

Environmental Justice Parties' Comments

Subject: Comments on Greenhouse Gas Accounting in an Integrated Market

Submitted by	Company	Date Submitted
Deborah Behles, Consultant (415) 841-3304 Shana Lazerow, Staff Attorney (510) 302-0430 x 18 Stephanie Chen, Energy & Telecommunications Policy Director (510) 898-0506	California Environmental Justice Alliance, Asian Pacific Environmental Network, Communities for a Better Environment, The Greenlining Institute.	October 27, 2016

The California Environmental Justice Alliance, Asian Pacific Environmental Network, Communities for a Better Environment and The Greenlining Institute (hereinafter “Environmental Justice Parties”) respectfully submit these comments to the California Independent System Operator (“CAISO”) as part of the stakeholder process to consider greenhouse gas (“GHG”) compliance issues in an integrated energy market. These comments request CAISO to analyze the impact potential GHG compliance options in the Energy Imbalance Market (“EIM”) have on air quality. To date, CAISO has not examined the impact its proposed approaches for addressing secondary dispatch will have on emissions of fine particulate matter (“PM_{2.5}”), sulfur dioxide (“SO₂”), and nitrogen oxides (“NO_x”). CAISO’s eventual policy related to GHGs will likely impact these emissions, and therefore these impacts should be evaluated and considered as part of this process.

In addition, the Environmental Justice Parties support the Public Interest Organizations’ Comments requesting CAISO to further develop and refine GHG secondary dispatch, replicability, and system sophistication elements.

(1) The EIM’s Treatment of GHGs Can Impact Emissions.

When constructing the Energy Imbalance Market, CAISO created a GHG adder mechanism to allow for out-of-state resources to be dispatched at a higher price if the energy is sold in California to account for the energy’s GHG compliance obligation. This process, however, has not been proven to work as intended. The California Air Resources Board (“CARB”) has stated that: “EIM optimization results may not in all cases report full GHG burden experienced by the atmosphere as a consequence of electricity consumed in CA.”¹ As CAISO has further described,

¹ CARB Presentation, Mandatory GHG Reporting and Cap-and-Trade Program Workshop, Slide 9 (June 24, 2016), *available at*

“[I]east cost dispatch can have [the] effect of sending low emitting resources to ISO, while not accounting for secondary dispatch of other resource[s] to serve external demand.”² As these statements show, CAISO’s treatment of GHGs in the EIM can impact dispatch decisions and air emissions.

In this current stakeholder process, CAISO is examining multiple potential ways to address issues associated with secondary dispatch. Depending on what method CAISO chooses, dispatch of resources may also change. Illustrating this point, one of CAISO’s examples from its October 13, 2016 presentation shows 200 MW of dispatched generation is shifted from one generator to another generator.³ These types of dispatch changes can have real impacts on air emissions that should be evaluated.

(2) The SB 350 Studies Show that Changes in Regional Markets Could Increase Harmful Air Emissions.

In response to a question during the presentation on October 13, 2016, CAISO indicated that there may not be a need to study air emissions in this process because the SB 350 studies show air emissions decreasing due to regionalization. Although some SB 350 scenarios do indicate overall decreases in emissions, some sensitivities and scenarios illustrate regionalization increasing harmful air emissions.⁴

For example, the SB 350 studies modeling for 2020 shows that the two areas in the State with the worst air quality – San Joaquin and South Coast⁵ – could experience increases in SO₂ and PM_{2.5} due to limited regionalization.⁶ Other scenarios and sensitivities also show increases in emissions in several air basins due to regionalization.⁷

The SB 350 studies also show state-wide and WECC-wide increases in emissions could occur as a result of regionalization. For instance, the sensitivity not assuming the additional 5,000 MW of out-of-state beyond RPS generation shows the following increases in 2030 as compared to the base case:

http://www.arb.ca.gov/cc/capandtrade/meetings/062416/arb_and_caiso_staff_presentations_updated.pdf

² CAISO GHG Regionalization Presentation, Slide 6 (October 13, 2016).

³ CAISO GHG Regionalization Presentation, Slide 22 (October 13, 2016)

⁴ All of the scenarios show increases at particular units and facilities. See Aspen AQ Data, available at

<https://www.caiso.com/informed/Pages/RegionalEnergyMarket/BenefitsofaRegionalEnergyMarket.aspx>.

⁵ The San Joaquin Valley and the South Coast Air Basins are designated as being in extreme nonattainment for Ozone. See CAISO May 25 Presentation, SB 350 Preliminary Results, at Slide 119, https://www.caiso.com/Documents/Presentation-May25_2016-SenateBill350Study-PreliminaryResults.pdf.

⁶ See CAISO Regionalization SB 350 Study, V9, p. 108.

⁷ See CAISO Regionalization SB 350 Study, V9, pp. 108, 110, 111, 112, 122-24 (showing increases in particular regions throughout the state for several scenarios and sensitivities).

- State-wide increase in PM_{2.5};⁸
- State-wide increase in SO₂;⁹
- An Out-of-State WECC-Wide increase in NO_x;¹⁰
- An Out-of-State WECC-Wide increase in SO₂.

Therefore, CAISO should not rely on its SB 350 studies to determine whether its GHG accounting will impact air quality emissions. To understand the full impact of CAISO's proposed options for GHG accounting, an evaluation of air quality should be done.

(3) A Separate Evaluation of Air Quality Should Be Done.

Air quality emissions generally need to be calculated separately from GHGs, which is based on fuel usage, because of the changing efficiency of pollution control equipment. When a fossil fuel generator is starting, stopping, or operating at partial load, the emission rates are generally higher. For example, in the SB 350 Studies, the NO_x rate of a combined cycle facility at steady state was assumed to be 0.07 lb/MWH while the NO_x due to starts was assumed to be 0.53 lb/MW.¹¹ As those studies describe, WECC-wide "combined cycle natural gas-fired units emit about as much NO_x during a startup as approximately 7 hours of full-load operation."¹² The study also noted that "part load [NO_x emission] penalties may be around 30% and ramping penalties are less than 10%."¹³

For all of these reasons, the Environmental Justice Parties request that CAISO conduct a separate air quality evaluation to evaluate the impact a change in GHG policy will have on emissions.

Thank you for consideration of these comments.

⁸ See CAISO Regionalization SB 350 Study, V9, p. 123.

⁹ See CAISO Regionalization SB 350 Study, V9, pp. 123-124.

¹⁰ The WECC-Wide values were provided in CAISO's May 2016 presentation. See CAISO 350 Studies Preliminary Results, Slide 132, *available at* https://www.caiso.com/Documents/Presentation-May25_2016-SenateBill350Study-PreliminaryResults.pdf.

¹¹ See CAISO SB 350 Studies, Volume 9, pg. 98, Table 4.4-2.

¹² CAISO SB 350 Studies, Volume 9, pg. 99.

¹³ CAISO SB 350 Studies, Volume 9, pg. 99.