

ACR 188 - Stakeholder Comments on Draft List of Studies

As the California ISO kicks-off its ACR-188 effort to summarize recent relevant studies on the impacts of expanded regional cooperation, we welcome your careful review of the proposed list of studies. Please use this form to provide feedback from your organization for the following items:

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1. Identify any listed studies you believe are most relevant or pertinent for inclusion in the ACR 188 report.

The State-Led Study

- a.) This study specifically analyzes a regional market with and without CA, demonstrates significant potential savings contingent upon joint capacity planning and reduced reserve margins resulting from diversity benefits from a broader system. Of note, CA is one of the biggest beneficiaries of a market footprint that includes CA. This study does have notable shortcomings, including the \$3/MWh hurdle rate that is assumed for DA market configuration, which is inconsistent with either of the current DA market design proposals in process (CAISO's EDAM and SPP's Markets +). PGP has concerns that this could undervalue the potential operational savings of the DA market initiatives. Also of note is the use of CONE based on a new natural gas plant, when the marginal new entrant of the future may in fact be a hybrid renewable+storage resource (which may ultimately be more expensive, driving larger potential benefits). Similarly, it is unclear what portion of the capacity benefits may be realized without the EDAM entities consistently joining a shared Resource Adequacy program, and what portion may be gained already through this separate regional market effort (the WPP WRAP). This leads to a recommended key follow up question that comes from this study as well as others: What would be the benefit of the CAISO entities joining the newly developed regional adequacy program, the WPP WRAP? Or similarly, what portion of potential regional market benefits are at risk without a shared (west-wide) RA program?

Western Flexibility Assessment

- a.) This study finds significantly higher curtailment, CO2 emissions, and operational costs of a segmented vs a west-wide coordinated market. The lack of market-contributed flexibility becomes a higher system burden as renewable penetrations increase, putting regional policy at risk. The analysis showing that interregional transmission flows will become more bi-directional demonstrate for everyone that the status quo and historical regimes will not be maintained, requiring broadening perspectives of what may happen and conditions that could be considered normal in the future. This study also notes some

interesting follow-up questions that may be worthwhile to compare with the findings and noted follow-up questions that result from LBNL's study review.

2. Identify any listed studies you believe should not be included in the ACR 188 report.

PGP finds that most studies listed likely provide some value and are worth reviewing, time allowing. While many of these reports look at different issues and may provide value, PGP does support the concept of narrowing the list or keeping it in categories so that a deeper understanding and comparison of a smaller list of studies may be provided.

a. Provide your rationale for your selection(s).

Similar to the caveats listed under the state-led study, constant consideration of the major policy evolution that has occurred at the federal level (IRA), the regional level (WPP WRAP creation), and the state level (WA CAA), as well as the significant progress that has occurred in drafting design of the Day-Ahead Market options must be part of any interpretation of results at this phase, and should be regularly reiterated in any summary that is provided to policy-makers so as not to trigger false conclusions. The assumptions behind many of these studies may no longer be valid, and the benefits may be locked-in in some cases, and at-risk vs prior assessments in others. These are important considerations for any study under review.

3. Identify any additional studies you believe should be included in the ACR 188 report.

Resource Adequacy in the Pacific Northwest
(E3, March 2019, https://www.ethree.com/wp-content/uploads/2019/03/E3_Resource_Adequacy_in_the_Pacific-Northwest_March_2019.pdf)

- a.) This study, while NW-centric, explores RA planning in the PNW in a high-renewable future. While the policy recommendations from this report are now well underway through the Western Power Pool's Western Resource Adequacy Program, all of the findings are more broadly applicable to regional market coordination and the benefits it may provide from a reliability perspective. Other key conclusions about maintaining a reliable system with deep decarbonization are transferrable to the CAISO, given California's policy objectives are very well aligned with those covered within the scope of this study. This study also attempts to quantify some of the diversity benefits that have now been locked in through the WRAP program, and others that would require an RTO, so is very relevant for interpretation of results for the State-Led Study. Other relevant takeaways for CAISO include the analysis of potential land requirements for



decarbonization, which are very important considerations for California, given existing constraints.

4. Any additional general comments on the report development:

PGP believes it would be beneficial to attempt to break any stated benefits into 3 categories, for comparison across studies where applicable: Capacity savings/reliability benefits, production cost savings/operational benefits, and CO2 emission savings/environmental benefits. Stating specific assumptions driving these savings, and noting any core differences across studies or areas that an updated study may consider modified assumptions, and how (directionally, not quantitatively) this may increase or decrease the benefits indicated. These benefits may be quantitative and qualitatively stated in the studies. An additional category that has received past focus, but is more qualitative, is barriers to success, including policy hurdles that may be called out in some studies.

PGP very much looks forward to the work that comes from this initiative, and commends the selection of LBNL to perform this analysis. Thank you for the opportunity to comment.