AMERICAN CARBON REGISTRY

AFOLU TECHNICAL COMMITTEE RECOMMENDATION

Issue Under Review:	Modifications to CDM AMS II.G
Issue Number:	2011-003
Entity Requesting Review:	American Carbon Registry
Date Presented to Committee:	October 18, 2011
Date Decision Returned to ACR:	October 27, 2011
Committee Members Reviewing:	Neil Sampson (Chair), Tim Robards, Marcelo Rocha
Earlier Actions (if applicable):	None
Committee recommendation:	Approve modifications

Summary of Issue under Review

CDM small-scale methodology AMS II.G is for energy efficiency measures in thermal applications, specifically the introduction of high-efficiency biomass fired cookstoves or ovens or dryers and/or improvement of energy efficiency of existing biomass fired cookstoves or ovens or dryers.

ACR generally accepts CDM methodologies without a separate review process, unless there is a modification. In this case ACR is interested in making two modifications to improve accounting of GHG emission reductions from projects or programs to introduce and disseminate efficient cookstoves:

Modification #1

The CDM methodology makes the assumption that in the baseline scenario cooking is with fossil fuels and uses a fossil fuel emission factor to calculate emission reductions. See equation (1) and footnote 3. This assumption was made partly because CDM was only open to afforestation/reforestation and due to political sensitivities around activities for avoided deforestation, CDM methodologies that were indirectly addressing reducing deforestation rates (e.g. by reducing fuelwood/charcoal use) used displacement of fossil fuels instead. Second, if the biomass being used is non-renewable, the CDM assumed in the future that fossil fuel will be the only fuel available.

However, the present reality is that households are in many countries using fuelwood/charcoal in the baseline, and when they install an efficient cookstove they still use fuelwood/charcoal but less of it, leading to a reduction in use of and emissions from non-renewable biomass. This is in fact borne out by the description of AMS II.G in the *CDM Methodology Booklet*, which describes baseline scenario as "continuation of the current situation, i.e. use of non-renewable biomass as fuel for the existing, less-efficient thermal applications." Compared to a project scenario of "the installation of more-efficient thermal energy generation units utilizing non-renewable biomass and/or complete replacement of existing less-efficient thermal applications and/or retrofitting of existing thermal energy generating

appliances, [this] reduces GHG emissions by saving non-renewable biomass."[1] So the CDM in fact acknowledges that non-renewable biomass, not fossil fuel, is the thermal energy fuel being displaced.

Because ACR recognizes that cookstove projects do often have the indirect benefit of reducing deforestation, and should be appropriately credited for the fact that they reduce fuelwood and charcoal use, we propose in this modification to replace the fossil fuel emission factors with appropriate emission factors for the wood and charcoal displaced. The proposed factors are 119.5 tCO_2/TJ for wood and 116.5 tCO_2/TJ for charcoal. The factors are derived from the 2006 IPCC *Guidelines for National Greenhouse Gas Inventories*, 2006, Volume 2, Table 2.5 (page 2.23). They are based on the default emission factors for CO_2, CH_4 and N_2O, calculated as carbon dioxide equivalents using a GWP of 21 for CH_4 and 310 for N_2O.

Modification #2

When fuelwood is harvested, the below-ground root biomass is not removed, and a portion of the above-ground biomass is also not removed. These fractions should be accounted for in both B_{old} (quantity of biomass used in the absence of the project activity) and B_{new} (quantity of biomass used in the project activity, i.e. with the more efficient cookstoves). The modification provides an adjustment factor of 1.32 to reflect the emissions associated with the harvesting of biomass, based on the assumption that 10% of the aboveground biomass is not extracted as fuel, and (conservatively) root biomass is estimated as 20%. These adjustments are applied in sequence, i.e. biomass removed for fuelwood is multiplied by 10% to include aboveground biomass not extracted, then this number multiplied by 20% to include root biomass (1.1 * 1.2 = 1.32). If this adjustment is applied to B_{old} it must be applied to B_{new} as well, and vice versa.

Summary of Committee Review and Discussion

Modification #1: Marcelo Rocha has pointed out that the CDM Methodology Booklet (p. 140) defines the baseline as "continuation of the current situation," which is consistent with what ACR is proposing. Therefore, while the ACR methodology may be less conservative, we believe it is defensible.

Modification #2: This change has the effect of increasing the amount of credits produced by 32% without changing the project activity. It shifts the measurement from "biomass used" to "biomass affected by harvest." But is the increased savings (credits) that result from the adjustment a legitimate effect of harvesting less total biomass, or is it an unintended consequence? We believe it is defensible, on the basis of harvesting less biomass, but note that it is less conservative than the CDM approach. That seems defensible, but should be noted.

Committee Decision and Recommendation

The Committee concurs with Modification #1, as re-worded.

The Committee believes Modification #2 makes the ACR approach less conservative than the CDM approach, but concurs in the ACR assertion that this approach will provide needed incentive to expand the use of more efficient cookstoves.

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[1] *CDM Methodology Booklet*, November 2010, page 140. Copyright 2010 United Nations Framework Convention on Climate Change, available online at https://cdm.unfccc.int/methodologies/.

ACR Note (June 2013)

The two modifications were originally proposed to be added to AMS II.G, Version 03, the version current at the time of the committee's review in 2011. Since that time the CDM Executive Board has approved two updates resulting in AMS II.G, Version 05.0 being the currently approved version as of June 2013. ACR has reviewed the changes between versions 03 and 05 and determined that these in no way affect the appropriateness of ACR's proposed modifications. Thus, the proposed modifications have been transferred into Version 05.0, which is posted for public comment in June 2013.