

April 15, 2025 VIA ELECTRONIC SUBMISSION
Attention: Camille Sultana, Rulemaking Lead
Washington Department of Ecology
Department of Ecology Air Quality Program
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RE: March 6, 2025, Cap-and-Invest Electricity Forum: Electricity Imports and Centralized Electricity Markets

The California Independent System Operator Corporation (ISO) submits these comments in response to questions from the Washington Department of Ecology's (Ecology) March 6, 2025, Cap-and-Invest Electricity Forum on Electricity Imports and Centralized Electricity Markets. The ISO's comments offer suggestions for when GHG attribution data, e-tag data, or market data would be helpful.

Role of GHG Attribution Data and E-Tags

Balancing authorities (BAs) in Washington's footprint participate in the ISO's markets in different ways. BAs in the ISO's Extended Day Ahead Market (EDAM), which goes live in May 2026, will economically participate in both the day-ahead and real-time markets, while Western Energy Imbalance Market (WEIM)-only BAs only economically participate in the real-time market. Both the EDAM and WEIM markets optimize dispatch across a regional footprint, which can result in net energy transfers between BAs. Net energy transfers are not resource specific so in order to comply with GHG regulations that require resource-specific reporting, regulators can consider two separate and distinct approaches to collecting information on transfers: GHG attribution and e-tags.

The CAISO's **GHG attribution mechanism** is a market-based allocation of net market transfers¹ into a GHG regulated area to the MW output of specific market resources. The market design in EDAM and the WEIM will allow resources to reflect their compliance costs with state carbon-pricing policies. Regulated resources in Washington reflect compliance costs in their bids, and resources outside of the regulated area can opt-in to serve load in the GHG area with a carbon-pricing program by reflecting a GHG bid adder in addition to their energy bid. When there are net imports into the GHG area, the market optimally allocates the net imports to specific external resources that

¹ A net market transfer, instructed by the market, can otherwise be understood as transferring the responsibility of meeting demand to the market (not to a specific resource or participating entity).

submitted bids with a GHG bid adder so that total supply meeting load is similarly regulated and accounted for.²

Gross flows in and out of a BA are associated with **e-tags**. An e-tag describes the transmission path, across one or more transmission providers and balancing areas. For e-tags associated with market transfers a specific resource is not identified. WEIM-only participants use two separate sets of e-tags for base transfers and market transfers.³ When associated with base transfers, e-tags ensure the deliverability of a WEIM entity's base schedule⁴, effectively their day-ahead operating plan. When associated with market transfers, e-tags support multiple reliability functions for the EDAM and WEIM, such as ensuring deliverability for reliability requirements, allowing the purchasing selling entity (PSE)⁵/scheduling coordinator (SC)⁶ to claim transmission rights, and giving prioritization to physical transmission owners.

For market transfers, an e-tag is used to reserve transmission and then updated to reflect that there is a market award that needs to use that reserved transmission. While neither WEIM nor EDAM consider e-tags in market dispatch, a PSE or SC must adjust their e-tag based on the market award (*i.e.*, for energy or ancillary service awards). An e-tag can be validated against a resource with an energy award and a GHG award, however, the e-tag itself does not consider or reflect GHG awards.

Using both approaches, GHG attribution data and e-tags as the basis for GHG compliance obligation, at the same time introduces a risk of double counting where the same MW output of a resource is counted twice. Instead, these approaches are useful in different circumstances. The following formula, "Net Imports to Washington minus GHG Attribution to Washington" can help denote when e-tag data might be useful. Anytime the result of this formula is positive, there are MWhs being transferred to Washington (not through the market). This will be relevant for day ahead operating plan transfers for entities participating in the WEIM and for transfers to EDAM or WEIM entities from outside of the EDAM or WEIM market. Using this formula as a framework will help ensure that electricity imported via a Centralized Electricity Market will not be "double counted" due to creation of e-tags on market transfers.

² See the GHG design section (pgs. 94-110) of the EDAM Final Proposal for a complete overview of the GHG design. <https://stakeholdercenter.caiso.com/InitiativeDocuments/FinalProposal-ExtendedDay-AheadMarket.pdf>

³ A base transfer is not optimized by the market and is used by a WEIM-only BA to meet their capacity requirements prior to real time. A market transfer is a transfer optimized by the market.

⁴ WEIM only BAs submit base schedules that meet capacity requirements for their BA's forecasted day-ahead operating needs. WEIM BAs can meet their capacity requirements with native supply in addition to base transfers which are bilateral agreements between BAs. EDAM participating BAs do not have base schedules because the day-ahead market optimizes operating needs.

⁵ A PSE is the NERC definition of the entity responsible for creating and managing e-tags. An SC identifies, and communicates with, a PSE for the physical supply associated with an import transfer schedule. The ISO may not have market details on the PSE or the resources they represent.

⁶ A SC is responsible for managing inertia transfer schedules and associated e-tags. Because SCs are tariff-defined market participants, the ISO has information about SCs including the resources and load associated with the SC.

Below we offer three examples which highlight when e-tag, attribution, or market data is needed to identify a compliance obligation for a resource importing into Washington's GHG Regulation Area: 1) prior to real time for a WEIM entity 2) real time for a WEIM entity 3) a pseudo-tied resource.

Example 1: WEIM Entity prior to real-time: Transfer data from e-tag data

Prior to the real-time market, a WEIM entity could schedule gross base transfers both in the import and export direction to meet their load of 200 MW. In this example, internal supply is 100MW, gross exports are 50MW, and gross imports are 150MW. The WEIM does not optimize these transfers and no attribution occurs. The difference between net imports to Washington and GHG attribution to Washington is 150MW. In this case, base transfer e-tag data may be useful to understand anticipated imports and because there is no attribution there is no risk of double counting.⁷

Example 2: WEIM Entity in real time: Transfer data matches attribution data

Extending this example to real time, the market will optimally meet deviations from the WEIM entity's base schedule. If this WEIM entity has an increase in real time load by 10 MW it can be served with either supply in the balancing area or through an incremental imbalance energy transfer optimized by the WEIM. If the change in load is served by a 10 MW import to the balancing area it would have a 10 MW of attribution and 10 MW associated with an e-tag. In this case, using the formula of the difference between real time net imports to Washington (10 MW) and GHG attribution to Washington (10 MW) would net to zero indicating that using both attribution data and e-tag data risks double counting.

Example 3: WEIM Entity in Real Time with a Pseudo-tied resource

A pseudo tied⁸ resource in the context of GHG accounting, is a resource that is physically outside of the GHG Regulation Area but is modeled and managed by the balancing authority inside the GHG Regulation area. If a resource pseudo-tied to Washington is incrementally dispatched to 10MW in real-time, an e-tag would be created for the 10MW transfer but it would not be considered a net import because internal load is met with 'internal' supply, i.e., the pseudo tied resource.

In this case, there are no net market transfers and therefore no GHG attribution. Using the formula of the difference between real time net imports to Washington (0 MW) and

⁷ However, there may be differences between the base schedule and real-time dispatch, and e-tags on base transfers do not get updated in real-time. Instead, real-time market transfers are associated with a separate set of e-tags. E-tags for base transfers and real-time transfers should be considered separately.

⁸ Unlike other types of interchanges, a pseudo tie is necessarily resource-specific because the pseudo-tied generator is permanently associated with a particular, pre-determined BA intertie.

GHG attribution to Washington (0 MW) net to zero. Counting the e-tag for this resource would double count because the capacity would already be captured in market data as serving Washington load.

The ISO appreciates Ecology's efforts in the Electricity Forum and responsiveness to stakeholder feedback.

Sincerely,

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