
State Wind Power Policy: An Update on RPS, SBC, and IRP

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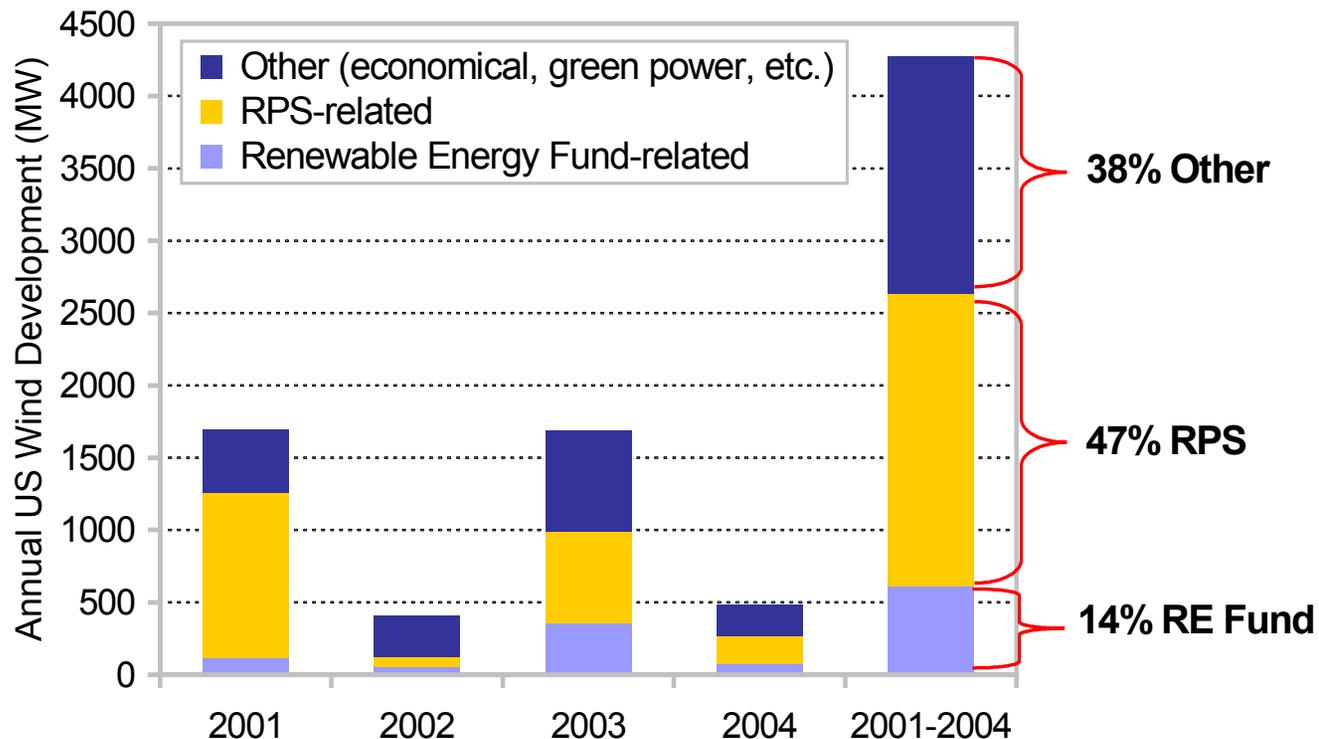
Wind Powering America – Annual State Summit

Evergreen, Colorado
May 19, 2005

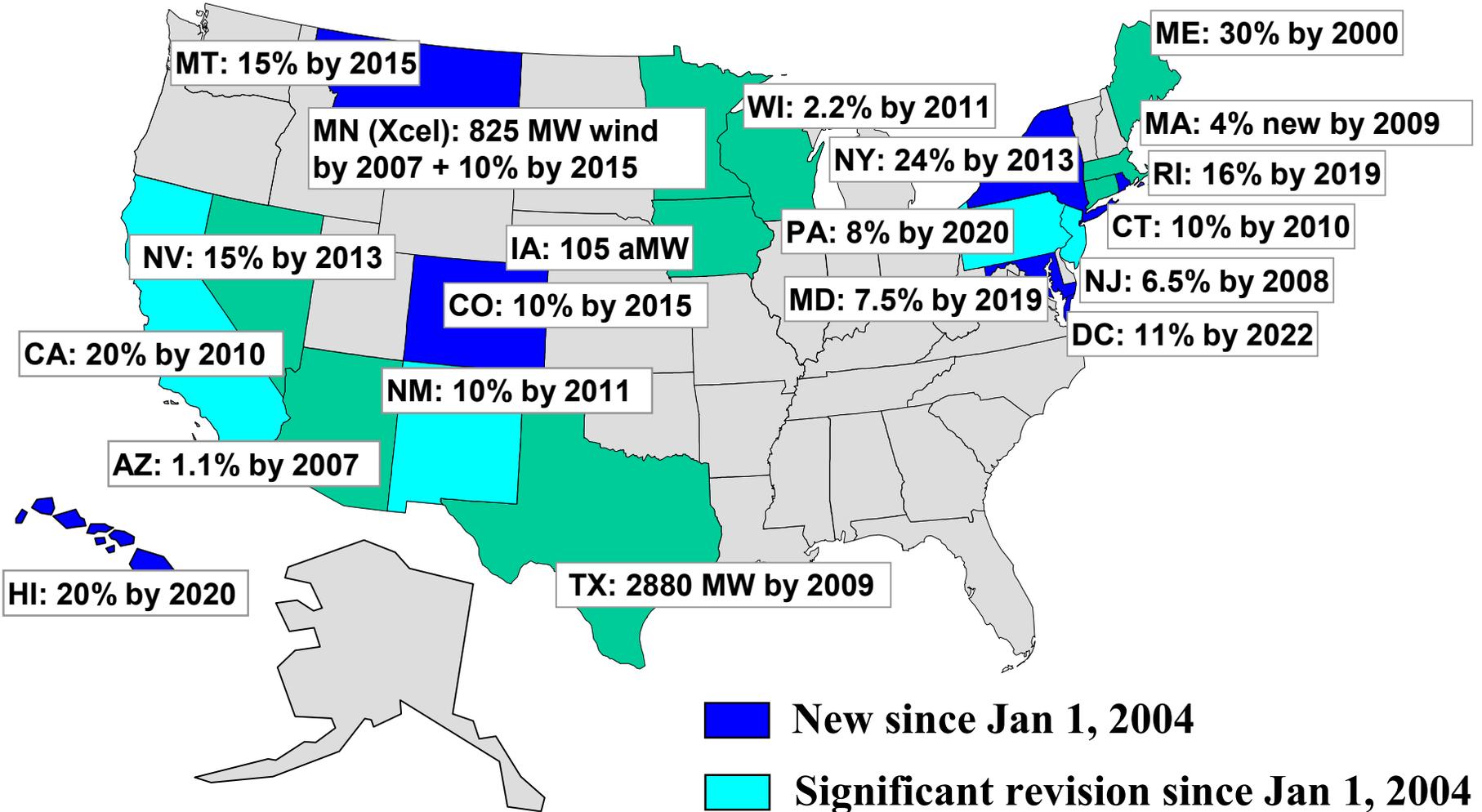
Presentation Overview

Recent wind project development has largely been driven by state policy

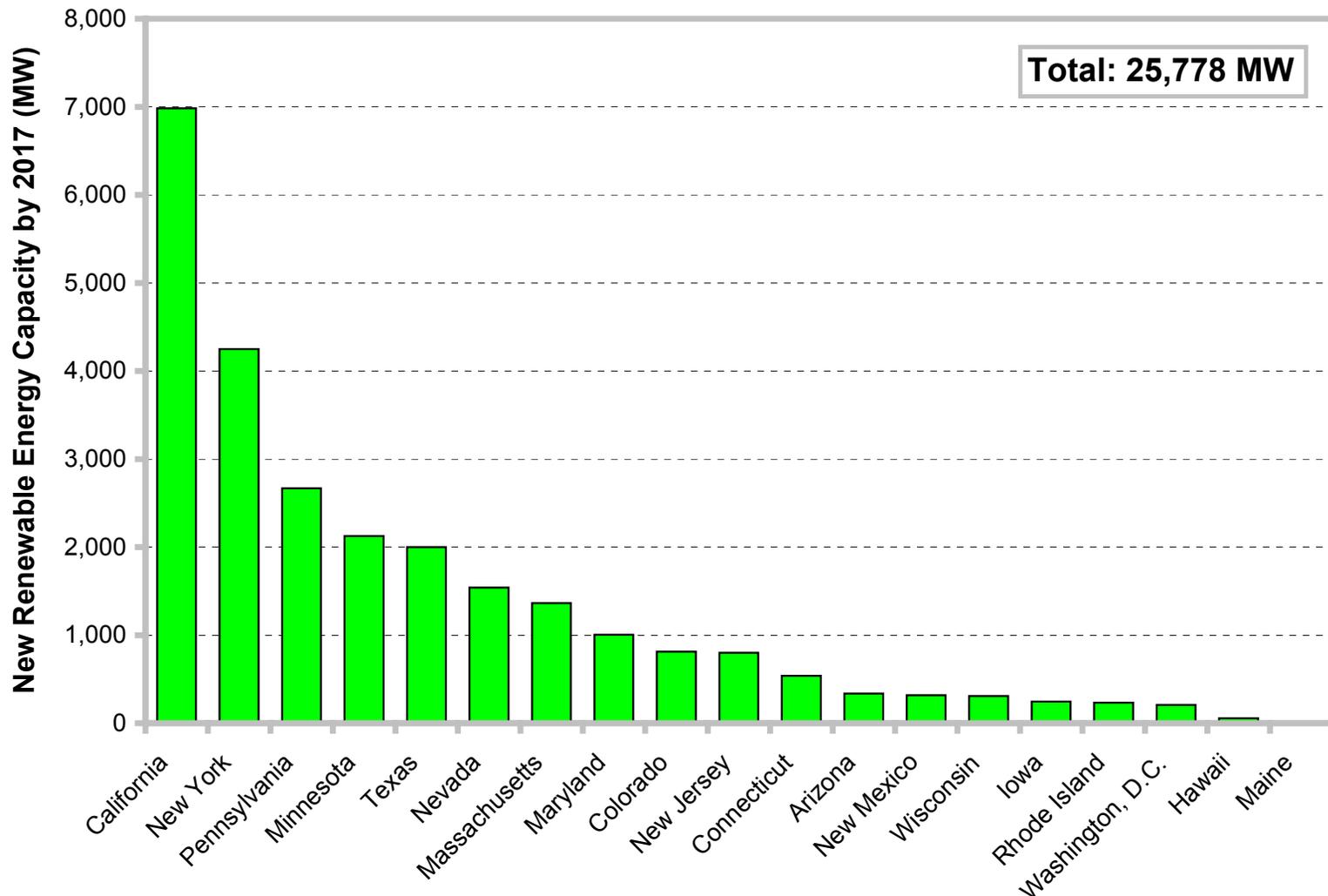
1. Renewables portfolio standards
2. Renewable energy funds
3. Integrated resource planning
4. Other policy approaches



State Renewables Portfolio Standards and Purchase Mandates – 19 States and D.C.



Potential Impacts of State RPS Policies Are Significant

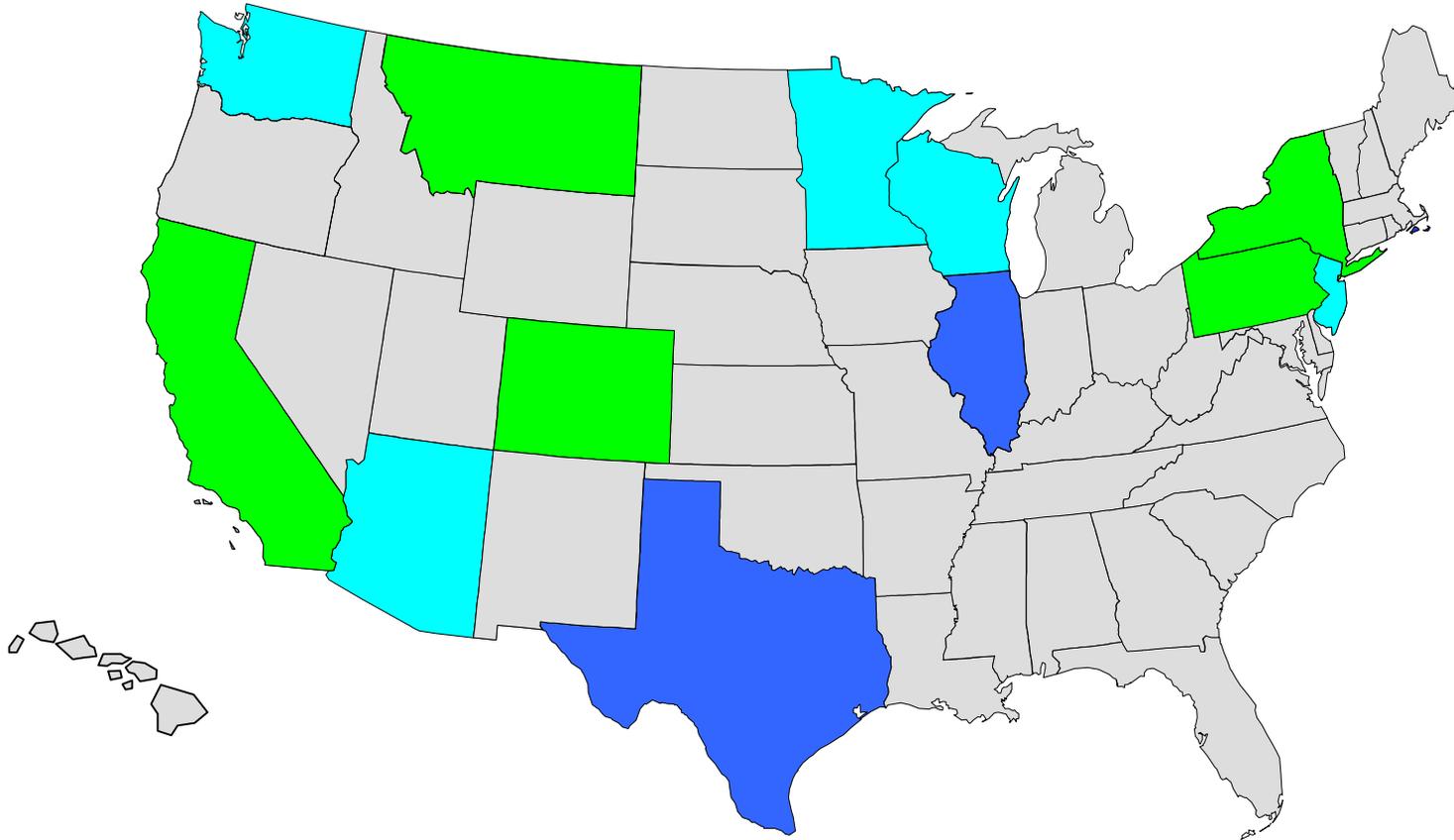


Montana not included in tabulation

Non-Exhaustive Review of Recent Impacts of RPS on Wind Power Development

New York	Four contracts for 317 MW in NY, MD, PA, NJ
California	PG&E: 143-158 MW from three contracts SCE: 100-270 MW from three contracts SDG&E: 150 MW of new wind under contract LADWP: 120 MW approved
Wisconsin	200 MW may be installed in 2005
Hawaii	24 MW of wind under contract for construction this year
New Mexico	140 MW under contract to Xcel
Texas	Over 500 MW planned for construction in 2005
Minnesota	Over 200 MW proposed for construction in 2005
Massachusetts Connecticut	Substantial development activity in New England as result of MA and CT RPS

Significant Opportunities in Near Future



Green High Priority Regulatory Implementation

Blue New Policy Creation – High Priority (entirely new policy or revision to old)

Cyan New Policy Creation – Slightly Lower Priority (entirely new policy or revision to old)

But the Potential Impacts May Not Be Realized Unless We Get the Design Right

- **Lack of Long Term Contracts**

- Major problem in Northeast, where retail competition exists and where renewable energy sources are more expensive

- **Force Majeure Clauses and Cost Caps**

- New RPS policies increasingly including a lot of “wobble room” to possibly allow escape from full compliance (e.g., MT, PA)

- **Use of Non-Compliance Penalties**

- Full compliance not being achieved (NV, AZ) or unlikely to be achieved (CA) in some cases... will penalties be used to enforce compliance?

- **Lenient Geographic Boundaries**

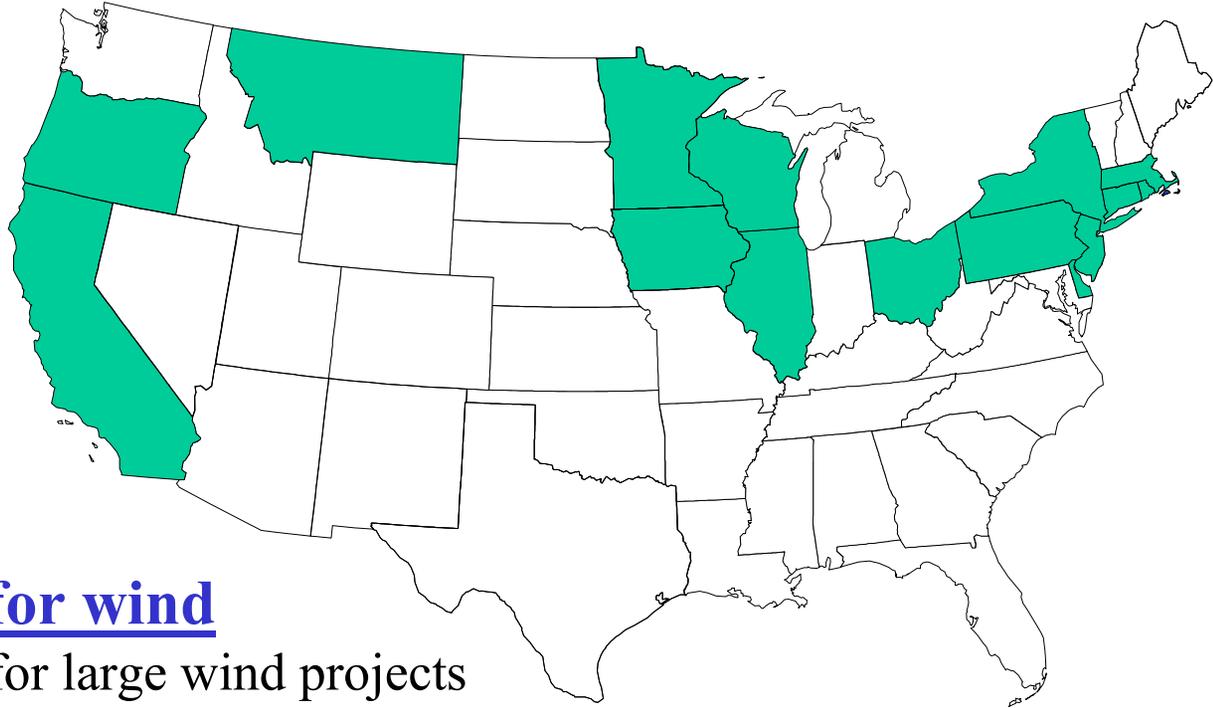
- Wind community has often sought broad geographic scope of eligibility, but have we gone too far (e.g., PA, MD, NJ, NY)

- **Design Complexity**

- Will design complexity grind the CA RPS to a halt...

State Clean Energy Funds

- ❖ 15 states collecting over \$300 million per year for renewable energy support
- ❖ Majority of funding collected through a small surcharge on electric bills (SBC)



Common programs for wind

- Financial support for large wind projects
- Pre-development support for large wind projects
- Building green power market demand
- Support for community wind
- Support for customer-sited, smaller scale wind
- Wind R&D

Financial Support for Utility-Scale Wind Has Been Provided by Eight States

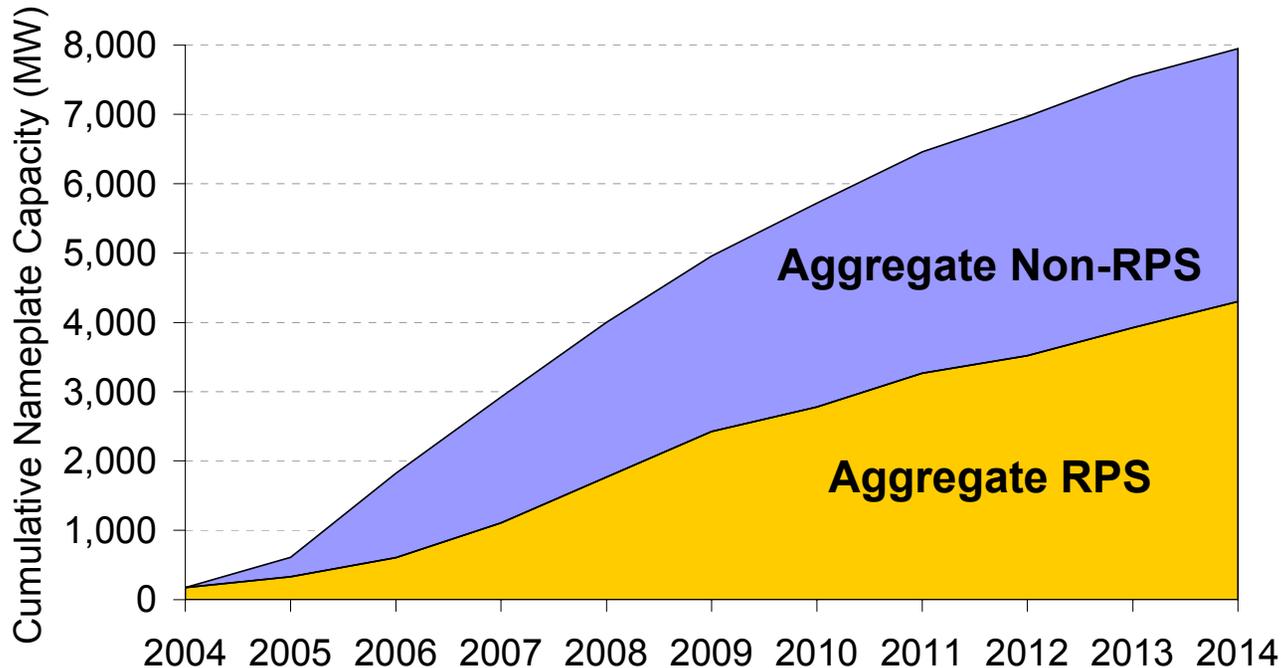
State	# Wind Projects	Obligated Incentives (\$)	Obligated Capacity (MW)	On-Line Capacity (MW)	Pending Capacity (MW)
CA	25	\$79,098,475	972	285	684
PA	8	\$14,000,000	270	119	151
IL	4	\$9,305,000	102	50	51
NY	6	\$22,100,000	308	42	267
OR	1	\$3,800,000	41	41	0
MN	64	\$51,441,977	107	31	76
MA	2	\$16,238,965	45	0	45
NJ	2	\$6,300,000	29	0	29
Total:	112	\$202,284,417	1,874	568	1,303

Notes:

- Updated September 2004; some projects have come on-line since that time, e.g., California now has 348 MW on-line; others have been cancelled, e.g., 21 MW project in NJ
- Massachusetts' obligated incentives is the amount placed in escrow; nominal value of potential obligations is \$25.8 million

Integrated Resource Planning

Western IRPs are leading to significant planned wind investments, above and beyond RPS requirements



Non-RPS:

Wind accounts for 93% of new capacity in 2014

RPS:

Resources often unspecified

New Renewables Capacity in 2014 (MW)

	PG&E	Pacifi-Corp	SCE	PSE	SDG&E	PSCo	Idaho Power	Nevada Power	PGE	North-Western	Sierra Pacific	Avista
Non-RPS	0	1,420	0	745	115	500	450	0	195	150	0	75
RPS	2,150	NA	1,021	NA	630	NA	NA	361	NA	NA	137	NA
Total	2,150	1,420	1,021	745	745	500	450	361	195	150	137	75

Why... Because Wind – at \$20-40/MWh – Can Be Cost Effective, if the IRP Is Done “Right”

IRP is an enormous opportunity to get wind “at the table” as part of a low-risk, low-cost portfolio of new resource additions

A Wind Friendly Integrated Resource Plan

The direct costs and benefits of wind are fairly evaluated: capital, operating, tax incentives, integration, transmission, capacity value

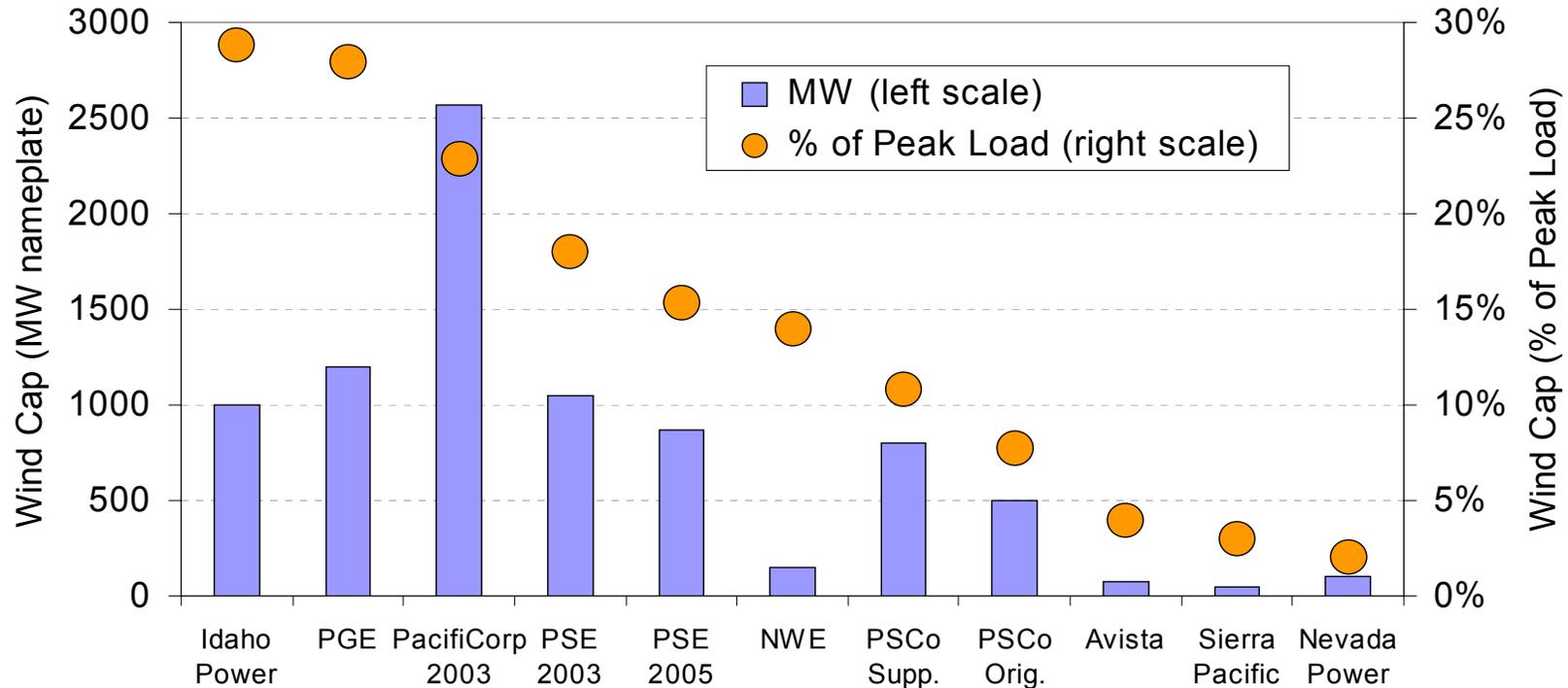
The cost of new conventional resources is correctly evaluated, including consideration of *base-case* fuel prices and fuel price *risks*

The financial risk of future environmental regulations, most importantly carbon, is considered and evaluated

Our Review of 12 Western IRPs Reveals a Number of Important Observations

1. Western utility resource plans have begun to consider RE as a serious resource option
2. Resource plans in RPS states, however, often fail to evaluate RE as a serious resource option, beyond the RPS
3. Some plans establish low wind-penetration limits that are “capping” wind additions at seemingly artificially low levels
4. Candidate resource portfolios are not always constructed and analyzed so the risk-reducing attributes of RE will shine through
5. The value of the federal production tax credit (PTC), and the risk of its expiry, are not analyzed adequately in many resource plans
6. The methods for evaluating wind’s integration costs and capacity value are improving, but more work remains
7. Fuel price risks appear to be evaluated relatively well, but the risk of fuel-price increases is sometimes underestimated
8. Environmental regulatory risks are increasingly recognized (at least for carbon), but the risk is not consistently evaluated among plans

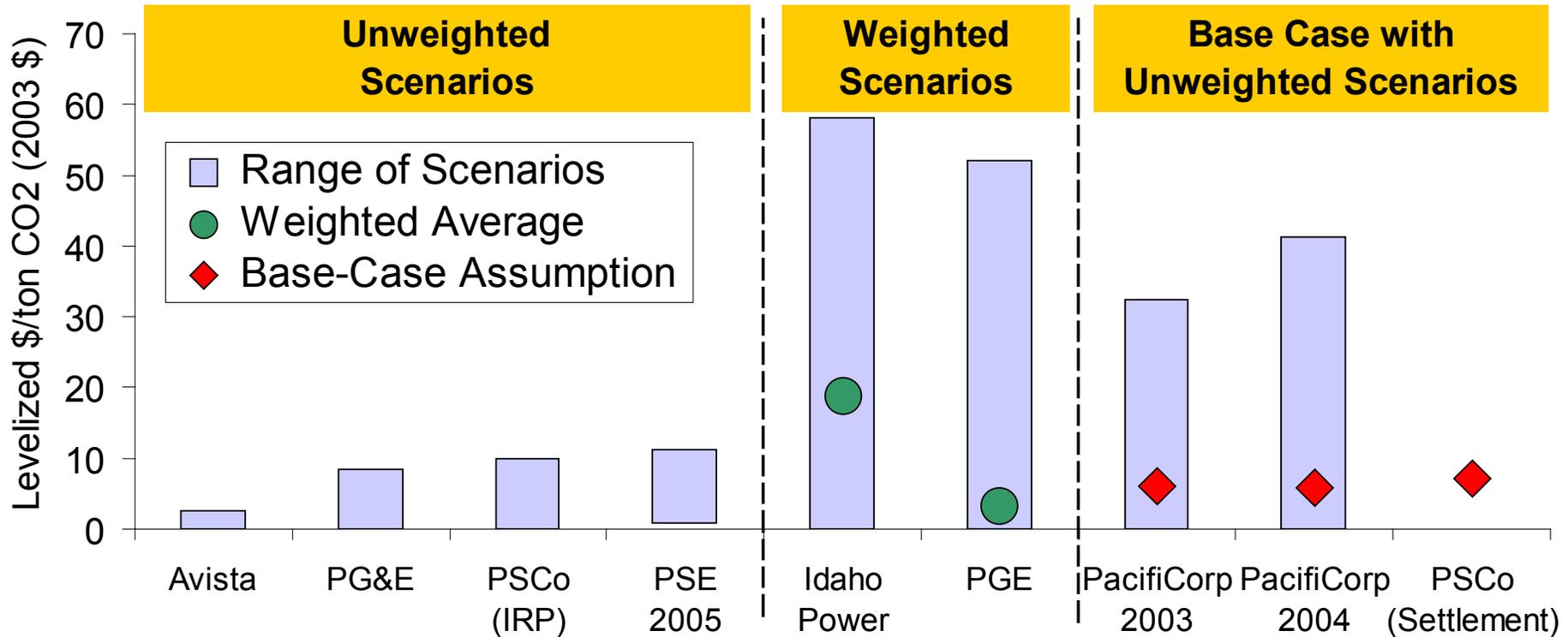
Exogenous Build Limits “Cap” the Amount of Wind Selected by Some Resource Plans



Note: caps for Nevada Power and Sierra Pacific are from 2001 renewable energy RFP; PSCo (original plan) established 500 MW cap after modeling higher levels of penetration

NWE, PSE 2003, PSCo (orig.), and Avista all chose portfolios with wind at the cap (Sierra Pacific and Nevada Power do not report RE additions by technology, but presumably would also hit their low caps)

Seven of Twelve Western Utilities Already Consider Carbon Risk, Through Various Means



We recommend that...

- all utilities evaluate carbon risk
- a greater level of consistency in evaluation approaches be sought
- a broad range of possible regulatory environments be considered

Other State Policies

- **State Tax Incentives**

- Property, sales, and income tax incentives
- e.g., New Mexico production tax credit: 10 years, 1 cent/kWh

- **Posted Avoided Cost Rates**

- With high gas prices, and low wind costs, posted avoided cost rates can spur smaller and community-owned wind projects
- e.g., in Idaho, long-term avoided cost rate ~\$60/MWh for projects under 10 MW; two wind projects already signed on – Fossil Gulch (10.5 MW) and Montana project (9 MW)

- **Utility Profit Incentives**

- As a part of other policies, or separate from those efforts, consider offering utilities a profit motive for aggressively pursuing renewable resources
- Few examples to draw upon, but Colorado and Hawaii are exploring incentives within their RPS policies
- Berkeley Lab and Regulatory Assistance Project collaborating on project to explore the mechanics and options for this policy approach

Conclusions

- State RPS policies are currently a principal form of support for utility-scale wind projects, and are becoming increasingly popular
- State renewable energy funds are unlikely to play as sizable a role, but will play a critical role in certain markets and for certain applications
- IRP may be the new frontier to sizable wind expansion in West and Midwest
- Other options to consider
 - State tax incentives
 - Posted avoided cost rates
 - Utility profit motive

