



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 Public Advocates Office at the California Public Utilities Commission (Cal Advocates) is an independent consumer advocate with a legislative mandate to obtain the lowest possible rates for utility services, consistent with reliable and safe service levels, and the state's environmental goals.¹

Cal Advocates recommends that the California Independent System Operator (CAISO) and the National Renewable Energy Laboratory (NREL) consider the Assembly Concurrent Resolution (ACR) 188 listed study entitled *Examination of Potential Benefits of an Energy Imbalance Market in the Western Interconnection*² by NREL as one of the more relevant studies to include in the ACR 188 report (ACR 188 Report) with the caveat that this study should be updated.

Cal Advocates recommends NREL and CAISO update this 2013 study to reflect the current outcomes for California with the existing Western Energy Imbalance Market (WEIM). In addition, the updated study should include a forecast of potential outcomes with Extended Day Ahead Market (EDAM).

This updated study should illustrate the surplus California generation that CAISO is currently able to sell through the existing WEIM and the projected amount of surplus California generation that CAISO could sell through the proposed EDAM. This updated study should also identify the barriers to selling any remaining surplus California generation and determine if a western states regional transmission organization (RTO) could play a role in addressing these barriers. If these barriers are due to other factors such as the market demand for California's excess supply in other states this updated study should explain these barriers.

¹ Public Utilities Code Section 309.5.

² *Examination of Potential Benefits of an Energy Imbalance Market in the Western Interconnection*, NREL, March 2013, [Examination of Potential Benefits of an Energy Imbalance Market in the Western Interconnection \(nrel.gov\)](http://www.nrel.gov/docs/2013/04/47000.pdf)

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

The 2016 Senate Bill 350 Study (SB 350 Study) results appear very sensitive to assumptions around the ability for California to export its surplus generation. The SB 350 Study analysis assumes that the "oversupply from California's renewable portfolio is more readily absorbed by the regional marketplace" with a "more relaxed physical CAISO export limit" of 8,000 megawatts (MW) in contrast to the current export limit of 2,000 MW.³

CAISO's current list of solutions for addressing California's oversupply of generation includes: (1) increasing the participation of energy storage and demand response, (2) implementing time of use rates, (3) expanding the WEIM, (4) incorporating electric vehicles, (5) investing in flexible resources and (6) increasing regional coordination.⁴ As reported in CAISO's 2021 EIM benefits and implementation update, the WEIM continues to assist with reducing curtailments in California.⁵

There may also be other barriers to exporting more surplus California generation, such as the market demand for this surplus supply. Thus, it would be helpful to review California's export results through WEIM and California's projected export results through EDAM to determine if there are any other barriers to selling even more surplus California generation or if California must rely on the other methods mentioned above to reduce its oversupply.

The SB 350 Study also did not provide an assessment of California's exporting potential with the WEIM or EDAM versus with a western RTO. This analysis should be conducted because it is currently not listed among the ACR 188 Report studies.

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

Cal Advocates has no comments currently.

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

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

1. Study on Transmission Cost Allocation Policies in the United States

Cal Advocates recommends that CAISO and NREL update NREL's study entitled, *A Survey of Transmission Cost Allocation Methodologies for Regional Transmission Organizations*⁶ and include its updated findings in the ACR 188 Report. This would allow for stakeholder

³ *Senate Bill 350 Study, The Impacts of a Regional ISO-Operator Power Market on California*, The Brattle Group, Energy+Environmental Economics et al, July 8, 2016, i-vii.

⁴ <http://www.caiso.com/informed/Pages/ManagingOversupply.aspx>

⁵ *EIM Benefits and Implementation Update*, CAISO Board of Governors Presentation, CAISO, December 17, 2021, slide 4. [Microsoft PowerPoint - EIM-Benefits-Implementation-Update-Presentation-Dec-2021 \(caiso.com\)](#)

⁶ *A Survey of Transmission Costs Allocation Methodologies for Regional Transmission Organizations*, NREL, February 2011.

discussion or input on the transmission cost allocation methodology for a western RTO at the stakeholder discussion on the draft ACR 188 Report scheduled for December 2022.

2. Update SB 350 Study Results, Specifically to include Ratepayer Benefits

The estimated annual ratepayer benefits provided in the SB 350 Study depend, in part, on the reduction in renewable curtailment through exporting more surplus California generation. Specifically, the SB 350 Study analysis assumes annual ratepayer benefits are due to: (1) savings from reduced capital investments for RPS-related procurement; (2) reduced production, purchase, and sales costs for wholesale electricity; (3) reduced capital investments from regional load diversification; and (4) reduced grid management charges for system and market operations.⁷ The reduction in RPS-related procurement costs, per the SB 350 Study, are a result of having a greater capacity to procure lower cost resources and “build[ing] less resources to meet the same RPS requirement due to a reduction in the curtailment of renewable resources.”⁸ Stated a different way, the SB 350 Study assumes that “the cost of procuring renewable resources decreases if California were able to export more of [its] over supply.”^{9,10} The assumption that greater exporting capacity would reduce procurement should be re-evaluated. It may also be the case that California is able to successfully export its surplus generation through the WEIM and EDAM.

The California resource portfolios assessed in the 2016 SB 350 Study included no energy storage capacity.¹¹ Energy storage is a tool that can reduce California’s renewable curtailment and assist in other ways to integrate renewables and avoid unnecessary transmission investments. The state’s energy storage capacity is growing and is estimated at 4,000 MW or more.¹² Thus, an update to the SB 350 Study should evaluate the state’s energy storage capacity and its ability to integrate the renewables in the current California resource portfolio.

3. A Survey of RTO Governance Structures

Cal Advocates requests a review of RTO governance structures because the benefits and costs of joining a western states RTO for California ratepayers is partially dependent on the governance structure and policies of the RTO. A governance structure that does not allow consumer

⁷ *Senate Bill 350 Study, The Impacts of a Regional ISO-Operator Power Market on California*, The Brattle Group, Energy+Environmental Economics et al, July 8, 2016, 1-9.

⁸ *Senate Bill 350 Study, The Impacts of a Regional ISO-Operator Power Market on California*, The Brattle Group, Energy+Environmental Economics et al, July 8, 2016, 1-9.

⁹ *Senate Bill 350 Study, The Impacts of a Regional ISO-Operator Power Market on California*, The Brattle Group, Energy+Environmental Economics et al, July 8, 2016, 1-29.

¹⁰ *Senate Bill 350 Study, The Impacts of a Regional ISO-Operator Power Market on California*, The Brattle Group, Energy+Environmental Economics et al, 1-17. “Renewable energy resources are curtailed if the output cannot be consumed in California or be exported to neighboring systems during periods of oversupply with insufficient flexibility in the bilateral or regional markets to absorb the power.²⁸ Additional renewable resources are added to the portfolio if necessary to replace the curtailed output. This means that renewable curtailments are valued at their replacement cost and thus the total cost of the portfolio increases with the level and frequency of curtailments.”

¹¹ *Senate Bill 350 Study, the Impact of a Regional ISO-Operator Market on California*, The Brattle Group, Energy+Environmental Economics et al, July 8, 2016, I-21.

¹² [Key-Statistics-Sep-2022.pdf \(caiso.com\)](#)

advocates to participate in the development of policies or for states to vote on policies could result in decisions that do not consider ratepayer interests.

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

1. Rationale for a Transmission Cost Allocation Methodology Study

Cal Advocates requests a review of transmission cost allocation methodology policies because as, discussed above, the benefits and costs of joining a western states RTO for California ratepayers depend, in part, on the governance structure and policies of the RTO and specifically policies on transmission cost allocation. A review of how RTOs allocate the costs of existing and new transmission facilities will provide helpful guidance regarding how these costs could be allocated equitably among participating transmission owners in a western RTO.

Cal Advocates notes that other RTOs allocate the costs of new and existing high voltage lines based on their usage.¹³ Cal Advocates recommends that in considering a western RTO, that the RTO have an established policy of allocating the cost of all transmission facilities based on usage and or consideration of the full extent of possible benefits received to follow cost causation principles.

2. Rationale for Updated SB 350 Study Ratepayer Benefit Results

The SB 350 Study results should be updated to account for the current impact of WEIM and EDAM on California and CAISO ratepayers. As explained herein, the SB 350 Study results depend, in part, on the assumed greater exporting capacity that California would have as a part of a western RTO. However, the SB 350 Study did not consider California's exporting capacity with WEIM or EDAM. An update to the SB 350 Study should evaluate California's exporting capacity with the WEIM as well as with the proposed EDAM.

Also, since energy storage can play a significant role in integrating the current portfolio of renewables and reducing curtailment and congestion, the SB 350 Study results should be revised to reflect California's current portfolio of energy storage which is estimated at 4,367 MW.¹⁴

3. Rationale for Survey of RTO Governance Structures

A survey of the governance and voting structures in RTOs would facilitate a discussion on the preferred structure. As part of the consideration of an RTO, Cal Advocates recommends a governance structure that maintain California's policies. We also recommend a decision-making process that allows for consumer advocates to participate in stakeholder processes to develop RTO policies and determine needed transmission investments.

4. Any additional general comments on the report development:

The ACR 188 Report should include an evaluation of California ratepayer benefits with the WEIM versus the expected benefits with EDAM or a western RTO.

¹³ *Cal Advocates comments on the Transmission Access Charge Options*, December 6, 2016, Draft Regional Framework Proposal, January 11, 2017.

¹⁴ [Key-Statistics-Sep-2022.pdf \(caiso.com\)](#)



Cal Advocates requests that the CAISO schedule sufficient time at the proposed December 2022 stakeholder meeting to discuss the results from the recommended additional studies.