

Consolidated Problem Statements

GHG Coordination Working Group

Definitions

The CAISO would like to offer the following definitions of certain key phrases/terms to simplify the process of defining problem statements. The CAISO recognizes that there may be some disagreements in the precise definitions. Understanding that, the CAISO believes that the definition of the problem statements is considerably simplified when the problem statements can leverage consistent definitions.

- Baseline: The MW quantity that CAISO's market software uses to determine capacity that can be attributed to serve demand in a GHG regulation area. In the currently effective WEIM market design, this baseline is the resource's base schedule. In the future under EDAM, this baseline will differ depending on which market is being discussed and whether the resource is participating in EDAM or only in the WEIM.
 - o For a resource that is participating in EDAM, the DAM baseline will be the schedule arising from the GHG counterfactual market run and the RTM baseline will be the difference between the DAM energy schedule from the IFM run and the DAM GHG schedule.
 - o For a resource that is participating only in the WEIM, the baselines will remain the resource's base schedule
- Secondary dispatch: the MW quantity below a resource's baseline that receives a GHG award.

I. Areas of further exploration:

Market Operation and GHG Design:

Stakeholders are seeking greater understanding of the current EDAM and WEIM GHG design in order to inform and refine future problem statements. Specific topics stakeholders would like to understand include:

- How does the EDAM and WEIM baseline/counterfactual work?
- How is attribution determined?
- Is attribution determined by the optimization or does it occur after the fact?
- What energy does the WEIM and EDAM consider to be eligible to be attributed to serve demand in a GHG regulation area?
- How much secondary dispatch is occurring both in the WEIM and EDAM?
- What is the associated cost of secondary dispatch?
- What tradeoffs occur between limiting secondary dispatch and the GHG costs in the WEIM and EDAM?
- Is there sufficient transparency in the total marginal GHG cost?
- Does the GHG cost in the market reflect actual cost of GHG to end use customers?

II. Problem Statements

Market Operations and GHG Design

1. **The optimization does not take the explicit cost of secondary dispatch into account, and therefore may not balance optimized attribution with constraints to limit secondary dispatch.**
2. **The current GHG design does not limit attribution to only capacity above the baseline which results in the potential for secondary dispatch.**
3. **Attribution is not scale-able because it creates the potential for secondary dispatch. This secondary dispatch could increase with market expansion.**

State coordination

4. **When there are multiple unlinked GHG regulation areas or different reporting requirements by different states, market participation may result in double counting, undercounting, or inconsistent counting of emissions. Variations of this issue include:**
 - a. Using both total WEIM transfer data and cost based accounting
 - b. Using both total WEIM attribution and systems to allocate generation and associated emissions to retail load (i.e., RECs)
 - c. Between unlinked jurisdictions if one area uses generation based accounting and another area uses load based accounting

Emissions Accounting and Reporting

5. **The ISO does not provide all metrics desired by market participants.** This includes:
 - a. Demonstration of the impact of the market on decarbonization and renewable curtailment.
 - b. Information is lacking to LSEs in jurisdictions with non-priced emissions reduction policies to fulfill reporting obligations with state policy such as market imports to serve load. This could undermine efforts to decarbonize as the unspecified emissions rate used by states with an absolute reduction program fails to reflect the accuracy of generation and consumption at a local level.

Beyond Price-based GHG policy

6. **There is not a market mechanism in states with a declining cap on emissions for:**
 - a. Utilities to ensure load is served by generation and wholesale market transfers that meet those emission reduction targets
 - b. Utilities to offer generation to the market on a portfolio basis (regardless of point of consumption) that meets the state's emissions target over a given time period
 - c. Reflecting both the declining cap and a price on carbon in the market for states that have both requirements.

Reflects consolidated problem statements 6-8 discussed during the November 27, 2023 GHG Coordination working group: <http://www.caiso.com/InitiativeDocuments/Presentation-GHGCoordination-Nov27-2023.pdf>