



Greenhouse Gas Emission Tracking Report

FAQs

Dec. 28, 2016

During a July 2016 public stakeholder meeting on greenhouse gas (GHG) emissions related to regional market integration, the California Independent System Operator (ISO) made a commitment to track GHG emissions from resources serving the California grid and help inform stakeholders discussing the potential for a regional ISO.

The ISO released a draft tracking report, FAQ and preliminary methodology paper on Nov. 7, 2016 followed by a public conference call for stakeholder input on the documents on Nov. 14, 2016.

Based on input from stakeholders, the ISO recognized that although it has visibility over operations within its balancing authority area, the ISO cannot fully see all the interplay that would have occurred among other electric systems. The EIM is a real-time market to buy and sell power for dispatch within five minutes of consumption. The dynamic transfers that occur through the EIM do not allow the ISO to gauge what resources would have been used and emissions levels that may have occurred without the EIM.

The level of market visibility in the ISO provides more accurate tracking of emissions in the ISO footprint. The ISO has finalized the California reports and will post them monthly on its website. In the meantime, the ISO will continue the process to design an enhanced EIM GHG accounting that can provide the needed information for a more accurate methodology to track GHG emissions related to serving ISO load using the EIM.

1. Why is the draft GHG report not accurately representing the total emission effect of the EIM?

The ISO's preliminary methodology uses a counterfactual analysis to create a dispatch model without EIM in order to assess the greenhouse gas emission reduction benefit arising from the EIM dispatch. This approach does not assess whether dispatches of the EIM's participating resources and associated GHG emissions would have occurred without the EIM. To the contrary, the ISO's simplified approach quantifies greenhouse gas emissions of any real-time transfers as arising solely from use of the EIM. However, transfers of energy would have occurred in western energy markets without the EIM, and the ISO's counterfactual analysis does not reflect that.



Furthermore, the counterfactual analysis cannot determine if the emissions observed are a result of optimized transfers between balancing authority areas outside of California or transfers from those areas to serve load in the ISO in California.

2. Does the methodology used for tracking EIM emission reductions demonstrate that EIM is increasing greenhouse gas emissions in order to serve load in California?

The ISO's preliminary methodology used to track greenhouse gas emissions does not demonstrate that the EIM transfers to serve load in California have increased greenhouse emissions. The EIM is an optimization tool that allows participating balancing authorities in the West to dynamically transfer energy across interties using a 5-minute market dispatch. As such, there are on-going economic dispatches of resources between non-California EIM entities not related to serving California load. The EIM emissions reduction graph¹ does not sufficiently assess whether these inter-EIM area transfers external to California would have economically occurred regardless of the load served in the California using EIM. As more renewable resources reach commercial application, the ISO anticipates the EIM will allow these resources to displace conventional, GHG emitting resources.

3. How and when does the ISO intend to develop a methodology that more accurately tracks the emission impact of the EIM?

The ISO is examining refinements to how it attributes transfers (and associated emissions) to the ISO from the EIM's participating resources and address concerns that the current dispatch may not accurately capture secondary emissions associated with an EIM transfer to serve California load. The ISO proposes to run its least-cost dispatch optimization in two steps. First, the ISO will identify the least-cost dispatch of resources to serve EIM load without transfers to serve California load. This step will determine a resource's economic schedule to serve EIM entity loads outside California. Second, the ISO will run its least-cost dispatch optimization again, allowing for transfers to serve California load. In the second run, the ISO will attribute the resources that can serve California load to those resources dispatched above the dispatch level calculated in the first run. This methodology will better attribute and differentiate which EIM participating resources are operating to serve California load. The ISO plans to explore how it can expedite the implementation of this enhancement. Once implemented, the ISO anticipates it will be possible to more accurately assess the overall greenhouse gas emission impacts of serving load in California using the EIM.

¹ Figure 2, <http://www.caiso.com/Documents/DraftGreenhouseGasEmissionsTrackingReport.pdf>



California ISO

4. What other methods does the ISO use to compute the GHG impacts of the EIM and why do their results differ from those shown in the Draft GHG tracking Report?

Since the beginning of the western EIM, the ISO has prepared a Quarterly Benefits report. Based on feedback, the ISO enhanced the first quarterly report of 2015 to quantify the amount of avoided renewable energy curtailment in California realized through the use of the EIM. The EIM Quarterly Report estimates the amount of greenhouse gas emission reductions based on the fact that the ISO can transfer avoided renewable output to external balancing authority areas using 5-minute dynamic transfers. This output displaces production from external conventional resources. The ISO calculates an estimated GHG reduction by using an emission rate equal to the established unspecified source emission rate set forth in the California Air Resource.