CRS center for resource solutions

July 12, 2019

Robert Z. Lee
Program Director
Climate Action Reserve
818 W. 7th Street, Suite 710
Los Angeles, CA 90017

RE: Comments of Center for Resource Solutions (CRS) on the June 6, 2019 Climate Forward Solar Photovoltaic Forecast Methodology v1.0 Draft for Public Comment

Dear Mr. Lee,

CRS appreciates this opportunity to submit comments on the June 6, 2019 *Climate Forward Solar Photovoltaic Forecast Methodology v1.0 Draft for Public Comment* ("Draft Methodology").

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 and carbon policy design and implementation, electricity product disclosures and consumer protection, and greenhouse gas (GHG) reporting and accounting. Among others, CRS administers the Green-e® programs. Green-e® is the leading certification program for voluntary renewable electricity products in North America, and a global retail standard and certification for carbon offsets. More information regarding Green-e® can be found at green-e.org, including the annual Green-e® Verification Report.

Comments and Recommendations

CRS commends the Reserve for striving to accelerate action on climate change through the Climate Forward program. We have reviewed this Draft Methodology using principles and best practices for carbon offsets, though we understand that Forecasted Mitigation Units (FMUs) are a different instrument. We recommend that the Reserve acknowledge and then explicitly and prominently explain divergences from carbon offset best practices related to accounting and quality criteria. We further recommend that the Reserve help to prevent consumer confusion related to this new FMU's uses and claims that may otherwise result in greenwashing and inaccurate statements. Specifically, the Draft Methodology should clarify how FMUs can and cannot be used by purchasers and how they should or should not be accounted for in different GHG inventories, programs and reporting systems.

We additionally refer you to the *Technical Expert Report Forecast Methodology: Building Retrofit Projects (Solar PV)* that CRS prepared for the Reserve on July 25, 2018. It appears that many of the issues that we identified in that report with the March 8, 2018 *Building Retrofit Projects (Solar PV) Forecast Methodology* have not been addressed in the Draft Methodology.

1. California's cap on emissions from the power sector affects the "realness," ownership, and additionality of emissions reductions from PV installations in California. The Draft Methodology

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should require that California carbon allowances be retired with the issuance of FMUs for this project type in California.

Section 3.8 of the Draft Methodology (pg. 9) acknowledges that, "with an emission cap in place for the power sector in the State of California, it is not possible to issue offset credits for renewable energy projects that affect emissions at capped power plants because doing so would result in the double counting of emission reductions." We agree that cap-and-trade affects ownership of emissions reductions from these projects, which are automatically accounted for and reported by compliance entities. It also affects the legal and financial additionality of these projects. Finally, it affects the "realness" of emissions reductions that can be emitted elsewhere by freeing up allowances under the cap.

In responses to questions on a June 27 webinar and subsequent email exchanges, Reserve Staff explained that, in contrast to offsets, FMUs are only intended to address the emissions of specific projects at the same pace as they are approved (i.e. project-level GHG impacts), and they do not represent emissions reductions to the atmosphere beyond a business-as-usual (BAU) scenario. Rather, PV projects in California produce emissions reductions by regulated entities under the cap. They avoid upward pressure on the cap and the cost of cap-and-trade. In other words, Climate Forward is complementary to cap-and-trade in California.

However, we disagree that these actions meet the commonly understood definition of additional in that case. While an individual PV project may not have otherwise occurred, the reductions achieved by the PV project are legally required to occur under the cap. The PV project cannot affect the level of emissions in the state beyond what is required by law. This also limits the ownership claims of the PV project and FMU purchaser to the reductions. Purchases of FMUs will not necessarily convey ownership of the emissions reductions. Rather, they are reported and claimed by regulated emitters. If the purchaser cannot claim that their purchase (or participation in the FMU market) caused a reduction to occur, then they (or the market) cannot claim to have reduced emissions to the atmosphere.

Beyond additionality and ownership, projects conforming to the Draft Methodology may not result in real (net) reductions. If the grid reductions caused by the PV project simply free up allowances and result in increased emissions up to the level of a sufficiently tight cap, then there is no net reduction on the grid, not even one that is captured under the cap. As long as California's program continues to be oversupplied, this "reversal" of reductions under the cap may not be happening. However, Project Proponents should have to demonstrate that the reductions are not being reversed due to the cap.

A potential reversal of reductions under a cap can be avoided by requiring that carbon allowances be procured and retired with the issuance of FMUs for this project type. In California, Project Proponents may be able to utilize the state's free Voluntary Renewable Energy Program (VREP), which retires allowances on behalf of voluntary renewable energy purchases.[1]

[1] There is a risk that the California Air Resources Board (CARB) will not accept the application depending on the use of the FMU and how it views Climate Forward. The VREP requires attestations from applicants that they have "not authorized use of, or sold, any renewable electricity credits or any claims to the emissions, or lack of emissions, for electricity for which [they are] seeking [C]ARB allowance retirement, in any other voluntary or mandatory program" (17 CCR § 95841.1(b)(1)(E)). This attestation indicates that any use of RECs or lack of emissions for electricity in any voluntary or mandatory program precludes participation in VREP. CARB has recognized the distinction between certifying a voluntary product, transaction, or claim and using the renewable energy in a

2. A marginal emissions factor (MEF) should be used to quantify emissions reductions from PV projects, and the Draft Methodology's description of baseline emissions is incorrect.

The Draft Methodology's quantification of emissions reductions as the difference between the direct emissions of the project (i.e. zero) and the direct emissions of what would have operated on the grid in the absence of the PV project (baseline emissions) (specifically, equations 5.1-5.3) is generally correct, provided that the emissions factor used to calculate baseline emissions is the MEF. Alternatively stated, displaced or avoided emissions on the grid can be calculated by simply multiplying the amount of zero-emitting generation by the emissions rate of the marginal unit.

But section 5.1 of the Draft Methodology (pg. 14) describes the baseline scenario for the building, rather than for the grid, which is where the emissions and reductions occur: "the baseline scenario would be the continued operations of a building, including the purchase of off-site electricity from a local utility. Therefore, baseline emissions are equivalent to the emissions associated with the amount of electricity that would have been generated by and purchased from the installation site's local utility, that is now being produced on-site by the solar PV system in the project." This description should be changed. The emissions associated with the production of the electricity consumed at the building are not equivalent to emissions to the atmosphere caused by the building's electricity usage or avoided by changes to this usage (e.g. energy efficiency) or PV generation at the building. The baseline emissions for this project type are emissions from marginal emitting generation facilities on the grid without installation or operation of the project.

Although the Draft Methodology correctly requires use of MEFs where available, it allows use of utility-specific and grid average emissions factors. In section 5.1.1 and Box 5.1 of the Draft Methodology (pg. 16) and in email responses to our questions, Reserve Staff has explained that they have not been able to find MEFs for California, and it is for this reason that the Draft Methodology allows for and has in fact already approved use of utility emissions factors (e.g. for Southern California). But non-baseload output emissions factors are available from the U.S. Environmental Protection Agency's (EPA's) Emissions & Generation Resource Integrated Database (eGRID).[2] Alternatively, the Reserve can use the emissions associated with a typical emitting marginal plant, e.g. a natural gas combined cycle plant (even though these plants are not always actually the marginal plants in California). In practice, a utility-specific or grid average factor in California may be cleaner than either the MEF or a typical natural gas plant, and therefore using it may be more conservative. Nevertheless, the Draft Methodology should explicitly disclose that utility-specific and grid emissions factors are only allowed due to data availability or conservativeness. They are in that case a permissible proxy for an MEF despite the fact that an MEF is the appropriate number to use to estimate what is displaced on the grid by PV generation.

In general, we suggest that the Reserve follow The WRI/WBCSD Greenhouse Gas Protocol for Project Accounting and existing carbon offset methodologies for renewable energy and energy efficiency projects that use marginal grid emissions rates as the "operating margin" to calculate emissions reductions.

separate program. But this may make transactions of FMUs from PV projects for CEQA compliance, for example, ineligible for the VREP.

[2] For more information, visit: https://www.epa.gov/energy/emissions-generation-resource-integrated-database-egrid.

3. The proposed performance threshold for California—the installation of solar PV on existing buildings that do not currently have a solar PV system—may not be sufficient to exclude non-additional projects.

Despite the evidence presented in Appendix A of the Draft Methodology (pg. 36-39), there is evidence to suggest that many distributed PV facilities, in California and the US more broadly, could be considered not beyond BAU, across a number of different interpretations, definitions, and tests. In fact, two other major global offset certification programs have recently proposed to exclude all renewable energy project types, including small-scale, distributed generation facilities, from all but the least developed countries due to concerns around additionality.[3] To the extent that performance standard tests are meant to reflect financial, economic, social, technical and technological drivers and barriers affecting project development, and focusing for now just on the financial drivers: the cost of renewable energy has decreased to the extent that many installations are cost effective, and can produce significant cost savings for customers, even over the short and medium term in some cases. The price on carbon in California provides an additional economic incentive for zero-emitting power (to the extent that this is passed along to consumers). We recommend additional analysis for a performance standard test, including an evaluation of system cost, rebates and tax incentives that are available, and other information in order to determine the payback period by class of customer, and then a payback threshold for additionality, in addition to BAU installation rates on existing buildings in different parts of California. This sort of financial test could be converted to performance standard with aggregated data about trends in different customer classes. Without such or similar analysis, this methodology could allow significant non-additional projects into the program.

4. We recommend that language in the Draft Methodology regarding treatment of renewable energy certificates (RECs) from PV projects be strengthened, and that the Reserve specify activities to verify REC retention and retirement for these projects.

RECs or environmental attributes from the project must be retained and retired on its behalf, either in a tracking system, e.g. the Western Renewable Energy Generation Information System (WREGIS), or contractually, in order to avoid having the generation counted toward compliance with California's or another state's Renewable Portfolio Standard (RPS) program, or a voluntary purchaser's renewable energy claim.

Section 3.6 of the Draft Methodology (pg. 8) requires that, "The Project Proponent must also attest that the project is not generating and holding or selling Renewable Energy Certificates (RECs)." However, RECs are de facto generated and generation attributes are de facto owned by the project, even if the project is not formally registered in a REC tracking system, e.g. WREGIS. As a result, how a facility would "not generate" RECs is unclear. "Holding" RECs may actually be necessary if this is equivalent to permanently "retaining" them so they cannot be sold or otherwise used. As a result, we recommend that the current language be revised to the following: "The Project Proponent must also attest that the project is permanently retaining, contractually retiring, or retiring in an electronic tracking system the

[3] See a proposal from Verra (VCS): https://verra.org/wp-content/uploads/2018/05/VCS-v4-Consultation-Scope-of-VCS-Program.pdf. Also see a proposal from the Gold Standard: https://www.goldstandard.org/our-work/innovations-consultations/renewable-energy-eligibility-criteria?_cldee=dG9kZEByZXNvdXJjZS1zb2x1dGlvbnMub3Jn&recipientid=contact-ac4ffee56f27e61180e8c4346baceb58-d62eae616fc94edb9547fd26d988dfd5&esid=ae494234-1290-e811-a83f-000d3a33b3a3.

Renewable Energy Certificates (RECs) or environmental attributes associated with production for which FMUs are issued." We also recommend that the Reserve identify activities to verify compliance with this requirement, such as review of contracts, purchase agreements, or tracking system reports where the facility is registered.[4]

Finally, Reserve Staff's response to a question about RECs on the June 27 webinar and their value as an instrument to reduce emissions mischaracterized the role of RECs in renewable energy markets and organizational GHG accounting. Staff argued broadly that, "RECs are problematic and not additional." RECs are an accounting instrument to verify delivery of renewable energy (with a specified emissions factor) to customers (either for compliance with a state RPS or a voluntary program), and they can be used to verify a company's or organization's carbon footprint, specifically scope 2 indirect emissions. They are a different tool than carbon offsets and FMUs. But they are not problematic for that which they are intended to be used and are necessary for all renewable energy purchases and claims. Furthermore, additionality is not a requirement for RECs, and is not required to switch to renewable power. Both RECs and offsets, as well as potentially FMUs, are useful tools. We encourage Reserve Staff not to publicly disparage RECs or discourage renewable energy purchasing.

Thank you for your consideration of our comments. Please contact us with any questions.

Todd Jones
Director, Policy and Climate Change Programs

[4] CRS recommends consulting The Climate Registry's emission attribute certificate disclosure requirements and verification process for an example of how this is currently implemented in a voluntary program.