



California ISO

Extended Day Ahead Market
Working Group 4 Weekly Report

Week 3 Report
1/24/22 – 1/28/22

Progress Tracker

Topic	Schedule
Accounting: GHG Compliance Area(s)	
Boundaries (State, GHG Compliance Areas, BAA, LSE, International?)	<i>In progress – 1/18/2022</i>
Implications for BAA spanning multiple states	<i>In progress – 1/18/2022</i>
Impacts to EIM	
Rules that need to be established for renewable resource dispatch in/out of a GHG zone	<i>In progress – 1/18/2022</i>
Accounting: Availability	
Rules for availability to serve load in GHG compliance area	Completed - 1/13/2022
Resource schedules that could inform capacity available to support transfers with a GHG compliance area	
Market Optimization	
Are we optimizing Carbon prices? RPS/CES?	Completed - 1/11/2022
Types of pricing: carbon pricing, clean energy/renewable	Completed - 1/11/2022
Transactions; Generator emissions covered, Delivered emissions covered	
Accounting: Emissions rate attribution	
Resource specific, Unspecified	<i>In Progress 1/18/2022; 1/20/2022</i>
Transactions/jurisdictions; Generator emissions covered, Delivered emissions covered	
Determining emissions rate attribution with different participation options	<i>In Progress 1/13/2022</i>
Costs: Compliance	
How should GHG costs be calculated?	
How should GHG costs be reflected?	
How should GHG costs be reflected across GHG compliance areas?	<i>1/18/2022</i>
How are reference level (DEBs and proxy costs) calculated? And how are they used in market power mitigation?	
Costs: Settlements	
What implications of GHG settlement must be incorporated into EDAM design?	
Costs: Compliance	
Should GHG compliance costs be recovered by a Scheduling Coordinator at a resource specific or marginal resource specific level?	
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?	

What are the associated settlement impacts to any variation allowed?	
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Accounting: Market Results

What type of information and at what granularity: Settlements	
What type of information and at what granularity: State reporting	

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
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?	
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

Weekly Discussion

January 26

Scope Items Discussed: Market Optimization

Presenters: Jeff Spires (Powerex) and Mary Wiencke (PGP) presentation: [Exploring a Potential Two-Zone Approach for EDAM GHG](#)

Discussion:

Jeff and Mary presented on the basic structure of the “unspecified” resource approach illustrated in the presentation as two zones; one zone as a composite GHG zone and another single composite non-GHG zone. They presented market interactions in a series of examples on this two-zone concept, at a “base case level”, with permutations and underlying details a matter for further discussion.

Discussion and Q&A following the presentation included:

- There was a question on how start-up and minimum load costs could be attributed to serving GHG load. If hurdle rate is for incremental energy only, then will all start-up and min load costs be applied to non-GHG zone loads?
- Question related would resources specific GHG attribution be identified and reported? In response, it was noted that this approach does not provide that resource-specific attribution, but rather only at an aggregate level. It was speculated that resource-specific attribution reporting would need to come from a construct outside the market.
- How would a resource internal to the GHG zone have control to be attributed to GHG policies? This level of detail is yet to be worked out, possibly from a non-market construct
- What are the basic definitions of the hurdle rate? Is it an average cost or marginal? The average cost has advantage that it is representative of the actual costs to serve the GHG policies, while the marginal cost approach has the advantage to offer proper incentives for GHG participation. Is it static or dynamic? The hurdle rate is input to the market, it is established and published ahead of the market bid submission. As such, outstanding details exist, such as how frequently it is updated, on what basis, and what market granularity (hourly was suggested).
- There was a concern discussed regarding the how attribution transparency would be established from the market results; including bidding and pricing. How will compliance with existing and future state policies be established?
- What is the basic concept of distribution of hurdle rate market revenues? This will depend on a review of individual state policies and discussions with regulators.
- Regarding enabling access and participation options to serve GHG zone; minimizing leakage is a common concern, with this approach as well as the resource specific approach. Voluntary full portfolio opt-in is the primary discussion topic. Is the opt-in a one-time decision? Annually?
- Can this approach be extended to a multiple GHG zone approach? This would enable multiple hurdle rates specific to regional carbon price factors. The presentation advocates the single GHG zone approach for its simplicity.

Conclusion:

The key design challenges of the basic 2-zone unspecified approach were identified, many of which will require further discussion and variations explored.

January 27

Scope Items Discussed: Market Optimization

Presenters: Kevin Head (CAISO)

Discussion: Kevin walked through the design scope items regarding optimization to review and capture elements of the Unspecified Resource approach discussed over the previous 2 WG sessions. The final red-lined notes are posted document *HomeworkAssignment-MarketOptimizationApproaches-EDAMWorkingGroup3-GreenhouseGasAccounting-Costs*.

Discussion topics included:

- Hurdle Rate should be as dynamic as possible to avoid gaming bidding strategies. Cannot be an output of the market
- Hurdle rate should incent clean resources to loads in GHG area(s), but also must be fair to resources inside the GHG zone. One concerning scenario offered: a battery outside the GHG zone could charge without a Hurdle rate but deliver to GHG zone and receive the Hurdle Rate. The Hurdle rate should mitigate this kind of shifts.
- The effectiveness of the Hurdle Rate, once more discussion and details are accomplished, needs to be compared to the effectiveness (and short-comings) of the resource specific approach.
- Marginal versus average costs as basis for Hurdle rate; using marginal costs may over-count the GHG contribution into the GHG zone.
- Included in the unspecified approach is the expectation that clean resources can always self-schedule their energy under a bilateral contract to attribute to the GHG zone.
- General comment that these discussions here in WG3 are having substantial cross-over to the topics being discussed in other WGs. CAISO notified that there will be a market notice soon to establish a cross-WG discussion in February

Conclusion:

The final red-lined notes are posted document *HomeworkAssignment-MarketOptimizationApproaches-EDAMWorkingGroup3-GreenhouseGasAccounting-Costs*.

Scope Items Discussed: Optimization

Presenters: Kevin Head

Discussion:

Kevin proposed to collect WG3 participants feedback on their top 3 questions on each of the basic approaches; (1) Resource Specific and (2) Unspecified resources. With this feedback, we can continue the detailed discussion on the optimization design to address the most pressing outstanding elements.

Conclusion:

The group accepted this homework assignment. Please submit homework responses to isostakeholderaffairs@caiso.com by close of business Feb. 10, 2021

Scope Items Discussed: Reporting

Presenters: Kevin Head

Discussion:

Kevin transitions the WG3 discussion from optimization elements to reporting, giving a brief overview of reporting elements, including:

- Relevant data that is generated by CAISO
- How E-Tags are used for various types of transactions
- Data used in compliance programs; CARB and other states programs

Conclusion:

This overview was very high level and was meant to kick off the discussion on Reporting over the next several WG sessions. No significant discussion was accomplished on this overview. Kevin laid out the next steps for WG3.