



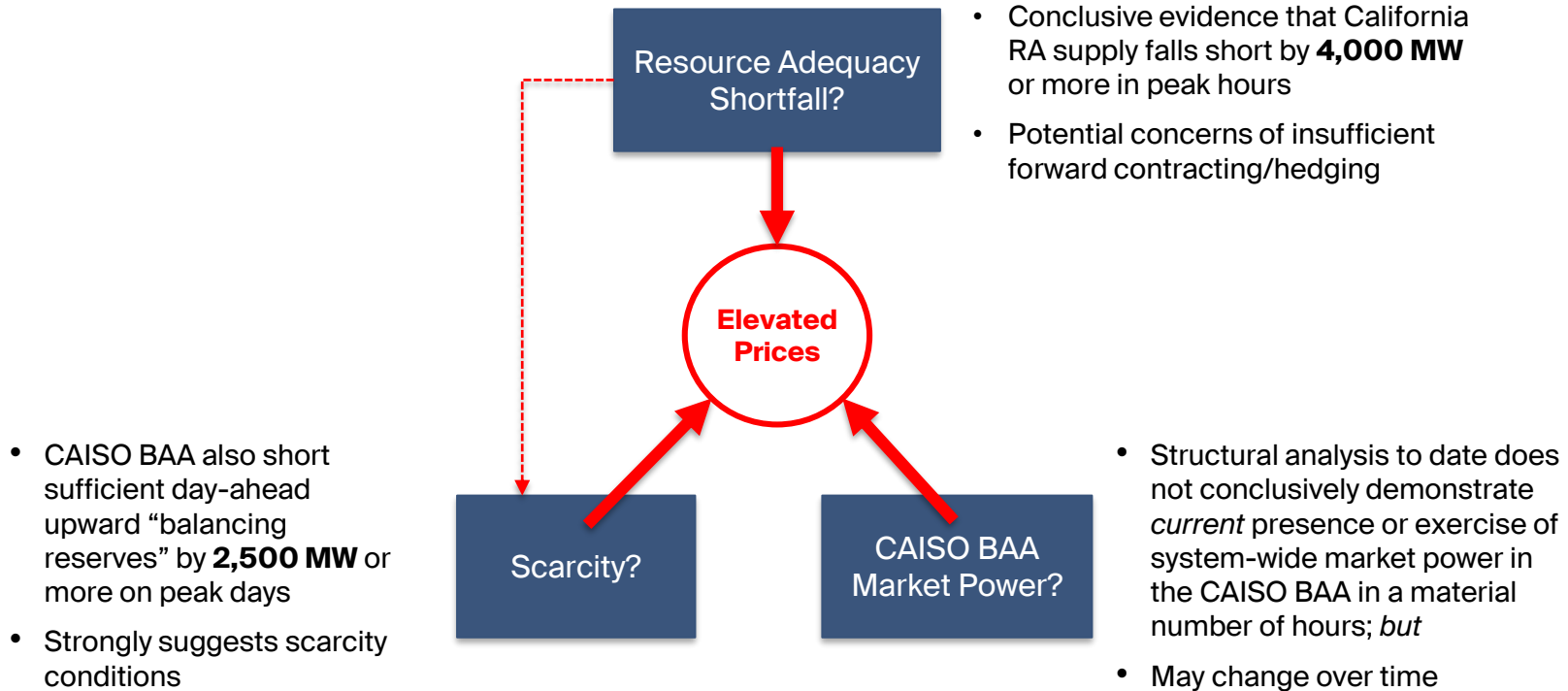
August 27, 2019

Jeff Spires

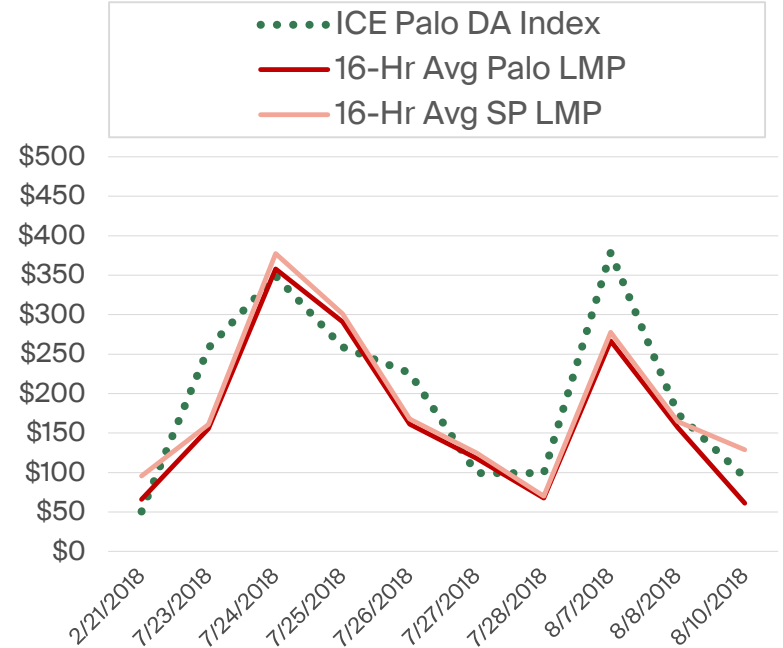
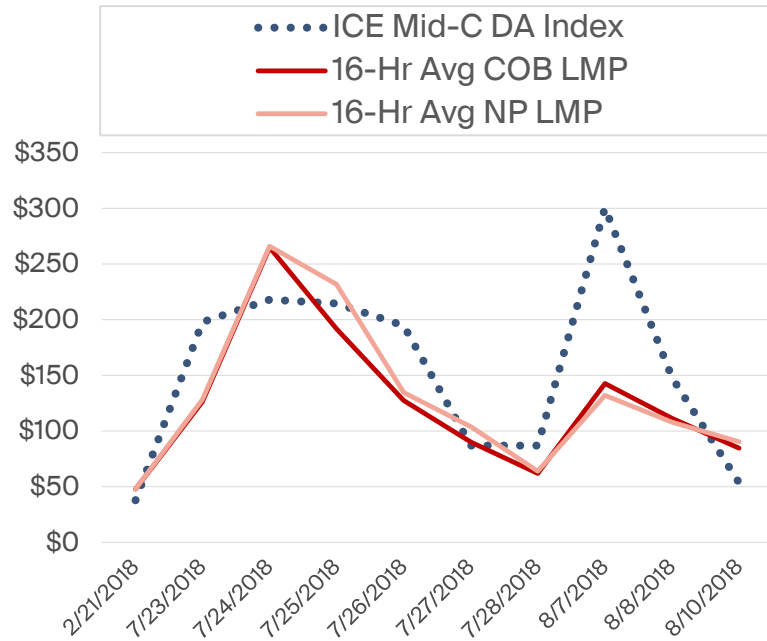
System Market Power in the CAISO BAA EIM Regional Issues Forum Meeting

Supply. Flexibility. Commitment.

Elevated Prices Can Be An Indicator Of Different Challenges (With Different Solutions)

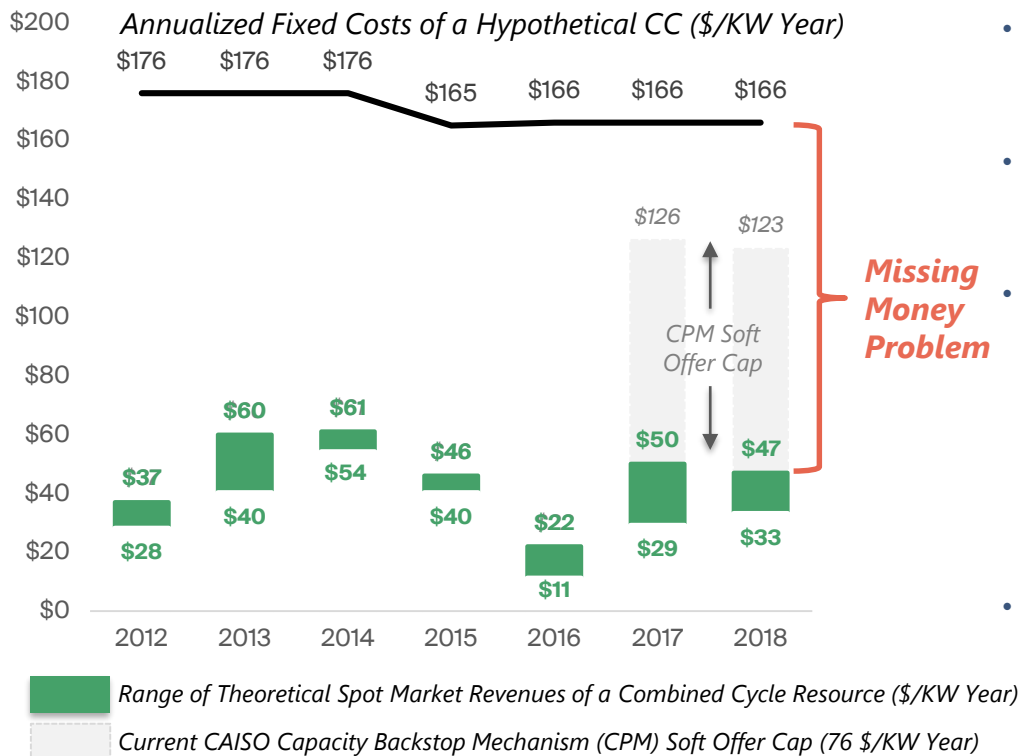


CAISO Day-Ahead LMPs Consistent with External Bilateral Prices Reflects Competitive Outcomes



Dates correspond to days evaluated in Dr. Harvey's presentation at August 19, 2019 MSC Meeting (slides 17, 33). Day-ahead bilateral market liquidity focused on standard 16-hour HLH (and 8-hour LLH) blocks. Charts show price comparison to CAISO DAM prices over the same corresponding hours.

Re-Thinking Competitive Outcomes When New Supply Is Needed



- Narrow focus to date on risk of elevated spot prices in some hours
- Overall, energy market revenues in California are far below levels to support new supply
- Discussion of methods to prevent/mitigate market power should be balanced with broader examination of efficient market outcomes to avoid:
 - making “missing money problem” even worse
 - paying for the wrong resources/attributes
 - indirectly increasing costs to RA program
- Consider improving scarcity pricing in tandem with improved market power mitigation for CAISO BAA?

How To Address Broader CAISO Market Power Concern (If It Arises)?

| Topic | Challenges of “System” MPM | Potential for a BAA-Level Mitigation Approach for CAISO BAA |
|---|--|--|
| What specific circumstances raise a market power concern? | <ul style="list-style-type: none"> RSI trigger; metric ignores <i>potential</i> external supply that <i>could be</i> offered to CAISO | <ul style="list-style-type: none"> CAISO BAA (or NP, SP) is import constrained and 3 pivotal supplier test fails |
| What resources would be mitigated? | <ul style="list-style-type: none"> Mitigation applies to offers inside and <i>outside CAISO BAA</i> | <ul style="list-style-type: none"> Mitigation only applies to resources within constrained BAA (similar to EIM approach) |
| What effect on external voluntary supply? | <ul style="list-style-type: none"> Discourages voluntary supply from external resources | <ul style="list-style-type: none"> Allows CAISO prices to appropriately rise when necessary to compete for additional external supply |
| What is the geographic extent of CAISO’s mitigation? | <ul style="list-style-type: none"> Effectively leads to CAISO mitigation of supply from any resource <u>across the WECC</u> | <ul style="list-style-type: none"> Mitigation limited to the resources inside the CAISO BAA (as only those resources can relieve import constraint) |



Thank You

Powerex Corp.
1300-666 Burrard Street
Vancouver, British Columbia
Canada V6C 2X8

604 891 5000
1 800 220 4907
powerex.com

Supply. Flexibility. Commitment.