ASTRAPÉ CONSULTING
innovation in electric system planning

MEMORANDUM

To: Sandie Haverlah - Consumer Fund of Texas
From: Kevin Carden - Astrapé Consulting
Date: May 15, 2023
Re: Preliminary analysis of renewables eligibility for PCM credits
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Astrapé has been retained by Consumer Fund of Texas to provide an analysis of the overall cost and market implications of the implementation of the Performance Credit Mechanism (PCM) as outlined in Energy+Environmental Economics' (E3) report "Assessment of Market Reform Options to Enhance Reliability of the ERCOT System".[1]

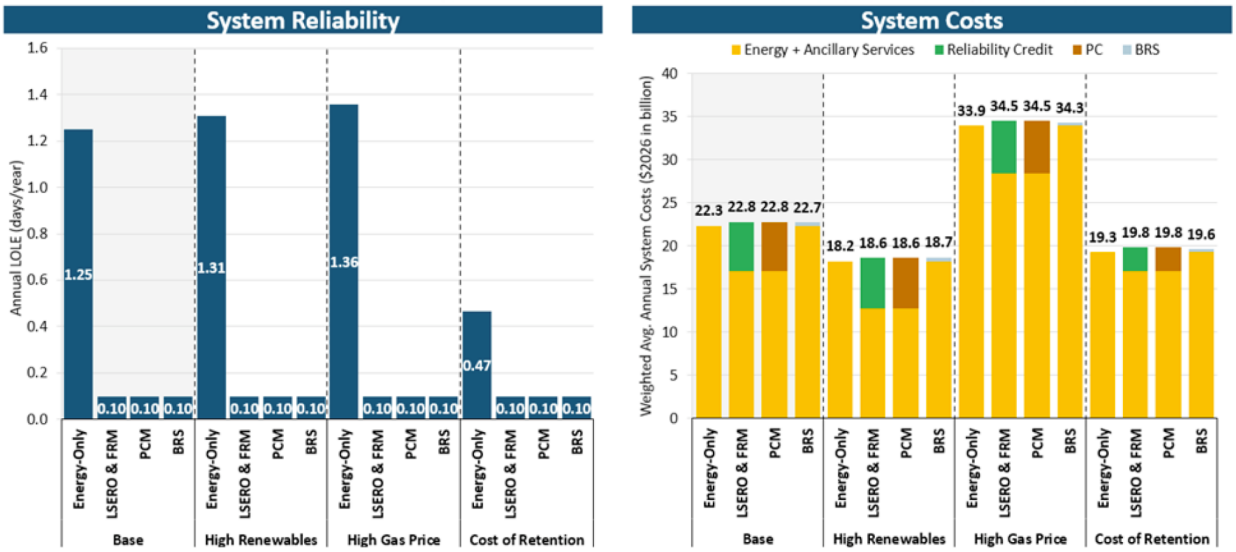
While the E3 report assessed the PCM as an option among many other proposals, this report will focus on the PCM itself as a potential new market structure in ERCOT and how each of its components and potential final structure would impact overall grid reliability and total system costs.

While that analysis is nearing completion, this memo serves to provide a preliminary look at one of the internal aspects being considered in the full analysis; the ability of renewables to receive PCM credits. This memo does not cover external aspects of how the PCM might be implemented, such as if the service were paid for via cost allocation, such as that indicated in SB7. A previous memo from IdeaSmiths indicated that such an allocation could cost an additional $4B over the allocation to load.[2]

While our analysis is not yet complete, our initial runs indicate that not allowing renewables to receive PCM credits will result in a higher total system costs for the same level of reliability. This is similar to the conclusion that E3 came to in their report: "*...this reduction in compensation could result in smaller wind and solar buildout (relative to the counterfactual), which would have the effect of increasing energy prices*". Figure 32 from the E3 study showed that, for the same level of reliability, a higher level of renewables saves about $4.2B/year relative to a base case with lower levels of wind and solar.

[1] https://interchange.puc.texas.gov/search/documents/?controlNumber=54335&itemNumber=2
[2] https://pbs.twimg.com/media/FvPrl4bWYAAIM-X?format=jpg&name=medium

Figure 32. Summary of Quantitative Results Under Key Sensitivity Tests



Their analysis reached this conclusion based on the assumption that excluding wind and solar from the PCM credits would reduce wind capacity by about 4,400 MW. Our analysis indicated that the reduction in renewables, relative to the counterfactual, is likely to be greater than that and the further exclusion of energy storage systems from PCM credits would only serve to further increase energy costs. Thus, we expect that without renewables and storage, the PCM will cost substantially more.