Extended Day Ahead Market

Working Group 3 Weekly Report

Week 3 Report
1/17/22 – 1/21/22

Progress Tracker

Topic	Schedule
Accounting: GHG Compliance Area(s)	
Boundaries (State, GHG Compliance Areas, BAA, LSE, International?)	***In progress – 1/18/2022***
Implications for BAA spanning multiple states	***In progress – 1/18/2022***
Impacts to EIM	
Rules that need to be established for renewable resource dispatch in/out of a GHG zone	***In progress – 1/18/2022***
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	***In Progress 1/18/2022; 1/20/2022***
Transactions/jurisdictions; Generator emissions covered, Delivered emissions covered	
Determining emissions rate attribution with different participation options	***In Progress*** **1/13/2022**
Costs: Compliance	
How should GHG costs be calculated?	
How should GHG costs be reflected?	
How should GHG costs be reflected across GHG compliance areas?	***1/18/2022***
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**
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 18

Scope Items Discussed: Market Optimization
Presenters: Kevin Head (CAISO)
George Angelidis (CAISO) presentation: *Applying EIM Greenhouse Gas Regulation Model to Extended Day Ahead Market*

Discussion:

Discussion and Q&A following the presentation included:

- George responded to questions regarding inter-GHG zone transmission constraint relaxation (highly unlikely), ability of GHG emitting resource to elect not to be Deemed to CA (don't submit GHG bid), and how a fast-start resource could be committed (yes, and can be Deemed to GHG attribution)
- Discussion on how/why the economic displacement may result in EIM dispatch below base schedule resulting in some secondary dispatch
- Regarding opting-out of GHG market; very high emitting resources may opt-out. When they opt-in, what provisions are there to make them "whole"?
- Opting in may have an effect on a resources compliance/settlement with a regional REC.
- The optimization determines on merit order which resources are Deemed to CA GHG attribution; such can occur even with a GHG bid that is not incrementally dispatched above base schedule
- George clarified what limits currently apply to dispatches and GHG attributions. Some commented that this is not perfect, and EDAM should look for ways to increase accuracy/transparency
- GHG area definition need not be aligned with BAA; the optimization can handle independent area definitions. GHG areas should be non-over-lapping with respect to one another, but can be over-lapping with respect to BAA boundaries. It was offered that the most natural GHG area may be on State boundaries.
- Discussion on joint-owned units with owners conforming to multiple GHG jurisdictions. George clarified that the (EIM model) GHG attribution relies solely on its location, not owner(s)/scheduling coordinator(s). EDAM solution might be to have multiple bids from respective SC's for attribution to respective GHG areas.
- More generally, how would bids be structured to offer into multiple GHG areas? Both for (a) where the resource bids into an external GHG area and also its local (based on location) GHG area, and (b) bids into multiple GHG areas resulting in Transfers between 2 or more GHG areas. This topic needs more thought/discussion.
- How would virtual supply be treated in EDAM? GHG attribution would need to be based on dispatch for physical energy. Current IFM does not distinguish physical from virtual dispatch. Needs further discussion/thought.

- Leveraging the EIM optimization model; how would base schedules be derived for EDAM? One potential solution is to use the existing DA RUC 2nd-day look-ahead

Conclusion:
There was substantial comment and discussion on many of the most relevant EIM constructs for EDAM. It was not the objective of this session to close any particular design Scope Item, but rather to inform the stakeholders on key optimization/market design elements and identify some of the primary opportunities and challenges.

January 20

Scope Items Discussed: Market Optimization
Presenters: Kevin Head (CAISO)

Discussion: Kevin walked through the Design Objectives (WG-3 finalized last week) to capture the level consensus based on market optimization discussions from the previous WG sessions.

Design Objective #1 No inappropriate or unacceptable GHG impact in non-GHG zone

- While there was not substantial disagreement expressed regarding the current EIM market design, but as these market elements may be applied to EDAM, many participants offered concern that there are too many outstanding design topics to be discussed to effectively grade this Objective at this time.
- These unresolved topics included price formation clarity, impact of multiple GHG areas, and uncertainty on how existing and forming GHG regulations (Washington was cited) would be supported, linkage agreements, and LMP impacts.

Design Objective #2 Leakage should be minimized

- Common opinion expressed by participants was that this objective is somewhat to not satisfied, based on the level of discussion so far in the WG sessions.
- It was said that, while there is likely no perfect solution in this regard, the short-comings expressed by some participants in the review of existing EIM market should be avoided in EDAM.

Design Objective #4 Do not inadvertently undermine RPS and CES policies

- Similar to above #2, it was expressed by several that there is not enough clarity or detail established at this time on how EDAM would deal with the issues of (a) double counting, and (b) evaluation/compliance with individual state RPS policies.

Design Objective #5 Allow for market efficiency by accurately reflecting relevant including GHG compliance costs

- This topic only briefly covered
- One participant commented that this objective is not met

- Kevin asked if there are any others that disagree that this objective is not met, with zero replies.

Conclusion:
Due to time constraints, not all Design Objectives were addressed. Of those that were, very limited agreement was achieved that the market optimization discussions so far in WG-3 have satisfied the specific Design Objectives. The common theme among the items discussed is that it is premature (at this stage of the WG sessions) to meaningfully assess the EDAM market design against these objectives. Kevin captured many of the comments directly to the Design Objectives document.

Scope Items Discussed: Market Optimization
Presenters: Jeff Spires (Powerex) presentation: *Powerex Perspective on EDAM GHG Approach*

Discussion:
Jeff Spires walked through the presentation covering these primary topics:

- Resource-specific approach has challenges to accurately identify which specific resources serve which specific loads
- Imperfect mechanism with counter-intuitive results to "deem" energy that attributes to GHG area loads
- Consequences of inaccuracy (of GHG attribution) under a regional day-ahead market are much greater than EIM

Multiple scenarios were discussed, centered on the leakage and attribution accuracy question. Several participants commented that these limitations are known and must be further discussed in these EDAM workshops. It was suggested that neither the Resource Specific or Unspecified approaches provide inherent solutions to these challenges. CAISO commented that these limitations are known and there have been past on ongoing activities with stakeholders to address them.

Conclusion:
The known attribution and leakage challenges in the existing EIM are acknowledged to be a challenge as this model is considered to form the basis of EDAM. The Resource Specific versus Unspecified approaches are both still on the table for further discussion in these WG sessions.