



California ISO

Extended Day Ahead Market
Working Group 3 Weekly Report

Week 11 Report
3/14/22 – 3/18/22

Progress Tracker

Topic	Schedule
Accounting: GHG Compliance Area(s)	
Boundaries (State, GHG Compliance Areas, BAA, LSE, International?)	<i>Completed – 3/15/2022</i>
Implications for BAA spanning multiple states	<i>Completed – 3/15/2022</i>
Impacts to EIM	<i>Completed – 3/8/2022</i>
Rules that need to be established for renewable resource dispatch in/out of a GHG zone	<i>Completed – 3/15/2022</i>
Accounting: Availability	
Rules for availability to serve load in GHG compliance area	<i>Completed - 1/13/2022</i>
Resource schedules that could inform capacity available to support transfers with a GHG compliance area	<i>Completed – 3/8/2022</i>
Market Optimization	
Are we optimizing Carbon prices? RPS/CES?	<i>Completed - 1/11/2022</i>
Types of pricing: carbon pricing, clean energy/renewable	<i>Completed - 1/11/2022</i>
Transactions; Generator emissions covered, Delivered emissions covered	<i>Completed – 3/8/2022</i>
Accounting: Emissions rate attribution	
Resource specific, Unspecified	<i>In Progress 1/18/2022; 1/24/2022, 3/10/2022 Completed – 3/17/2022</i>
Transactions/jurisdictions; Generator emissions covered, Delivered emissions covered	<i>Completed – 3/17/2022</i>
Determining emissions rate attribution with different participation options	<i>In Progress 1/13/2022; 2/24/2022, Completed – 3/8/2022</i>
Costs: Compliance	
How should GHG costs be calculated?	<i>Completed – 3/17/2022</i>
How should GHG costs be reflected across GHG compliance areas?	<i>1/18/2022; 2/24/2022, 3/8/2022 Completed – 3/17/2022</i>
How are reference level (DEBs and proxy costs) calculated? And how are they used in market power mitigation?	<i>Completed – 3/10/2022</i>
Costs: Settlements	
What implications of GHG settlement must be incorporated into EDAM design?	<i>Completed – 3/17/2022</i>
Costs: Compliance	
Should GHG compliance costs be recovered by a Scheduling Coordinator at a resource specific or marginal resource specific level?	<i>Completed – 3/17/2022</i>

Market Efficiency: EIM (roll over to real Time)	
What allowable changes to either GHG quantity or bid price between DA and RT should be allowed?	Completed – 3/8/2022
What are the associated settlement impacts to any variation allowed?	Completed – 3/15/2022
Accounting: Market Results	
What type of information and at what granularity: Settlements	Completed – 3/17/2022
What type of information and at what granularity: State reporting	Completed – 3/17/2022
Renewable Energy Certificates (RECs)	
How can EDAM design best interact with current Renewable Portfolio Standards (RPS) and RECs accounting practices?	In progress - 1/13/2022, 2/13/2022 Completed – 3/1/2022
What is the interplay of e-Tags used to track RECs vs. the role of e-Tags in EDAM and what is an appropriate interplay?	Completed – 2/8/2022
What REC impacts may there be when it comes to EDAM intertie bidding and scheduling points?	
Costs: Bidding to serve demand in the GHG compliance are	
How should RPS costs be calculated?	Completed - 1/11/2022
How should RPS costs be reflected?	Completed - 1/11/2022
How should RPS costs be reflected across compliance areas?	Completed - 1/11/2022
How are reference level (DEBs and proxy costs) calculated? And how are they used in market power mitigation?	Completed - 1/11/2022

Note: “**Completed**” indicates that the subject has been reviewed in the WG sessions with substantial discussion time allocated. It does not necessarily mean that all outstanding design elements are resolved.

Weekly Discussion

March 15, 2022

Scope Items Discussed: Working Group 3 Administrative items

Presenters: Kevin Head and Anja Gilbert, California ISO

As this is the final week of Working Group meetings, Kevin spent a few minutes reviewing the progress made over the past 10 weeks, starting from the level-setting of scope and objectives, and highlighting the progression of design elements of both the Resource Specific and Unspecified Resource approaches.

Anja Gilbert also added comments regarding the next phase of the EDAM initiative, clarifying that it is the intent of CAISO to include both approaches (Resource Specific and Unspecified Resource) in the development of the straw proposal.

Discussion:

The only question raised was on the continued development of open details on the Unspecified Resource approach, or more generally, on the opportunity for continued stakeholder engagement on the WG-3 topics in general. Anja replied that, while there are is not any plan to host additional working group forums, any continued dialog on these design items can be continued by Participants reaching out directly to the CAISO policy team through the established channels in the EDAM initiative forum.

Scope Items Discussed: Resource-Specific Approach

Presenters: Kallie Wells, Gridwell Consulting, representing Western Power Trading Forum (WPTF)

EDAM GHG Accounting and Costs: Additional Resource Specific Option

Kallie Wells presented on the following topics:

1. Recap of GHG EDAM Efforts
2. Topic 2: Additional Resource Specific Approach
3. Topic 3: Case Studies
4. Topic 4: Key Take-Aways and Next Steps

On topic #2, an alternative or modified approach was offered for the WG-3 consideration. The key elements of this alternative approach (as compared to the Resource Specific V2.0 as discussed in this WG) are:

- Include internal transmission in baseline schedule
- Limit deeming to incremental dispatch above baseline schedule

The presentation also included four Case Studies:

- Case 1: "Deemed" MWs with Price Separation
- Case 2: No "Deemed" MWs without Price Separation
- Case 3: No "Deemed" MWs with Price Separation
- Case 4: Edge case to highlight non-convexity concern

Discussion:

Discussion topics and questions following the presentation included:

- In response to the question “what problem is this “RS version 2.5” approach trying to solve; Kallie answered that the addition of the constraint to limit the GHG attribution (deeming) to the incremental dispatch above its baseline schedule would reduce the secondary dispatch concern.
- CAISO market design participant commented that this approach would require an additional market run, which could be problematic for the feasibility of the implementation. Also commented that the introduction of more binary variables to the optimization would significantly impact the performance of the algorithm.
- Confirmed that this (v2.5) approach considers the same assumptions as was advocated for in the baseline run as was discussed for the v2.0 approach, namely (i) solve to load forecast, (ii) do not include virtual bids, and (iii) block inter-BAA Transfers.
- Question posed; would the deeming constraint related to the incremental dispatch carry over to the WEIM market. Participants suggested that this could be possible, and would be preferred (for DA market to be compatible with the RT market, in this specific condition.
- Participants commented on the potential for (reduced) optimality in this approach compared to the v2.0 approach, and also for potential bid strategies (gaming) need to be evaluated.
- The probability of then “edge case” (resources potentially being dispatched at a price lower than their bid) discussed in the Case Studies needs to be more fully evaluated.

Conclusion:

The proposed Resource Specific “v2.5” approach was fully presented and discussed. WPTF added that this approach is offered as an additional approach to consider by the WG-3 participants, and does not necessarily advocate for this approach over the V2.0 or Unspecified approach.

March 17, 2022

Scope Items Discussed: Unspecified Resource (Zonal) Approach

Presenters: Kevin Head, California ISO

This WG started with the continuation of where we left off on last Thursdays (March 10) discussion on the 4 areas for continued discussion on the Unspecified Resource (Zonal) approach, focusing on Items 2 and 4 today.

The four areas outlined by Kevin last week are:

1. Source-specific pathways to the GHG zone
 - a. Path 1 : Define the GHG zone to include resources outside of physical state boundaries
 - b. Path 2 : Once the GHG zone is defined, some imports may be treated on specified- or entity-specific basis
2. Defining hurdle rate
3. Compliance and reporting

4. Settlement of GHG hurdle revenue

Discussion:

Topic #4, Settlement of GHG hurdle revenues discussion topics included:

- Regarding the two primary approaches offered, (i) allocate to load, or (ii) allocate to resources; the option to allocate to resources did not receive significant support or discussion, all discussion focused on various elements of allocating the revenues to load entities.
- The proposed term “allocate (to LSE’s) on a “pro rata” basis was modified to read on a “pro rata load share” basis
- A large portion of the discussion was focused on two scenarios: (i) allocate revenues on a pro rata load share basis with an adjustment (reduction) for the portion of load served by source specific resources, or (ii) no such adjustment. The debate between these two scenarios was extensive, but at a conceptual level. There was significant number of participants advocating the non-adjustment option, suggesting that the concerns expressed by the advocates for the opposing approach could be alleviated by specific case studies. No such case studies are available for review in this session.

Topic #2, Defining hurdle rate discussion topics included

- These discussions focused on fundamentally three approaches;
 1. Pre-defined, static for all market intervals, and not adjusted on a daily basis (equivalent to using the current regulator established CARB price of \$0.428)
 2. Pre-defined based on some analysis of likely marginal resources on a daily basis; varies by hour within the market run
 3. Dynamically determined from the baseline run, varies by hour within the market run
- One participant characterized the choices as (i) static for all market intervals = good, (ii) static but varying by market interval = better, (iii) dynamically determined by marginal resource = best, but maybe impractical implementation.

Conclusion:

This concludes the allocated time, in the last of the scheduled WG-3 sessions, for the continued development of the open discussion topics related to the Unspecified Resource (Zonal) approach. And the conclusion of the planned WG sessions in general.

Mark Rothleder, CAISO Sr. Vice President and Chief Operating Officer, addressed the WG to offer his assessment of the accomplishments made, and to express his gratitude for the time and efforts given to this stakeholder initiative, by the participants, presenters, and CAISO staff.