



California ISO

Extended Day Ahead Market
Working Group 3 Weekly Report

Week 6 Report
2/7/22 – 2/11/22

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?	
--	--

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, 2/13/2022
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

February 8

Scope Items Discussed: Working group bookkeeping

Presenters: Kevin Head

Discussion:

Kevin reminded participants that this week's Thursday meeting is cancelled, giving everyone opportunity to complete "homework" assignment and submit to CAISO on or before February 10. Working group 3 will return to the twice weekly format next week.

Kevin also announced that California Air Resources Board will be presenting to Working Group 3 next week, February 15, on the topic [Electricity Sector - Greenhouse Gas Accounting](#)

Scope Items Discussed: Reporting

Presenters: Dr. Vijay Satyal, Western Resource Advocates: [Greenhouse Gas Accounting in Regional Electricity Markets](#)

Discussion: Dr. Satyal presented on the objectives and key elements of a regional (western states) attribute-based GHG accounting framework. WRA is actively working on their goal to propose a framework (platform and protocols) to account for GHG emissions at a regional level, with 2022 deliverables including updating their white paper, factsheets, and other materials. The presentation covered details of "Consumption Based" and "Attribute Based" accounting. The presentation also covered some specific EDAM recommendations, including expansion of WREGIS to include REC and other generation attributes; referred to as "all-generation attributes tracking". More generally, two scenarios of accounting are presented; in-market or external to market accounting.

Discussion topics included:

- For the in-market accounting scenario, what constructs are there in current Western EIM (WEIM) to track emissions attributes? CAISO responded that the GHG bid adder does and can serve this function; where the elements of emissions rate can be directly submitted by the scheduler, or can be derived by the application based on specified resource definitions. It was commented that this in-market approach could provide benefit of enabling a load serving entity to control the level of high emission resources imported into their area, though the feasibility of such a mechanism is unclear.
- For the out-of-market accounting scenario, how would REC information (in a generation certificate) be associated to load, or GHG obligated party? The discussion on this further defined the elements of the challenge but no formal proposal was offered to perform this association. And also how would the cost of the REC include all components of actual cost, including station power.
- It was offered that the in-market approach does not necessarily require that RECID's and all attributes of the RECs be included in the market; the market would or could have all the

required resource attributes to meet the GHG optimization and scheduling elements, where alignment with actual REC's could be external to the market, including associating the REC's to load served (at a system level).

- It was also offered that, while there may be value of having a comprehensive REC accounting system (such as an expanded WREGIS), this is not directly related to the objectives of this EDAM WG objectives. Referring to the post-market accounting scenario (for resolving REC association to load served).
- There was a focused discussion on what role an expanded WREGIS could serve in this EDAM design context; focusing on the primary challenge of associating specific resources to load served (in the market), and rolling this up to the BAA level. Another challenge or requirement of this approach is to expand WREGIS to include all generating resources. Whether or not the expansion of WREGIS to track all generation, rather than just renewable energy, here would require a substantial "regulatory process" (WECC) was asked; and it was offered that perhaps this could be avoided, but more detailed design is needed to get more clarity on this question. The group acknowledged that while tracking the generation might be a relatively straightforward task, the tracking of the attributes of this generation (such as emissions intensity) might be more difficult and require a regulatory process.
- Kevin asked the group for initial feedback on the relative benefits of the two scenarios discussed; whether all-generation certificates tracking would be more suitable in-market versus out-of-market; Dr. Satyal offered that this question is related to the Resource-Specific versus Unspecified EDAM QG3 discussion topic, and his initial thoughts are that the Unspecified approach may be more compatible with the In-Market accounting option, but more detailed discussion is necessary to conclude this.
- Kevin also asked whether this would require involvement of all Western entities, including both CAISO, SPP, and other smaller entities that do not participate in organized wholesale markets. Dr. Satyal felt that it would be possible but agreed that coordination of data requirements would be required for the entities that use such a program.

Conclusion:

There appeared to be a consensus among comments offered for discussion, that (1) accounting for REC's is an important element of the regional market design, but (2) it is not necessarily a design component of EDAM and could be or should be an external (post market) accounting application (expanded WREGIS and other tracking systems). What remains unclear is whether either option for the EDAM market optimization design (Resource Specific or Unspecified) may be compatible with either of the options (in market or external) for REC accounting. These topics will be discussed in the Feb 15 meeting.

