



**CDM: Recommendation Form for Small Scale Methodologies (version 01)**  
*(To be used for presenting questions/proposals/amendments to the simplified methodologies for small-scale CDM project activity categories)*

<i>Date of SSC WG meeting:</i>	22–25 August 2011, SSC WG 33
<i>Title/Subject (give a small title or specify the subject of your submission, maximum 200 characters):</i>	Clarification on the determination of $f_{NRB}$ in AMS-II.G
<i>Indicative methodology to which your submission relates (refer the items of Appendix B of the Simplified Modalities and Procedures), if applicable.</i>	AMS-II.G “Energy efficiency measures in thermal applications of non-renewable biomass”
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**Summary of the query:**

Please use the space below to summarize the query related to SSC methodologies/categories SSC Modalities and Procedures provide recommendation/analysis of the SSC WG.

Original text from PP

Clarification is requested on the calculation of  $f_{NRB,y}$ , in version 3 of AMS-II.G.

$f_{NRB,y}$  is used in the calculation of the project baseline.

Definition 1:  $f_{NRB,y}$  is defined in the methodology as the “Fraction of woody biomass saved by the project activity in year  $y$  that can be established as non-renewable biomass”.

Equation 1:  $f_{NRB,y}$  is calculated using the following formula according to the methodology:

$$f_{NRB,y} = \frac{NRB}{NRB + DRB}$$

Clarification is required on the calculation of the DRB and NRB components of equation 1.

A simplified definition of the NRB and DRB is given below. The definition is summarised for ease of comprehension.

Definition 2: *DRB*, or Demonstrably Renewable Biomass is biomass that satisfies one of two conditions: 1) forested land where sustainable management practices are undertaken and local forestry regulations are complied with. 2) non-forest or reverted forest where sustainable management practices are undertaken and local forestry regulations are complied with.

Definition 3: *NRB* is defined as the quantity of woody biomass used in the absence of project activity minus the DRB component, given supporting indicators.

In order to express definition 3 in equation form, we shall define:

Definition 4: *TB* is the total quantity of woody biomass used in the absence of the project activity.

Hence, given definition 3, and definition 4:

Equation 2:

$$NRB = TB - DRB$$

Re-arranging equation 2, we define

Equation 3:

$$DRB = TB - NRB$$

From Equation 3 we infer a definition of DRB as:

Definition 5: DRB, as defined from equation 3, is the total quantity of woody biomass used in the absence of the project activity minus the NRB component.

QUERY:

Assumption 1: “Used” as in “quantity of woody biomass used in the absence of project activity”, as mentioned in definitions 3,4,5, is taken to mean harvested.

Given assumption 1 is correct, there appears to be a discrepancy between definition 2, taken from AMS-II.G. and definition 5 derived from definitions 3 and 4. Definition 2 does not specify that DRB relates to used i.e. harvested renewable biomass. Yet, definition 5 implies that DRB refers to only the harvested portion of renewable biomass.

Clarification is sought firstly as to whether assumption 1 is correct, and secondly whether DRB refers to harvested renewable biomass.

#### The Importance of this Clarification

The calculation of  $f_{NRB,y}$  is crucial to determining the feasibility of a project under AMS-II.G. Low  $f_{NRB,y}$  values can be the deciding factor in disregarding a project area, therefore it is imperative that  $f_{NRB,y}$  calculations are accurately representative of behaviour within the project area.

The current definition of DRB is exacting in terms of what is classed as non-renewable biomass but lacks specification of what proportion of this DRB is to be used in a calculation. Very different values of  $f_{NRB,y}$  can result from the DRB component being interpreted as total DRB growing within a project area and DRB harvested from a project area.

As an example, a simplified calculation of  $f_{NRB,y}$  for the whole of Ghana is reproduced below assuming two different definitions for DRB.

Using definition 2 of DRB, i.e. DRB is the total renewable biomass growing in Ghana, and NRB is the harvested biomass.

$$f_{NRB,y} = \frac{NRB}{NRB + DRB} = \frac{13,035}{13,035 + 64,166} = 0.17$$

Where NRB = 13,035 tonnes is the harvested biomass converted from production data.<sup>1</sup>

Where DRB = 64,166 tonnes is total renewable biomass of Ghana.<sup>2</sup>

Using definition 5 of DRB, i.e. assuming the DRB component of harvested wood is equivalent to the ratio renewable biomass to non-renewable biomass is the project area.

$$f_{NRB,y} = \frac{NRB}{NRB + DRB} = \frac{12,192}{12,192 + 842} = 0.94$$

Where NRB = 12,192 tonnes, ratio of NRB to TB for Ghana<sup>3</sup>, multiplied by harvested biomass.

Where DRB = 842 tonnes, ratio of DRB to TB for Ghana<sup>3</sup>, multiplied by harvested biomass.

<sup>1</sup> <http://www.fao.org/docrep/013/i2000e/i2000e00.htm> - State of the Worlds Forest 2011, FAO

<sup>2</sup> Data represents summed land use types, obtained from Globcover land use maps, in Ghana's protected areas (IUCN category I - IV) and includes the National Plantation Development Programme to plant 20,000ha/annum.

<sup>3</sup> <http://www.fao.org/docrep/011/i0350e/i0350e00.htm> Total Biomass (TB) = 993 million tonnes

Clearly, these two calculations produce widely varying values of  $f_{NRB,y}$ . In the first incidence the project would not be feasible and in the second there is strong potential for project activity.

The second equation gives a representation of the proportion of firewood in a particular sample that will have likely come from a non-renewable source. Given the methodology aims to reduce the emissions from the destruction of such non-renewable sources, the second calculation would appear to be a more apt representation of behaviour.

The first calculation compares harvested non-renewable volumes to the total volume of renewable biomass in the ground. However, this does not account for what proportion of this renewable biomass is actually harvested for firewood. To clarify: in an extreme case none of this renewable biomass could be being used for firewood, meaning all firewood collection comes from non-renewable sources. Yet, the  $f_{NRB,y}$  would still imply that 83% of wood use in the region was renewable.

From the perspective of a project proponent (PP) using DRB as the total renewable biomass in a project area is easier and more transparent to define (and therefore easier to audit). However in such a case, the value of TB and NRB should also refer to total biomass and total non-renewable biomass within the project area. It would be good to gain clarification as to whether this might be a potential reading of the methodology.

#### **Recommendation by the SSC WG:**

Please use the space below to provide amendments/change (in your expert view, if necessary).

Please refer to paragraph 21 of the meeting report of the SSC WG 33  
<[http://cdm.unfccc.int/Panels/ssc\\_wg](http://cdm.unfccc.int/Panels/ssc_wg)>.

#### **Answer to authors of query by the SSC WG:**

Please use the space below to provide answer to the authors of the above query.

The small-scale working group of the CDM Executive Board would like to thank the author for the submission.

The SSC WG agreed to clarify that as per the definition of demonstrably renewable woody biomass (DRB) given in paragraph 9 of AMS-IL.G, woody biomass is determined to be renewable based on the area(s) from which the woody biomass “originates”, in other words, the source of the woody biomass that is used. Paragraph 10 of the methodology specifies that non-renewable woody biomass (NRB) is the quantity of woody biomass used in the absence of the project activity minus the DRB component, indicating that both NRB and DRB refer to quantities of woody biomass used.

The SSC WG thus agreed to clarify that that the approach provided in the submission that estimates the fraction of non-renewable biomass based on the proportions of demonstrably renewable biomass and non-renewable biomass in the harvested biomass, is consistent with paragraph 10 mentioned above.

Please note, however, that the SSC WG has not assessed the validity of the data used in the sample calculations provided in the submission.

The SSC WG also suggests that the project proponents may wish to follow the progress on considerations of different approaches by the SSC WG for deriving the fraction of non-renewable biomass (see annex 8 of the SSC WG 33 meeting).

Signed by the Chair, Ms. Fatou Gaye

Date: 25/08/2011

Signed by the Vice-Chair, Mr. Peer Stiansen

Date: 25/08/2011

**Information to be completed by the secretariat**

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