

**Stakeholder Comments**  
**EIM GHG Enhancements 2<sup>nd</sup> Revised Draft Final Proposal**

Submitted by	Company	Date Submitted
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SCE appreciates the opportunity to provide comments on the California Independent System Operator’s (CAISO) Energy Imbalance Market (EIM) Greenhouse Gas (GHG) Enhancement 2<sup>nd</sup> Revised Draft Final Proposal, presented on February 22, 2018<sup>1</sup>. SCE supports the EIM, and any associated improvements that further increase the benefits of the EIM. SCE reiterates its overall position that, if and when a solution is needed<sup>2</sup>, inter-temporal netting should be considered as part of the solution. Such netting would recognize the significant investment that California has made in renewable resources within the state that when exported tend to reduce emissions outside of the state.

Herein SCE offers the comments regarding the latest proposal, where the CAISO proposes to limit the GHG bid quantity of an EIM participating resource to its upper economic limit less base schedule, and limit the GHG bid price to the resource daily GHG cost plus 10% subject to the secondary emission minimum bid price.

In summary, SCE believes that, while the latest proposal may be an improvement over the two-pass approach, there are several key questions that should be addressed. These questions include how the proposal would impact overall emissions across the EIM footprint, would the proposal require clean resources to be responsible<sup>3</sup> for secondary emissions with compliance obligation for their assigned “emissions”, and therefore, could the proposal discourage the participation of clean resources in the CAISO market. In answering these questions, the CAISO should work closely with the CARB. To avoid potential harm to electricity consumers, at the minimum, none of the proposed elements should be implemented before accompanying rules are established in relevant regulatory proceedings at the CARB. Last but not least, whether this proposal, or any other proposal, should be applied to the extended Day-Ahead Market (DAM) with EIM service should be evaluated *after* the CAISO and stakeholders gained some real-world experience of its implementation in the EIM. Without such experience, the risk is too high given the massive volume of transactions in the DAM.

**1. The CAISO should study the proposal and address key questions on potential implications.**

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<sup>1</sup> CAISO Proposal, <http://www.caiso.com/Documents/SecondRevisedDraftFinalProposal-EnergyImbalanceMarketGreenhouseGasEnhancements.pdf>, CAISO Presentation, [http://www.caiso.com/Documents/Agenda-Presentation-RegionalIntegration-EIMGreenhouseGasCompliance-Feb22\\_2018.pdf](http://www.caiso.com/Documents/Agenda-Presentation-RegionalIntegration-EIMGreenhouseGasCompliance-Feb22_2018.pdf).

<sup>2</sup> In particular, the CAISO and the California Air Resources Board (ARB) should monitor and study the GHG impact related to secondary effects within a larger EIM footprint before adopting any solution. Based on the study, the CAISO, ARB, and stakeholders can decide whether a solution is needed.

<sup>3</sup> Other than financially since clean resources do get compensation for the assigned “emissions” under the proposal.

**1) How would the proposal impact the overall GHG emissions across the EIM footprint?**

The intent of this proposal is to address emissions associated with secondary dispatch, which should represent a small portion of overall market dispatch. However, likely the proposal would not only significantly reduce the capacity of EIM resources available to serve the CAISO load, but also increase the cost of clean resources in serving the CAISO load. As a result, there would be an increase in the dispatch of gas resources internal to CAISO and a decline in the dispatch of out-of-state clean resources serving the CAISO load. Assuming the dispatch of emitting resources in EIM does not change significantly<sup>4</sup>, then the overall GHG emissions across the EIM footprint would increase under the proposal. CAISO should compare the volume of the overall GHG emissions across the footprint under the proposal to today. CAISO should explore the feasibility of performing a backcast imposing the proposal on actual market data for the comparison, which will provide a basis to measure the performance of the proposal relating to its intent, i.e., addressing secondary emissions.

**2) Would the proposal require a non-GHG resource that sells to CAISO to retire GHG allowances?**

Since the proposal assigns a minimum emission rate to non-GHG resources, does the proposal require a non-GHG resource that sells to CAISO to retire GHG allowances when the emission rate is non-zero? The CAISO should also clarify what is the amount of GHG allowances it anticipates that a non-GHG resource is required to retire when the marginal GHG resource is 1) a non-GHG resource at the minimum emission rate, or 2) an emitting resource with a higher emission rate.

**3) Would the proposal assign all emissions due to secondary dispatch to clean resources?**

As the minimum emission rate is introduced to cover secondary emissions (i.e. emissions associated with secondary dispatch or backfill dispatch) and only assigned to clean resources, it appears then all secondary emissions are assigned to clean resources. It also appears that a sale from a non-GHG resource to the CAISO will be considered in the nature of secondary dispatch by default, as illustrated in the following hypothetical example.

For simplicity, suppose the only dispatch change in the Fifteen Minute Market (FMM) is on one gas resource internal to the CAISO, a gas resource and a wind resource, both in EIM. Suppose both gas resources have same emission rate. At Interval 1, all load and resources are balanced. At Interval 2, load does not change but the wind resource is now dispatched up (e.g. the wind blows harder). It follows then either (or both) of the gas resources need to be dispatched down. If the gas resource internal to the CAISO is dispatched down, then the wind resource will be assigned secondary emission at the minimum rate for its incremental

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<sup>4</sup> It is SCE's understanding that the proposal does not require, nor it would likely lead to, that EIM entities bid their emitting resources in a way significantly different than today. CAISO should clarify if this is not the case.

dispatch when it is serving the CAISO load, even the dispatch of the gas resource in EIM does not change, i.e., no secondary dispatch in EIM at Interval 2. As illustrated in this example, it appears then, an incremental dispatch from clean resources will be considered as secondary dispatch by default, regardless of actual existence of secondary dispatch in EIM.

**a) Example of an Scheduling Coordinator (SC) of clean resources**

Consider there is an SC<sup>5</sup> that only have clean resources in its portfolio. When the SC schedules its resources into EIM to serve the CAISO load, under the proposal, would the SC be assigned the minimum emission rate and associated emissions? It follows then, would the proposal discourage the participation of the clean resources in the CAISO EIM market?

**4) Would the proposal greatly reduce the volume of EIM transfer, a major component of the EIM benefit?**

Since the proposal can significantly reduce the portion of the capacity of EIM resources that can be deemed to serve the CAISO load<sup>6</sup>, the CAISO should study whether this can have detrimental impact on the volume of the EIM transfer today, and whether there will be substantial impact to the market price due to this restriction.

**2. The secondary emission GHG bid floor, and how often it needs to be adjusted, should be based on actual market data.**

As the grid condition, resource mix, and the EIM footprint can changes from time to time, the secondary emission GHG bid floor should be updated frequently. The exact timing and frequency of changes in the secondary emission rate should reflect changes in the grid condition (such as hydro v. non-hydro year), seasonality, and a market or footprint change accordingly. Further, more frequent update, such as monthly<sup>7</sup>, should be considered if the amount of emission obligation associated with the secondary emission rate is considerably large and varies<sup>8</sup>. The CAISO should clarify whether this rate be calculated by the entire area of EIM Entities, by EIM Entity, or by SC<sup>9</sup>.

**3. Regarding a uniform bid adder and California Supply**

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<sup>5</sup> Even if such an SC may not exist today, this is possible in future.

<sup>6</sup> Suppose an EIM resource has Pmax of 100MW with base schedule at 80MW. Today, all of the 100MW is allowed to be deemed to serve CAISO load while under the proposal, only 20MW (i.e., 100MW – 80MW) would be allowed to be deemed to serve CAISO load.

<sup>7</sup> The CAISO currently proposes that a secondary emission rate be calculated for both peak and off-peak hours on a quarterly basis.

<sup>8</sup> In addition, as it appears that the rate would be heavily dependent on bidding, i.e., in the form of base schedules. It should be evaluated that 1) whether this can overestimate the secondary emissions since those base schedules are not optimized, and 2) whether a change in the bidding can be significant enough making an update of the rate warranted.

<sup>9</sup> Part of the proposal, “these EIM participating scheduling coordinators will submit allowances to ARB that reflect the secondary emission rate”. CAISO Proposal, at 6.

An alternative approach of applying the same GHG bid floor to all resources (emitting or non-emitting) was discussed on the Feb 22<sup>nd</sup> stakeholder call. SCE believes that such an approach would go against the concept of accurate emission accounting. For example, when an emitting resource is marginal (and no dirtier resources need to be dispatched), the emission intensity of the EIM transfer into the CAISO won't exceed the emission rate of the resource. Applying a minimum GHG bid floor on top of its true emission rate (e.g. a GHG adder) will skew its emission profile and lead to increased cost to consumers. Such an approach should not be adopted.

The proposal also seeks comments on which resources will qualify as California Supply. SCE believes that any resource that is contractually obligated to serve California load (e.g. contracted with a load serving entity in the CAISO) should be considered as California Supply and exempted from the proposed minimum GHG bid floor. Such contractual obligation can include, but not limited to, bilateral energy contracts and resource adequacy contracts.

**4. The CAISO should work in conjunction with CARB. Any of the proposed elements should not be finalized until necessary accompanying changes in rules are established at the CARB.**

Since the CAISO does not have the compliance enforcement authority under the Cap and Trade program, the CAISO should work in conjunction with the CARB to ensure all necessary rules are implemented before its proposal is finalized. During the Feb 22<sup>nd</sup>, 2018 stakeholder call, there was a suggestion from some stakeholders for the CAISO to implement a part of the proposal, e.g., changing resource capacity attributable to serving CAISO load from a full capacity to only the portion beyond base schedule, before necessary CARB regulation changes are in place. SCE strongly opposes such approach. The CAISO should not finalize any of the proposed elements aimed to address the CARB's concern on secondary emissions unless all necessary and supporting rules at the CARB are established. This is necessary to avoid harm to electricity consumers.

As stated earlier, since there is lack of information on the performance of the proposed approach, the CAISO should consider additional opportunities to review such information when it becomes available. The CAISO should consider separate stakeholder dialogue on whether this proposal, or any other proposal, should be applied to an extended DAM with EIM service, after the CAISO and stakeholders have a better understanding of the proposed approach, as well as the availability of design specifics of the extended DAM.