

Comments of The Utility Reform Network in “Regional Integration California Greenhouse Gas Compliance” Stakeholder Initiative

October 27, 2016

The Utility Reform Network (“TURN”) offers the following comments to the California Independent System Operator’s (“CAISO’s”) stakeholder initiative titled “Regional Integration California Greenhouse Gas Compliance”. In these comments, TURN addresses issues raised by the CAISO’s October 13, 2016 presentation titled “Market Design for Greenhouse Gas Compliance” and related issues. More specifically, TURN (a) comments on each of the three GHG tracking options the CAISO presented, (b) comments on the current “mix-and-match” Greenhouse Gas (“GHG”) attribution method used in the Energy Imbalance Market (“EIM”), and (c) clarifies and re-iterates certain of TURN’s prior comments that the CAISO did not address.

REVIEW OF CAISO’S “THREE TOP OPTIONS”

The CAISO presented a review of its “three top options” for “ensur[ing] EIM/regional GHG accounts for secondary dispatch effects” at the October 13 meeting in this stakeholder process.¹ TURN comments on each of these options below. As noted below, based on that presentation and related discussions, TURN is not persuaded that any of the three options can “ensure” such results, but sees Option 2 – despite the computational challenges – as most likely to produce reasonable results without exposing customers to undue financial risk, subject to the caution below regarding the CAISO’s GHG attribution method. TURN also suggests that the CAISO re-assess whether some of the other options it considered but did not present publicly should be shared with stakeholders.

¹ See Slide 15 of CAISO’s October 13 presentation, as revised October 19 (“Revised Presentation”), which is available at <http://www.aiso.com/Documents/UpdatedAgenda-Presentation-RegionalIntegrationCaliforniaGreenhouseGasCompliance-TechnicalWorkshop.pdf>.

- OPTION 1: Compute and Track GHG Impacts Outside of Market Optimization

As TURN understands it, the CAISO's "Option 1" is to compute the impact of the EIM on GHGs on an *ex post* basis for each EIM time interval and then net the positive and negative impacts of all such intervals over a "period of time," such as a month or year.^{2,3} Like the CAISO, TURN does not at this time support Option 1 as a means of addressing "secondary dispatch" issues.⁴ However, TURN believes the CAISO should have been performing the type of analysis envisioned in Option 1, and making the results public for the smallest time increments possible, from the very start of the EIM.⁵ TURN understands the CAISO will begin to provide such data on a timely basis in the near future. TURN also believes the GHG impacts for the EIM's first fourteen months of operation – November 2014 to December 2015 – should also be computed and published.

In addition, as will be noted below, TURN is concerned that the EIM's current approach to "GHG attribution" may not produce reasonable results as to the impact of the EIM on GHGs emissions and mitigation costs.

- OPTION 2: Perform Two-Step Optimization to Identify EIM's Impact on GHGs

As TURN understands it, the CAISO's "Option 2" is to perform a two-step optimization that would estimate the GHG impact of the EIM by comparing the EIM schedule to an optimized schedule computed without CAISO loads and resources.⁶ The CAISO rejected this option as "not computationally feasible today"⁷ and, in TURN's recollection, also rejected as too

² Revised Presentation, Slide 16.

³ Though the CAISO's stakeholder initiative is focused on developing GHG tracking rules for a possible regional Day Ahead Market ("Regional DAM"), the CAISO's slides and these comments frequently refer only to the EIM. The discussion herein applies to GHG accounting in both the current EIM and a possible Regional DAM.

⁴ Revised Presentation, Slide 42. TURN using term "secondary dispatch" for convenience, even though such dispatches in fact occur at the same time as other EIM dispatches.

⁵ TURN began suggesting that the CAISO develop and publicize such data in October 2015, well before the CAISO first provided such data to the public.

⁶ Revised Presentation, Slide 17.

⁷ *Id.*, Slide 42.

inaccurate alternative approaches that could simplify the two-step optimization process to reduce the computational burden. The CAISO also said this approach would not entirely address the “secondary dispatch” issue.⁸ TURN appreciates the CAISO concerns over practicality and the CAISO’s concern that this method would not eliminate “secondary dispatch” issues. However, Option 2 seems likely to produce the most reasonable answer, even if more simplified methods are used in the first optimization step. The CAISO appears to agree that Option 2 would ultimately be a better approach when it becomes “feasible”.⁹

TURN’s concern over the EIM’s “GHG attribution” method is also relevant to consideration of Option 2.

- **OPTION 3: Develop Residual Emission Rate for EIM Transfers into CAISO**

As TURN understands it, the CAISO’s “Option 3” is to maintain the existing market design, including resource attribution, but add a “residual emission rate” in \$/MWh that would apply to energy flows into the “California zone”. The revenue collected from this rate would be allocated to an entity with a GHG compliance obligation that would purchase compliance instruments and surrender them to the California Air Resources Board (“CARB”). Under this option, the CAISO also looks to California Load-Serving Entities (“LSEs”) to contract with external non-emitting resources to minimize the use of the hurdle rate.¹⁰

TURN has significant concerns about Option 3. In particular, TURN is concerned that the CAISO prefers this approach because it simplifies the CAISO’s efforts by assuming that third parties will take some of the actions needed to fully implement Option 3. The CAISO should not confuse an option that reduces its own efforts with an option that is the best public policy.

⁸ *Id.*, Slide 18.

⁹ *Id.*, Slide 42.

¹⁰ *Id.*, Slides 27-28.

TURN questions whether Option 3 is a good approach to GHG tracking and mitigation for multiple reasons, including:

- Hurdle Rate Would Misprice GHGs and Create Potential for Gaming: The application of a “hurdle rate” to EIM transfers into California is troublesome. First, it is virtually guaranteed to misprice GHGs – possibly significantly – and likely provides opportunities for market participants to game the EIM attribute tracking system to their own private benefit. Such problems might be mitigated by the more frequent and granular computation of such hurdle rates. For example, hurdle rates estimated near real-time for short intervals will likely be more accurate than hurdle rates computed seasonally. But the problems posed by such hurdle rates are likely to persist.
- GHG Compliance Entity Would Impose More Costs and Risks on Customers: Under Option 3, the CAISO would collect the revenues raised by the hurdle rate and allocate such revenues to a “California entity” that would buy GHG compliance instruments and then surrender such instruments to CARB.¹¹ This aspect of the proposal may be attractive to the CAISO as it shifts a substantial, and possibly very messy, responsibility to an as-yet-unnamed third party. However, in addition to its uncertain impact on GHGs, this proposal also poses significant new financial risks to customers.

For example, a specialized “GHG Compliance Instrument Procurement Entity” (“GCIPE”) charged with purchasing compliance instruments may find the revenues collected by the hurdle rate insufficient to purchase adequate compliance instruments. Such an outcome would make the GHG reduction program less than fully effective. In such a case, the GCIPE might seek additional funds to purchase additional compliance instruments – presumably at an additional cost to customers.¹²

¹¹ *Id.*, Slide 28.

¹² It is also possible that the GCIPE would collect more than enough revenues to meet its obligation to purchase and retire GHG compliance instruments. In such a case, the GCIPE could meet its obligations to CARB, but would have received revenue from customers greater than necessary to meet such obligations.

As a GCIPE's hurdle rate revenues and its financial obligations to purchase GHG compliance instruments will differ – possibly substantially – a GCIPE may wish to hedge its financial risk in general. However, such contracts would likely increase the GCIPE's costs; TURN can only presume that the GCIPE would seek to recover such costs from customers. More generally, the creation of a GCIPE would require substantial initial efforts to specify governance, program responsibilities and funding, a process likely to take substantial effort – starting with finding or creating an entity willing to take on the role of the GCIPE.

o Forward Contracting Will Not Likely be Fully Effective at Minimizing Use of Hurdle Rate:

The CAISO also said that the use of the GHG hurdle rate could be minimized if California LSEs enter forward contracts with non-emitting resources outside the CAISO.¹³ Such contracting might reduce the CAISO's need to apply the GHG hurdle rate, but the implementation of this approach will take time and may never be complete. TURN anticipates that current contracts with out-of-state non-emitting resources might need to be renegotiated to enable this result, which is an uncertain prospect at this point.¹⁴ Further, the “price signals” contained in such bilateral contracts may also misprice GHG emissions.

And again, TURN's concern over the EIM's “GHG attribution” method, discussed below, is also relevant to consideration of Option 3.

“MIX-AND-MATCH” METHOD FOR “ATTRIBUTING” GHGs NEEDS REVIEW

TURN understands that the EIM algorithms do not necessarily attribute GHG emissions supporting EIM transfers into the CAISO to the units that actually increment generation in the EIM system re-dispatch. Rather, TURN understands that the algorithm separately attributes to CAISO loads the lowest cost energy bid and the lowest cost GHG bid, even if such bids are submitted by separate plants – or even by separate plants in separate Balancing Authority

¹³ Revised Presentation, Slide 28.

¹⁴ It is possible that future contracts could include such provisions.

Areas.¹⁵ TURN understands that the CAISO believes this “mix-and-match” approach provides GHG compliance at the lowest cost.

TURN certainly appreciates the CAISO’s interest in reducing customers’ costs of GHG compliance. However, the current attribution and pricing of GHG emission reductions is not credible. GHG mitigation programs’ costs should reflect actual costs incurred, which might be implemented by dispatching resources in the EIM on the sum of each relevant unit’s energy and GHG bids. TURN realizes that changes to the EIM methodology may need to be made in a separate venue, but discussion of such changes needs to be a part of the implementation of GHG monitoring in a potential Regional DAM.

The CAISO’s own publication of apparently conflicting results regarding the impacts of the EIM only muddies the picture. Figure 1 below presents one CAISO estimate of the type of generation supporting EIM’s incremental transfers into California for the months of January to July 2016, which shows non-emitting resources providing most such energy. Figure 2 is another CAISO estimate of seemingly the same result, which shows fossil resources supporting the bulk of the EIM’s incremental transfers into the CAISO. Figure 2 appears to be the more credible representation of EIM dispatch to meet California load. Figure 1, on the other hand, suggests that the great bulk of EIM transfers into California were sourced from non-emitting resources, which is not a credible result. The CAISO should explain and justify the differences between these two apparent attribution approaches and explain how it proposes to use each in its GHG tracking in a broader market.

¹⁵ See slides 12-16 of the CAISO’s June 24 presentation to CARB available at https://www.arb.ca.gov/cc/capandtrade/meetings/062416/arb_and_caiso_staff_presentations_updated.pdf.

FIGURE 1

"Monthly EIM Transfer ISO Imbalances" (MWh)

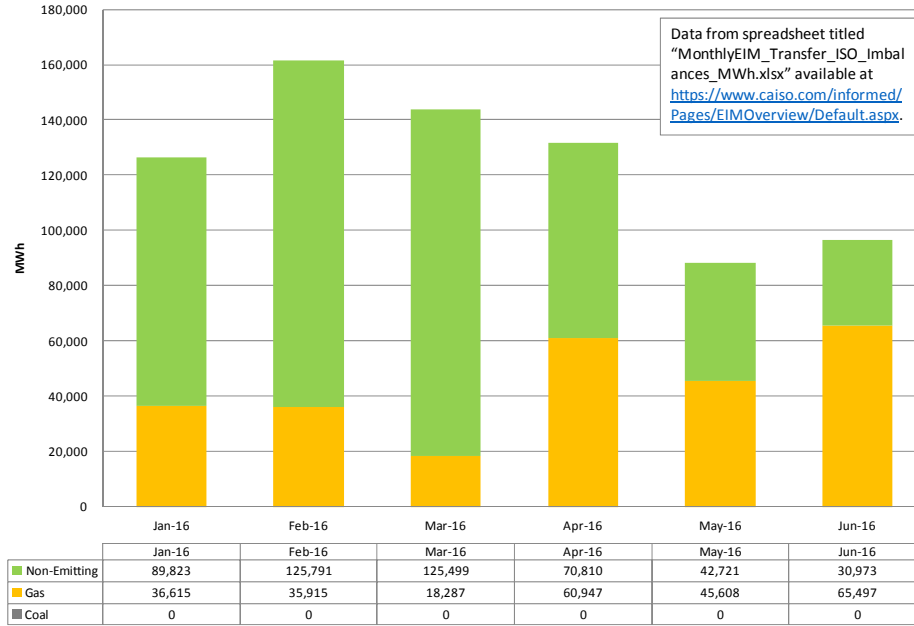
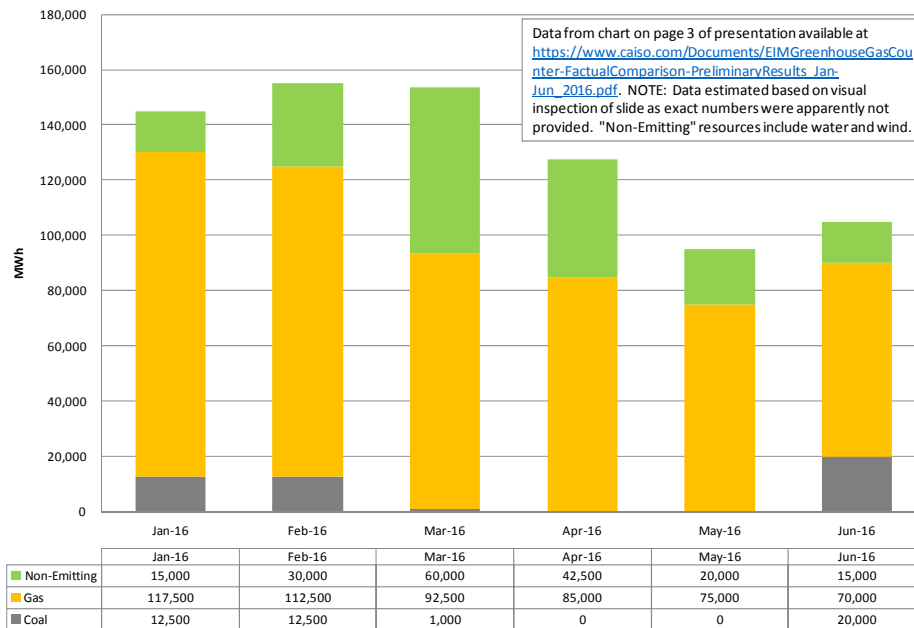


FIGURE 2

"California Import by Fuel Type" (MWh)



The current “mix-and-match” approach poses challenges to the implementation of consistent state GHG policies in a broader market. As TURN understands the CAISO approach to GHG attribution, the EIM market is run “without the CAISO” and then re-run “with the CAISO”, with the difference being the EIM’s estimated GHG impacts.¹⁶ If other states adopt similar programs, the CAISO might be asked to run similar simulations to assess the impact of a broader market on other states’ GHG emissions. Performing the same type of analysis for other states’ systems could produce results that double-count some sources of GHG reduction benefits and ignore others. The same methodology might yield similarly incorrect estimates of individual states’ costs of GHG compliance. A more complete approach would enable attribution of all GHG impacts and costs to each state in a manner in which the sum of all states’ individual benefits and costs equals the entire market’s sum of such benefits and costs.

TURN raised similar concerns in its September 20 comments,¹⁷ which the CAISO did not address in its comments, other than to say that it recognizes the means it uses to address “secondary dispatch” issues must be scalable.¹⁸

CLARIFICATION AND RE-STATEMENT OF PRIOR TURN COMMENTS

TURN also wishes to clarify and amplify some other of its September 20 comments.

- “DATA STORE”

In its September 20 comments, TURN recommended the CAISO maintain a “data store” to enable states and other non-market participants to assess for themselves the operation of a

¹⁶ Revised Presentation, Slides 10 and 11.

¹⁷ See page 3 of Comments of The Utility Reform Network regarding “Regional Integration California Greenhouse Gas Compliance” Stakeholder Initiative, September 20, 2016, available at <http://www.caiso.com/Documents/TURNComments-RegionalIntegrationCaliforniaGreenhouseGasCompliance-IssuePaper.pdf>.

¹⁸ See pdf pages 44-45 of Regional Integration CA GHG Compliance Issue Paper Stakeholder Comments Matrix (posted October 18), available at <http://www.caiso.com/Documents/UpdatedCommentsMatrix-RegionalIntegrationCaliforniaGreenhouseGasCompliance-IssuePaper.pdf>.

broader market and related GHG issues, particularly compliance with state environmental programs.¹⁹ In response, the CAISO responded that it was unsure what was meant by a “data store” and that it is committed to addressing other states’ carbon programs in its market optimization.²⁰ Though this is a good step, it is not likely adequate to assure states that their policies are being implemented and operated appropriately. Rather, the CAISO must be prepared to respond positively to future inquiries regarding the implementation and impacts of state policies similar to the CARB’s questioning of the CAISO’s EIM algorithms. To do so, the CAISO must develop something like the “data store” that TURN described in its September 20 comments.

- ATTRIBUTION OF RENEWABLE RESOURCES TO CALIFORNIA LOAD

TURN also stated in its September 20 comments that the CAISO:

“should explain whether its proposed method(s) for attributing specific resources to specific loads in a Regional DAM could also be used to attribute out-of-California renewable energy resources to California loads. Further, the CAISO should clarify the operational practices needed to ensure ‘delivery’ of energy by non-CAISO resources to CAISO loads in order to receive credit as a Category 1 RPS resource under the California RPS program”.²¹

The CAISO did not respond to this comment either, saying only that the market optimization would honor both physical and schedule limits.²² TURN’s re-iterates its request for a direct answer as to whether the CAISO’s proposed means of resource attribution can also serve this other purpose.

¹⁹ TURN September 20 Comments, p. 2.

²⁰ CAISO October 18 Stakeholder Comments Matrix, pdf p. 44.

²¹ TURN September 20 Comments, p. 4.

²² CAISO October 18 Stakeholder Comments Matrix, pdf p. 45.

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