Comments received on Methodology for Time-Shifted Electricity Consumption Targeting Less Carbon-Intensive Generation

This comment was received via email by VCS.

Submitted by: Stakeholder

Organization: Omitted

Country: United States

1. Is there a minimum load required for a project, or aggregation of projects, to be eligible to generate an offset for this methodology? Stated another way, is there a project-driven change in energy consumption threshold, distinct from other BAU grid system factors, under which the impact to the electric grid is *de minimis* and no actual change occurs at the marginal generation unit? If so, will this methodology require that projects meet or exceed on an individual or aggregate basis that energy consumption threshold for any time-interval in which an avoided emission claim is made due to time-shifting consumption?

2. Projects located in regions where emissions from the electricity sector are capped or otherwise regulated (e.g. California and Regional Greenhouse Gas Initiative (RGGI) states) should not be eligible to use this methodology to generate offsets. Any activity that reduces generation and emissions at regulated emitting sources, including renewable energy (RE), energy efficiency (EE), and time-shifted consumption, will by law not result in a change to emissions levels within the capped region or at the regulated plant (depending on whether the cap is sector wide or for individual plants), since the level of emissions is determined by the cap. Emissions reductions from these activities can simply be replaced by emissions up to the level of the cap—they free up room under the cap for more emissions.
    a. In section "8.3 Leakage" it states "No leakage emissions are considered under this methodology". Given the interconnected nature of the RGGI footprint with ISO-NE, NY ISO, and PJM grids and that they containing both RGGI and non-RGGI load, is there in fact actually a potential for leakage?

3. Limited quality criteria is presented in the methodology proposal for the Carbon Advisory Service. How were the stated quality criteria determined to be exhaustive and sufficient?
    a. The proposed methodology states "one company known to be able to qualify as a carbon advisory service (WattTime)". This does not appear to be true, please see:
        i. https://icetec.com/how-it-works/
        ii. http://www.caiso.com/TodaysOutlook/Pages/emissions.aspx
        iii. https://www.iso-ne.com/committees/planning/environmental-advisory/
            1. Documents for the 2015 and 2016 "Marginal Real-time CO2 Emission Rate". This is not currently a Real-Time service, but ISO-NE has indicated interest in providing such publically data in real time.
    b. Will the methodology by which any Carbon Advisory Service meets the quality criteria for this methodology be made public?
    c. Once a Carbon Advisory Service is deemed to satisfy the quality criteria, will it forever be considered to satisfy the quality criteria? If new, or significantly improved validation data sets become available, would that trigger a reassessment of the Carbon Advisory Service's qualification? How will this be monitored?

4. Option 2 for determining the operating margin (pg. 13-14, Sec. 8.1), using a validated model of grid's operating margin, includes criteria for model selection, fit and validation against historical data. *Inter alia*, it states that, once validated, the regression model may be applied to different grids, as long as the same covariates to the model are available at the same temporal frequency as the validation data set.
    a. This is potentially a very significant problem. Different RTO/ISO have fundamentally different operating models. Simply because the same covariates to the model are available to the same temporal frequency as the validation data set, it does not appear true that a model will accurate predict marginal dispatch across all RTOs/ISOs. Validation should be required for each ISO/RTO grid region.
    b. If validation on one grid region is sufficient to subsequently apply the model to other grids, we respectfully request more information on the circumstances under which models may be applied to different grids, and an explanation as to why this should be permitted under these circumstances.
    c. Within Section 8.1, *Determining the Operating Margin ($OM_{BL,y}$), Option 2: Validated Model of a Grid's Operating Margin*, item 4, it states:
        i. *If run against the validation data set, the regression model will produce marginal emissions estimates with a root mean squared error of less than 1 percent of the average marginal emissions value over the entire validation data set.*

        We request that VCS, the project proponent, and/or other qualified peer review group conduct such analysis between the ISO-NE published marginal emissions[1] and the WattTime marginal emissions data. A similar process should be required for any other ISO/RTO region with published marginal emission rate data.
    d. If the ISO-NE marginal emissions data set is not considered the "validation data set" for this grid region and time window, why? Similarly, if it is not a "validation data set", what is? If no validation data set exists and only the carbon advisory service model data set is available, we respectfully submit that *Option 2: Validated Model of a Grid's Operating Margin* be made unavailable for the proposed methodology at this time.

5. Section 4, Applicability Conditions states:
    a. *The project activity uses a carbon advisory service that meets the following requirements:*
    …
    b) Use of a regression model in compliance with the model requirements in Section 4.1.6 of the VCS Standard, v3.7, validated against historical data.

    And Section 4.1.6 of the VCS Standard, v3.7, states:

    b. *4.1.6 Where methodologies mandate the use of specific models to simulate processes that generate GHG emissions (i.e., the project proponent is not permitted to use other models), the following applies, given the note below: 3) Models shall have been appropriately reviewed and tested (e.g., ground-truthed using empirical data or results compared against results of similar models) by a recognized, competent organization, or an appropriate peer review group.*

    Has the model proposed in this methodology undergone such appropriate review and testing, and if so, will the organization or peer review group process be made publically available?

6. On pg. 22 (Appendix A) of the proposed methodology, WattTime provides evidence of the lack of commercial activity for this project type. We respectively request that VCS review this claim against the commercially available product "Icetec" (https://icetec.com/how-it-works/). In reviewing the product website, it appears that they do provide a carbon advisory service, have been for some time, and are advertising collaboration with several large and well-known commercial organizations Universities using this signal to consider marginal emissions.

[1] 2016 Marginal Real-time CO2 Emission Rate (External ad-hoc request for market data, showing average marginal CO2 emissions rate (lb/MWh), for 2016 in 5 minute intervals.) available from https://www.iso-ne.com/static-assets/documents/2018/04/2016_rt_marginal_co2_emissions.xls