

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

This comment was received via email by VCS.

Submitted by: Todd Jones, Director, Policy and Climate Change Programs

Organization: Center for Resource Solutions

Country: United States

Dear Mr. Hoffer:

CRS appreciates this opportunity to comment on the proposed VCS methodology, Methodology for Time-Shifted Electricity Consumption Targeting Less Carbon-Intensive Generation, prepared by WattTime, in response to Verra's call for public comments issued on May 2, 2018.

### **Background on CRS and Green-e®**

CRS is a 501(c)(3) nonprofit organization that creates policy and market solutions to advance sustainable energy. CRS has broad expertise in renewable energy policy design and implementation, electricity product disclosures and consumer protection, and GHG reporting and accounting. CRS administers the Green-e programs. Green-e is the leading certification program for voluntary renewable electricity products in North America. In 2016, Green-e certified retail renewable electricity sales of over 48 million megawatt-hours (MWh), representing over 1.3% of the total U.S. electricity mix, and there were over 963,000 retail purchasers of Green-e certified renewable electricity, including 53,000 businesses.

Green-e is also a global retail standard and certification for carbon offsets, bringing chain-of-custody oversight to the voluntary offset market and providing critical retail protections and assurances for buyers, sellers, and project standards like VCS. The program complements VCS by ensuring that offset sellers:

- source only verified and properly tracked and credited reductions from high-quality projects certified under project standards that meet a high standard of quality;
- retire correct volumes and types of emissions reductions on behalf of customers alongside a clear chain of custody from the project to the consumer; and
- provide customers with sufficient and accurate disclosure and do not mislead customers with inaccurate advertising.

The VCS program was first endorsed by the Green-e Governance Board as an eligible offset project standard under Green-e (Endorsed Program) in January 2008, making certain VCS project types eligible to supply Green-e certified offsets. There are currently 11 different offset retailers participating in the program, and in 2016, VCS represented 31% of total supply used for Green-e certified carbon offset sales.

## **Comments on Proposed VCS Methodology for Time-Shifted Electricity Consumption Targeting Less Carbon-Intensive Generation**

In general, we believe that carbon offsets can be issued for time-shifted electricity consumption using hourly marginal grid emissions data and that this is similar to the premise behind existing methodologies for end-use energy efficiency (EE) offsets. However, we have several concerns and questions about this proposed methodology.

1. This methodology applies to project activities that use a carbon advisory service. A lot would seem to depend on how the carbon advisory service works and the credibility of its data. Limited quality criteria for these services are provided on pg. 8 (Sec. 4) and 13-4 (Sec. 8.1) of the proposed methodology. Are these qualifications exhaustive? How were they determined to be sufficient? In addition, are carbon advisory services verified against these or other qualifications and how? Pg. 23 (Appendix A) of the proposed methodology states that there is “one company known to be able to qualify as a carbon advisory service (WattTime).” This further begs the question, is there a qualification process that WattTime went through to demonstrate its compliance with qualifications?

According to Section 4.1.6 of the VCS Standard v3.7 (referenced on pg. 8 of the proposed methodology): “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.” It is unclear if the WattTime data has been “appropriately reviewed and tested” by a peer review group, which group with what qualifications, and whether the results of that analysis and the model itself are publicly available.

2. Is it necessary to limit use of this methodology to projects using a “carbon advisory service” as defined, or could projects use a public database of hourly emissions data or hourly generation information from which they could develop projected “real-time” hourly emission data themselves (e.g. the EPA’s Avoided Emissions and Generation Tool, AVERT)? Why or why not?
3. Projects located in regions where emissions from the electricity sector are capped or otherwise regulated (e.g. California and RGGI states) should not be eligible to use this methodology to earn offsets. Any activity that reduces generation and emissions at regulated emitting sources, including RE, EE, and time-shifted consumption, will 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.
4. WattTime is proposing to apply this methodology to energy storage technology that stores electricity at times of low marginal carbon emissions and supplies energy to the grid at times of high marginal carbon emissions (pg. 8, Sec. 4). This application appears to be about storing a

particular source/mix of generation at one time and then dispatching that source/mix at a different time, rather than reducing and increasing consumption (as with the primary application of the methodology). The problem with this application is that there may be contractual claims on the generation supplied and stored by the storage equipment at a certain time. There is nothing in the methodology requiring projects having to have the contractual rights to the specified generation that gets stored in order to claim to be supplying power with those attributes (including avoided grid emissions) when it is released from storage. As a result, there is a double counting problem with this application of the methodology. For example, in the US and Canada, a storage facility would need to own the renewable energy certificates (RECs) associated with renewable generation on the grid before claiming to have stored and later to be supplying power with specific (emissions) attributes of renewable generation, including avoided emissions attributes. We recommend that this application of the VCS methodology for energy storage technology be removed. If appropriate, it may be submitted as a separate methodology.

5. 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.

First, what is the validation data set referenced in item 4, and what are the qualifications for such a valid historical data set? Has WattTime satisfied this criterion, and using what validation data set?

Second, the proposed methodology 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. Different regional transmission organizations (RTOs) and independent system operators (ISOs) may have fundamentally different operating models. It may not follow that a model will accurately predict marginal dispatch across all RTOs/ISOs simply because the same covariates to the model are available to the same temporal frequency as the validation data set. What are the circumstances under which models may be applied to different grids, and why should this be permitted under these circumstances?

6. On pg. 22 (Appendix A) of the proposed methodology, WattTime provides evidence of the lack of commercial activity for this project type using a quotation from a CleanTechnica article: "JuiceBox Green 40 is the first electric vehicle charging solution (or EVSE) that helps an EV driver to spite greenhouse gas emissions by charging when electricity is greenest." It is unclear to us whether this quotation is making a different claim than a project owner under this methodology—namely, a usage claim (scope 2 claim), rather than an avoided grid emissions claim. Specified usage claims must be substantiated contractually. The electric vehicle (EV) driver in this case would only have claim to the generation resources on the grid (and any avoided emissions associated with that generation) if s/he or the charging station had contractual rights to those attributes, and/or could demonstrate that they were not being otherwise claimed. While this quotation may in fact be referring to the same avoided emissions claims as a project under this methodology, and while this individual quotation may not necessarily affect WattTime's overall argument that the project



type is new and not commercially available in either case, it does illustrate potential confusion between avoided emissions claims and scope 2 carbon footprint claims that can result from the application of this methodology. Therefore, we recommend that VCS and projects using this methodology be very careful not to conflate claims verified under this methodology—to marginal emissions avoided on the grid resulting from time-shifted use—with other claims not verified under this methodology—specified usage claims (contractual fuel switching) or claims to a specified grid mix to lower the scope 2 footprint for the end-user.

Please let me know if we can provide any further information or answer any other questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Todd Jones', written over a light blue horizontal line.

Todd Jones  
Director, Policy and Climate Change Programs