RAP Energy solutions for a changing world

Chasing Adequacy:

Selected lessons from US (and Australian) experience with "capacity remuneration mechanisms"

Michael Hogan
Senior Advisor

CEPS Brussels
19 March 2015

The Regulatory Assistance Project

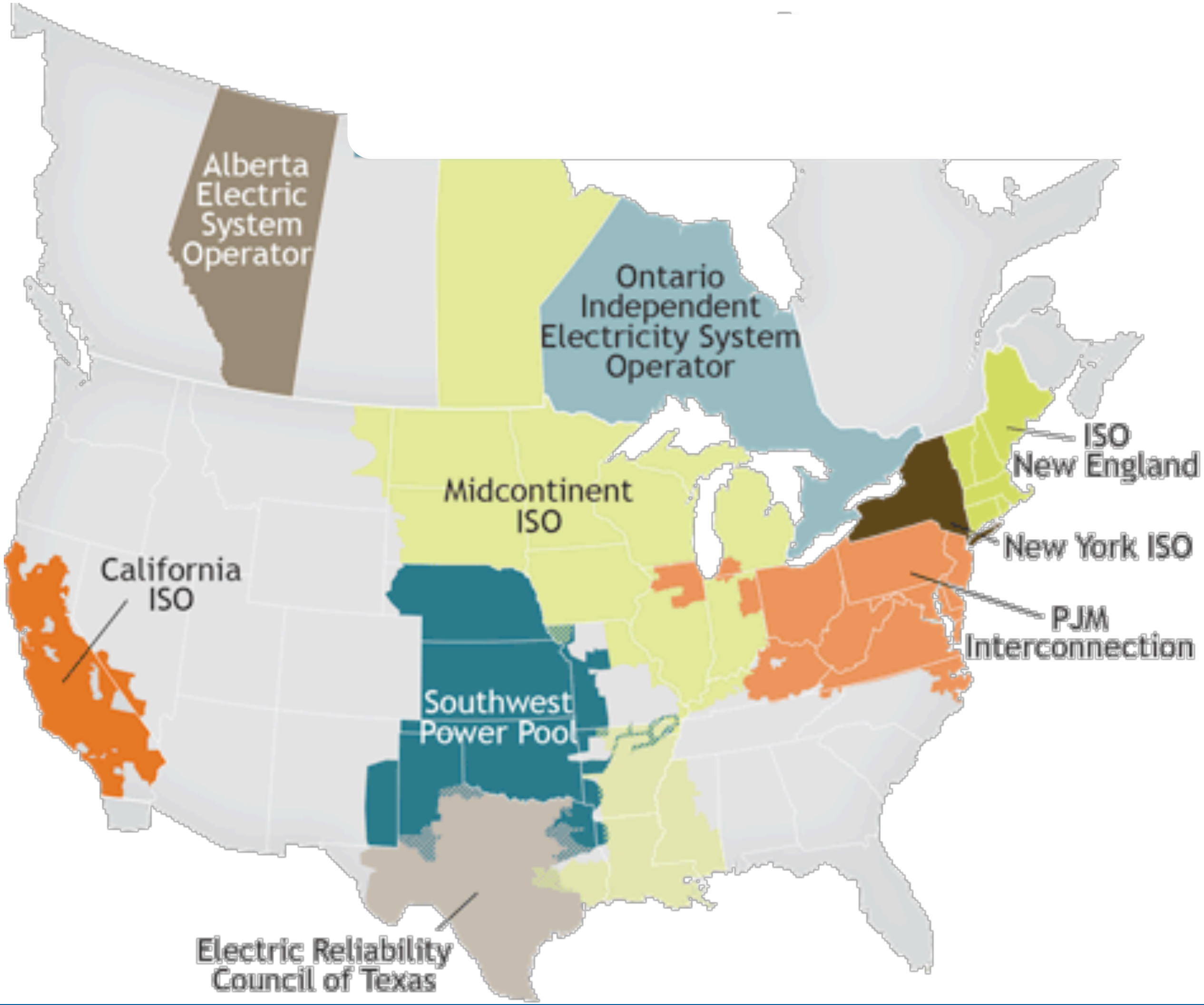
rue de la Science 23
B - 1040 Brussels
Belgium

Phone: +32 2-894-9300
web: www.raponline.org

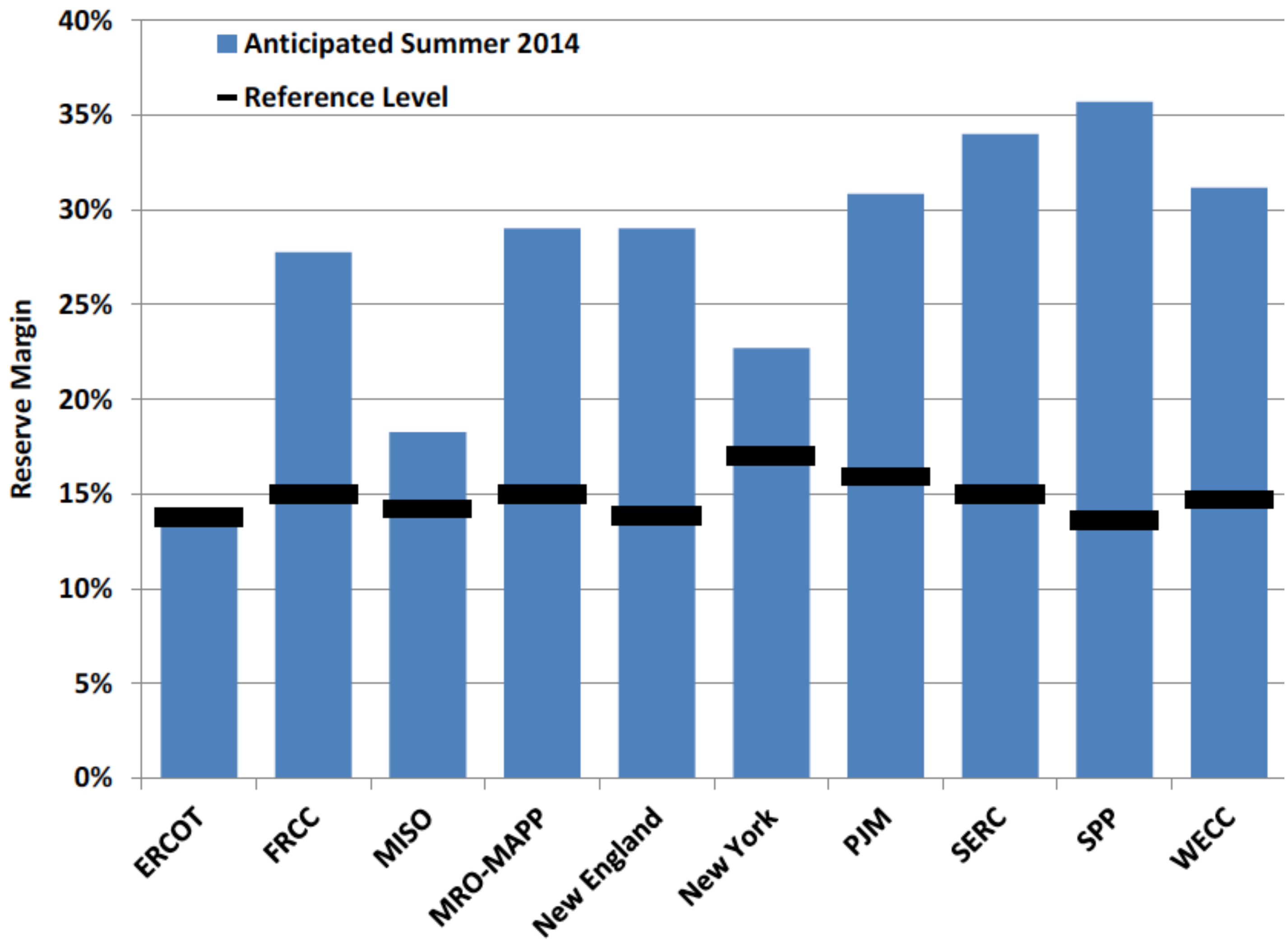
First things first…what is “adequacy”?

- Introduction of markets affords a new perspective on “accepted industry practice”
  - Whether & how the market is delivering or can deliver “enough” investment begs the question of how “enough” is defined
  - Reveals a wide range of difficult-to-compare metrics
- Adequacy is fundamentally a statistical construct
  - Failure *is* an option…in fact, it’s built into the design standard
  - The consequences of “failure” – rare shortages of capacity – aren’t what the Usual Suspects would have you believe they are
- How much is “enough” depends on:
  - What is reliability worth, and how much does more of it cost?
  - How much of a “cushion” is sensible, and in whose opinion?
  - What mix of operational capabilities do your resources possess?

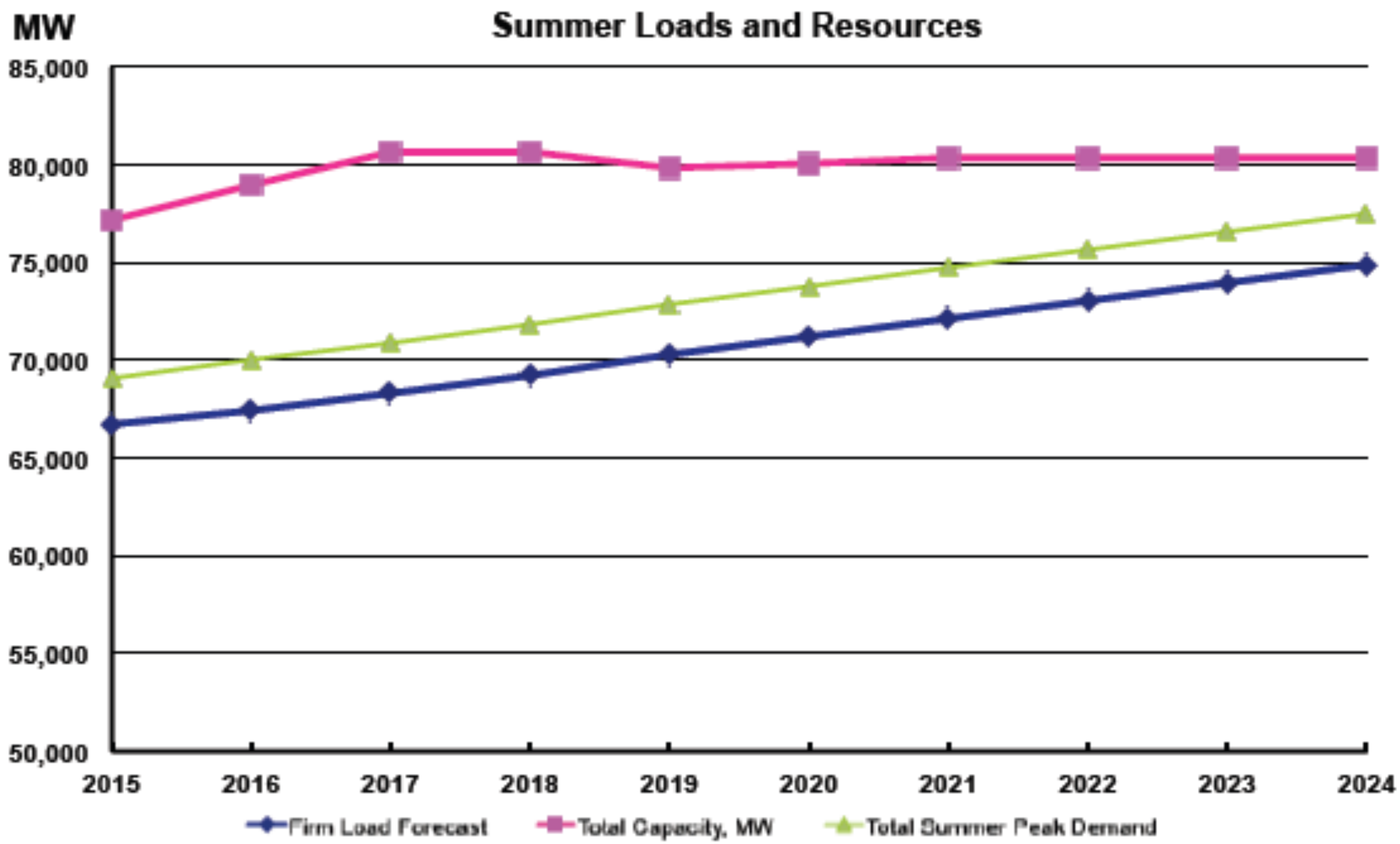
North American market areas



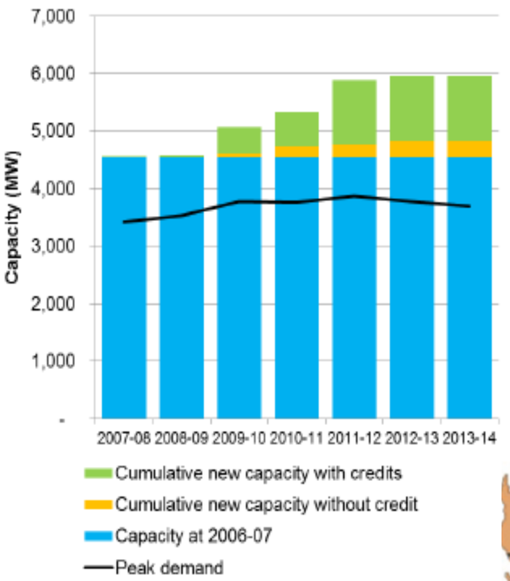
Reserve margins (spring 2014 forecast)

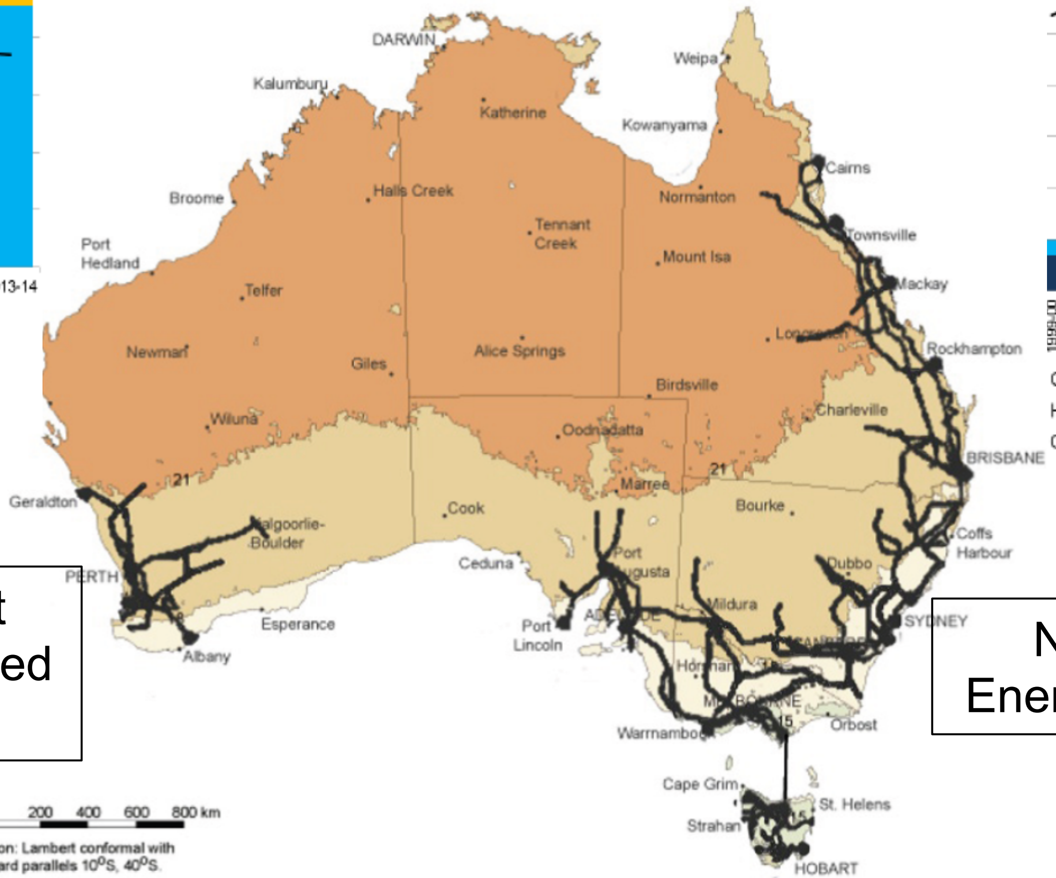


ERCOT margins (Dec 2014 forecast)



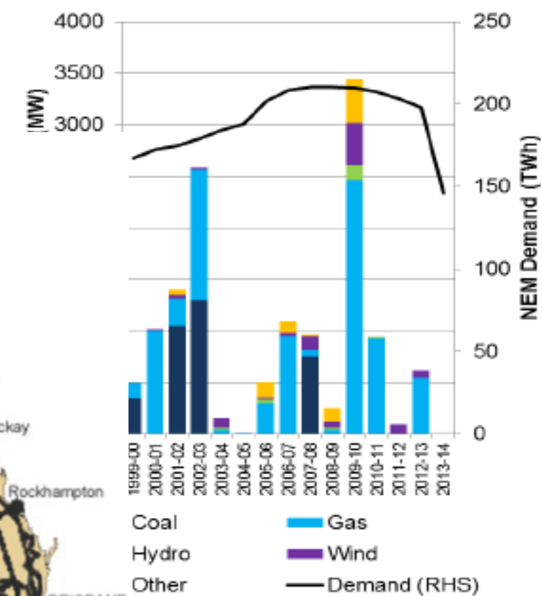
Australian market areas





Southwest Interconnected System

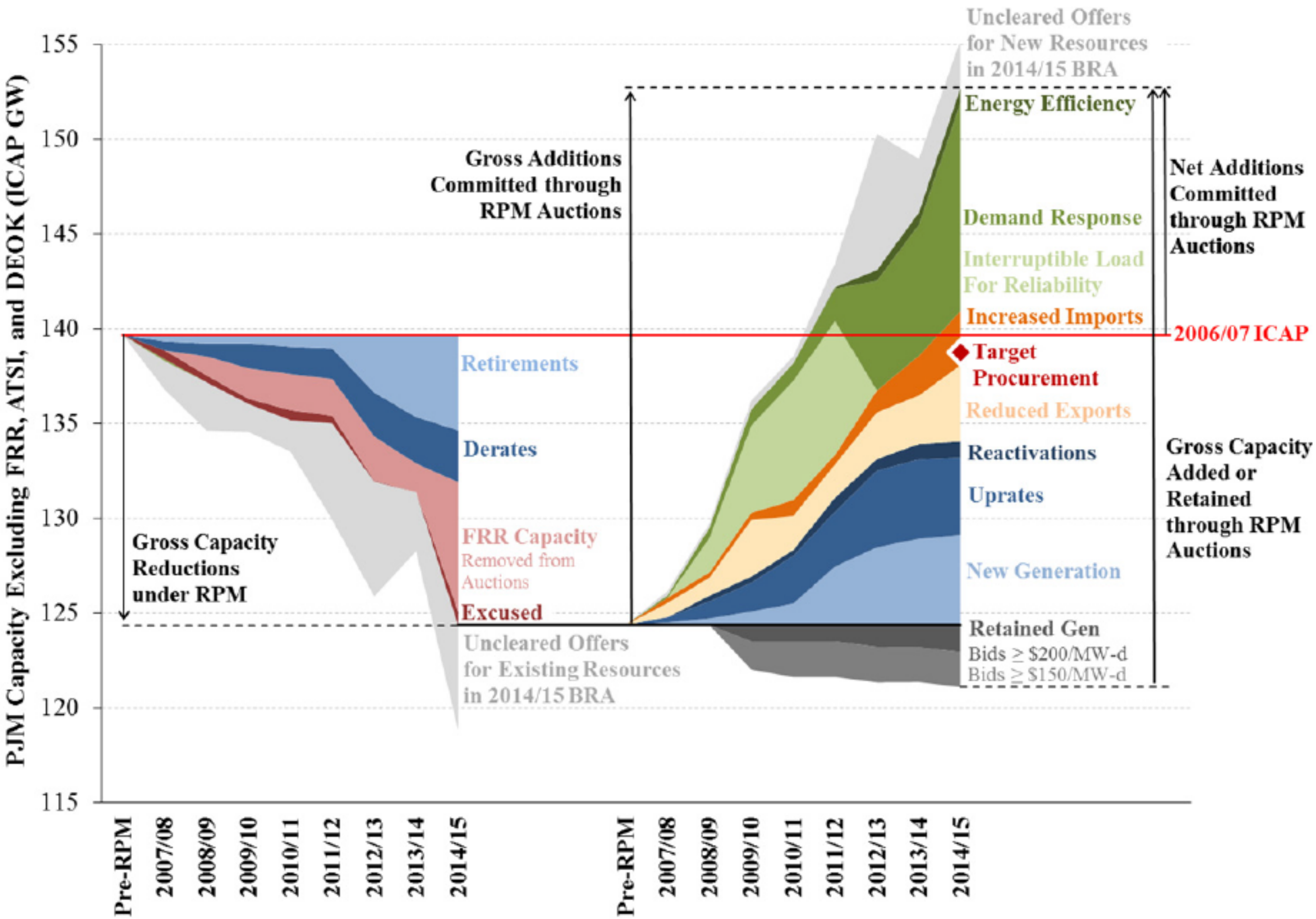
National Energy Market



What seems to be working

- Reserve margins have remained healthy
  - Introduced at a time of surplus and "at risk" capacity
  - Replacement rates & resource additions have delivered the MWs
- Rolling limited-term commitments are working
  - A reliable indicator of future market conditions, not a substitute for energy & services markets
  - Adaptability is valuable in a period of rapid & uncertain change
- Demand-side has outperformed on several dimensions
  - More quantity than predicted
  - "Merit order effect"
  - Very reliable
- Centralization of market intervention reduces duplication, improves transparency, promotes access

PJM capacity market track record



What doesn't seem to be working

- Capacity ≠ security of supply
  - Reliability issues despite healthy reserve margins (and costs)
  - Constant revision, growing complexity, liquidity constraints
  - Does not replace need to make energy market work as intended
- CRM regions consistently over-procure by design
  - Over-values generation relative to other, larger reliability issues
  - Compounds energy market distortion by locking in surplus
  - "EOM" regions may be delivering better value for money
- "Missing money" may still go missing
  - Perception of "windfall profits", "double payments" persists
  - Claims of "price gouging", "market manipulation" still arise
  - Finding ways to pay for needed resource capabilities only compounds risk of missing money, double payment or both

What doesn't seem to be working

CAPACITY PRICES FOR PSE&G SPIKE IN ANNUAL PJM AUCTION [1]

"The resulting rates from [ISO New England's] FCA 8 will have a significant impact on Connecticut electric consumers, who will see their capacity costs rise from $277 million per year to $617 million per year beginning in 2017. Six separate groups, including the Attorney General, filed protests and challenges with FERC over the FCA 8 results." [2]

"FERC Chairman LaFleur wrote back last week to the large swath of New England's Congressional delegation that sought commission action on [FCA 8]. The results were allowed to go into effect despite half the commission wanting to hold them back so allegations of withholding could be investigated." [3]

1 *New Jersey Spotlight, 28 May 2013*
2 *State of Connecticut DEEP press release, 17 Oct 2014*
3 *Utility Markets Today, 23 February 2015*

Bottom line

- The "missing money" problem is not a design problem, it's an implementation problem
  - Poor comprehension of market design & resource adequacy
  - Political unwillingness to risk "the lights going out"
  - Political unwillingness to be seen to impose the cost to fix it
- CRMs are supposed to remediate all of these problems
  - Eliminate "price spikes"
  - Pay for sufficient investment to "keep the lights on"
  - Keep it simple and under political control
- So far it's not clear they fix any of them…and they may make them worse
  - Fail to ensure reliability; highly visible; perceived fossil subsidies; paying money that wasn't "missing"; mind-numbing complexity

About RAP

The Regulatory Assistance Project (RAP) is a global, non-profit team of experts that focuses on the long-term economic and environmental sustainability of the power and natural gas sectors. RAP has deep expertise in regulatory and market policies that:

- Promote economic efficiency
- Protect the environment
- Ensure system reliability
- Allocate system benefits fairly among all consumers

Learn more about RAP at www.raponline.org

Michael Hogan – mhogan@raponline.org
+1 603 738 8652