PROJECT REVIEW REPORT

This project review report includes findings raised during Verra's review of the project specified below. The VVB must address the findings before the project request can be considered for approval by Verra. The project review report will be made publicly available on the Verra Registry. Confidential information may be provided in separate attachments.

Project ID	3030
Project Name	The Clean Energy Cooking Initiative
Review Type	Registration and Verification
Program(s)	VCS Program
Verification Period	20 November 2022 to 30 April 2023
Project Proponent	EKI Energy Services Limited BSAS Infotech Ltd
Methodology	VMR0006: Methodology for Installation of High Efficiency Firewood Cookstoves, Version 1.1
VVB	LGAI Technological Center, S.A. (Applus+ Certification)
Assessment Criteria	VCS standard v4.4
Date of First Issue	14 September 2023
Date of Second Issue	01 February 2024
Date of Third Issue	23 May 2024
Date of Forth Issue	22 August 2024
Review Conclusion	Approved

Date of Final Issue	21 October 2024

FINDINGS

#	Finding Description	VVB Response	Status
1	**Clarification on the LSC**		
	Issue The project spans two districts of the Madhya pradesh state, Dhar and Barwani. However, the LSC was only conducted in Barwani. It is unclear how this is representative of the other district. Action Required 1. The VVB must ensure that the project proponent clarifies how conducting the LSC in one district of Madhya Pradesh is representative of the project under section 2.2 of the VCS joint PD/MR. 2. The VVB must explain how they concluded that the LSC meeting is representative of the whole project under Section 3.2.2 of the VCS joint VR/VR. Program Rule(s) *VCS Joint Project Description and Monitoring Report Template, v4.2,* Section 2.2 *VCS Joint Validation and Verification Report Template v4.2*, Sections 3.2.2.	**Round 1** VVB Response As discussed during the interviews with end users, it was confirmed that a meeting was held commonly for both the districts and invitation letters were sent well in advance to target villages, It was also confirmed that arrangement to and for transportation for the people who wanted to attend the meeting was done by the PP. VVB found this appropriate. Section 3.3.2 of joint VR/VR is revised to include the assessment of invitations for stakeholders from the complete project area. Verra Response The LSC meeting was held commonly for both the districts and invitation letters were sent well in advance to target villages. Arrangement to and fro transportation for the people who wanted to attend the meeting was done by the PP. This finding is now closed, and no further response is required.	Closed

2	**Public Comment Period**		
	Issue In section 2.4 of the VCS joint PD/MR, the dates when the project was open on the Verra website for public comments are missing. Action item	**Round 1** VVB Response The revised VCS PDMR was checked and found appropriate changes were made in section 2.4 of the same.	Closed

	The VVB must ensure that the project proponent provides information on dates when the project was open on the Verra website for public comments. Program rule(s) *VCS Joint Project Description and Monitoring Report Template, v4.2,* Section 2.4	Verra Response This finding is now closed, and no further response is required.	

<table>
<tr><td>3</td><td colspan="3">fNRB value: comparison with literature is missing</td></tr>
<tr><td></td><td>Issue
The fNRB calculation sheet is not submitted.

Tool 30 version 4 requires a comparison of the fNRB achieved with those from other literature. The project proponent does not provide this comparison in the VCS joint PD/MR.
Action Required

1. The VVB must ensure that the project proponent submits the fNRB calculation sheeet to the Verra Registry,
2. The VVB must ensure the project proponent provides the comparison on the values achieved and those reported.
3. The VVB must ensure to provide an assessment on the influence the factors mentioned could</td><td>Round 1
VVB Response (Pending)
PP has now submitted fNRB sheet. The values considered for calculation of fNRB are found to be sourced from appropriate documents and were found relevant to the project activity. The detailed assessment of PP response and fNRB sheet submitted is presented below:

PP has estimated fNRB value in accordance with approach stipulated under Tool 30 and has presented the justification with respect to conservativeness of each value considered which is assessed below:

<table>
<tr><th>Parameter</th><th>Justification of Data Source and assessment of Influence</th><th>VVB Assessment</th></tr>
<tr><td>Fuel Wood Consumption</td><td>The fuel wood demand used for estimation of fNRB is considered from the State of Forest Report 2011 (chapter 7) published by Forest Survey of India, MoEFCC, Govt of India.
Since the referred literature is the last publicly available data source relating to fuel wood demand in the state therefore in accordance to paragraph 10 of Tool 30 older vintage data is being considered.
It is in this context worthwhile to mention that 2011 value of fuel wood demand considered for estimation of fNRB is conservative as it has not accounted for the</td><td>VVB confirmed that the state of forest survey report from year 2011 for the state of Madhya Pradesh is the most recent data available for value of fuelwood usage. VVB acknowledge that the referred data is in accordance with paragraph 10 of tool 30. Since the value of fuel wood consumption in year 2022 would be different from the report in year 2011 which is appropriate and hence accepted.
In view of the same, the value of fuel wood as per estimated value from MoEFF&CC for fuel wood is found more appropriate. The values and calculation presented in the excel sheet was checked and found appropriate. The value of fuel wood consumption as 13.67 million tonne as per</td></tr>
</table>
</td><td>Closed</td></tr>
</table>

	have in the value achieved of Fraction of non-renewable biomass. 4. The VVB must ensure to provide further analysis with other relevant scientific literature." **Program Rule(s)** *Tool 30 v4.0,* Para 6 *VCS Joint Project Description & Monitoring Report Template: v4.2*, Section 7.5			growth in demand of wood fuel linked with population growth in the state of Madhya Pradesh till 2022. Moreover, cross verification has been made to assess the wood fuel demand in the state Madhya Pradesh using alternate approach as specified under Equation 3 of the Tool 30 and the MoEFCC estimated value of fuel wood demand for the state of Madhya Pradesh are found to be more conservative and therefore used for the estimation of the total consumption of woody biomass. The detailed estimation using alternate approach is presented in the fNRB estimation sheet.	https://fsi.nic.in/cover_2011/chapter7.pdf is found appropriate by the assessment team.		
		Commercial Wood Consumption	The commercial wood demand used for estimation of fNRB is considered from the State of Forest Report 2011 (chapter 7) published by Forest Survey of India, MoEFCC, Govt of India. Since the referred literature is the last publicly available data source relating to fuel wood demand in the state therefore in accordance to paragraph 10 of Tool 30 older vintage data is being considered. It is in this context worthwhile to mention that 2011 value of commercial wood demand considered for estimation of fNRB is conservative as it has not accounted for the growth in	The value of commercial wood consumption is taken as per the most recent available public data by PP as 1.149 million tonne. Since the state of forest survey, 2011 is the most recent data available for the state of Madhya Pradesh to consider the value of the parameter and same is being used by PP for estimation of the parameter value , same is found appropriate.		

				demand of commercial wood linked with population growth in the state of Madhya Pradesh till 2022.		
			Consumption of Bamboo and small timber	The commercial wood demand used for estimation of fNRB is considered from the State of Forest Report 2019 (chapter 10) published by Forest Survey of India, MoEFCC, Govt of India. Since the referred literature is the last publicly available data source relating to fuel wood demand in the state therefore in accordance to paragraph 10 of Tool 30 different vintage data is being considered. As the data relates to official statistics of Govt of India the same is considered as most conservative.	The value of the parameter is the estimated based on the most recent available data by PP i. e. state of forest report 2019. This is appropriate as per the tool requirement and hence acceptable.		

Renewable Biomass-

Parameter	Justification of Data Source and assessment of Influence	VVB assessment
Mean Annual Increment	The mean annual increment of India Forest as published by Government of Tamil Nadu which also outlines the average value for India forest is considered. Since the value considered is the publicly available national statistics the same is considered for estimation of fNRB.	The value and source of the same is found appropriate by VVB.
Area under Forest	The data and value related to area under forest is obtained from latest State of Forest Report 2021 (chapter	Since the most recent date is used for the value of the parameter, same is found acceptable.

			13) published by Forest Survey of India, MoEFCC, Govt of India.	
		Area under Non Forest Land	The data and value related to area under non-forest land is obtained from latest State of Forest Report 2021 (chapter 13) published by Forest Survey of India, MoEFCC, Govt of India.	Since the most recent date is used for the value of the parameter, same is found acceptable.

VVB noted that, all the input values obtained are sourced from nationally published data and is the most conservative and hence accepted.

The fNRB calculation is conducted by PP for the state of Madhya Pradesh and not on the complete country. This is in accordance with the tool which allows to choose the geographical region for estimation of the fNRB value. However, VVB noted and accept that there is not publicly available literature/ document which will be available for comparison with the value estimated and hence accepted.

Since no comparative data is available, PP compared the value estimated with some registered project activities. VVB noted that the value for the current project activity is the most conservative and hence accepted.

Assessment of fNRB value is presented in section 3.4.6 of JVR-VR.

Verra Response (Pending)
The fNRB calculation sheet has been submitted.

However, this finding cannot be closed.

Round 2

Issue

The following issues have been identified in the estimation of consumption of woody biomass

1) How has the VVB ensured that double counting does not occur in estimation of woody biomass consumption when considering small timber and bamboo use by FFVs in addition to household wood consumption in construction, furniture and as fuel.

The following issues have been identified in the estimation of renewable biomass.

2) The source of MAI is not accessible. It is unclear how density of selective species can be used for

		converting a pan India volumetric MAI value to tons/ha/year value. 3) PP has considered entire Protected and Reserved forest as inaccessible (Pforest,i), however as per Indian Forest conservation Act 1927 activities like lumbering, grazing, fuelwood collection and hunting are allowed within protected forest unless prohibited and allowed with restrictions in Reserved forests hence 100 percent of these areas cannot be considered in-accessible. 4) PP has included trees outside forest for renewable biomass estimation, however the MAI value applied for calculating this biomass is same as that of forest biomass. Action required. 1) VVB to ensure that double counting of wood consumption sources do not occur in estimation of non-renewable biomass. 2) The VVB must ensure that the source of MAI is accessible. VVB must justify how it assessed that density of specific trees found in the region could be used for converting pan India MAI value. 3) The VVB must ensure that the project proponent explains why the entire Protected and Reserved forest area is considered as inaccessible (Pforest,i). 4) The VVB must ensure that the PP includes justification for using MAI forest for assessing AGB of trees outside recorded forest. VVB response: 1) VVB accepts that there was lapse. PP has now corrected the f_{NRB} calculation by removing consumption of small timber and bamboo from total consumption of woody biomass calculation which is checked and confirmed. This ensures that no double counting occurs in calculation of consumption of fuelwood and construction wood in estimating non-renewable biomass consumption. 2) The pdf file of the source of MAI applied is being submitted now to VERRA as the concerned weblink is not working. VVB noted that PP has calculated MAI value by multiplying the 'growth rate of biomass' in m^3/ha/year by the 'average wood density' in ton/m^3. In the absence of regional data for biomass growth rates, the PP would have used national data. To convert this value to ton/ha/year, PP needed to employ a density value in ton/m^3. As per the footnote 3 below, India's country-level average wood density is less than 0.63[1], while regional values have been found to be 0.64, which is slightly higher. Thus, the regional value is considered more conservative, potentially resulting in a higher MAI value. Therefore, by	

[1] Rajashekar, G., Fararoda, R., Reddy, R. S., Jha, C. S., Ganeshaiah, K. N., Singh, J. S., & Dadhwal, V. K. (2018). Spatial distribution of forest biomass carbon (Above and below ground) in Indian forests. Ecological Indicators, 85, 742–752. doi:10.1016/j.ecolind.2017.11.024

		incorporating a specific value for the region, PP has ensured a more conservative estimate of MAI and hence accepted by VVB. 3) VVB checked and noted that as per the Indian Forest Act, 1927 section 26 , following acts are prohibited in a reserved forest: a. trespasses or pastures cattle, or permits cattle to trespass b. causes any damage by negligence in felling any tree or cutting or dragging any timber. fells, girdles, lops, or bums any tree or strips off the bark or leaves from, or otherwise damages, the same clears or breaks up any land for cultivation or any other purpose. Also, according to the Indian Forest Act of 1927, individuals seeking to collect firewood from a reserved forest must first obtain written consent from the Forest Officer or relevant authorities. Unauthorized removal of logs from such forests constitutes theft. VVB based on regional expertise and experience submits that, in the Indian context, households receiving Improved Cookstoves (ICS) from PP do not have any reserved forests nearby within the project area. In fact, in the regions where the ICS were distributed, firewood is sourced from nearby naturally grown trees, which are completely non-renewable. Consequently, obtaining consent from the Forest Officer for firewood collection is irrelevant in these circumstances. Hence, protected / reserved forests are considered as inaccessible (Pforest,i) which is accepted. 4) VVB has checked the submitted evidence for MAI values which is now being submitted to VERRA also as the weblink in the fNRB worksheet is no longer working. As per this document, the MAI value for other land areas is unavailable for India. Hence as per tool 30 guidance, PP has used MAI value for forest areas as the MAI Value for other land areas which is found correct. VVB has further noted that with revised values, the f_{NRB} value revises to 0.8934. The reason for this revision are as follows which are checked and confirmed based on the submitted f_{NRB} worksheet: a. In the row 21 of 'consumption of woody biomass' tab, For calculating the roundwood equivalent 30% conversion loss was considered in Commercial Wood Consumption. b. Consumption of small timber and bamboo is now removed from the calculation of consumption of woody biomass. c. In tab 'Renewable Biomass', calculation mistake (Wrong cell selection) is now corrected for $MAI_{forest,i}$ & $MAI_{other,i}$. VVB checked and confirmed that the calculated f_{NRB} value of 0.8934 complies with the PRR comments and correct calculation approach. PP has already registered projects with VERRA (VCS 2942 & VCS 2944) which has a approved value of 0.8920. Therefore, to ensure consistency and ensure principle of conservativeness, the project has now adopted 0.8920 as the value for f_{NRB}. This approach is found acceptable by the VVB. PP	

		has revised PD-MR and VVB has revised FVR for the value of f_{NRB} accordingly. Verra response The VVB response has been assessed and some issues raised were addressed while additional information is still required for others as explained below. This finding cannot be closed. **Round 3** 1) The PP has now corrected the f_{NRB} calculation by removing consumption of small timber and bamboo from total consumption of woody biomass calculation, which is checked and confirmed by the VVB, hence no double counting occurs. **Closed** 2) PP has used National data from a government document which provides direct value for the mean annual increment (MAI) of India's forests, however, as per the submitted reference the MAI value is sourced from a 1997 FAO document. The review team noted that as per Tool 30, Data/Parameter Table 5, vintage of MAI data shall not be before year 2000. Moreover, as per same table, if national studies or government data or official statistics are used, PP has to provide comparison of the considered value with FAO and IPCC defaults and provide justification of PP has not provided any such comparison. **The finding is therefore still open.** 3) The VVB defines the laws surrounding reserve forest and indicates that activities like fuelwood collection are prohibited. Also, households receiving Improved Cookstoves (ICS) from PP do not have any reserved forests nearby within the project area. Hence, reserved forest is considered as inaccessible (Pforest,i) which is accepted. However, this finding is still open a. It is not clear what was verified as inaccessible forest. As per Tool Pforest is the extent of forest area where extraction of wood is either prohibited or the area is geographically remote. As such, all other areas within a forest area should be considered as potential area for supply of renewable biomass. b. VVB must check Indian Forest Act 1927 chapter III, Section 32, which includes amongst other things that the government may make rules to regulate (a)the cutting, sawing, conversion and removal of trees and timber, and the collection, manufacture and removal of forest-produce, from protected forests;(b)the granting of licenses to the inhabitants of towns and villages in the vicinity of protected forests to take trees, timber or other forest-produce for their own use, and the production and return of such licenses by such persons. It is therefore unclear how the VVB verified that such regulations do not exist in the project area. 4) Since there is no data for MAI other, MAI forest is used in line with the guidelines of the applied tool.	

		the source of MAI applied. However, besides the sources of MAI submitted by the project proponent to determine MAI value for other land areas, the VVB does not mention any other sources that were looked into to conclude the approach taken for this data parameter. **Therefore, this finding is still open.** Action required. 1) The VVB must ensure that the data sources for MAI are in line with the data requirements of the applied Tool 30. 2) The VVB must explain how they verified that all inaccessible forest is protected forest considering that the P_{forest} definition in the applied tool. 3) The VVB must provide evidence to demonstrate how they verified that regulation that may allow for fuelwood collection in the protected area do not exist in the project area. 4) The VVB must provide other data sources checked to conclude on the approach taken for determining MAI for other lands besides those provided by the project proponent. VVB response: 2. VVB would like to present response regarding MAI source in pointwise manner as below: **a) Clarification on Cited Information:** • VVB has checked and confirmed that the information cited using 1997 FAO document is, "*The net annual increment of growing stock from all sources (public and private) was assessed to be 127 million cubic meters in 1994, and the actual production was estimated to be 294 million cubic meters"* which pertains to a general assessment and not specifically to the MAI value used. Rather in the same paragraph, the report mentions that. "*The mean annual increment (MAI) of India's forests is meagre of **0.5 m3/hectare/year** compared to the world average of about 2.1 m3/ha/year*." b) **Compliance with TOOL 30 Requirements**: • VVB has checked and confirmed that as per Table 5 of TOOL 30, the "Source of data" option (d) is utilized, i.e., "National studies or government data or official statistics." The document reports data after the year 2015 which satisfies the requirement of the tool para 10 of the tool 30 i .e. the data vintage shall not be before the year 2000. • VVB has at length discussed and noted that, a comparison of values with FAO and IPCC default is inappropriate because,	

		i. The Global Forest Resources Assessment 2000 by FAO (Table 14[2]) lists only the percentage distribution of forest types by country and does not provide sufficient data for effective conclusions about MAI, making it unsuitable for comparison. ii. The MAI values listed for above-ground biomass growth rates in the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories[3] (Above-ground biomass growth rates for different ecological zones) pertain to the Asia region as a whole, rather than specific to India. Hence, a direct comparison with the source document used is not correct. **c) Confirmation with Recently Registered Project Activity:** **Verification of MAI Values:** • **Consistency with Existing Project:** A review of registered projects identified VCS 2983, which used the same $MAI_{forest,i}$ value (0.5 m^3/ha/yr). The source document for this value was another Indian government data source[4], thus found appropriate. This finding supports the consistency and reliability of PP's data source. • **Unit Conversion and Calculations:** The source document uses m^3/ha/yr, requiring conversion to tonnes/ha/yr for the RB calculation. PP achieved this by multiplying the value with an "average wood density" (0.654 tonnes/m^3). This resulted in an $MAI_{forest,i}$ value of 0.33 tonnes/ha/yr and an $MAI_{Other,i}$ value of 0.32 tonnes/ha/yr (using a different density for "trees outside forests"). • **Comparison with Reference Project:** The referenced project (VCS 2983) employed a wood density of 0.56 tonnes/m^3, leading to a lower $MAI_{forest,i}$ value (0.28 tonnes/ha/yr). Notably, this project did not consider $MAI_{Other,i}$. A screen shot from VCS 2983 ER sheet[5] is shown for your reference.:	

[2] FAO Global Forest Resources Assessment 2000 by the FAO for "Distribution of total forest area by ecological zone" (Table 14)

[3] https://www.ipcc-nggip.iges.or.jp/public/2019rf/pdf/4_Volume4/19R_V4_Ch04_Forest%20Land.pdf

[4] Microsoft Word - India READY 06.docm (fao.org) page 13

[5] https://registry.verra.org/mymodule/ProjectDoc/Project_ViewFile.asp?FileID=105897&IDKEY=slksjoiuwqowrnoiuomnckjashoufifmln902309ksdflku098w146031963

Data	Parameter	Units	Value	Source
Mean Annual Increment of woody biomass growth per hectare in sub category i of forest areas in the relevant period	$MAI_{forest,i}$	cum/ha/yr	0.5	As per Asia-Pacific Forestry Sector Outlook Study II, India Outlook Study 2020, Ministry of Environment and Forest, Govt of India, Pg no. 16 https://moef.gov.in/wp-content/uploads/2019/06/Pacific.pdf
Extent of forest in sub-category i in the relevant period	Fforest,i	Ha	3812000	As per Forest Survey of India, 2021, Pg no. 491, https://fsi.nic.in/isfr-2021/chapter-13.pdf
RB: Quantity of renewable biomass that is available on a sustainable basis in the applicable area in the relevant period	RB	million tonnes	1.067	Calculated as per tool 30 equation 4 RB= MAI Forest * Fforest,i =(0.5x3812000*.56)/10^6= 1.067 https://www.fao.org/3/w4095e/w4095e0c.htm (Appendix 1 - List of wood densities for tree species from tropical America, Africa, and Asia. (fao.org))

Conclusion:

PP's use of a higher average wood density translates to a more conservative MAI value compared to the reference project. This demonstrates that PP's data sources for MAI fully comply with the requirements of TOOL 30 and maintain a conservative approach.

The assessment is added to VR section 3.4.6 now.

3. Regarding the classification of protected forests as inaccessible for the supply of wood and timber, VVB would like to present the following information.

   a) Data Source and Classification:
   The data source used[6] for calculating the value of $P_{forest,i}$ bifurcates the total forest cover into three categories: Very Dense Forest (VDF), Moderately Dense Forest (MDF), and Open Forest (OF). While calculating Pforest,i, PP has conservatively considered the Open Forest Area in both Reserve Forests and Protected Forests as accessible. This is evident in the submitted fNRB workbook - Renewable Biomass worksheet – cell C16. This is despite the previous confirmation that the entire Reserve Forest Area is completely inaccessible and hence accepted.

   b) Wood Extraction Permissions:
   Chapter III, Section 32 of the Indian Forest Act, 1927, permits granting licenses to local inhabitants for extracting trees, timber, or other forest produce for personal use from protected forests. However, these activities are highly regulated and typically restricted to the peripheral areas of the forest.

   VVB based on regional expertise confirmed that the interior parts of protected forests are often

[6] chapter-13.pdf (fsi.nic.in), Refer: page 369

		characterized by difficult terrain and dense vegetation, making them less accessible to the general population. Additionally, there is a significant risk of attacks by wild animals in these regions. Consequently, local inhabitants generally prefer collecting forest produce from the more accessible peripheral areas. However, as demonstrated below, PP has considered both the approaches and considered the conservative value of fNRB which in the current case remains the same i .e. 89.34% and hence acceptable. **c) Alternative Calculation Approach:** Despite the conservative approach mentioned above, PP recalculated the $P_{forest,i}$ value considering the entire Reserve Forest as inaccessible and the Protected Forest as completely accessible to address the registry's concern as shown below. This led to a higher value of $P_{forest,i}$ and fNRB. **Data Used:** Recorded Forest Area: 9,468,900 ha Reserved Forest: 6,188,600 ha Protected Forest: 3,109,800 ha **Percentages:** % of Recorded Forest Area under Reserved Forest: 65.36% % of Recorded Forest Area under Protected Forest: 32.84% Total Forest Cover (Fforest,i): 6,477,200 ha Area under open forest: 2,832,600 ha **Original Calculation:** Considering non-Accessible Area (VDF and MDF) for both Reserved Forest and Protected Forest: $P_{forest,i}$ = (Total Forest Cover - Area under open forest) * (% of Recorded Forest Area under Reserved Forest + % of Recorded Forest Area under Protected Forest) $P_{forest,i}$ = (6,477,200 - 2,832,600) * (65.36% + 32.84%) = 3,578,974.2 ha RB = 1.62 million tonnes NRB = 13.54 million tonnes fNRB = 89.34% **Calculation with considering protected forest as zero:** Considering only Reserved Forest (VDF, MDF, and OF) and taking Protected Forest as Zero: $P_{forest,i}$ = (Total Forest Cover * % of Recorded Forest Area under Reserved Forest) + (0 * Total Forest Cover) $P_{forest,i}$ = (6,477,200 * 65.36%) + (0 * 6,477,200) = 4,233,311 ha RB = 1.4 million tonnes NRB = 13.76 million tonnes	

		fNRB = 90.75% Revised fNRB workbook – worksheet (Renewable biomass) now provides comparison of the values for $P_{forest,i}$ with both of the above calculations and minimal value of the same is chosen for further calculation. Footnote 9 is added to FVR with regard to the same. **Conclusion:** Thus, VVB noted that with the approach selected by PP i. e. consideration of the inaccessible part of the total forest cover while calculating the $P_{forest,i}$ value has ensured that PP's calculation remain robust and aligned with the requirements of the TOOL 30 and hence accepted. 4. About cross checking the values for conclusion of the approach taken by PP. **a) Use of MAI Values for Other Land Areas:** In line with Table 5 of TOOL 30, it is specified that "if the MAI value for other land areas is not available in a country while only the MAI value for forest areas exists, the MAI value for forest areas may be used as the MAI value for other land areas." For India, MAI value for other land areas is not available, hence PP has considered the same MAI value for both $MAI_{forest,i}$ and $MAI_{other,I}$ as 0.5 m^3/ha/yr. **b) QA/QC Procedure and Comparison with FAO and IPCC Defaults:** As part of the QA/QC procedure in line with Table 5 of TOOL 30, a comparison of MAI values was attempted with FAO and IPCC defaults. The following observations were made: • The Global Forest Resources Assessment 2000 by FAO (Table 14) provides only the percentage distribution of forest types by country and does not offer sufficient data for effective conclusions about MAI, rendering it unsuitable for comparison. • The MAI values listed for above-ground biomass growth rates in the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories pertain to the Asia region as a whole and are not specific to India. Therefore, a direct comparison with Indian government data was not appropriate. **Conclusion**: Based on the above points, VVB concluded that the approach taken for determining MAI for other lands by the project proponent is in line with the requirements of TOOL 30. The use of the same MAI value for both forest and other land areas is justified due to the unavailability of specific MAI data for other land areas in India, and the methodology is supported by the precedent set in other recently registered projects as presented in table above.	

		Verra Response **1.** The VVB has clarified how the MAI value used meets the requirement of Tool 30. The document used refers **2.** to the MAI value of FAO document 1997 to triangulate the reported MAI value, however these are not the values used in the calculated. The value of 0.5 that is quoted by the document is used. This document is published after 2000, which meets Tool 30 data sources requirements. The VVB has checked registered project with VCS and noted that following registered project has also considered same MAIforest value (0.5 m¬≥/ha/yr)., affirming the consistency and reliability of PP's data source. **This finding cannot be closed** **3.** The VVB has justified why protected areas are considered inaccessible areas, including how accessible forest is defined, and the regulation of permits. The recalculation Considering non-Accessible Area (VDF and MDF) for both Reserved Forest and Protected Forest: vs Considering only Reserved Forest (VDF, MDF, and OF) and taking Protected Forest as Zero: indicates that the former is more conservative. **This finding is now closed, and no further response is required.** 4. The VVB has provided data sources checked to conclude on the approach taken for determining MAI for other lands besides those provided by the project proponent, including FAO and IPCCC. **This finding is now closed, and no further response is required.** **Additional round** **Issue** Low MAI Value- The supporting document submitted for MAI value of 0.5 m3/ha/yr, mentions that "In Indian tropical moist deciduous and dry deciduous forests, sal and teak have a forest cover area about 60 percent of total forest area. In such areas, the MAI is much higher than the average". Therefore, it can be concluded from this report that MAI of 0.5m3/ha/yr is not the accurate assessment of MAI of Indian Forest falling under tropical moist deciduous and dry deciduous ecological zones. The project proponent has considered MAI of 0.5 m3/ha/yr for all the geographic regions included under the present project activity without classifying them on the basis of ecological zones, in particular if any of the regions consists of tropical moist deciduous and dry deciduous forest types resulting in higher MAI values. **Action required** 1. VVB must justify its assessment of accuracy of MAI of 0.5m3/ha/yr with respect to each of the geographic boundary included under the grouped project, specifically in light of the information presented on tropical moist deciduous and dry deciduous ecological zones.	

		2. Also, the VVB must explain how it assessed this value to be conservative when other documents (IPCC; SINGHAL, R. & KUMAR, SUDHIR & JEEVA, V. (2003). Forests and forestry research in India. 44) suggest a higher MAI value for Indian forests. **VVB response** 1. The VVB and project proponent acknowledges that the composition of forest types across the states in India is not uniform as there would be some states with more deciduous forest and some with less. However, the information on local/state specific MAI values are not available in the public domain. Therefore, in absence of local/state level information, the project proponent has gone ahead with the country level MAI value which is available at multiple public sources. VVB accepts that the sourced document i. e. a research project report on "Developing Yield Table for few tree Species grown in Farm setting" prepared by the research team headed by Dr. A. Balasubramanian, Ph.D. Professor and Head (Forestry) Department of Silviculture Forest College and Research Institute Tamil Nadu Agricultural University[7] mentions that MAI value for deciduous forests are higher than the average value. However, regarding MAI values of deciduous forest (both moist deciduous and dry deciduous), this may please be noted that presence of more deciduous forest in a particular region may not necessarily bring a higher MAI value. This was cross checked against another research paper published by Indian Council of Forestry Research and Education (ICFRE)[8] (the same journal recommended by Verra under "action required" for comparison) referred a study which has suggested to consider the MAI value of 0.5 m3/ha/yr for the moist deciduous forest. A screenshot of the report page 56 is provided below.	

[7] https://tnau.ac.in/site/college-fcri-mettupalayam/department-of-snrm-hods-desk

[8] https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=81d8b0a4a405f957ca0d943c74c5a60abbd4f384

		A recent study in Kerala has estimated the current average increments, in the natural evergreen and moist deciduous forests as 1.0 and 0.5 m^3 ha^{-1} yr^{-1} respectively. Yet another report suggests that the average productivity of Sal forests of India is at the level of 54.7 million m^3 ha^{-1}. In fact figures are often quoted which would give Indian forest an annual productivity of 0.5 m^3 ha^{-1}. If theoretical potential productivity could be achieved, this would increase to about 525 million $m^3ha^{-1}yr^{-1}$. Furthermore, even though the Indian forest has a higher concentration of deciduous plants, as per the country report on the state of the world's forest genetic resources for India published by Food and Agriculture Organization of the United Nations (Page 1)[9], the productivity of Indian forest is very less due to fire, grazing, overexploitation and non-recycling of biomass in forest soil. Another source[10] also suggests low productivity of Indian forest due to the below factors; • Challenges in exploitation due to uneven distribution and inaccessibility; • Uncontrolled felling without adequate regeneration through compensatory forestry; • Insufficient transport and infrastructure facilities; • Overutilization due to unregulated grazing; • Forest depletion caused by fires; • Inefficient and unscientific methods of felling, crafting, and seasoning; • Unscientific economic activities, such as slash-and-burn agriculture, leading to the destruction of fragile forest covers on slopes; • Dependence on static conservancy, relying on natural growth rather than regenerating through afforestation; • Insufficient information on forest resources and inadequate research facilities; • Degradation of forest covers due to industrial and irrigation projects, illegal felling, or 'poaching.'	

9 https://www.fao.org/4/i3825e/i3825e32.pdf

10 https://edukemy.com/blog/problems-of-indian-forestry-upsc-indian-geography-notes/#:~:text=ASSOCIATED%20WITH%20FORESTRY-,Inaccessibility%20of%20Forests%3A,national%20product%20compared%20to%20agriculture .

Apart from the source used by the project proponent, below is the additional source which mention the same value MAI for India i.e. 0.5 m^3/ha/yr very distinctly.

Sr. No.	Published by	Title	Year of publication	Page no.
1	Food and Agriculture Organization of the United Nations (FAO)	Country Report on The State of Forest Genetic Resources https://www.fao.org/4/i3825e/i3825e32.pdf	2012	1 & 16

Thus, VVB noted that the value of MAI of 0.5 m^3/ha/yr is appropriately considered by PP as the value of MAI for each of the geographic boundary under the grouped project is not available and also, as discussed in the above based on the research paper i. e. (IPCC; SINGHAL, R. & KUMAR, SUDHIR & JEEVA, V. (2003). Forests and forestry research in India. 44) referred by the registry for comparison of the MAI value, that value for MAI remains the same for deciduous forests.

2. This shall be noted that the document (IPCC; SINGHAL, R. & KUMAR, SUDHIR & JEEVA, V. (2003). Forests and forestry research in India. 44) referred by the registry for comparison of the MAI value does not suggest any higher value of MAI, rather it suggests the same MAI value, 0.5 m^3/ha/yr for the moist deciduous forest in India.

   The project proponent has also compared their Mean Annual Increment (MAI) value with that of the recently registered projects by Verra. Below is the list of projects which have considered same MAI value, 0.5 m^3/ha/yr.

S.I No.	Project Title	Registry/Ref no.	Weblink
1	Clean Cooking Access for Women in Rural Maharashtra	VERRA/ VCS 3151	https://registry.verra.org/app/projectDetail/VCS/3151 (refer ER sheet)

		2	Distribution of high Efficient Cook Stoves	VERRA/ VCS 2983	https://registry.verra.org/app/projectDetail/VCS/2983 (refer ER sheet)	

Thus, it can be concluded that the value of MAI considered for the current project is comparable with other registered projects.

Verra Response

VVB and project proponent acknowledges that the composition of forest types across the states in India is not uniform however, in absence of local/state level information, the project proponent has used country level MAI value which is available at multiple public sources.

VVB has analysed the information on MAI in the document (IPCC; SINGHAL, R. & KUMAR, SUDHIR & JEEVA, V. (2003). Forests and forestry research in India stating that it also states the MAI of 0.5t/ha/yr is recommended.

Other documents that use the same MAI both within and outside Verra are quoted including FAO that uses the same value in the "Country Report on The State of Forest Genetic Resources.

This finding is now closed, and no further response is required.

4	Clarification on the ERRs per ICS		
	Issue In page 17 of the VCS joint VR/VR, it is indicated that each ICS will reduce 3.4764 tCO2e/year. This is at odds with the 5.35 value in the spreadsheet and VCS joint PD/MR	**Round 1** VVB Response Revised PDMR was checked and found appropriate.	open

	Action Required The VVB must ensure that the ERRs per ICS is consistent in all documents. Program Rule(s) *VCS Joint Validation and Verification Report Template v4.2*, Sections 3.1.	Verra Response The VCS joint PD/MR is revised to match the value in the VCS joint VR/VR. However, this finding cannot be closed. **Round 2** Issue The revised ERR sheet to reflect this change is not provided. Action required The VVB must ensure that the project proponent provides a revised ERR sheet to reflect this change. VVB response The revised ER sheet is being submitted now.	

5	Clarification on unique identification of ICS		
	Issue The review team has observed that serial number of ICS implemented under the current grouped project is similar to the identification used for ICS belonging to another grouped project 2940. Both projects have same alpha numeric code beginning with GHG-22(or 23)/L1 (or L2, L3) followed by a unique numeral code. It is not clear from the Joint PD&MR how PP will ensure that cross movement of stoves do not take place between different projects implemented by PP in the same region which is a possibility considering stove models are also same. Action Required The VVB must justify how it has validated that stoves belonging to this grouped project will not be moved to other projects implemented by PP in the same region and vice versa.	**Round 2** PP Response The alphanumeric code GHG-22(or 23)/L1 (or L2, L3) is generated by the manufacturing unit on a continuous basis and is not under the control of PP. Therefore, it is possible for this code to be found in other projects. However, it's important to note that the alphanumeric code, followed by a unique numerical code, constitutes a unique serial number. This unique numerical code distinguishes each stove and ensures its individual identification, regardless of the alphanumeric prefix. Apart from assigning a unique serial number to each ICS, the PP maintains a database of distributed ICS units of each project activities to prevent duplicate entries or double counting. Thus, the risk of potential interchange of stoves between different projects within the same region is avoided. Additionally, the PP's declaration confirms that systems included in	Closed

	Program Rule(s) *VCS Standard v4.4, Section 2.2.1*	the grouped project will not be used to claim credits under other GHG programs, thus avoiding any double counting. The PP's declaration has also been submitted. VVB Response VVB during the interviews with PP representatives discussed the serial numbers provided to ICS and how individuality of the same is maintained. It was explained to VVB that, the alphanumeric code GHG-22(or 23)/L1 (or L2, L3) is generated by the manufacturing unit on a continuous basis and is not under the control of PP. Therefore, it is possible for this code to be found in other projects. However, VVB noted that the alphanumeric code, followed by a unique numerical code, constitutes a unique serial number. This unique numerical code distinguishes each stove and ensures its individual identification, regardless of the alphanumeric prefix. As confirmed during desk review and interview with PP representative, apart from assigning a unique serial number to each ICS, the PP maintains a database of distributed ICS units of each project activities to prevent duplicate entries or double counting. Thus, the risk of potential interchange of stoves between different projects within the same region is avoided. Additionally, PP has submitted a declaration that the ICS included in the grouped project will not be used to claim credits under other GHG programs, thus avoiding any double counting.	
		Verra Response The alphanumeric code GHG-22(or 23)/L1 (or L2, L3) is generated by the manufacturing unit on a continuous basis, followed by a unique numerical code which distinguishes each stove and ensures its individual identification, regardless of the alphanumeric prefix. The VVB has verified this during interviews with the project beneficiaries during the site visit, and confirms that the project proponent maintains a database of distributed ICS units to prevent duplicate entries. This finding cannot be closed	

		Round 3 Issue The database provided indicates that there are duplicate entries where some beneficiaries received more than one project ICS, yet, the project is disseminating one ICS per household. Action required The VVB must ensure that the project proponent submits an updated project database without duplicate entries. VVB response: VVB has checked the update project database submitted by CME. There are multiple entries by the same name of beneficiaries which were noted. VVB noted that it is normal to have same name of persons within the same village and hence same was accepted. For better clarity and to make data robust for 3rd party view, unique government ID nos and geographical co-ordinates for each beneficiaries are now added to the project database. VVB has also requested for beneficiary agreements on random basis for the few beneficiaries whose names were the same/are from the same village/tehsil for crosscheck purpose and found that details mention matches the project database. **Verra Response** An updated database has been submitted. This finding cannot be closed. **Additional round** **Issue** There are a number of entries in the database for which there is no conclusive evidence of them being uniquely identifiable. The end-user names and contact details are the same and the geo-coordinates also	

		appear to be closely located. VVB has not explained adequately how it assessed such entries to be distinct from each other, the evidence it checked and if any other method was used for cross verification of same. Sr. no | Registration number 1. | GHG-22/L2/0540547 2. | GHG-22/L2/0540990 3. | GHG-22/L2/0540742 4. | GHG-22/L1/0525823 5. | GHG-22/L1/0530433 6. | GHG-22/L1/0537924 7. | GHG-22/L1/0538070 8. | GHG-22/L1/0538142 9. | GHG-22/L1/0538341 10. | GHG-22/L1/0538080 **Action Required** 1. The VVB must provide an explanation on the process undertaken for evaluating validity of database. 2. As evidence of above, VVB must submit its assessment of unique identification of following project stoves along with the scanned copies of original registration form/stove distribution form for each. **VVB Response:** 1. The PP has shared an updated project database that has been thoroughly reviewed, with corrections made where necessary, particularly focusing on clarifying the geographical locations of beneficiaries. To ensure accuracy and eliminate any potential confusion, especially in cases where beneficiaries share the same name or come from the same village or tehsil, the PP has also provided beneficiary agreements and Govt IDs on a random basis for cross-checking purposes. This step was taken to ensure the	

		integrity of the data and to confirm the correct identification of each beneficiary. The beneficiary agreements and government IDs were cross checked against each other to confirm the beneficiary details such as name and address were found consistent and hence accepted. VVB based on host country experience can confirm that it is possible to have people with same first and last name within the same village. Further, in the host country, villages, even towns have houses which are very next to each other / on the same land parcel (e. g. multiple families living on the same land parcel. in huts/rooms/other form of shelter). Hence, finding persons with same first and last name, having geographical co-ordinates very closely located is quite possible and is acceptable to the VVB. VVB had requested to submit beneficiary agreements / government IDs on random basis for end users with same/similar names, same geo-coordinates and has confirm that the databased entries are correctly made based on this documents. Further, VVB has checked and confirmed that contact details i, e, name and address mentioned for each stakeholder are different from each other as evident from the same mentioned in the beneficiary agreements. During on-site visit, it was checked and confirmed that not all the end users have a telephone/mobile available thus same are not considered by PP which is acceptable. 2. The VVB's assessment of unique identification of project instances is mentioned in the above point i. e. through beneficiary agreements (original registration form/stove distribution form) and the government IDs for each one of them. The supportives are being submitted to VERRA. **Verra response** The VVB explained that it is possible to have people with same first and last name within the same village. The PP has provided the government IDs and the end user agreement to validate the users in the database with similar names. This finding is closed and no further action is	

		required.	