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U.S. Renewables Portfolio Standards:
Past their prime, or primed for progress?

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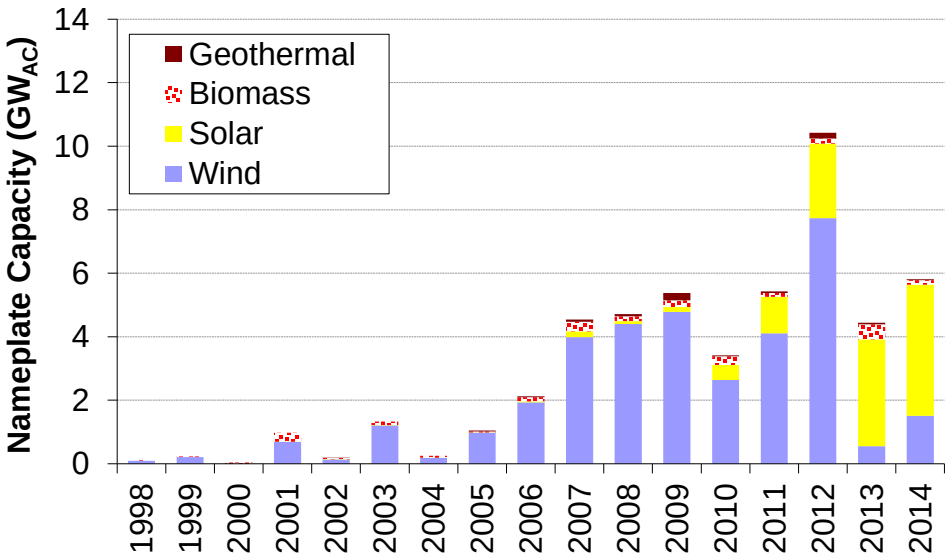
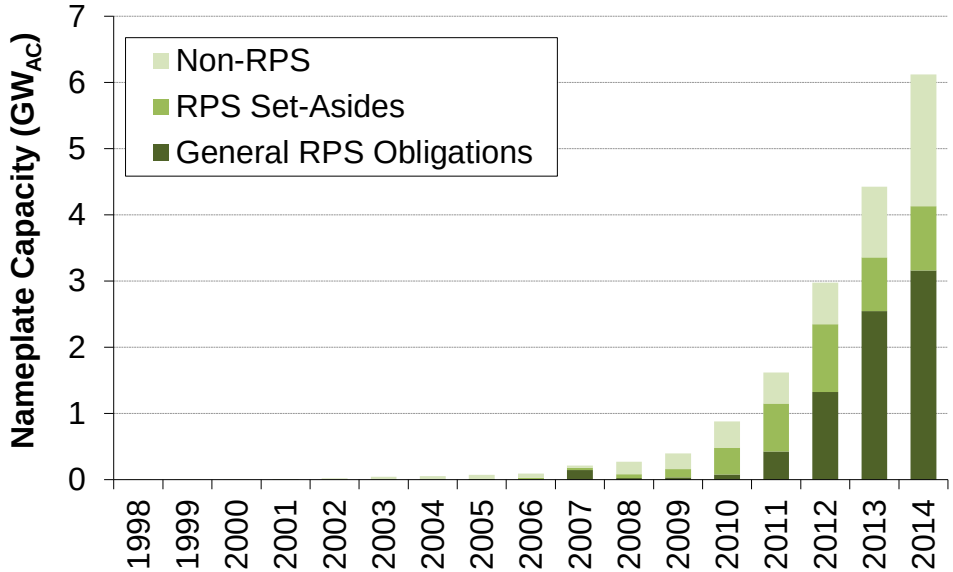
RPS Policies Have Been a Major Driver for Solar Deployment To-Date

Annual RPS Capacity Additions



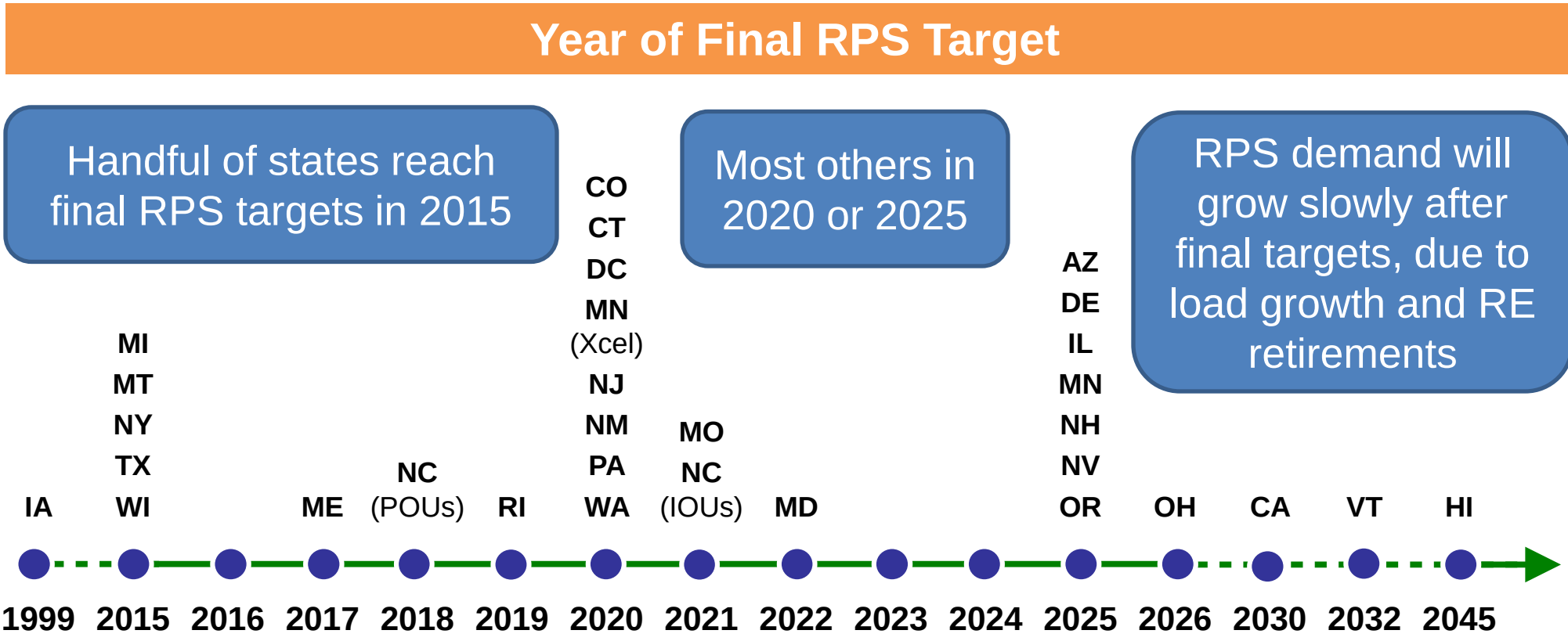
U.S. Solar Capacity Additions



** Renewable energy capacity assigned to RPS programs if and only if the entity receiving RECs from the project is subject to RPS obligations, and the project commenced operation after enactment of the RPS.*

- Solar has become more prominent among new RPS-builds since 2012
- Reflects solar set-asides and rapid expansion of utility-scale solar for general RPS
- Despite importance of RPS, 1/3rd of 2014 solar additions were unrelated to RPS'

States Are Starting to Approach Final Targets

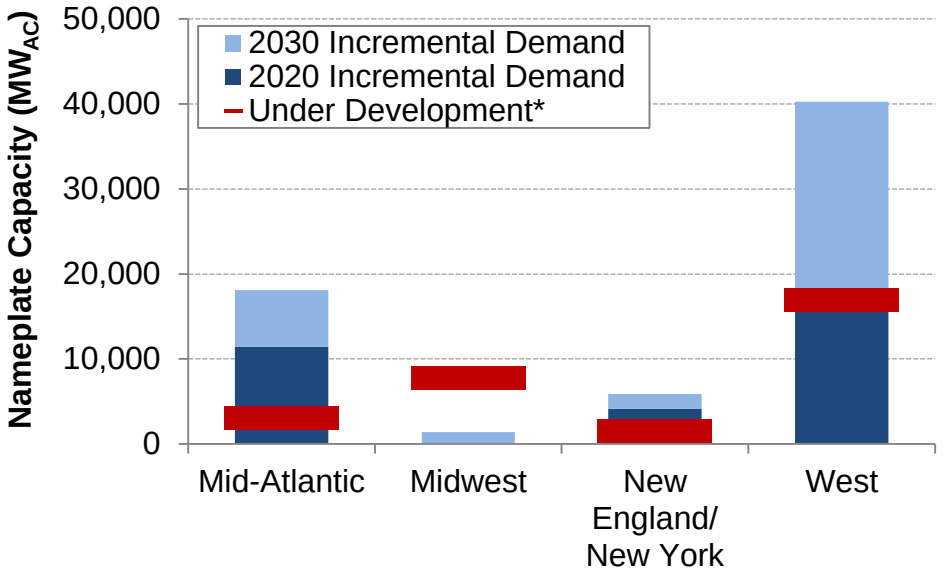


In addition, many states or utilities are ahead of schedule relative to current-year RPS requirements

Where Do Remaining Opportunities Exist?

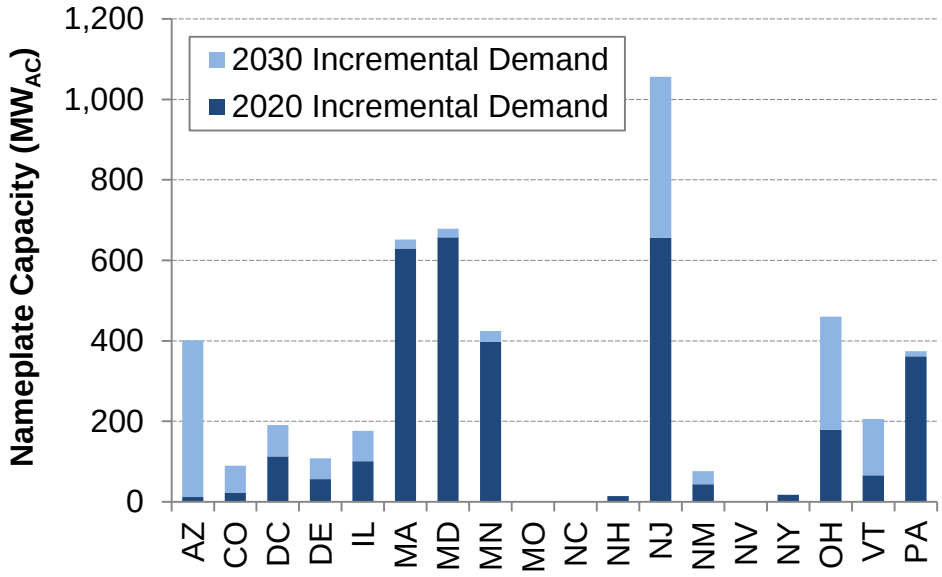
Incremental RPS Demand Relative to 2014 Supply

Total RPS Obligations



U.S. Incr. Demand: 32 GW (2020), 66 GW (2030)

Solar and DG Set-Asides



U.S. Incr. Demand: 3 GW (2020), 5 GW (2030)

**Under Development includes plants permitted, under construction, or completed in 2015 (Source: Ventyx/ABB Velocity Database, Sept. 2015)*

- **Total RPS obligations require ~5 GW/yr. through 2020**; similar to historical RPS build-rates since 2010; much met with capacity already under development
- Greatest residual RPS demand thru 2020 in Mid-Atl., New Eng., MN (carve-out)

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Legislative Activity on RPS Policies Continues

- Of the **159** RPS-related bills introduced in 2015 (*Source: EQ Research*):
  - **16** enacted as of August 31
  - Evenly split between strengthen (**50**), weaken (**56**), or neutral (**53**)
- Highlights among enacted bills:
  - **CA:** Increased RPS to 50% by 2030
  - **HI:** Increased RPS to 100% by 2045
  - **VT:** Replaced voluntary RE goal with new mandatory RPS (75% by 2032) including a DG set-aside (10% by 2032)
  - **KS:** Repealed RPS and replaced with voluntary RE goal
  - **CT:** Created residential solar program funded through RPS (300 MW by 2022)
- Key active bills passing committee or chamber:
  - **IL (SB 1485):** Would Increase RPS to 35% by 2030
  - **NC (H 760):** Would freeze RPS at 2015 target and increase EE allowance

The Future Role and Impact of State RPS Programs In Supporting Solar Will Depend On…

Endogenous Factors

- Legislative and legal challenges to state RPS programs
- RPS compliance costs and ACPs/cost caps
- Whether/how RPS programs are expanded, re-tuned

Exogenous Factors

- EPA Clean Power Plan compliance strategies
- Federal investment tax credit
- The many related issues affecting solar and other RE deployment (integration, siting, net metering, etc.)

Thank You!

For further information:

LBNL RPS publications and resources:

rps.lbl.gov

LBNL renewable energy publications:

emp.lbl.gov/reports/re

Contact information:

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