



## Assessment Report for CDM proposed standardized baseline (Version 02.0)

*(To be **used** by the **UNFCCC secretariat** in assessing the quality of a proposed standardized baseline only when requested by eligible DNAs.)*

<b>Title of proposed standardized baseline:</b>	Standardized baseline on sustainable charcoal production in Rwanda (to be revised to "Fuel switch, technology switch and methane destruction in the charcoal sector of Rwanda)
<b>Reference of proposed standardized baseline:</b>	PSB0045
<b>Name(s) of the Party or Parties to which the proposed standardized baseline applies:</b>	Republic of Rwanda
<b>Name(s) of the proponent(s) of the proposed standardized baseline:</b>	The Designated National Authority (DNA) of the Republic of Rwanda
<b>History of the submission &amp; assessment:</b>	<ul style="list-style-type: none"> <li>• 27 Apr 18 - Initial submission received:</li> <li>• 24 May 18 - Initial assessment successfully concluded and the proposed standardized baseline (PSB0045) was uploaded on the UNFCCC website.</li> </ul>
<b>Conclusion:</b> <b>(a) The quality assurance and quality control system complied with the provisions and data quality objectives of the valid "Guidelines for quality assurance and quality control of data in the establishment of standardized baselines"</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
<b>(b) The approach used by this proposed standardized baseline complied with one of the approaches referred to in the valid "Procedure for development, revision, clarification and update of standardized baselines":</b>	<p>The proposed standardized baseline is derived from the combination of the following approaches:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> The "Guidelines for the establishment of sector specific standardized baselines";</li> <li><input checked="" type="checkbox"/> A methodological approach contained in an approved baseline and monitoring methodology "AMS-III.BG: Emission reduction through sustainable charcoal production and consumption";</li> <li><input checked="" type="checkbox"/> A methodological approach contained in an approved methodological tool "Calculation of fraction of non-renewable biomass";</li> <li><input type="checkbox"/> The "Guideline: Establishment of standardized baselines for afforestation and reforestation project activities under the CDM".</li> </ul>
<b>Date when the assessment report is completed:</b>	31/10/2018

## SECTION A. Summary of Proposed Standardized Baseline

### A.1. Scope and application of the proposed standardized baseline

1. The proposed standardized baseline (PSB) is developed for
  - (a)  Additionality demonstration;
  - (b)  Baseline identification;
  - (c)  Baseline emission estimation
2. This PSB applies to the charcoal production sector in the Republic of Rwanda.
3. Projects shall use the standardized baseline together with:
  - (a) The approved small scale methodology “AMS-III.BG: Emission reduction through sustainable charcoal production and consumption”;
  - (b) The approved methodological tool “Calculation of fraction of non-renewable biomass”.

### A.2. Description of the proposed standardized baseline

4. The proposed standardized baseline includes the following components
  - (a) Additionality demonstration:
    - Measure 1 – Fuel/feedstock switch: The fuel/feedstock used to produce more than 80% of the charcoal production is non-renewable biomass at 91%.
    - Measure 2 – Technology switch: In Rwanda, the traditional earth mound kiln is the single technology which produces 86% of the country’s charcoal (higher than the additionality threshold Ya of 80%).
    - Measure 3 – Methane destruction: In Rwanda, there is no legal requirement for capture and destruction of methane in charcoal production facilities. There is no economic incentive for the destruction of methane associated with the production of charcoal.
  - (b) Baseline identification:
    - For the charcoal portion produced from non-renewable biomass in the baseline, AMS-III.BG assumes that in the absence of the project activity, the baseline scenario would be the future use of fossil fuels for meeting similar thermal energy needs.
    - For the charcoal portion produced from renewable biomass in the baseline, traditional open-ended methods resulting in methane emitted to the atmosphere forms the baseline scenario.
  - (c) Baseline emission estimation:
    - Key data parameters and data sources:

Parameter	Value (unit)	Source
$CF$	7.7	Based on 14% efficiency of traditional Rwandan Kiln efficiency
$NCV_{wood}$	0.015 TJ/t	AMS-III.BG
$NCV_{charcoal,i}$	0.0295 TJ/t	AMS-III.BG
$NCV_{charcoal,default}$	0.0295 TJ/t 19.47 GJ/T	AMS-III.BG
$fNRB_{BL,wood}$	77%	Calculated
$EF_{projected\_fossilfuel}$	81.6 tCO <sub>2</sub> /TJ	
$GWP_{CH4}$	25	IPCC
$SMG_{y,b}$	0.030 tCH <sub>4</sub> /t charcoal	AMS-III.BG
$M_d$	0	DNA confirmation letter.

5. The proposed standardized baseline presents the calculation of the Fraction of non-renewable biomass ( $fNRB$ ), based on the provisions of the methodological tool “Calculation of fraction of non-renewable biomass”, applying the following data:

- (a) For estimation of the supply of renewable biomass (RB), the DNA used data from an official study conducted by the Ministry of Natural Resources of Rwanda (MINIRENA, 2016). The study presents a projection of the supply of RB based on the business as usual scenario for years 2015 – 2026.
- (b) For estimation of the total annual consumption of wood (H), the DNA used data from the study of MINIRENA, 2016, which is also a projection of the wood consumption based on the business as usual scenario for years 2015 - 2026.

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Sustainable supply, RB (million tonnes)	2.290	2.040	1.753	1.360	0.974	0.797	0.691	0.598	0.542	0.512	0.527	0.518
Estimate of woody biomass consumption, H (million tonnes)	5.923	6.104	6.286	6.471	6.659	6.850	7.044	7.240	7.439	7.641	7.844	8.050
$fNRB$	61.34%	66.58%	72.11%	78.98%	85.37%	88.37%	90.19%	91.74%	92.72%	93.31%	93.28%	93.57%

- (c) The DNA calculated the  $fNRB$  value based on the average of the data starting in 2015, covering the year of the SB submission (2018) and up to the end of the validity period (2021). The resulting value of 77.56% is conservatively round down to 77%.

## SECTION B. Summary of Assessment

### B.1. Assessment process

6. The assessment of the SB consisted of the following:

- (a) Review of the documents submitted: first submission was received on 27 Apr 18. Additional supporting documents were requested by the secretariat on 19 July 18 and submitted by the DNA on 01 Aug 18;
- (b) Identification of issues: assessment of initial findings were communicated to the DNA on 19 July 18 and further clarification to the DNAs response was requested on 05 Sep 18.

- (c) Review of the additional documents and/or responses provided by DNA on 30 Oct 18;
- (d) Closing the findings;
- (e) Conclusion of the assessment report and preparation of draft recommendation.

**B.2. Assessment opinion:**

- 7. The secretariat assessed that:
  - (a) The data applied has been collected from secondary sources which are publicly available. No QC report has been required/submitted;
  - (b) All relevant documents and data were available for the secretariat's assessment;
  - (c) The assumptions and approaches were appropriately justified by the DNA.
- 8. The details of issues (assessment findings) identified by the secretariat and the responses provided by the DNA are provided in Appendix 1 to this document.

## Appendix 1. Findings and resolutions

CL No.	Request for Clarification (CL)	Reference to general provisions of guidelines on quality assurance and quality control of data used for sector-specific standardized baselines	Responses and corrective actions of DNA	Conclusion (open/closed)
1	<p>For the calculation of the fraction of non-renewable biomass (fNRB), the proposed standardized baseline applies the methodological tool: “Calculation of the fraction of non-renewable biomass” (approved at EB97). However, it was noted that the proposed value of 84% is determined as the average of yearly fNRB values for the period 2015-2026, calculated based on projected data of biomass consumption and renewable biomass supply (from a study carried out by MINIRENA in 2016), deviating from the procedures contained in sections 4.1 and 4.2 of the tool. The DNA was requested to provide further information and supporting documentation on:</p> <p>(a) Why the procedure has been deviated and, if it was not possible to apply the approach as contained in the tool, elaborate the reasons;</p> <p>(b) A copy of the study report conducted by MINIRENA, which is used in the submission.</p>		<p>The DNA submitted a copy of the referred sourced and clarified:</p> <p>a) The tool does not refer to a particular year or vintage to be considered.</p> <p>b) For the estimation of the overall consumption for woody biomass (H), using a one-year historic data-set is unlikely to provide a correct representation of the baseline. This is evident from the historic data and computation presented followed by the projection scenario. Further, it is reasonable to account for the trend (projection) impacting the woody biomass consumption. Apart from temporal aspects, this also takes into account the aspect of suppressed demand. However, the baseline has still been set conservatively be valid for a period of 3 years from the date of approval by the EB.</p>	Closed in CL No 2 below
2	<p>Following your response to the previous clarification request, the methodologies panel (MP) members raised</p>		<p>The DNA considered 6 years old data due to lack of recent data. Consequently, Rwanda DNA does not oppose to the concerns raised by the Methodology Panel. We therefore agree with the</p>	Closed

CL No.	Request for Clarification (CL)	Reference to general provisions of guidelines on quality assurance and quality control of data used for sector-specific standardized baselines	Responses and corrective actions of DNA	Conclusion (open/closed)
	<p>the following concerns on the calculation of the fraction of non-renewable biomass (fNRB):</p> <ul style="list-style-type: none"> <li>- the MP members noted that instead of actual values, the most recent data as per the submission is for year 2012;</li> <li>- the calculated fNRB value based on these values for 2012 results in 75%;</li> <li>- the MP members expressed concerns on the overall conservativeness of the approach, mainly due to the uncertainties of the projection and the continuation of the BAU scenario on the longer term. For this case, the members considered alternatives, such as calculating the fNRB as the average of the projected values starting on 2015 and covering the year of the submission (2018), and up to the period of validity of the of the standardized baseline /fNRB value.</li> </ul>		<p>alternative of: "calculating the fNRB as the average of the projected values starting on 2015 and covering the year of the submission (2018), and up to the period of validity of the of the standardized baseline /fNRB value".</p> <p>We are confident that Rwanda will have recent data by the time the validity of the standardised baseline/fNRB value expires. We shall be able to use actual values.</p> <p>The resulting fNRB value of 77.56% is conservatively round down to 77%.</p>	

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**Document information**

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<i>Version</i>	<i>Date</i>	<i>Description</i>
01.0	27 May 2013	Initial publication
02.0	01 June 2015	Modified in order to take into account the Board's decision and improve clarity and consistency

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