

March 1, 2018

Dear CAISO staff and stakeholders,

Thank you for the opportunity to comment on the Second Revised Draft Final Proposal.¹ I am very grateful for the attention CAISO and the EIM stakeholder community have given the question of GHG accounting in the EIM and commend CAISO for its leadership on this issue.

In the Second Revised Draft Final Proposal, CAISO has decided to abandon the two-pass solution that I had previously endorsed² as a means of identifying the net GHG emissions attributable to serving California-based load via the EIM. CAISO cites internal and external stakeholder concerns regarding the potential for market participants to game the two-pass bidding structure, potentially distorting markets and resulting in inaccurate GHG accounting. In response, CAISO has proposed an alternative mechanism for accounting for EIM GHG emissions.

I take CAISO's concerns seriously and agree that alternative approaches could work well to accurately identify the net GHG emissions attributable to California load. However, I believe the current proposal's different treatment of fossil vs. zero-carbon resources raises both substantive policy concerns and legal risks that merit additional discussion. To address these concerns, I outline an alternative solution that retains CAISO's basic approach but would instead rely on the California Air Resources Board (CARB) to retire allowances attributable to GHG emissions from secondary dispatch.

¹ CAISO, EIM Greenhouse Gas Enhancements: 2nd Revised Draft Final Proposal (Feb. 16, 2018), available at <http://www.caiso.com/informed/Pages/StakeholderProcesses/RegionalIntegrationEIMGreenhouseGasCompliance.aspx>.

² Comment letter from Michael Wara and Danny Cullenward to CAISO (Dec. 8, 2016), available at <http://www.caiso.com/Documents/StanfordLawSchoolComments-RegionalIntegration-EIMGreenhouseGasCompliance-StrawProposal.pdf>.

CAISO’s current proposal would involve two separate calculations of GHG emissions. First, the approach would retain the current EIM GHG attribution structure for some resources—the “resource-specific emission rate”—in which winning bidders located outside of CAISO territory that elect to serve load within CAISO territory incorporate the cost of GHG emissions via their facility-specific GHG bid adders. Second, CAISO would also calculate the additional emissions from secondary dispatch—the “secondary dispatch emission rate.” CAISO has proposed applying these emission rates to different resource types as follows.

The resource-specific emissions rate would apply to:

- All resources located in California
- Out-of-state natural gas resources
- Out-of-state coal resources

The secondary dispatch emissions rate would apply to:

- Out-of-state solar
- Out-of-state wind
- Out-of-state hydro
- Out-of-state asset controlling suppliers³

And the California Air Resources Board’s unspecified source emissions rate would apply to:

- System imports (e.g. from intertie bidding)

Finally, as CAISO appropriately acknowledges, successfully integrating California’s carbon pricing policy with the EIM market design requires close coordination with CARB. Although I am glad to see how much progress has been made, I believe further consideration is warranted regarding the mechanism by which these two policies are integrated.

³ Only if the emissions rate is less than the bid floor; else the resource would receive a different rate. See CAISO, *supra* note 1 at 13.

1. CAISO’s approach appears to ignore the possibility of leakage that results from secondary dispatch of high-carbon fossil resources that replace low-carbon fossil resources.

CAISO has proposed applying the secondary dispatch emissions rate to zero-carbon resources, while preserving the resource-specific emission rate for fossil-based resources. In essence, the proposal implies that GHG leakage from secondary dispatch is only expected as a result of substituting zero-carbon energy in place of fossil energy (e.g. when a gas-based MWh is generated for secondary dispatch in the EIM to replace a wind-based MWh delivered from the EIM to CAISO territory). However, leakage can also occur between fossil-based resources (e.g., when a coal-based MWh is generated for secondary dispatch in the EIM to replace a gas-based MWh delivered from the EIM to CAISO territory).

Similarly, CAISO has proposed applying CARB’s unspecified emissions factor (0.428 tCO₂/MWh) to future system imports, but that factor is outdated as a technical matter⁴ and future system imports could plausibly come from coal resources—especially if those external resources could benefit from the lower unspecified emissions factor.

2. CAISO’s proposal would increase the risks of dormant commerce clause litigation.

As I have discussed in previous comment letters, some GHG attribution mechanisms can lead to outcomes that favor in-state over out-of-state resources.⁵ Unfortunately, the prospect of litigation over these issues has increased. Last year, the Utah Department of Commerce expressed con-

⁴ Joe Kaatz & Scott Anders (2016), The role of unspecified power in developing locally relevant greenhouse gas factors in California’s electric sector. *Electricity Journal* 29(9): 1-11.

⁵ Comment letter from Michael Wara and Danny Cullenward to CAISO (Oct. 27, 2016), available at <http://www.caiso.com/Documents/StanfordLawComments-RegionalIntegrationCaliforniaGreenhouseGasCompliance-TechnicalWorkshop.pdf>.

cern that addressing GHG emissions from secondary dispatch could violate the dormant commerce clause.⁶ More recently, E&E's ClimateWire reports that the Utah Legislature is considering a \$2M appropriation to fund litigation challenging California's cap-and-trade program and the integration of California's carbon price into the CAISO EIM.⁷ While I believe these legal theories would not prevail in court, they nevertheless indicate how important it is to carefully tailor the design of the EIM to avoid any potentially disparate impacts based on the location of participating resources—even if that outcome is merely incidental, not purposeful.

Although CAISO's proposal would ensure that fossil resources receive resource-specific emission factors whether located inside California or in another state, the same cannot be said for zero carbon resources. Wind, solar, and hydro facilities would face a non-zero secondary dispatch emission rate if they are located outside of California, but would face no GHG costs for facilities located in California. While the proposal would tend to undermine any claim that out-of-state fossil resources would face discrimination or become subject to extraterritorial regulation, the proposal imposes all of the costs of secondary dispatch on out-of-state zero carbon resources, which in turn could plausibly argue they face discriminatory treatment compared to similar resources located in California. If a court is convinced this outcome is discriminatory on its face, in its purpose, or in its practical effects, the GHG accounting would survive judicial scrutiny only if its burdens on interstate commerce were the lowest among feasible options. I respectfully urge CAISO to consider whether that would be the case here.

⁶ Comment letter from the State of Utah Department of Commerce to CAISO (June 19, 2017), available at <http://www.caiso.com/Documents/UtahDPUComments-EIMGreenhouseGasEnhancements-DraftFinalProposal.pdf>.

⁷ Debra Kahn, Lawmakers blame Calif. for coal losses, plan to sue. E&E ClimateWire (Feb. 14, 2018), available at <https://www.eenews.net/climatewire/stories/1060073847>.

3. CAISO has additional options to reduce legal risks while preserving its new approach to managing GHG emissions from secondary dispatch in the EIM.

One of the important advantages of CAISO's proposal is its ability to calculate GHG emissions associated with secondary dispatch based on periodic reviews of market data. In my view, CAISO is well positioned to calculate these emissions in a rigorous and transparent manner, improving on the coarse estimate used for unspecified power in California's cap-and-trade program. Rather than attempt to impose these costs on specific imports from the EIM to CAISO territory, however, it should be possible to lower legal risks while preserving the core market design CAISO is proposing in place of the two-pass solution.

Specifically, if CAISO were to periodically calculate the GHG emissions associated with secondary dispatch—that is, the leakage associated with resource shuffling in the EIM—this number could be used to dynamically update CARB's supply of cap-and-trade allowances. CARB could retire allowances equal to the secondary dispatch GHG emissions CAISO calculates in order to preserve the environmental integrity of the cap-and-trade program without imposing differential emission rates on out-of-state resources.

In economic terms, this concept bears some resemblance to a proposal made by Professor William Hogan, who argued that instead of the previous two-pass approach, CAISO ought to impose a kind of import fee that reflects the per-MWh cost of addressing leakage from secondary dispatch in the EIM.⁸ Rather than imposing a cost on all electricity importers, however, the economic effect of retiring allowances proportional to the secondary dispatch GHG emissions CAISO observes would be to raise costs on all covered entities under the program. While this wouldn't directly impose the full incidence of the costs of leakage on electricity importers—

⁸ William W. Hogan, An Efficient Western Energy Imbalance Market with Conflicting Carbon Policies (Sept. 28, 2017), available at http://www.aiso.com/Documents/WhitePaper-AnEfficientWesternEIMwithConflictingCarbonPolicies-William-Hogan-Sept27_2017.pdf.

and thus might be less than perfectly optimal from an economic perspective—it would have the advantage of avoiding dormant commerce clause concerns.

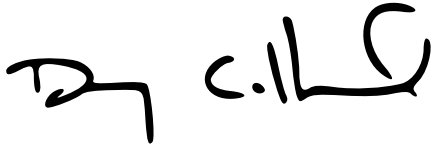
The fact that the carbon market price impacts from allowance retirement would apply to all covered entities is a benefit from a dormant commerce clause perspective. This outcome would further reinforce the case that the integration of state climate policy and regional electricity markets does not impose any disparate impacts on out-of-state resources—indeed, by design it would impose the same cost on all compliance entities irrespective of physical location. Under this alternative, only those out-of-state resources that elect to participate in the EIM and successfully bid for dispatch to CAISO would be subject to California’s carbon price; and they would do so on the exact same terms as a comparable resource located in California.

This alternative proposal would require CARB’s support as well as a decision on which cap-and-trade allowances to retire. If CARB retired CARB-owned allowances, then revenue collected in the State’s Greenhouse Gas Reduction Fund would fall. If CARB retired allowances that are currently designated for allocation to utilities, then State revenue would be preserved but utilities would receive less value. However, if the retirement of utility allocations could be linked to the share of EIM imports each load-serving entity consumes, it should be possible to ensure that the lost benefits (allowance retirements) are proportional to the systemic cost imposed (via leakage from secondary dispatch in the EIM)—moving closer to the outcome Professor Hogan advocated, but without raising comparable dormant commerce clause risks.

Again, I appreciate the hard work CAISO is doing to integrate state carbon pricing policy into regional electricity market design. Getting these important legal and economic details right will ensure that competitive electricity markets can work hand-in-hand with state environmental policy, even when participating states have different views on the appropriate environmental policy

they wish to apply to their own affairs. CAISO has already demonstrated national leadership on this issue and can further cement its reputation with a successful outcome here.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Cullenward". The signature is stylized and cursive.

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Disclaimer: this letter does not represent the views of the IEMAC.