

Stakeholder Comments Template

Regional Integration California Greenhouse Gas Compliance and EIM Greenhouse Gas Enhancement Workshop (December 1) and Straw Proposal

Submitted by	Company	Date Submitted
Dave Barker (858-654-1865) Greg Anderson (858) 654-1717	SDG&E	12/15/2016

Comments:

San Diego Gas & Electric (“SDG&E”) respectfully submits the following comments in response to the California Independent System Operator’s (“CAISO”) request for stakeholder input on its Regional Integration California Greenhouse Gas (“GHG”) Compliance and Energy Imbalance Market (“EIM”) GHG Enhancement Workshop (“Workshop”) on December 1, 2016 and the associated CAISO Straw Proposal (“Straw Proposal”) issued November 17, 2016. SDG&E is supportive of the EIM and the CAISO expansion from the perspective that efficient markets should reduce GHG emissions overall through more effective integration of renewables. Reduction of renewable curtailments in California, reducing the magnitude of morning and afternoon ramps, and less use of higher emitting combustion turbines are potential GHG emission reduction benefits of the EIM and the CAISO expansion.

In the Straw Proposal and Workshop, CAISO indicated it is pursuing Option 2, which SDG&E submits is a complicated approach to implement in the 5-minute interval. SDG&E encourages the CAISO to seek guidance on AB 32 and SB 32 from the California Legislature before undertaking the complex commitment in developing this method. The ARB Staff has an interpretation of AB 32 and SB 32 that is inconsistent and out of step with the counterfactual analysis for GHG accounting. Specifically, ARB appears unwilling to recognize that GHG emission reductions from added renewables are beneficial to California regardless of where the energy is consumed despite the fact that GHG is global in its effect. It is important to note that the studies relied on by the Governor and Legislature in adopting SB 32 used the counterfactual analysis, and the same approach is used by the CAISO in its SB 350 studies. Moreover, ARB, in approving linkages to other jurisdictions and offsets, implicitly recognized the benefits of GHG

emission reductions regardless of location, but rejects those very same benefits with respect to renewable energy production.¹

SDG&E believes that maintaining the status quo and performing the counterfactual analysis should be the interim approach used by CAISO. Additional monitoring and studying using the counterfactual approach to GHG emission reduction measurements to determine regional GHG impacts should be done before any complicated long-term solution is adopted. As the recent CAISO study shows, the EIM has resulted in significant GHG emission reduction across the market footprint, demonstrating that the EIM has a beneficial impact on California's environment.² The results from the additional monitoring and study will help to inform the CAISO, ARB, and the Legislature whether a change is actually needed from the current approach used in the EIM to account for GHG impacts.

Thus, as a long-term solution for the EIM market, it is not clear that Option 2 will result in eliminating the secondary emissions in an expanded CAISO day-ahead market. It would be imprudent to add the amount of complexity involved in Option 2 if it does not deliver the intended environmental benefits.

The CAISO Should Keep the Status Quo While Seeking Legislative Clarification Via Legal Opinion

GHG accounting has become an increasingly important issue because it is through these accounting methods that the State will measure progress towards achieving the SB 32 goals. If a GHG emission reduction method is mandated, but not counted in GHG accounting, the investment made by California's citizens will not be accurately reflected and accounted for. GHG accounting methods within ARB should be aligned across the ARB's GHG inventory and the cap-and-trade program. Further, they should be aligned within the cap-and-trade program so that all real GHG emission reductions paid for by California entities, regardless of location, are considered a reduction in the California GHG inventory.

Without the proper treatment of GHG emissions, the CAISO should be hesitant to propose a solution that may have a potentially large electricity market impact. As demonstrated in the recent CAISO counterfactual study, the EIM has resulted in GHG emission reductions across its market footprint during the first six months of 2016 using the current counterfactual GHG accounting framework.

ARB takes account of emission reductions under its cap-and-trade program from out-of-state offsets, out-of-state RPS resources that cannot meet the specified resource definition, and from

¹ The 2030 GHG studies were presented California Climate Policy Modeling Dialogue, UC Davis, February 23, 2015. The studies include Greg Brinkman and Jennie Jorgenson, "2030 CA Low Carbon Grid Study;" E3, "California PATHWAYS: GHG Scenario Results;" Christopher Yang, "Analyzing California's GHG Reduction Paths using CA-TIMES Energy System Model;" and Jeffery B. Greenblatt, "Modeling California policy impacts on Greenhouse Gas Emissions." CAISO study prepared by Brattle, E3, Aspen, and BEAR, "Senate Bill 350 Study The Impacts of a Regional ISO-Operated Power Market on California."

² http://www.caiso.com/Documents/EIMGreenhouseGasCounter-FactualComparison-PreliminaryResults_Jan-Jun_2016_.pdf

emission reductions in Quebec irrespective of whether the GHG emission reductions do not occur in California. The disconnect between GHG accounting across ARB's GHG inventory and cap-and-trade program creates uncertainty undermining the advancement of GHG emission reduction investments. It is simply a strained interpretation by ARB Staff that the counterfactual analysis does not comply with AB 32 and SB 32.

The benefit of the GHG emission reductions from the EIM in the West should be recognized as GHG reductions attributable to California as is done in the counterfactual analysis. Legislators who adopted SB 350 expected that the Renewable Portfolio Standards (RPS) would reduce GHG emissions. In ARB's GHG accounting approach, in many cases, RPS energy is not included.³ The global concentration of greenhouse gases is reduced by renewable production, even if exported, and the GHG accounting framework should properly recognize such reductions just as ARB has proposed to recognize increases in GHG from "secondary dispatch." Rather than accept the ARB Staff's opinion regarding GHG accounting under AB32 and SB 32, the CAISO should pursue legislative clarification via legal opinion that the CAISO's current counterfactual approach to GHG accounting is correct.

The CAISO Should Keep the Status Quo Since the Existing EIM GHG Attribution Methodology Is Consistent with ARB's current GHG attribution method for Bilateral Contracts with Existing non-RPS Resources Dispatched in the Day-ahead Market

ARB Staff rightly states that the CAISO's EIM creates a secondary emissions effect, "Clean resources with a lower deemed-delivery bid price are selected for deemed-delivery to California, while higher-emitting power plants with a higher deemed-delivery bid may be the actual plants dispatching to serve California load." This is not a new discovery; the ARB has had to deal with this issue in the current day-ahead market. To address this issue, ARB adopted, as part of the cap-and-trade regulation, an unspecified emissions default factor for most imports and detailed resource shuffling provisions.

However, due to concerns about the dormant commerce clause ARB Staff, , assign a zero GHG compliance obligation to imported power with e-tags that indicate the energy was generated from out-of-state resources with no emissions.⁴ ARB gives no consideration to the fact that this contracted-for power with an existing non-RPS zero emission resource might be creating "secondary emissions" given The existing resource was originally serving local load, and now with a new contract is serving California load and is likely being backfilled by a fossil resource. Out-of-state existing zero GHG resources that were not built to serve California load (unlike RPS resources) and did not serve California prior to AB 32 will have the same secondary emissions impact under the current EIM structure. The CAISO should retain the current GHG structure under the EIM until the ARB treatment of existing zero-GHG contracts in the day-ahead market is consistent with the EIM market.

³ Under ARB's GHG accounting, there is no GHG difference between exporting renewable power and curtailing renewable power. In the ARB GHG inventory, out-of-state RPS renewables have no GHG reduction value for California unless it is a specified import and offsets have no GHG reduction value.

⁴ Most market participants disagree with ARB's interpretation with regard to RPS resources. The regulation currently says RECs also need to be provided to claim the zero GHG attribute, but ARB Staff disagrees with that requirement.

CAISO modeling determines imported EIM energy by selecting the lowest cost out-of-state electricity willing to be “deemed delivered” to California and it then receives a cap-and-trade compliance obligation. The current EIM market is consistent with ARB’s treatment of the power contracted for in the bilateral market and dispatched in the day-ahead market. There should be no change in the EIM market until Option 2, if it is determined that it is necessary, can be equally implemented in the day-ahead market.

Option 2 May Not Solve the Problem

While Option 2 offers what appears to be an analytically precise way to address “carbon leakage,” SDG&E is still concerned that this approach is based on a “first pass” which contemplates a market condition which does not in fact exist, i.e., a market condition where a load-resource balance in the non-California regions of the EIM is achieved through the use of only non-California bids and schedules. Basing a calculation of market dispatch on a condition which does not exist, raises questions as to whether the result is meaningful.

The hypothetical first pass result hinges on the bid prices of the dispatchable renewables compared to bid prices of fossil generation without regard to GHG prices. If the renewable bid price is lower than the fossil generation without GHG adder, it is deemed dispatched in the first pass and not available to California. If the renewable bid price is higher than the fossil generation without the GHG adder, the fossil generation is dispatched in the first pass and the renewable is available to California.

As the CAISO has noted, it does not mitigate bids at scheduling intertie points, so that dispatchable renewables can bid a price disconnected from its marginal cost. The dispatchable renewable can bid higher than the fossil generation without the GHG adder in the EIM market and consistently get dispatched to California. While transmission constraints may make this pricing more difficult to predict in the real hypothetical world of the first pass; one would expect over time, dispatchable renewables should be able to develop a bidding strategy to consistently get dispatched to the higher priced California market. The net result is that the outcome of the two pass solution would look like the current EIM solution with regard to transfers without any “secondary emissions.”

The question about the reality of the two pass solution becomes even more important if the two-pass approach is applied at the day-ahead level to an expanded ISO. Because most unit commitment decisions get made at the day-ahead stage, the first-pass becomes critical in establishing the baseline level of carbon emissions against which the carbon emissions attributable to California loads will be calculated. If the first pass unit commitment decisions that get made assume a market environment that is materially divorced from reality (i.e., where the schedules and bids of out-of-state resources under contract to deliver to California are simply treated like all other zero GHG out-of-state resources), the results may commit the non-California resources with relatively low emission profiles to serving the local areas and the second pass will produce an a substantially larger amount of carbon emissions assigned to California transfers.

The CAISO recognized this problem and devoted section 6.1 of the Straw Proposal to address this issue. The approach used by the CAISO seems reasonable; assign a California GHG regime

tag to out-of-state resources that have a contract with a California LSE and that those resources are not available in the first pass to serve out-of-California load. The problem is that existing non-RPS zero-GHG resources would have historically served the out-of-state load can now be part of the California GHG regime because of a contract. It is likely to be backfilled by an existing fossil resource, but would not show up as being backfilled. Unless the only contracting eligible to be considered in the California regime is restricted to RPS resources (and other newly built generation), or contracts related to resources (out-of-state coal, hydro, and nuclear) historically serving California load (prior to 2010), the two-pass solution will still lead to “secondary emissions.”