CCQI
Carbon Credit
Quality Initiative

CCQI submission to Verra public consultation

VMR0006 Methodology for Installation of High Efficiency Firewood Cookstoves

Submitted 27 April 2023

General Comments

Comment

Cookstove projects have a material non-permanence risk, as these activities aim to reduce the demand for non-renewable biomass. Therefore, they indirectly reduce forest degradation. Credited emission reductions are therefore based on enhancing forest carbon reservoirs, which are susceptible to natural disturbances such as fire, disease, drought or windstorms which may lead to natural depletion. Additionally, forests may be susceptible to different types of human-caused depletion, such as from demand for wood, or for land needed for subsistence, agricultural production, or development. The size and scale of carbon reservoirs affected by a mitigation activity is another important factor in assessing reversal risk. For activities implemented at the scale of projects, the effect of a wildfire could be catastrophic in terms of reversing prior carbon gains.

Proposed Change

Consider these potential options to mitigate reversal risk:

- Nesting of cookstove project activities under forestry projects in the relevant region
- Add a conservative adjustment factor to the emissions reductions to account for potential reversals. The factor would need to account for the reversals that may occur over long-time horizons.
- Mandate that cookstove projects apply the same non-permanence requirements as AFOLU project types.

Comment

The methodology does not appropriately address potential overlapping claims between forestry projects and cookstove projects. For example, a project to avoid deforestation or forest degradation in the area of a cookstove project would claim the same emission reductions as the cookstove project. This would lead to double issuance of carbon credits and thus undermine integrity.

Proposed Change

The methodology should specify that it is:

a) Only applicable if there are no forestry projects in the area of the cookstove project, or

b) In case of overlapping claims, there are arrangements to ensure that double issuance is avoided, e.g. by nesting the cookstove project under the forestry project.

Comments by Section

Section 7, Page 8

Comment

Per the Carbon Credit Quality Initiative assessment of cookstove additionality, and as supported by the 2019 Energy Progress Report Tracking SDG7 cited in Appendix 1 of the draft VMR0006 methodology, there are significant differences between rural and urban areas in the market uptake of efficient cookstoves in the absence of carbon revenues. Though carbon revenues could in principle serve to further increase adoption rates in urban areas where the purchase of efficient cookstoves is most prevalent in the baseline case, the case for additionality is less clear than rural areas. While market penetration varies greatly based on a range of factors, there are large observed differences between urban and rural locations that are not considered in the application of the VMR0006 additionality activity method.

Proposed Change

The positive list activity method approach is not broadly appropriate for cookstove projects in urban areas. Therefore, it is recommended that that VMR0006 should be limited in eligibility to cookstove projects in rural areas.

Section 8.4, Page 11

Comment

The original AMS-II.G. methodology provides four options for the quantification of woody biomass saved. VMR0006 appears to eliminate this flexibility, and instead prescribes the water boiling test (WBT). While it's not clear whether the inherent uncertainty of this parameter leads to systematic under or overestimation, please note that the accuracy of the WBT method has been called into question by Abeliotis & Pakula (2013), who found that stove performance does not necessarily translate to cooking actual meals in households (Source 13), and by Berrueta et al. (2008), who evaluated the performance of a stove designed primarily for tortilla-making by using all three tests and found that the WBT "gave little indication of the overall performance of the stove in rural communities" (Source 16). Furthermore, Cames et al. (2016) indicate that evidence suggests the Water Boiling Test (WBT) is not an appropriate tool and should be removed from the CDM methodology (Source 5).

Proposed Change

Eliminate the water boiling test and provide more reliable test methods to determine the efficiency.

Section 8.4, Page 12

Comment

Historically, it seems likely that the woody biomass consumption is over-estimated in many projects. Given that the average values reported in PDDs are 50-75% higher than the previous default value of .5 tons per person per year (which is meant to be a typical value not a conservative one), the level of overestimation could be significant for many projects.

While the default value has since been revised down to .4, this will not mitigate the risk of overestimation because only around 1% of monitoring reports for CDM cookstove projects reviewed by the UNFCCC Secretariat for the Methodologies Panel used the default value. The rest were calculated with the 2nd and 3rd options: 64% calculated the figure from primary data and 34% from secondary data based on literature. Average calculated values under these methods were .75 for Asia and Sub-Saharan Africa, .83 for the Middle East and North Africa, and 1.34 for Latin America – all well above the default value.

Proposed Change

Consider these potential options to reduce overestimation of the quantity of firewood consumed in the absence of the project activity: (1) Mandate the use of the most recent default value in AMS-II.G (Tool 33) or (2) provide further guidance in the methodology how to determine project-specific values in order to avoid risks that too high values are being determined.

Section 9.1, Page 15

Comment

Per the assessment of AMS.II.G: There is a high likelihood that the values commonly used for fNRB leads to overestimation of emissions reductions under the AMS.II.G methodology. When the CDM Tool 30 was introduced in 2017, it included a conservative default value of 30% based on the work of Bailis et al. (2015) and was therefore in the middle of the range of 27-34% from that peer-reviewed study. At a global level, the fNRB is estimated by the 4th assessment of the Intergovernmental Panel on Climate Change (IPCC) to be 10%. Bailis et al. (2015) estimated country specific values between 27% and 34%, and Miranda et al. (2013) between 20% to 30%. By contrast, the median fNRB used by 305 carbon market projects in 45 countries, as surveyed by Bailis et al. (2015) was 90%.

While it is possible that cookstove projects registered under carbon crediting programs could be implemented in geographical areas with higher fNRB values, it appears unlikely that the true (unknown) values for fNRB are significantly higher in these projects than the values from the literature. Projects registered under carbon crediting programs have been implemented in many different regions, including deforestation hotspots but also areas where the literature suggests that the values fNRB are much lower than the values used by registered projects.

Determining reliable fNRB values is challenging, in particular as these values depend on assumptions that are difficult to verify by auditors. We therefore believe that regionally highly disaggregated values should be used in the methodology, rather than determining project-specific values. Such a

standardized approach ensures integrity and also addresses selection bias if project developers can pick and choose between own values and default values.

Proposed Change

Make it mandatory for project developers to use regionally disaggregated default values based on peer-reviewed data.

Section 9.1, Page 15

Comment

Description states that the fNRB parameter represents the efficiency of the project stove at the start of the project activity, when in fact the parameter represents the fraction of woody biomass that can be established as non-renewable.

Proposed Change

Change the description to the original description in the AMS-II.G methodology.

Section 9.1

Comment

The revision of the charcoal conversion factor from 6 to 4 kg of fuelwood per kg of charcoal is an improvement on the existing methodology.

The previous value of 6, derived from the Revised 1996 IPCC Guidelines, did not take into account that the same IPCC source stated that conversion factors in many developing countries "would range from 2.5 to 3.5 and rarely beyond this". Given that CDM is applied in developing countries, the methodology does not refer correctly to the 1996 Revised IPCC Guidelines. If the range of 2.5 to 3.5 would be realistic today, using the previous default conversion factor of 6 would lead to an overestimation of emissions reductions by a factor of two.

In 2022, the Methodologies Panel of the CDM conducted a literature review and concluded that a value of 4 represents the lower end of the range indicated in most literature reviewed. Indeed, the available literature often indicates higher values, depending on the kiln type and moisture content.

Proposed Change

Due to the considerable uncertainty with respect to the appropriateness of the wood to charcoal conversion factor, adopting the updated value from CDM of 4 kg of fuelwood per kg of charcoal is a prudent decision. We recommend using a standardized approach and prescribe this value, given the considerable uncertainty in any values determined under project-specific conditions observed with existing projects.