

Capacity Market Mischief: Avoiding Unintended Consequences

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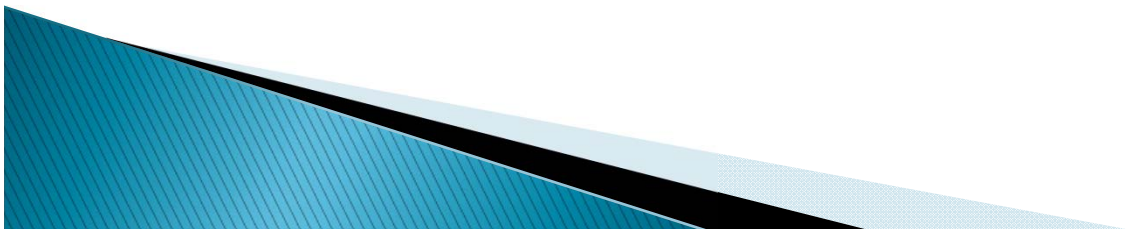
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THE SUSTAINABLE FERC PROJECT

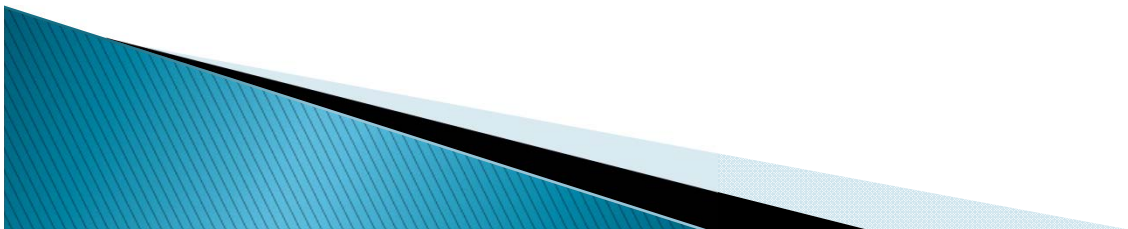
Keeping Our Eyes on the Prize – Slashing Power Sector Carbon Emissions

- ▶ Dramatically expand renewables.
 - Support technologies and the markets to integrate them successfully into the grid (flexibility critical).
- ▶ Prevent coal plants from using markets to extend lives and foreclose cleaner energy options.
 - Capacity market payments
 - Reliability must run payments
- ▶ Assure comparable treatment for all resource options in grid planning.
- ▶ Energy Efficiency – always.



Jurisdiction Matters

- ▶ FERC limits clean energy preferences in wholesale power markets and rates.
 - Focused on reliability – peak load and reserve margins.
 - Recent decision on ISO–NE forward capacity market rules – overrides state clean energy policy standards; related issues elsewhere.
 - Wellinghoff supports compensation framework to reward DR/DG resources.
- ▶ States focused on resource adequacy, state policies (some good, some not so good), costs.



MISO Developments

- ▶ Most states in MISO are regulated; they opposed a PJM-like capacity market as unnecessary and costly.
- ▶ New Resource Adequacy construct represents a middle ground.
- ▶ First planning year starts June 1, 2013; auction is a one year forward auction.
- ▶ Utilities can satisfy load obligations with a Fixed Resource Adequacy Plan (FRAP).



MISO Developments

- ▶ DR and EE can compete – but many state laws prevent aggregators of retail customers from competing in state – significant untapped DSM in MISO (includes fossil fuel backup generation).
- ▶ Planning Reserve Margin is based on zone's peak demand – i.e., inflexible.
- ▶ Expected clearing price and likely utility behavior for procuring resources?



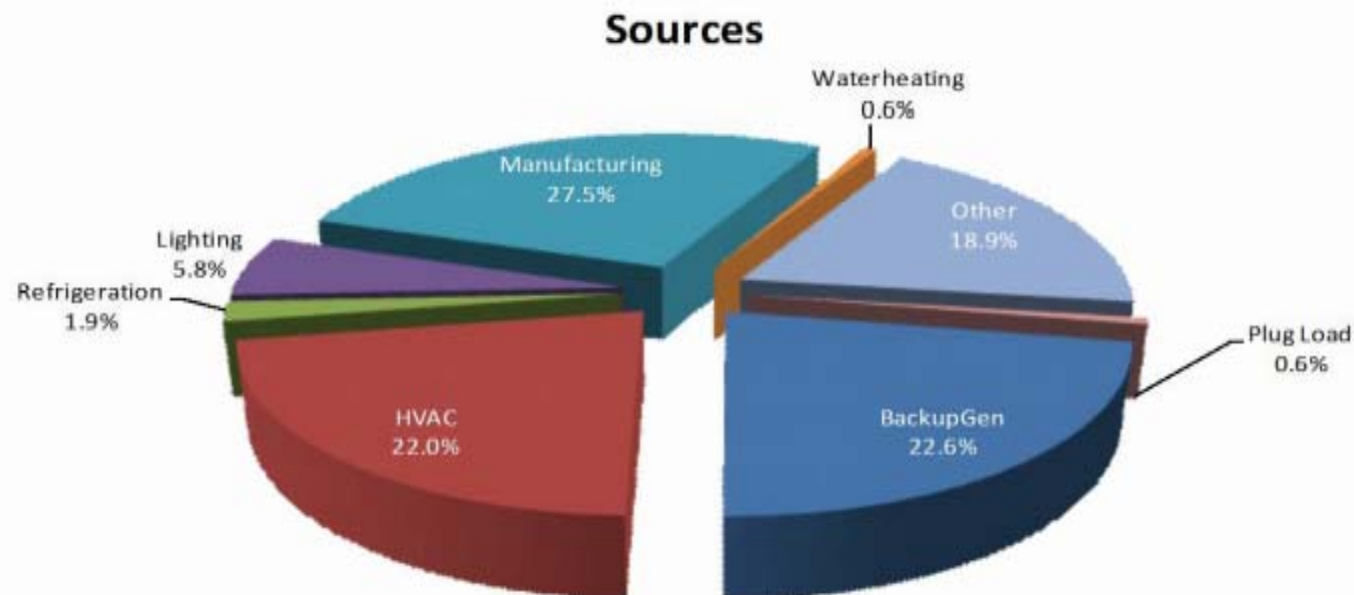
PJM Capacity Market Concerns and Questions

- ▶ Lackluster energy efficiency results to date (922 MW for 2015/16 = 0.5% of cleared resources).
- ▶ Significant diesel backup generation for DR – mostly in the limited run time product.
- ▶ PJM integrating state price responsive demand into energy and capacity markets.
- ▶ Has market sustained coal resources and limited new entry?
- ▶ External access to PJM market – expect Dynegy and select other gen owners to seek more access.

PJM Emergency DR – New BUG Fuel Data



Sources and Business Segments for Emergency DR Activity 12/13



67% of BUGs are diesel; 15% NG; 7% none, 4% coal.

“Reliability Must Run” Rules / Related Concerns

- ▶ Flaws – short notification time, compensation includes pollution control equipment upgrade costs, confidentiality rules – *e.g., broad MISO Universal NDA.*
- ▶ PJM largely has avoided need for RMRs – *with significant new transmission projects and excess capacity buffer.*
- ▶ MISO just beginning to process retirement notifications – *plants also seeking to ride out low gas prices.*

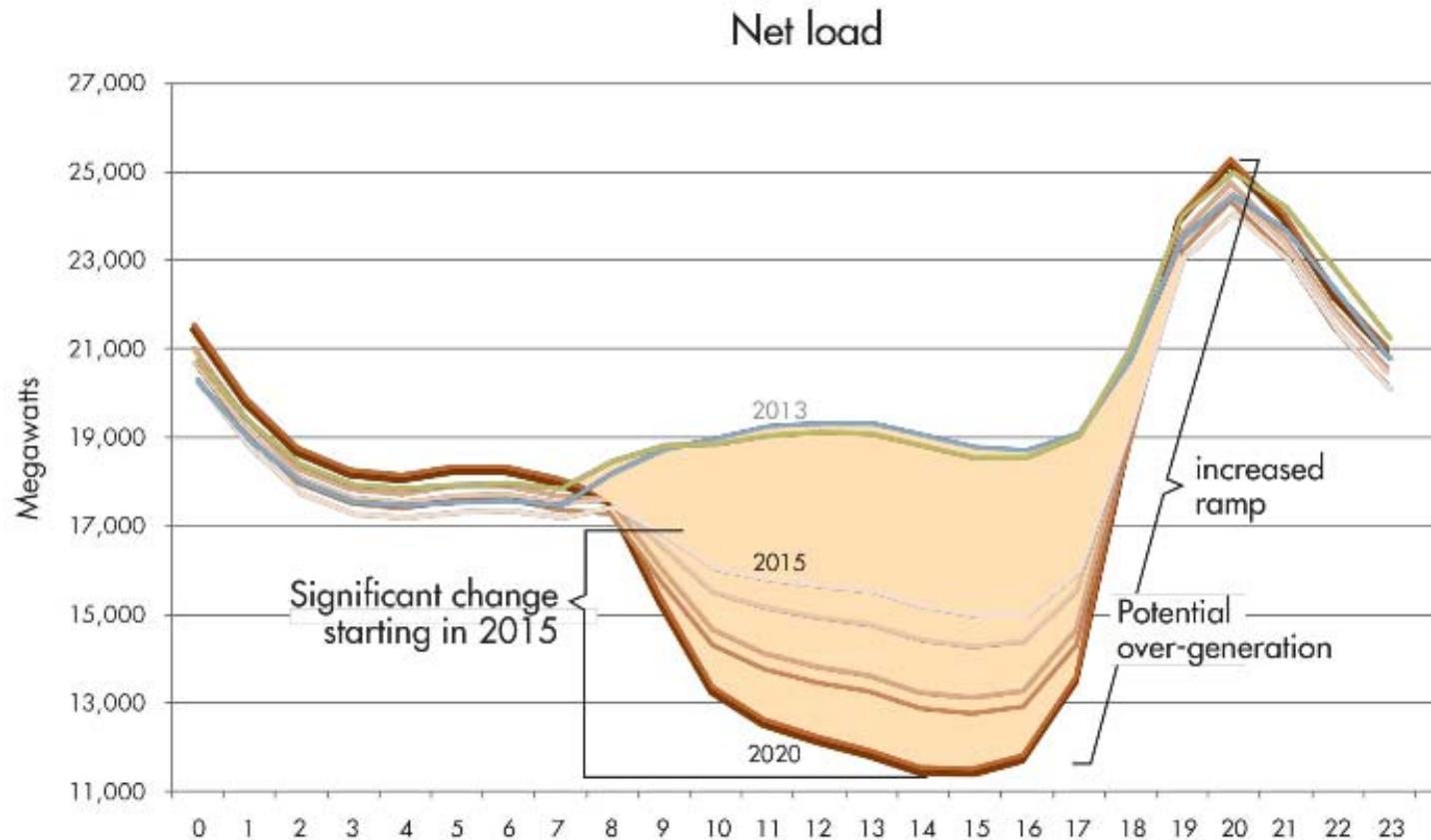
California Capacity Market Discussions

Problems (not everyone agrees on their urgency):

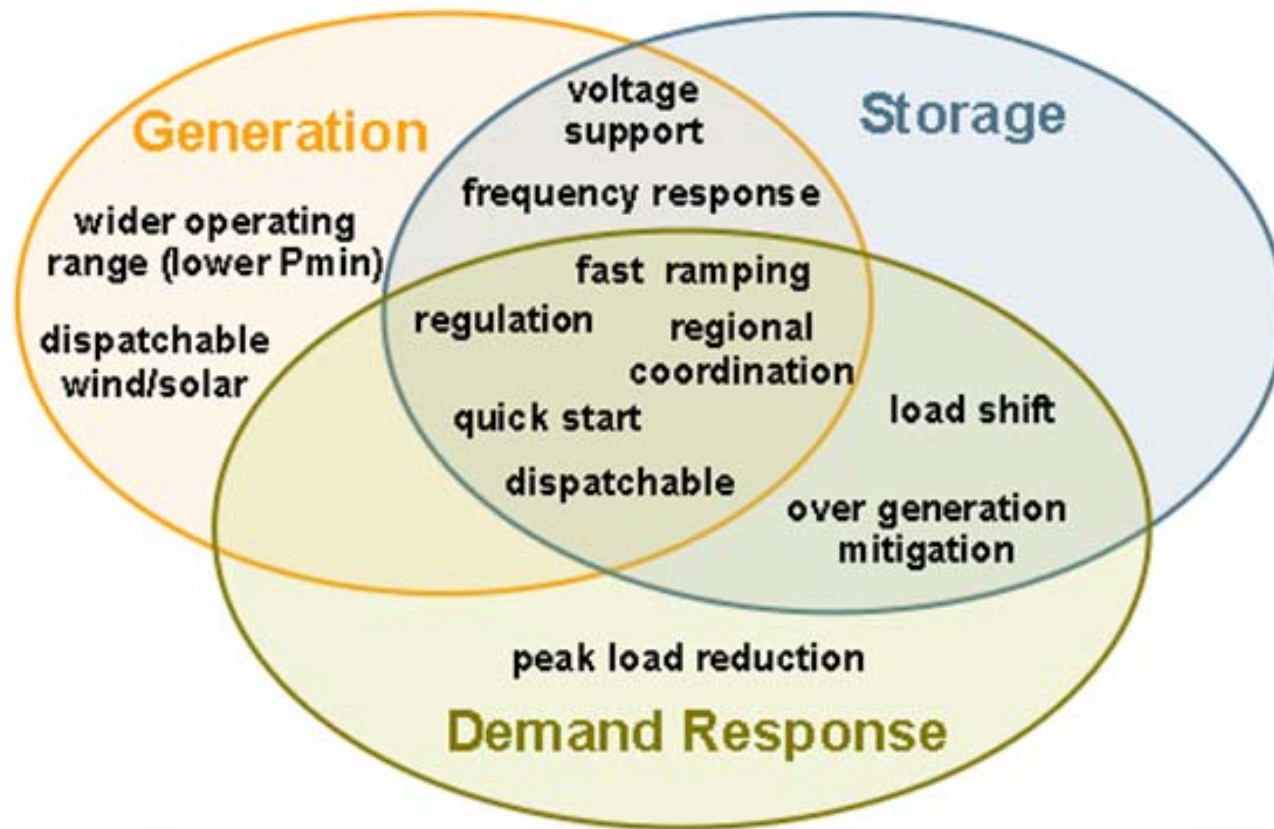
- ▶ Reliability issue – uncertain whether existing resources will be available beyond 1 year.
- ▶ Low energy market prices, inefficient market decisions about retirements.
 - No competition between existing and new generation – cheaper existing may retire.
- ▶ Need for grid flexibility to account for changing load shape, significantly more renewable energy resources.
- ▶ Enormous statewide reserve margin – but some ineffective resources in wrong place.



Shifting Load Shape Demands Flexibility



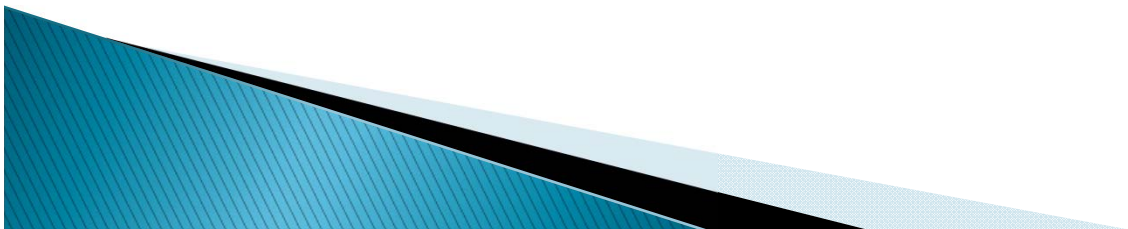
Finding the Right Sweet Spot



Q: Where is Energy Efficiency?

Our Preferences

- ▶ Reward fast-acting, flexible dispatchable resources to better integrate wind and solar.
 - Emphasize regionalism/larger energy markets.
- ▶ Assure comparable treatment for demand side resources in markets and planning.
 - Improve RMR rules
 - Integrate state and regional grid planning (Order 1000).
 - Allow demand side resources in regulated states to access energy and ancillary services markets.
- ▶ Capacity markets – a costly substitute for resource planning which don't address emerging grid needs.



For Additional Information

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