

Proposal to Better Accommodate Public Policy Resources



August 2, 2017

PJM Capacity Construct Public Policy Senior Task Force

Sustainable **FERC** Project

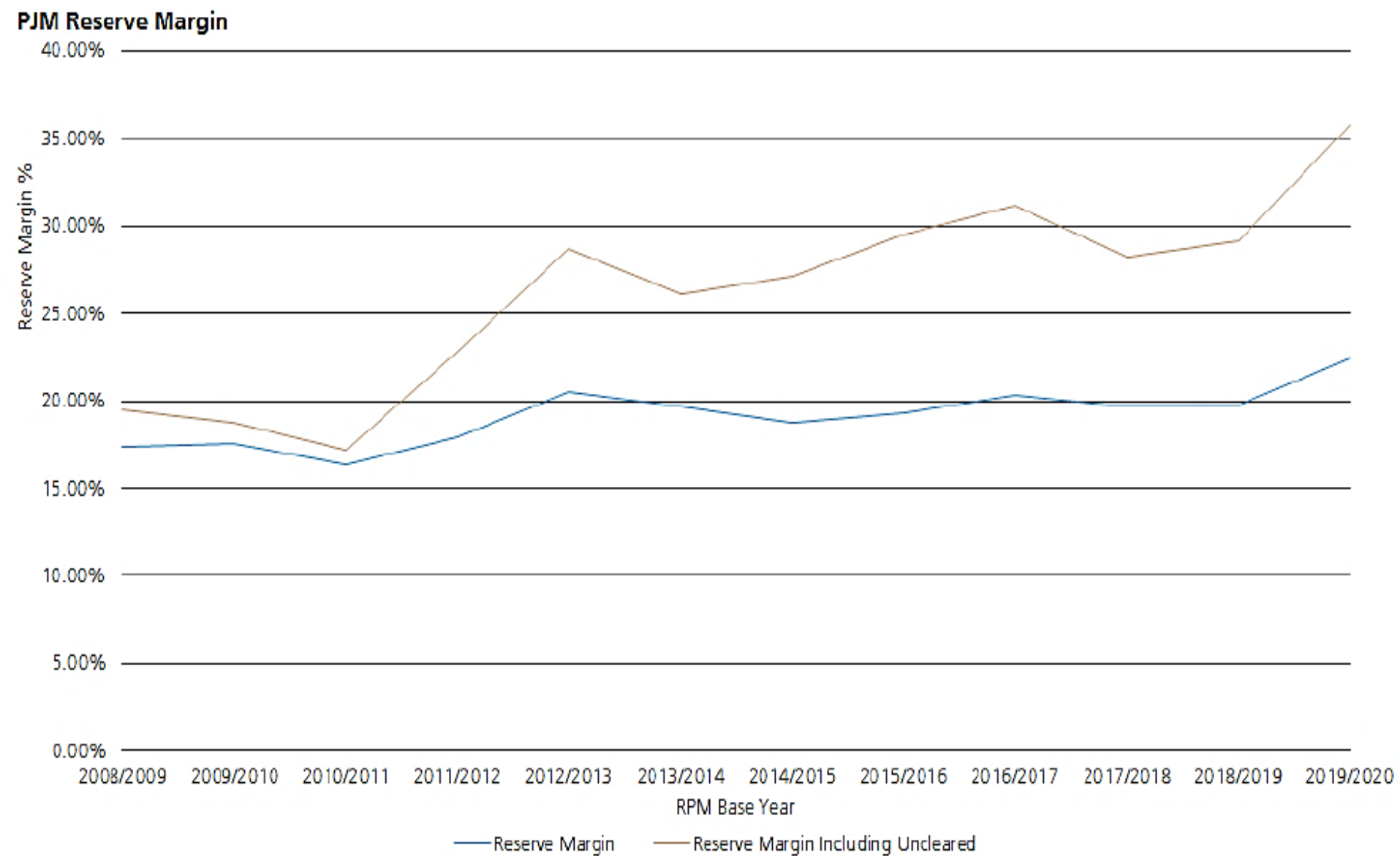
Policies for a Clean Electric Grid

Problem 1: Capacity oversupply

- Drives down market prices for generators
 - Particularly detrimental to energy-only resources which make less due to revenues shifting from the energy to capacity market
- Increases costs to consumers
 - Consumers pay more in total by procuring more capacity than needed
- Mutes price signals incenting flexibility

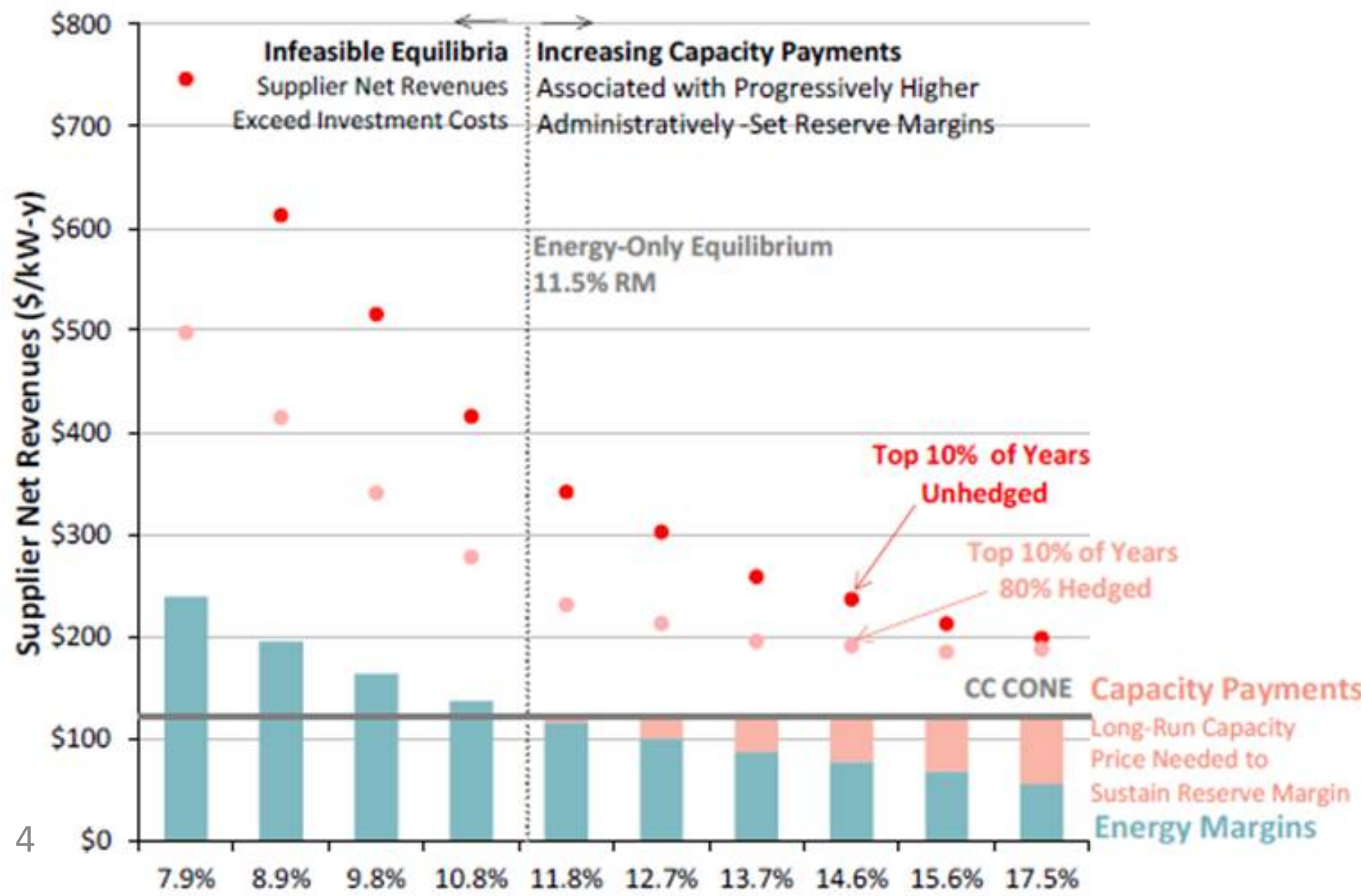
Figure 20: PJM Reserve Margin Including Uncleared Capacity

Source: UBS

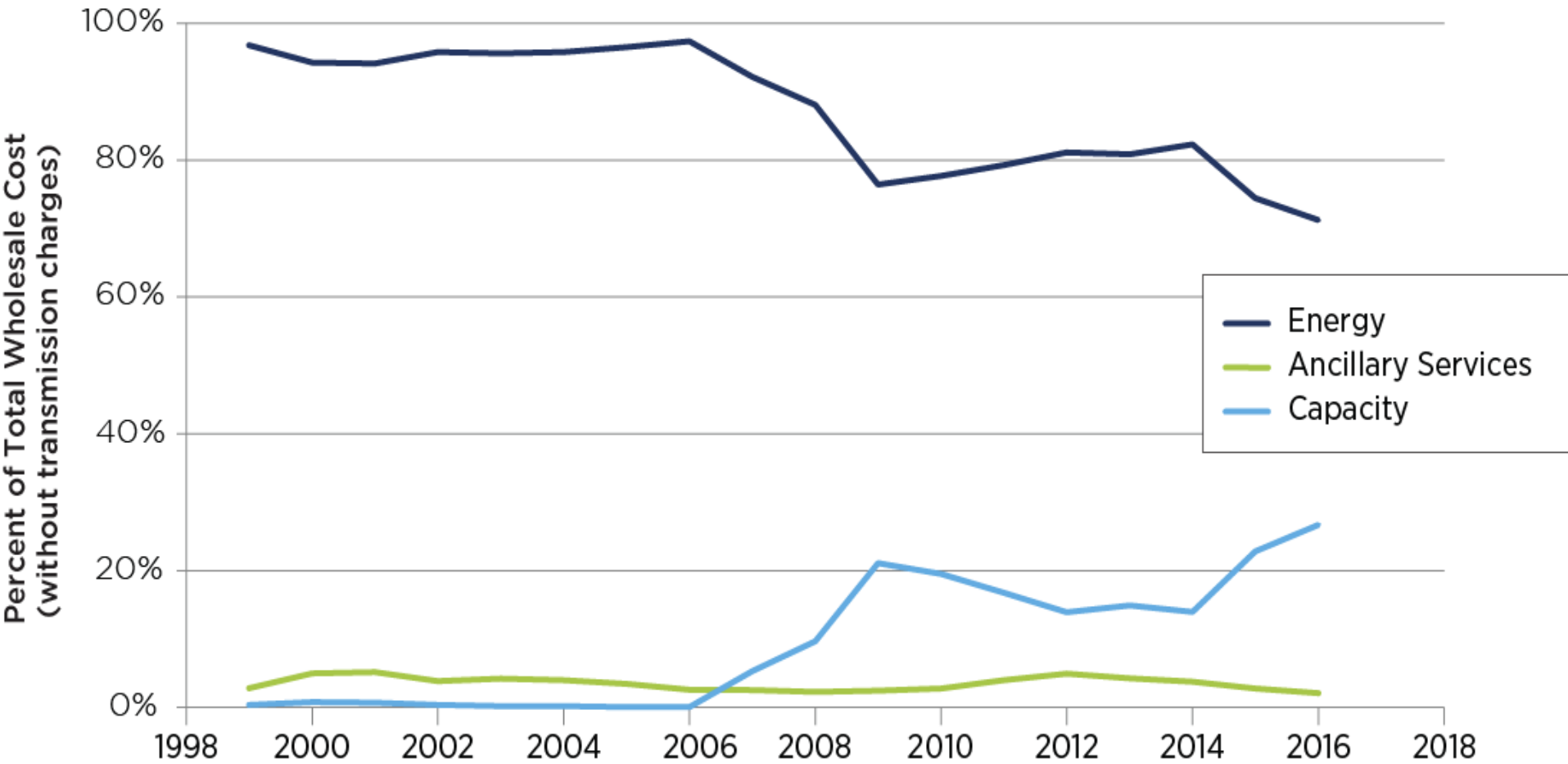


Source: Brattle, study
pertains to ERCOT

Supplier Net Revenues On Average and in the Top 10% of Years

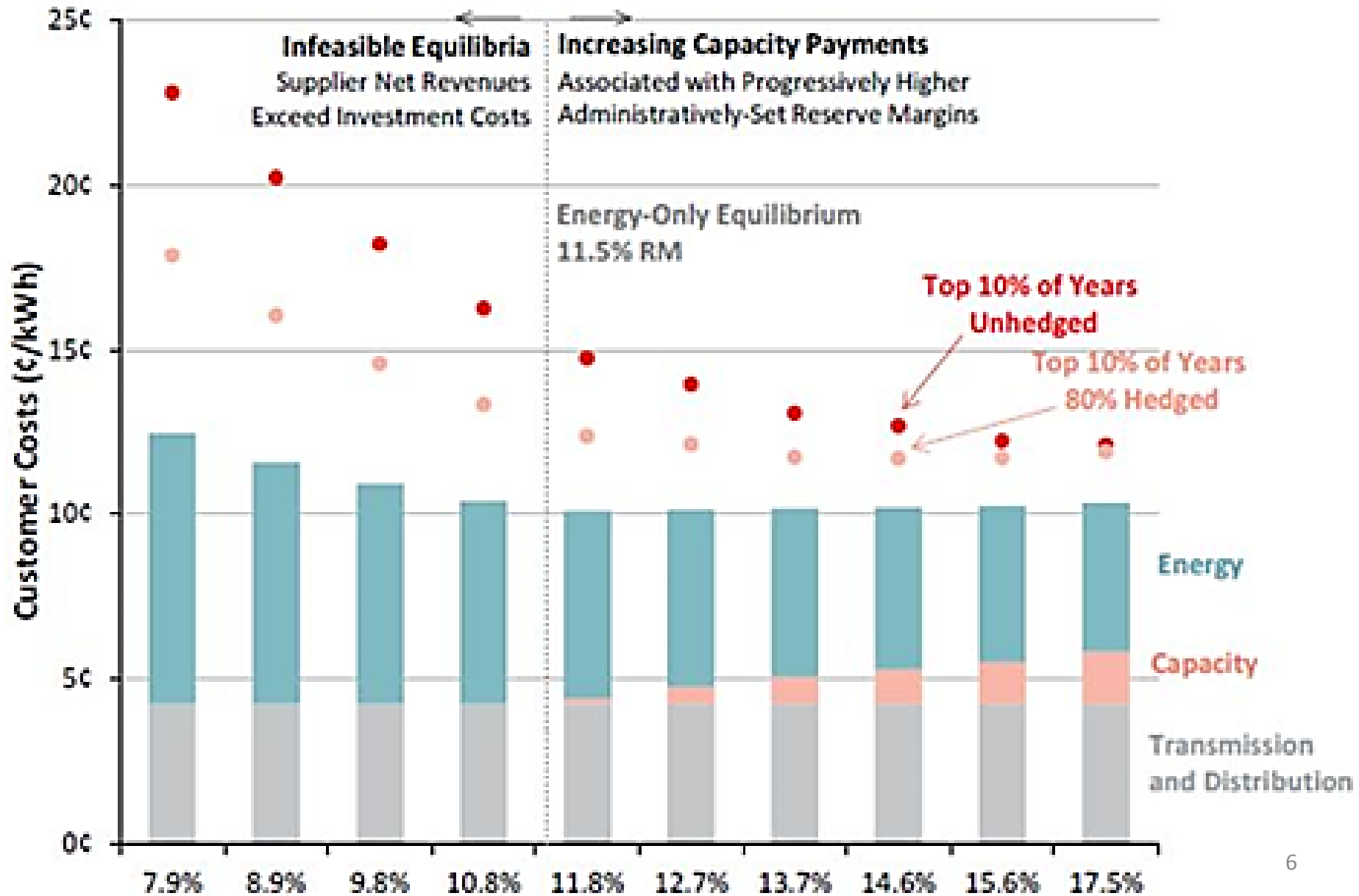


Trend in wholesale costs



Source: Brattle, study
pertains to ERCOT

Total Customer Costs On Average and in the Top 10% of Years

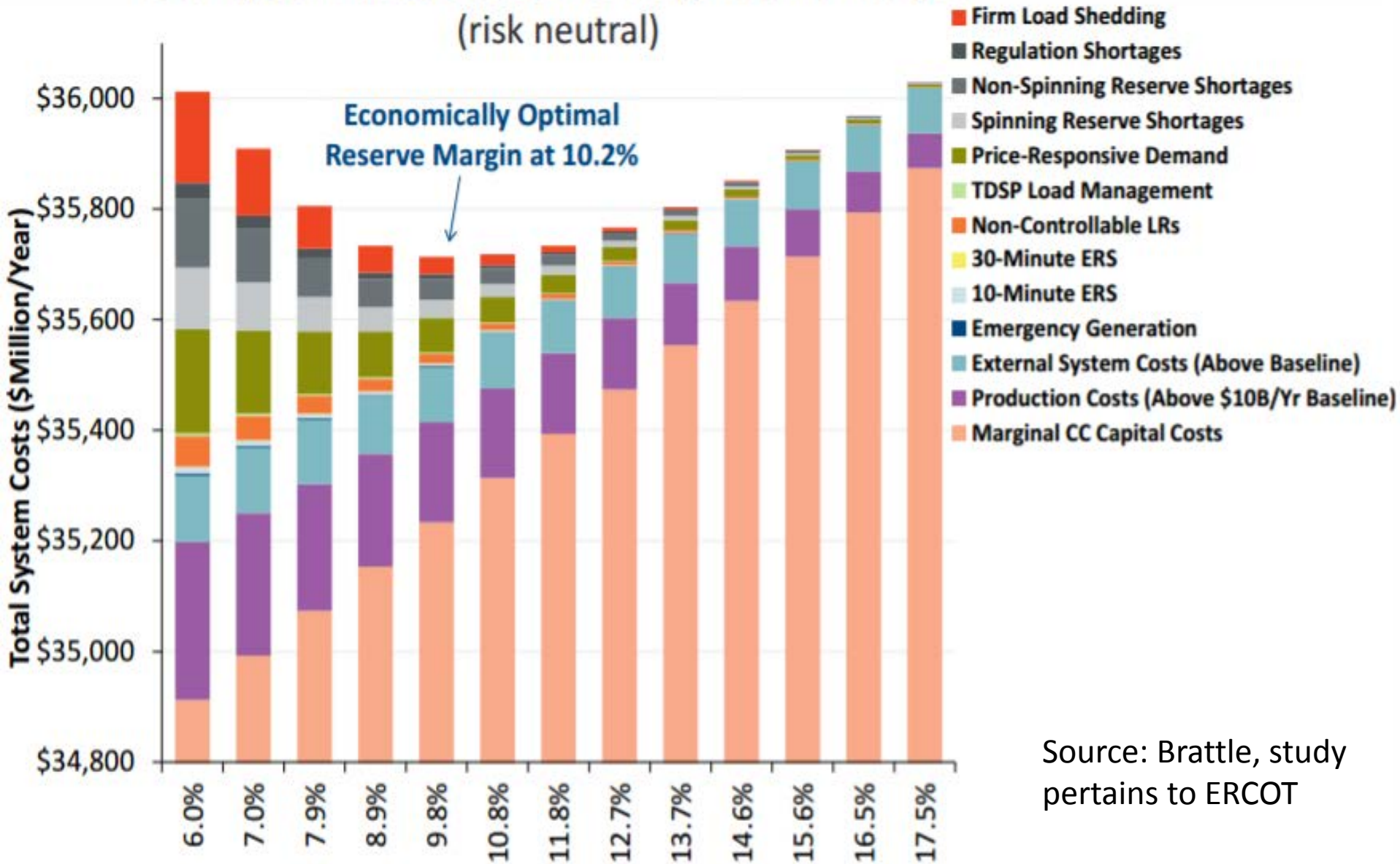


Oversupply mutes price signals for flexibility

- Large reserve margins: costs borne by customers regardless of willingness to pay for high level of resource adequacy
- Smaller reserve margins: customer see incentives to invest in flexibility
 - Customers desiring a higher degree of reliability can invest in DG, storage, and microgrids
 - Customers wishing to save money can participate in flexible demand programs

Total System Costs across Planning Reserve Margins

(risk neutral)



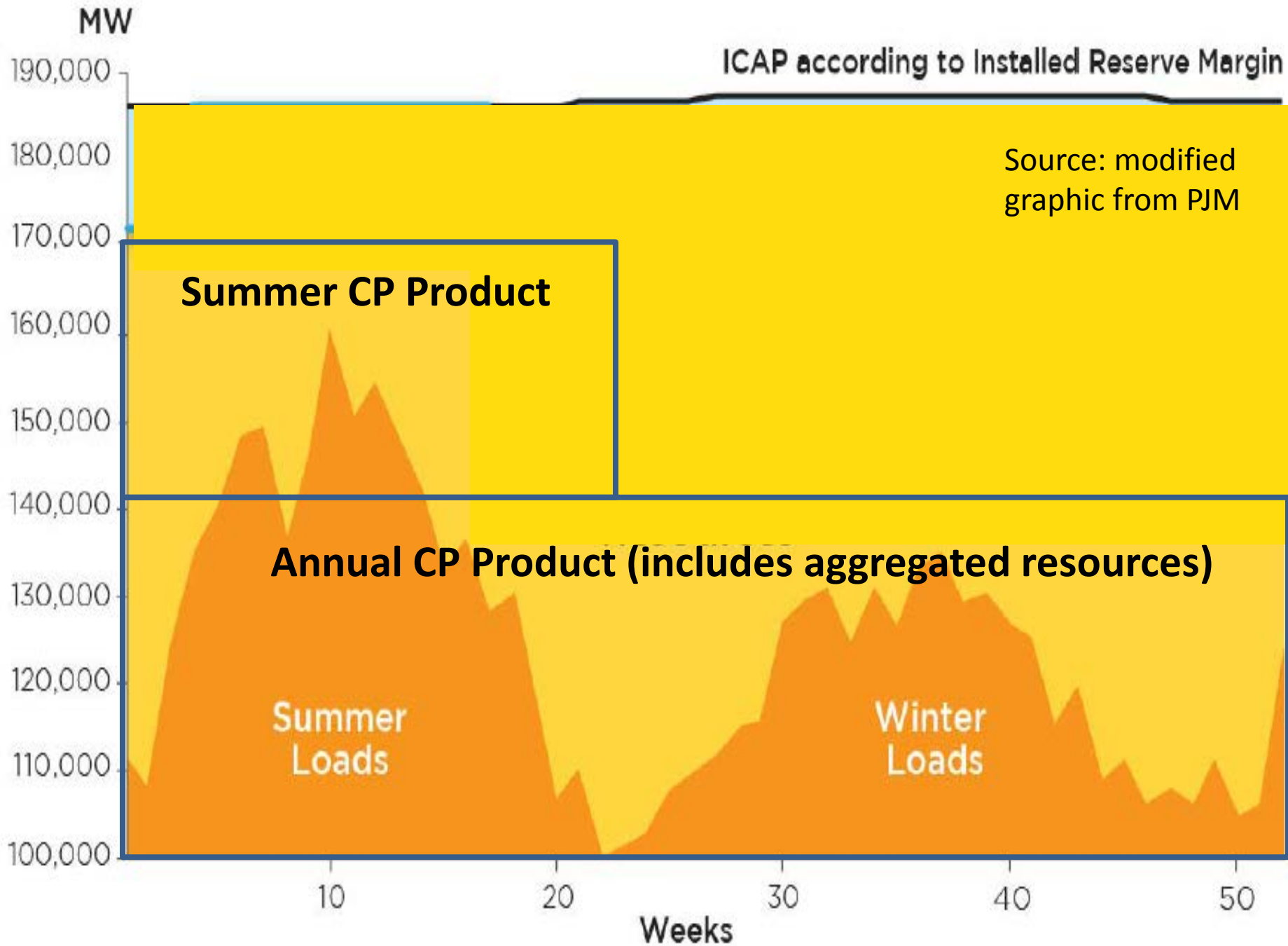
Source: Brattle, study pertains to ERCOT

Problem 2: Accommodate

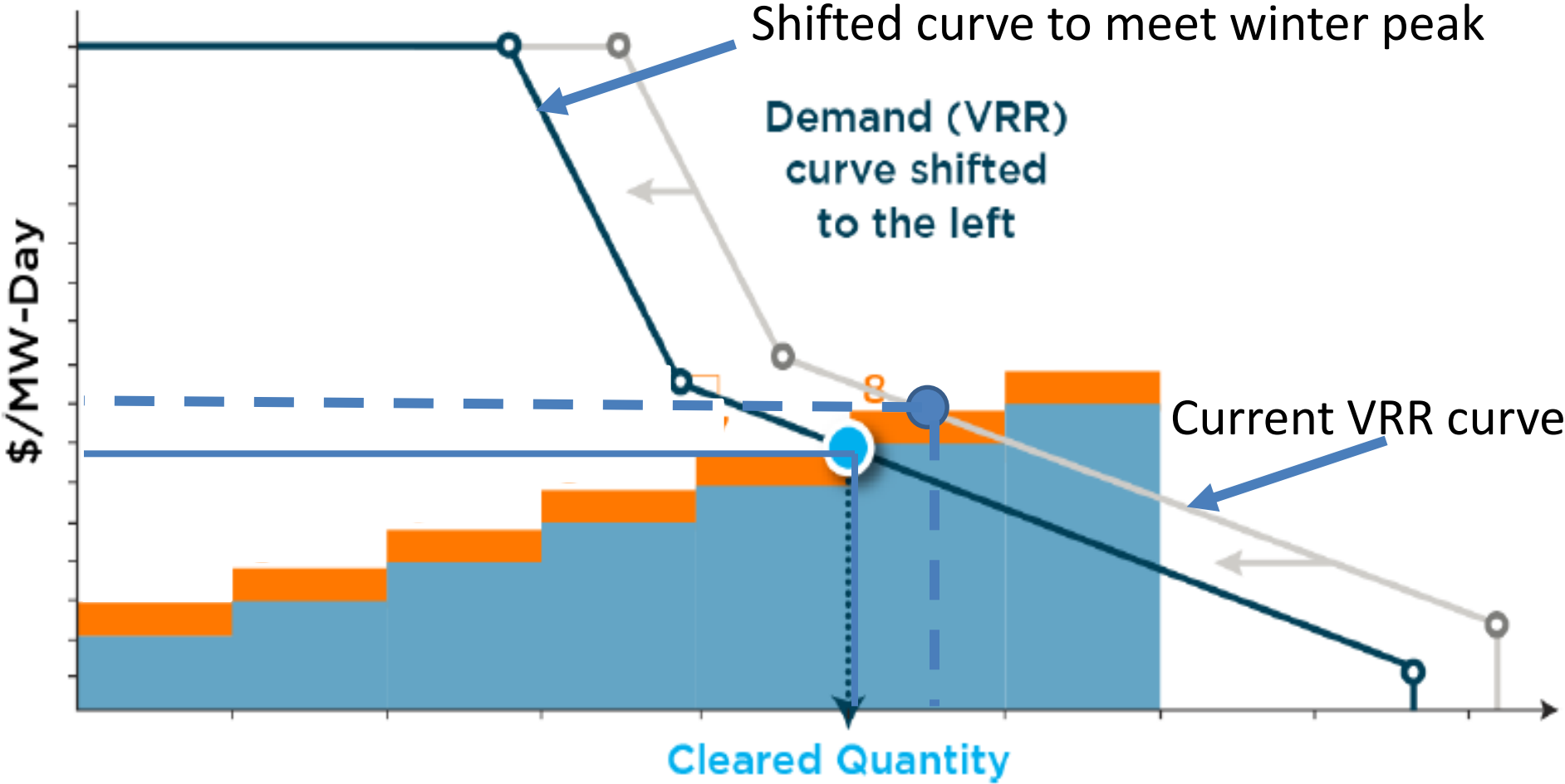
- RPM not sufficiently accommodating public policy resources
 - Does not take into account or compensate attributes (e.g., CO2-free) desired by policies, only procures and compensates basic MWs necessary to satisfy resource adequacy needs
 - Annual-only product has made this worse: 2017 BRA under 100% CP – much lower participation from renewables and DR
 - DR fell by 24%, solar fell by almost 63%
 - Wind fell by 8% compared to last year

Proposal part 1

- Procure an annual CP project based on winter peak, and a separate summer CP product in summer-peaking zones
- Separate CP products would reduce oversupply, and enable state policy resources like solar and summer-only DR to participate
- Continue to investigate improvements to aggregation
 - Seasonal aggregations < 400 MWs ~ 0.2% of the total procured in 2017



Shift Annual CP demand to left ->
lower cleared quantity and price



Proposal part 2

- To address accommodate and oversupply problems:
 - Public policy resources or attributes may be procured (bilaterally or otherwise) prior to auction
 - Ensure these policy MWs are accounted for in RPM
 - If public policies/subsidies only compensate for the attribute (e.g., carbon-free) but not for the basic part of the MWs needed for resource adequacy purposes, continue enabling these resources to obtain RPM revenue for the basic part of the MWs
 - If public policies/subsidies are sufficient such that resource does not need RPM revenue, enable LSEs contracting these resources to opt out of the corresponding amount of capacity obligation