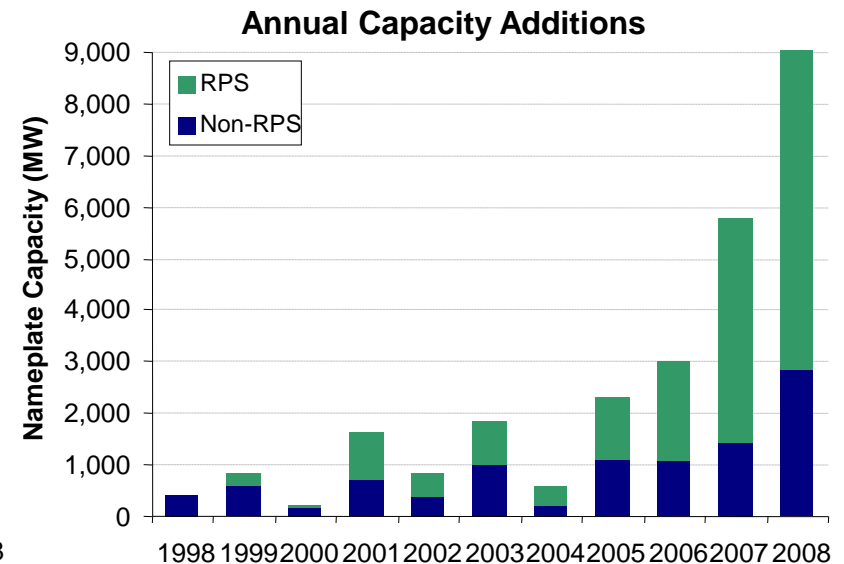
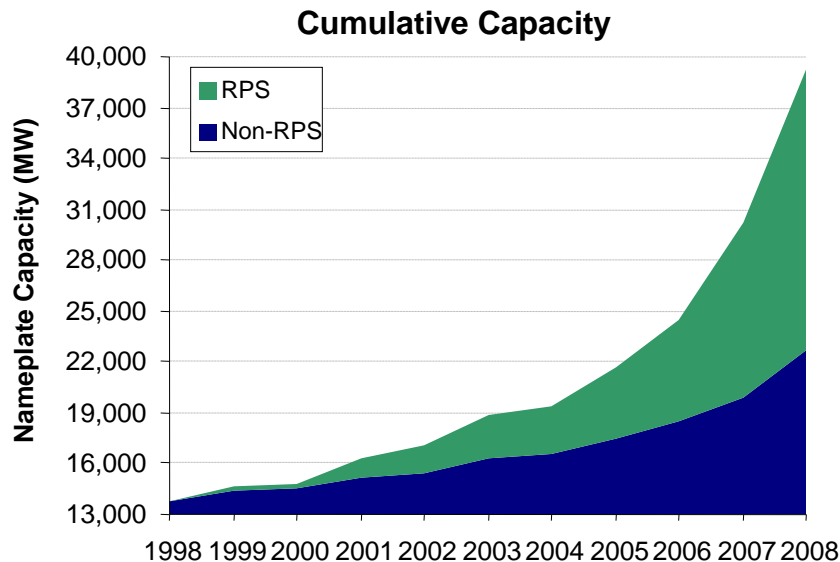
# States Still on an RPS “Learning Curve”

## First Compliance Year

Pre-2004	2004	2005	2006	2007	2008	2009	2010	2011	2012
CA		HI	MD	CO	IL	OH	NC	KS	MI
MA			NY	DC	NH			MO	WA
NM				DE	MT			OR	
TX				RI					
MN									
NV									
PA									
NJ									
CT									
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# State RPS' Continue to Drive Renewables Development

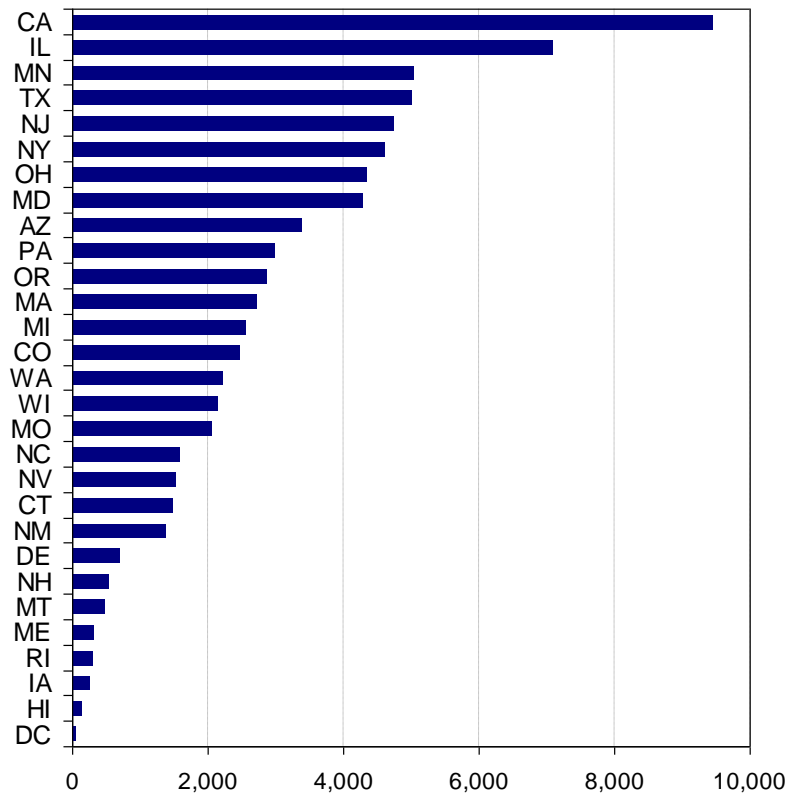
## Cumulative and Annual Non-Hydro Renewable Energy Capacity in RPS and Non-RPS States, Nationally



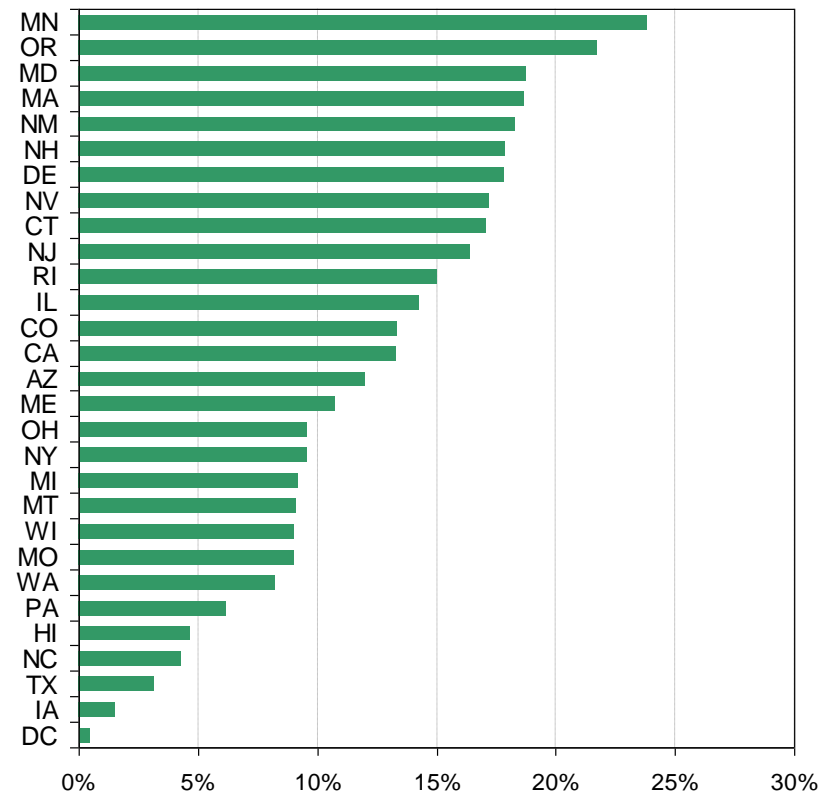


# RPS Targets will result in 77 GW of Capacity by 2025, 42% of Projected Load Growth

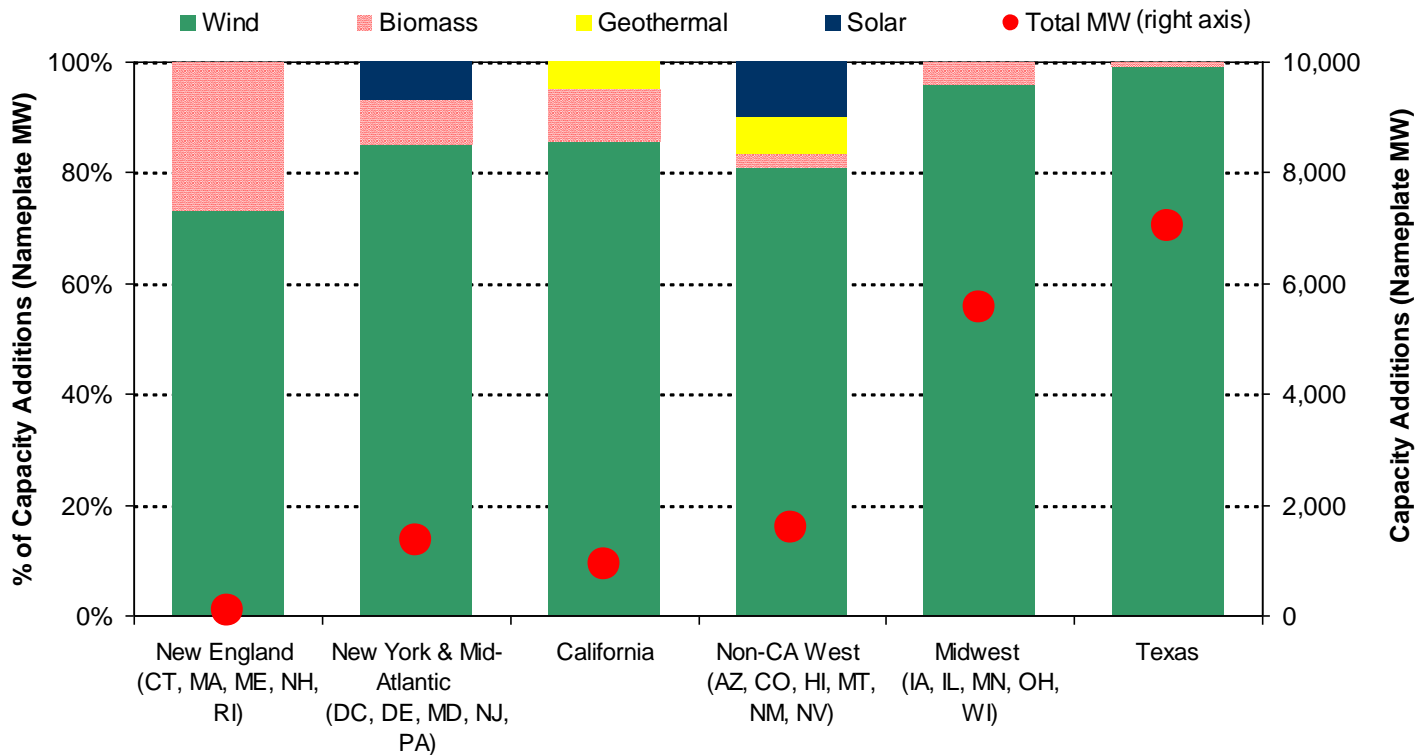
**New Renewable Capacity Needed by 2025  
(Nameplate MW)**



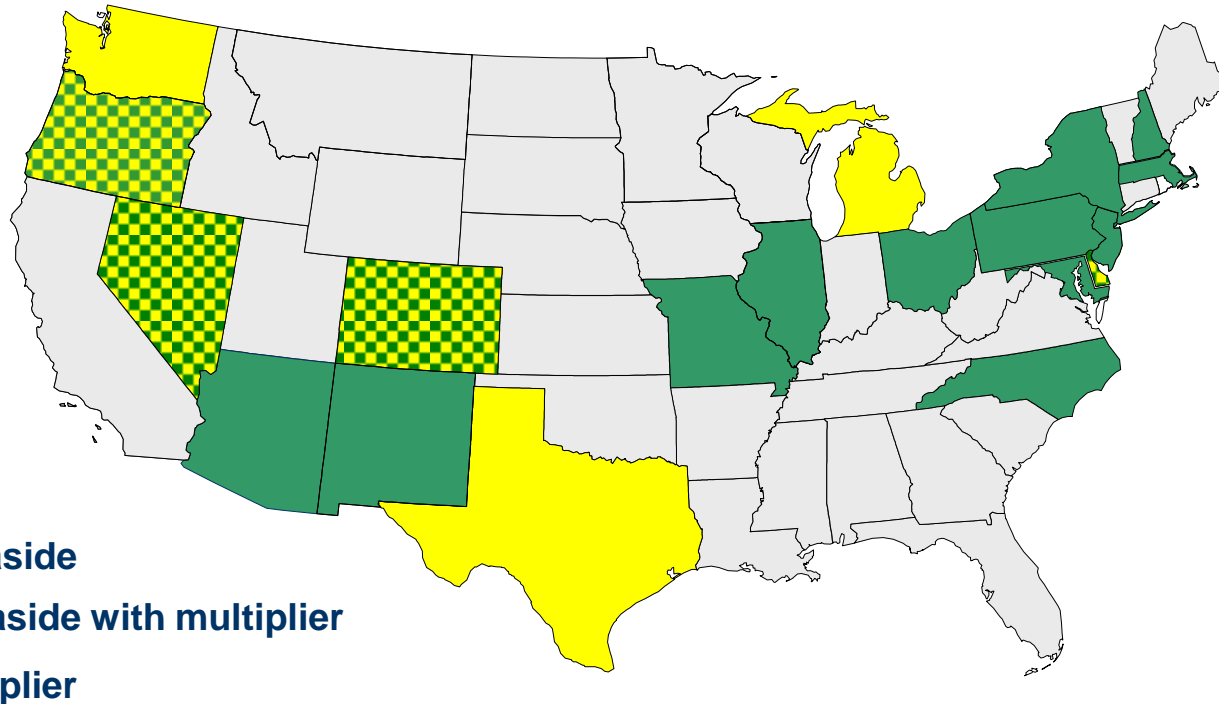
**New Renewable Generation Needed by 2025 as a Percent of Projected Statewide Retail Sales**



# Resource Diversity Has Been Limited



# Solar/DG Carveouts in 19 States, but Mixed Success



# Greater In-State Generation Requirements where Resources are Plentiful

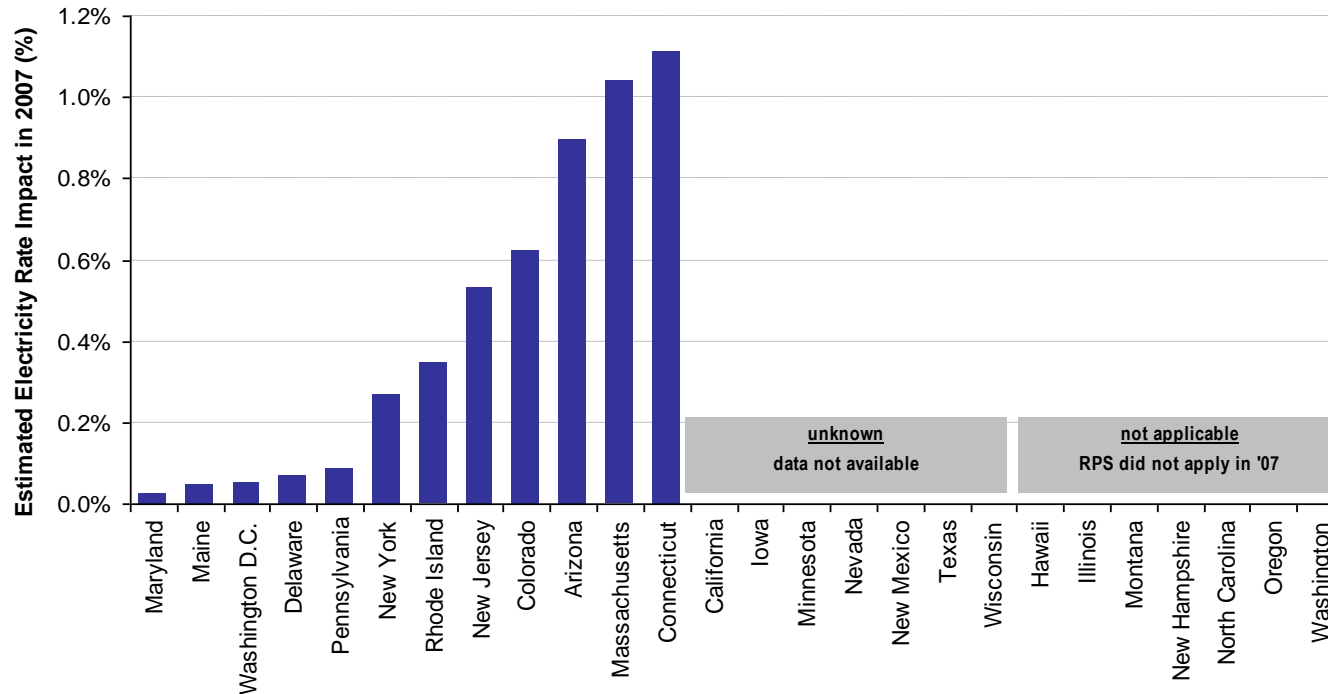
**In-State Generation:** HI, IL (if cost-effective), TX (direct transmission inter-tie), CO, MO (credit multipliers for in-state, NC (25% cap on unbundled out-state RECs)

**In-Region Generation:** MI, MN, OR, PA, IL (after in-state)

**Power Delivered to State or LSE:** AZ, CA, MT, NM, NV, NY, OH, WI

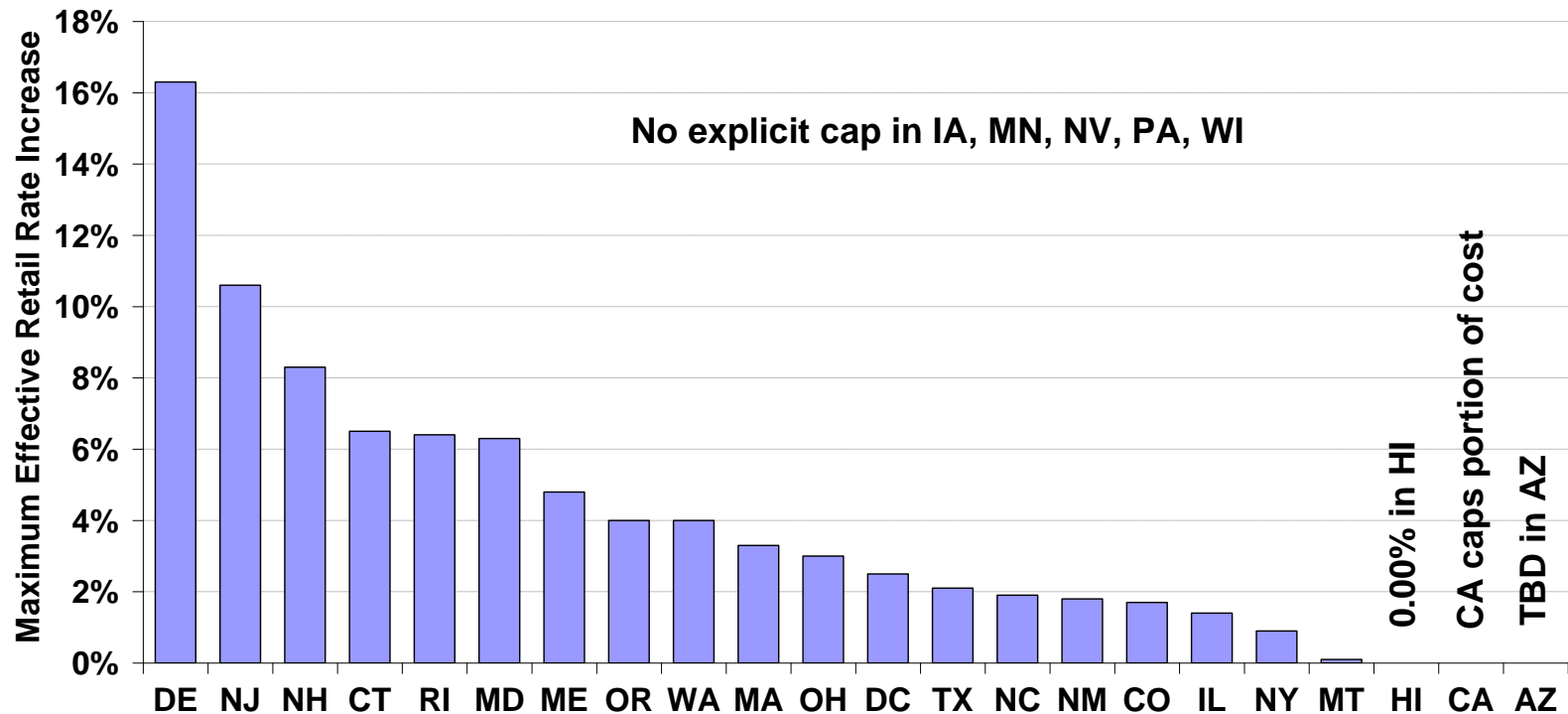
**Power Delivered to Region or Power Pool:** CT, DC, DE, MA, ME, NH, NJ, OH, RI, WA, WI

# RPS Rate Impacts Nominal

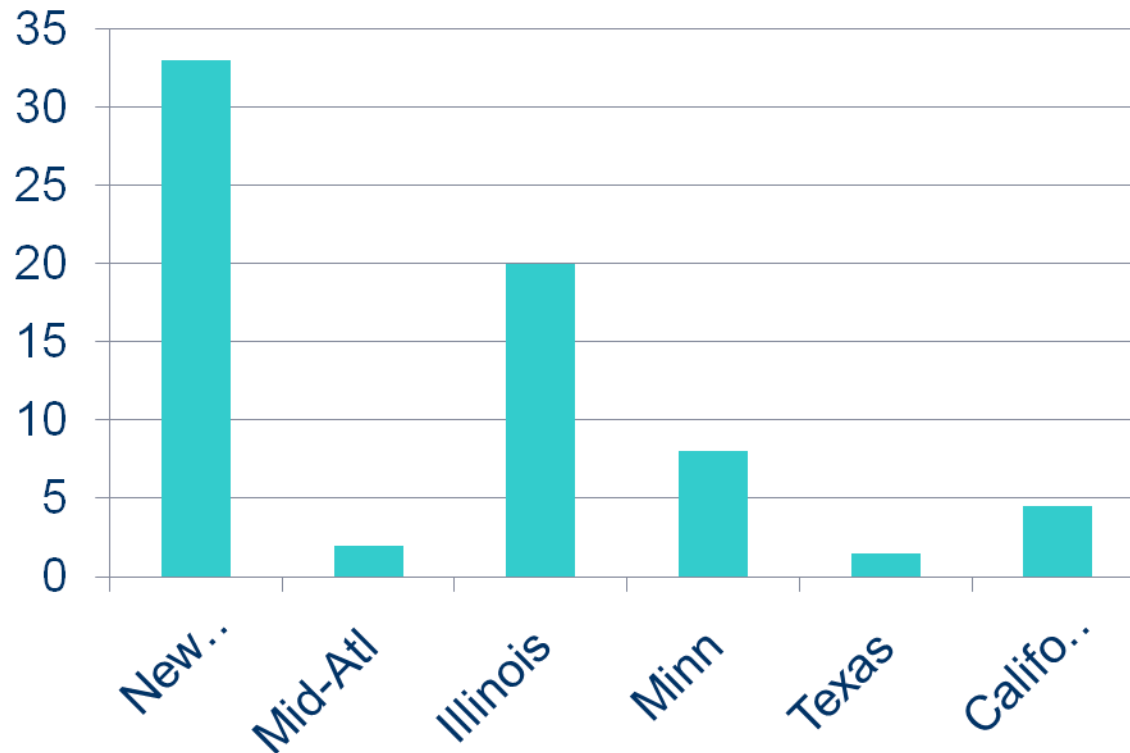


Note: Data through 2007 only; data based on short-term REC prices

# Actual Rate Impacts Well Below Caps



# REC Prices in RPS Markets



Source: Evolution Markets, ICC, NREL

# What Worries RPS Managers and Regulators

- If we raise the RPS requirement, can the utilities meet it?
  - Transmission
  - Siting
  - Rate Impact
- Should our RPS benefit our state, the region or the country?
- How will a federal RES impact the states?



# Federal RES and the States: Key Issues

- Protecting rights of states to maintain higher standards (“excess” federal REC issue)
- Duplicate or Integrated REC tracking systems
- Disposition of ACP’s

# 2<sup>nd</sup> National State RPS Summit

November 18-19, Gleacher Center, Chicago  
(immediately after NARUC meeting)

No cost to attend for RPS Collaborative  
members

For more details, contact Maria Blais,  
[maria@cleanegroup.org](mailto:maria@cleanegroup.org)