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TABLE FOR COMMENTS

Name of submitter: _____Molly Brown_____

Affiliated organization of the submitter (if any): ____BURN Manufacturing_____

Contact email of submitter: _____ molly.brown@burnmfg.com_____

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#	**Para No./ Annex / Figure / Table**	**Line Number**	**Type of comment** **ge** = general **te** = technical **ed** = editorial	**Comment** **(including justification for change)**	**Proposed change** **(including proposed text)**	**Assessment of comment** **(*to be completed by UNFCCC secretariat*)**
1	**General**	**N/A**	**ge**	**Country Approval and Validation** While BURN welcome the increased sophistication of fNRB estimation, the MoFuSS model presented is complex. Neither the model nor the data inputs have been adequately validated by Designated National Authorities (DNAs) due to the short timeframe provided for analysis.	The determination of the fNRB deserves critical scientific consensus before final values are released. The current 5-week review period provides little room for sufficient stakeholder engagement and inadequate time for DNAs to assess and provide comprehensive feedback on the input and results accuracy. We urge the CDM Executive Board to: • Delay the implementation of the new fNRB estimates until a broader scientific consensus is achieved. This will ensure the integrity and accuracy of the environmental claims, aligning with ISO standard ISO 5725-1:1994, which emphasizes accuracy over conservativeness in scientific guidelines. • Commission further research into the implications of a marginal definition for fNRB; • Consider the incorporation of national data and provide guidance on how the validity of this data would be determined. • Consider extending the deadline for submission of inputs, to give DNAs sufficient time to assess and provide feedback on the numbers proposed.	

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2	**General**	**N/A**	**ge**	**Stakeholder Approval** We have concerns with respect to the MoFuSS tool's use in the determination of the fNRB without strict independent validation or approval from a broad selection of experts in the biomass, forestry and geo-imaging industries. While the MoFuSS tool has undergone peer review, the data inputs for fNRB computations have not, driving wide variance between the latest submission and the October defaults. We note also with concern that there is a limited availability of individuals or organizations with the required combination of statistical, computing and forestry expertise that this model and its outputs require to assess.	In the absence of a governing framework that can review and certify the outputs of the model in real time, we observe a risk in adoption of values as presented in its current iteration, but also in future iterations of the tool or the underlying definitions of fNRB following these consultations. We recommend that assumptions from global datasets are validated by ground truthed studies and approved by Host Country governments.	
3	**General**	**N/A**	**ge**	**Timeline for Validation** The authors have referenced plans for external validation in the coming months. However, in our view the timelines and the funding for conducting such a review must be consistent with the respective workload, complexity, and aligned with the UNFCCC process, ensuring a broad participation of stakeholders. Further, after the external validation is completed, a proper process should be established to enable improvements in the model and the use of input data as per availability of reliable sources.	We suggest to the CDM/UNFCCC that a clear process is established for validating the work before it gets approved as well as for managing future developments and updates. The process would be communicated to relevant stakeholders, with details including timelines, funding, and tools for the external validation/calibration of the latest version of MoFuSS model and its results. In particular, please advise on opportunities for stakeholder engagement on this issue after September 2024. What happens to this feedback when the transition from the CDM to the Article 6.4 SB happens?	
4	**General**	**N/A**	**ge**	**Open-access tool** It is mentioned that there will be an open-access cloud-based version of the model, which will allow anyone to run it for an area of interest (country, project area, etc) and adjust parameters, without needing to download software or understand the underlying code. However, the timeline provided by the UNFCCC does not seem to be appropriate for such a development, as there would be no time to have this online tool ready before the Meth Panel meeting in September.	We suggest to the CDM/UNFCCC that a clear process is established for managing future developments and updates. The process would be communicated to relevant stakeholders, with details including timelines, funding, and tools for the external validation/calibration of the latest version of MoFuSS model and its results. In particular, please advise on opportunities for stakeholder engagement on this issue after September 2024. What happens to this feedback when the transition from the CDM to the Article 6.4 SB happens?	

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5	**General**	**N/A**	**ge**	**Charcoal vs Wood** We understand it would be possible to run MoFuSS separately for charcoal and fuelwood. Given the different harvesting profiles of the fuels we think this would be valuable.	We suggest publishing separate values for wood and charcoal projects. Otherwise, we would appreciate a comprehensive comment on the non-relevance of this proposition if this doesn't apply with the current MoFuSS statistical model.	
6	**General**	**N/A**	**ge**	**Validation of sub-national defaults** The intention is that project developers can use an open-access tool to generate sub-national defaults. We welcome this, but question what framework will be provided to VVBs or any other stakeholders to validate the numbers generated by project developers based on project or sub-national boundaries. Is there a separate tool or platform designed for that?	Please develop guidelines for VVBs to validate MoFuSS derived sub-national or project fNRB values.	
7	**General**	**N/A**	**ge**	**Open Source & Replication** It is mentioned in the report that "*MoFuSS is an open-source freeware in constant development and that there is no restriction to access the code".* However, the current structure of the online repository means finding one's way around the folders to find the correct scripts already takes a few days. Further, as a large model, MoFuSS requires large computing power, and each run takes a lot of time. As such, it will be very difficult to run the model and provide proper inputs during the time allocated for public inputs.	We suggest that UNFCCC allocates a longer review period particularly to allow for independent third-party testing of the model itself by a range of relevant stakeholders, rather than just a review of the published report and results thereof.	
8	**General**	**N/A**	**ge**	**Application** As there are currently no interim solutions proposed to project developers (PDs) while the review and validation processes of the MoFuSS results are being completed, we anticipate that Project Developers will continue to use existing fNRB protocols.	Until the review and validation processes are completed, project developers will continue to use existing fNRB protocols. Any project developers who would like to voluntarily use the draft MoFuSS defaults should be allowed to do so, provided there is guidance for use of the standard deviation (SD) values, e.g., availability of evidence applicable to the project context could determine the use of upper or lower SDs.	

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9	**General**	**N/A**	**ge**	**fNRB as a marginal variable** BURN has been exploring a marginal approach to fNRB which we believe warrants further exploration. At present the MoFuSS model considers the non-renewability of the total harvest across a landscape, but we strongly suggest that fNRB should instead consider the non-renewability of a **reduction** in harvest. This would bring cookstove carbon crediting in line with the emission reduction approach in energy efficiency projects where the methodology (e.g. AMS II.C) uses a marginal grid emission factor. The original definition of fNRB from 2012 required PDs to demonstrate a harvesting dynamic of increasing biomass scarcity (CDM SSC WG 35, Annex 20). This implicitly considered fNRB as a marginal variable. However, in 2017, fNRB was redefined as a fraction of all the wood stock available, without a corresponding update being made to the ER calculations to account for the new meaning. This definition change could explain the gap between the original CDM defaults (~90%) and the new defaults generated by MoFuSS (~30-50%). Further research is needed to explore the implications of a marginal fNRB. We understand that MoFuSS was designed to compare baseline and intervention scenarios, and that it is therefore well-suited to generating marginal defaults. We recommend that this work is commissioned, and that MoFuSS be used to generate marginal defaults, while addressing some of the concerns raised below.	BURN strongly recommend that the CDM EB assess the marginal approach to fNRB, with a view to bringing cookstove methodologies in line with the approach to grid emission factors in AMS II C. We recommend that this work is conducted as part of the review of these numbers, and before the conclusion of this workstream at the Executive Board in November. Funding should be provided for MoFuSS to be re-run in an 'intervention' scenario, for 2020-2030, based on a Paris-aligned clean cooking adoption curves. Only fNRB defaults that are calculated based on the delta between baseline and intervention scenario should be published. Baseline fNRBs should not be published, and the timeline for adopting new variables should be extended. The benefits of a more scientifically accurate approach to fNRB outweigh the delay.	

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10	**General**	**N/A**	**ge**	**Results** The current report does not provide any suitable reviewing advice for rating agencies, carbon credit buyers, developers and investors to illustrate that these numbers are effectively desk based figures that are subject to material changes when new inputs and assumptions are used (which are often generated from utilising local validated knowledge). The UNFCCC / the authors need to make clear that these figures can, and fundamentally should, change when the MoFuSS inputs and assumptions are updated with better and more contextual understanding of the underlying country and region.	As part of any 'official' communication of such figures there needs to be a disclaimer that these figures are derived from desk-based research and subject to material change when inputs and assumptions are revised to adhere to local knowledge. Ideally the report should also clearly list in a table where generic assumptions have been made so that the average carbon market participant, who is not an academic in nature, can better understand why there are likely to be material differences in model outputs when improved inputs are used.	
11	**General**	**N/A**	**ge**	**Local Data Inputs** It is clear from reviewing the latest report that there are several local / national variations that need to be considered and researched to build an accurate understanding of fNRB values. For these numbers to become de facto defaults, we recommend the UNFCCC commissions local or regional studies to use localised inputs and assumptions for accurate fNRB values. Only once local inputs and assumptions have been used in the MoFuSS model should there be 'default' values approved by the UNFCCC. In the interim period existing fNRB protocols should continue to apply.	Local / national variations need to be included in the results before they become de facto default values.	
12	**1. Executive Summary Para 1**	**1**	**ge**	**Executive Summary** The introductory paragraph notes that MoFuSS was "initially developed to estimate CO2 emission reductions from traditional woodfuel harvest and use, comparing business-as-usual with intervention scenarios".	Given the wide implications of the redefinition, we recommend that the UNFCCC consider further research into a marginal fNRB. We understand that this could be achieved with the current MoFuSS tool by comparing a baseline and implementation scenarios. We strongly recommend that UNFCCC commissions this research to produce fNRB value as initially intended by comparing baseline and intervention scenarios.	

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13	**Table ES1 Para 3**	**3**	**ge**	**Summarised Results** We note with concern that standard deviations are high (14%-22%, bringing the accurateness of the model and values into question.	Please provide a clearer explanation for how project developers should interpret the high Standard Deviations. For example, availability of evidence applicable to the project context could determine the use of upper or lower SDs. In particular, please provide direction on the SD tolerances that are feasible for developers given that the tool can generate such wide SD ranges.	
14	**1.1 Summary of Results**	**5**	**ge**	**Urban Estimates** We thank the authors for providing separate urban estimates as we feel this is an essential recognition of the different collection and sale dynamics in different areas.	We recommend retaining urban estimates, and ideally publishing different estimates for charcoal and wood.	
15	**1.4 Uncertainty Para 10**	**10**	**te**	**Uncertainty** The resulting standard deviations of the default values is a cause for concern in terms of the robustness of these results. The low number of simulations (30) while varying only one parameter seems to be too low to enable acceptable results.	We suggest running the simulation while varying all parameters simultaneously for a minimum of 1,000 times.	
16	**1.5 Validation and next steps, Para 11-12**	**11 - 12**	**ge**	**Validation and Next Steps** It is stated by these paragraphs that the data/values have not yet been validated. Furthermore, the authors indicate that they will be conducting a series of validation studies in the coming year. We strongly recommend that the UNFCCC allows/commissions these validations to take place before the values are released.	Delay release of the fNRB results until they have been validated. We request clarification from the CDM that these are provisional estimates, and that further research is required to garner broader scientific consensus on the quantification approaches and definitions.	
17	**2.14 Calculating fNRB, Para 14**	**14**	**ge**	**Calculating fNRB** The document defines that "real emission reductions are only attributable to the fraction of harvested wood that would not have regenerated naturally." However, the fraction of the forest that is included in the calculations should be adjusted to account for the probability that marginal forest areas are tapped first for fuelwood.	Allow the possibility to discount total forest area to account for marginal harvest	

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18	**2.4 Reassessing fNRB, Para 20 - 25**	**20 - 25**	**ge**	**Reassessing fNRB** It is acknowledged that MoFuSS "requires some expertise to run," and it is well known that further development is required to enable PDs to replace default values with project-specific values. Default values are in many cases inaccurate and are derived from datasets that are "all 10 or more years old" per the document. So, it is important that PDs can assess accurate, ground-truthed values and implement them in their project estimates.	MoFuSS derived values should only be implemented and published after development work is complete and it is possible for PDs accurately define the inputs.	
19	**2.4 Key assumptions in MoFuSS, para 22**	**22**	**te**	**Key Assumptions in MoFuSS** MoFuSS relies on several dozen parameters to model land cover change associated with woodfuel harvesting. Based on our request to delay the publication of these numbers before strict validation by experts. We suggest the following modification to reflect best the status of the current report.	Values for fNRB provide preliminary results and will only be applicable for use upon a complete validation and verification of the data sets support the MoFuSS tool	

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20	**2.5 Biomass stocks, Para 24**	**24**	**ge**	**Data Inputs: Biomass Stocks** The data sets used to map above ground biomass are global models from 2010. We understand the need to train the predictive model, but recommend that simulated biomass stocks for 2010-2024 are validated with contemporary satellite data, and ground truthing studies. We note the authors aims to "calibrate our models to observed changes that occurred over leading up to 2010," and recommend the same approach is applied to the time period up to the present. We strongly recommend undertaking this exercise and presenting the findings in the report to show alignment and/or discrepancies. Given the severity of loss in the forest cover due to unsustainable harvesting of wood fuels and deforestation predominantly in SSA regions in the last decade, It is obvious that the biomass stocks available in 2020 will substantially differ from 2010, therefore the resulted fNRB values from the MoFuSS study considering 2010 biomass stocks will have highest degree of uncertainty unless proven otherwise through calibrations of model by tracking the changes occurred in the past.	Please add a section on how the model calibration for biomass stocks were completed and add calibration plots. In particular, the report should include a cross comparison between 2020 data generated by the model and real observed 2020 biomass stocks. This can help validate the predictions from the model. We strongly recommend the researchers use to most recent biomass stock maps or alternatively if the NASA vintage maps is still used a validation process is a must. UNFCCC shall ensure the model is fully calibrated to garner wide acceptability from the carbon / scientific community.	

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21	**2.6 Biomass growth functions, Para 33**	**33**	**te**	**Biomass Growth Functions** It is stated that MoFuSS can simulate future tree cover loss that might be caused by drivers unrelated to woodfuel demand, such as agricultural expansion, but we do not predict future degradation. It is further mentioned that in areas that are not affected by future tree loss, the simulation allows trees to grow to their full potential unless they are affected by woodfuel harvesting. We believe that the model does not adequately predict future degradation as it does not capture the acceleration of forest loss due to extreme weather events and agricultural pressure of smallholder farmers. Evidence suggests that these drivers will become more important with climate change leading to more frequent loss of fertile agricultural land, thereby increasing the pressure on rural farmers to clear further forest spaces for agriculture.	We recommend these aspects be reviewed and a clarification is provided on whether the model considers the impact of agriculture practices not only as a primary driver of deforestation (conversion of forest lands) but also as an activity that is likely to be implemented on lands that were previously deforested and as such would prevent regeneration on such lands by occupying them, thus impacting the amount of natural generation in fNRB calculations.	
22	**2.6.1 SOC , para 35**	**35**	**te**	**SOC** As per the report, the default values do not include the option to include dead wood due to land clearance. How significant is the impact of those values, if incorporated?	Assess sensitivity and consider whether dead wood for land clearance should be accounted for as a default adjustment to fNRB.	
23	**2.8 Residential, commercial, and industrial woodfuel consumption, Para 39**	**39**	**Te**	**Non-Residential Biomass Consumption** The MoFuSS tool uses example studies in Kenya, Rwanda, Ethiopia and Uganda to extrapolate non-residential fuel consumption across the entire sub-continent. Each country should have its own figure for this rather than a default multiplier of 1.1 and 1.2. This will lead to more accurate inputs and resulting figures. Proper local data inputs would provide an opportunity to locate non-residential fuel consumption – at present it is unclear how this is spread across countries.	The quantification of non-residential fuel consumption should be cross-checked with national studies by Host Country governments. It is impossible to get to accurate figures with such data being overlooked.	

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24	**2.8 Residential, commercial, and industrial woodfuel consumption, Para 39 & 40**	**39 & 40**	**te**	**Non-residential biomass consumption** Bailis acknowledges that non-residential biomass consumption was previously not factored into the MoFuSS model and that this has now been applied in the revised numbers. By sampling 4 countries, a weighted average has been applied. However, the weighted average is general when there is the ability for it to be specific by Bailis. When trying to build credibility into these numbers, especially with sub-Saharan African governments, where accurate country level data exists it should be applied for said country as opposed to applying a weighted average. In the example of the Rwanda non-residential biomass consumption figures, these come from high-quality Government of Rwanda data and as such by taking an average you are creating a reduced fNRB number for Rwanda which is inaccurate.	In cases where there is accurate and reliable data on non-residential biomass consumption, such as is the case in Rwanda, this multiplier should be made in the MoFuSS model numbers for that country based on the actual data, not through a weighted average. Whilst Bailis acknowledges that 'when carrying out detailed, country specific studies these numbers can be adjusted' the current consequence is that public revised fNRB numbers for some countries, including Rwanda, will be based on this incorrect data input. The model should be run again for all countries with accurate inputs not generic multipliers.	
25	**2.9 Accounting for non-energy wood demand and timber plantations, Para 43**	**43**	**te**	**Residential Biomass Consumption** In context where accurate government data exists, regionalized wood usage estimates are not appropriate. In addition, where project developers have submitted data from baseline KPTs, these should also be considered to avoid a standardised baseline biomass consumption figure being applied to all sub-Saharan Africa.	An additional round of published MoFuSS numbers is needed that must account for a combination of evidence from recent KPTs and other surveys, often commissioned by Governments themselves, at the individual country level when considering baseline biomass consumption by households. We call for a stronger role for Host Country governments, and the use of national woodfuel consumption data. Rwanda case: Specifically, the Government of Rwanda has conducted credible and accurate surveys (with funding from the EU) of biomass consumption across the country as recently as 2020 (Ministry of Infrastructure/Ministry of Finance 'National Survey on Cooking Fuel Energy and Technologies in Households, Commercial and Public Institutions) which calculated household biomass consumption to be considerably higher than the baseline of 400KG used in these published numbers.	

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26	**2.11 Quantifying household woodfuel consumption, Para 44, Table 3**	**44**	**ed**	**Residential Biomass Consumption** In the first row of the table, the Annual per capita woody biomass consumption unit is noted as kg. This should be in tonnes (t)	Change “Annual per capita consumption (kg)” to “Annual per capita consumption (t)”	
27	**2.11 Quantifying household woodfuel consumption, Para 45**	**45**	**te**	**Residential Biomass Consumption** This paragraph references data submitted by the Project Developer Forum to both the UNFCCC methodology panel, and to the authors directly. This represented actual baseline biomass usage data determined by KPTs from 72 projects and 16 project developers. This data has not yet been included into the MoFuSS values. From one of the author’s analysis of the data of SSA, LAC and Asia all the actual KPT values are larger than the literature values used in the current study e.g. • SSA 0.71 vs. 0.40 • LAC 1.25 vs 1.10 • Asia 0.97 vs. 0.44 (East Asia) and 0.4 (South Asia)). It is clear that the actual ground truthed values differ greatly from the values used in the study and the current values could result in underestimation of the fNRB	Please clarify and justify why the default baseline woody consumption values have remained low, below the level observed by the UN (Table 3) and by ongoing projects.	

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28	**2.11 Quantifying household woodfuel consumption, Table 4**	**46**	**te**	**Residential Biomass Consumption** The MoFuSS tool estimates non-renewable biomass primarily as a function of population data and estimated fuel consumption metrics. The fuelwood per capita per year has been adjusted to reflect 0.4t per year of oven dry mass across Sub Saharan Africa. We consider this default to be too low speciallz when looking at data from PDs and evidence in Table 3. We also note there is inconsistencies in the values chosen, for example the authors have opted for the UN Data value for LatAm (1.10), but not for SSA (0.59). There is no explanation for this distinction.	Please provide further explanation for the low defaults. Additionally, we recommend that the quantification of woodfuel consumption data should be done nationally and should be sourced from updated Host Country approved surveys.	
29	**2.11 Quantifying household woodfuel consumption, Para 48 (b)**	**48(b)**	**te**	**Urban / Rural definition** We are concerned by the approach outlined below to the definition of rural and urban areas, and that UN population growth rates are then applied to all rural and urban pixels equally. "We use the WHO's projections of populations using different primary cooking fuels, disaggregated by urban and rural sub-populations. However, WorldPop's spatial data doesn't differentiate between urban and rural areas. To make this distinction, we define urban and rural areas by ranking all pixels from the WorldPop map by population density in descending order and defining a cutoff such that the cumulative sum of pixels in descending order equals UNDESA's estimate of the country's urban population in that base year."	The categorization of urban and rural areas, along with population projections should be done nationally, and should be sourced from updated Host Country approved surveys.	

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30	**2.15.1 Use of deforestation by-products Para 63**	**63**	**te**	**Use of deforestation by-products** The explanation is confusing. This paragraph explains that annual loss of tree cover caused by land clearance for large-and small-scale agricultural expansion may contribute to long-term deforestation. However, the by-products of land clearance used for firewood or charcoal production are not included in the model. We need more clarity on this, it is counterintuitive that a major driver for deforestation is not included in the model.	Here we request for explanation on the decision to include by-products of land clearance used for firewood or charcoal production and proof that it's not significant.	
31	**2.15.2 Treatment of Protected Areas Para 64**	**64**	**te**	**Treatment of Protected Areas** "In this assessment, it was considered that all protected areas are equally difficult (but not impossible) to access for both self-collection and commercial extraction. This was accomplished by increasing the "friction" or effort required to travel within the boundaries of protected areas relative to unprotected areas with similar terrain. For this assessment, friction was increased by 90%, which means that the likelihood of wood harvesting within protected areas was only 10% that of unprotected areas with similar terrain."	Review 'friction factor' because all protected areas are not equally difficult to access for both self-collection and commercial extraction. Host governments might be able to provide more information on in-country policies and effectiveness of access of protected areas for wood fuel harvest	
32	**2.15.3 National boundaries and trade Para 66 & 67**	**66 & 67**	**te**	**2.15.3 National boundaries and trade** *"In theory, MoFuSS can accommodate transnational trade; however, this is difficult in practice because there is no reliable data quantifying the magnitude of the trade. FAO's forest statistics database includes woodfuel imports and exports, but the accuracy of this data is unclear and there is no information about trading partners. In this analysis, we have run separate regional models with semi-permeable national borders, resulting in some international flow of woodfuels within each region, but no flows between regions. Within regions, crossing borders adds "friction" or travel time for wood suppliers, making it more costly, but not impossible, for people to access wood in neighboring countries. Our final model includes a mix of individual countries and countries clustered together to accommodate trade where we suspect it forms a significant fraction of overall woodfuel consumption. We explain this in more detail in the section on global divisions below"*	Host governments can assess and provide data on the ease of cross-border trade of wood fuels, including how far households must travel to collect wood fuel. Guidance is needed on the validation and verification requirements to ensure credible and accurate data on National boundaries and trade.	

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33	**2.15.4 Prune factor, Para 69**	**69**	**te**	**Prune factor** What is the sensitivity of the "prune factor" and how is it determined that 100% is the right value?	Add note explaining sensitivity of the effect of prune factor on fNRB values and a justification of the value chosen.	
34	**Global divisions para 2.16**	**74**	**te**	**Country Groupings** It is acknowledged that groupings of countries are needed to account for cross border trade (where there is strong evidence that it occurs.) One example of this is as follows, in the revised numbers, Rwanda has been included in a grouping, where previously Rwanda had been treated in isolation from other countries. However, Government data exists that shows that Rwanda annually imports (legally) only 200,000kg of biomass (a mixture of charcoal and firewood) and there is little to no strong evidence of significant illicit trade of biomass for cooking. This argument is further strengthened by several Government of Rwanda papers as well as evidence of regular and consistent border closures. As such, the cross-border groupings should be reconsidered as part of the modelling exercise.	We recommend that the MoFuSS numbers be run again after reconsidering the relevant groupings, and with full consideration of local data on cross-border trade. Using Rwanda as an example it is people to rerun the model with the exact figure of annual biomass importation (for cooking) taken from the Ministry of Commerce Wood Products Cluster Strategic Plan 2014-2019 (page 20) . Cross border groupings should be reconsidered as part of the modelling exercise.	
35	**2.16 Global divisions,** **Figure 9**	**74**	**te**	**Figure 9** It is not clear from the map the groupings of countries in the region when looking at the image.	For clarity, a table highlighting grouped countries for cross border trade is needed to avoid confusion.	

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#	**Para No./ Annex / Figure / Table**	**Line Number**	**Type of comment** **ge** = general **te** = technical **ed** = editorial	**Comment** **(including justification for change)**	**Proposed change** **(including proposed text)**	**Assessment of comment** **(*to be completed by UNFCCC secretariat*)**
36	**3.1 Updated fNRB values for low- and middle-income countries, Para 80**	**80**	**ge**	**Summarized Results** Standard deviations are not only large for low fNRB values – in many of the cases the standard deviations are large for the larger values as well (Examples: Bangladesh fNRB = 39 StDev = 30; Malaysia fNRB = 34 StDev = 33). How can these values be accepted when the standard deviations are this large, especially in the cases of lower values with extreme standard deviations like Indonesia with and fNRB of 5 and a StDev of 100? Overall, the large standard deviations bring into question the validity of the model and default values. In all other aspects of cookstove and carbon projects standard deviations on parameters values like this will not be accepted by VVBs and Standard bodies. The same should apply for these values.	Please provide a clearer explanation for the high Standard Deviations for the modelling and the value in terms of accuracy of using these numbers in our estimates.	
37	**3.1 Updated fNRB values for low- and middle-income countries, Table 5**	**82**	**ge**	**Results** The latest proposed fNRB numbers have drastically different ratio than the previous CDM defaults as well as the Q3 2023 MoFuSS output.	These important variations in the computation and final default fNRB values highlights the need for further and broader scientific engagement before any determinations on the matter are concluded.	
38	**Table 5** **Results**	**82**	**ed**	**Results** Please provide a default number for the Democratic Republic of the Congo	Please provide a default number for the Democratic Republic of the Congo	
39	**3.2 Uncertainty** **Para 86**	**86**	**te**	**Uncertainty** Any research study needs to be replicable. We therefore request the full list of 200 parameters to validate the robustness of the model.	To validate the model, we need protocol and procedures established with a clear understanding of each parameter used and details on the reason for each parameter value.	

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40	**3.4 How sensitive are MoFuSS fNRB results to input parameters?, Para 90**	**90**	**te**	**Sensitivity** As part of this update, five simulations were run while varying respective input parameters to determine their impact on the fNRB results. However, no simulation where woody consumption was varied was conducted, which would have been a good opportunity to see how much consumption affects the model outputs. For instance, it is stated in Paragraph 12 of Appendix 3 that there are several reasons for differences between fNRB values generated by WISDOM (2015) and MoFuSS. And that "*while the underlying concepts of the WISDOM and MoFuSS models are similar, the input data vary substantially. For example, […], our estimates of woodfuel consumption are only moderately correlated with the estimates from the 2015 [WISDOM] study*." This potentially indicates that consumption data can have a significant impact on the fNRB results and consequently variation in this parameter should properly be considered.	We suggest that simulations where woody consumption is varied are also run and integrated in the report (see related comment below), since this is one of the most important variables for the estimation of fNRB.	
41	**3.4 How sensitive are MoFuSS fNRB results to input parameters?, Para 92**	**92**	**ge**	**Sensitivity** "*Regarding the second factor, we are planning to improve MoFuSS to better accommodate the errors inherent in large spatial AGB maps; however, this is still a work in progress and was not prepared for this assessment".* The comment indicates that the MoFuSS values are still in preparation and not yet final. If this is going to be amended/changed what effect will that have on the fNRB values? A large affect would call into question the validity of the current values.	We recommend the UNFCC provides further funding to finalise the validation before the numbers are finalised. Provide more funding and time to the MoFuSS authors to complete the study and submit the most accurate and up to date values for public consultation.	

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42	**3.4 How sensitive are MoFuSS fNRB results to input parameters? Para 93**	**93 / Figure 20**	**te**	**Spatial Variability of Standard Deviations** "*This last result goes beyond a sensitivity analysis but shows something of potential interest to project developers, donors, or other stakeholders, the possibility to depict where NRB and fNRB estimates are less certain and might deserve closer monitoring and verification."* We understand there is a need for more attention and data in certain regions that are known, and we think it crucial to collect more and better data to eliminate the potential uncertainties linked with the model. This is not something that can be done after the fNRB values are validated.	This is an argument we developed to ask for a delay in publicizing the results. Our recommendation is: The CDM MP shall consult directly with Host Counties to collect better, and more data related to the model to eliminate or reduce the uncertainties.	
43	**3.5 Comparison with the previous pan-tropical WISDOM study Figure 21**	**Figure 21**	**te**	**Comparison with the previous pan-tropical WISDOM study** Can we have more details and interpretation of the results here, in particular what is the interpretation of the results not being equal?	Please provide a detailed interpretation of these results and potential critics on the fact that results are not equal.	
44	**3.7 Addressing large differences between Oct 2023 and the current release, Para 105**	**105**	**ge**	**Kenya** It is stated that woodfuel demand in Kenya is projected to decrease between now and 2030. A study published in 2020 in Biomass and Bioenergy indicated that the woodfuel demand in Kenya was projected to increase from 26 million m^3 to 40 million m^3 per annum from 2007 to 2020 with an estimated supply of 31 million m^3/year[1]. Currently it is estimated that the demand in Kenya is 41.7 million m^3[2]. Some studies suggest that the demand for biomass energy will rise by 40% by 2040 in SSA[3]. This all points to the demand for woodfuel increasing. Thus, on what basis was it established that the demand would decrease?	Substantiate how it was determined that woodfuel demand would decrease in Kenya, as it is clear from literature that it is not the case.	

[1] https://doi.org/10.1016/j.biombioe.2020.105519
[2] MECS Brief 001 -2022, Thie Biomass Challenge in Kenya
[3] Smith, H., Jones, D., Vollmer, F., Baumert, S., Ryan, C., Woollen, E., Lisboa, S., Carvalho, M., Fisher, J., Luz, A., Grundy, I. & Patenaude, G. (2019). Urban energy transitions and rural income generation: Sustainable opportunities for rural development through charcoal production. World Development. 113: 237-245.

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45	**Appendix 2 , Para 2**	**2**	**te**	**Deforestation Module** We understand the difficulty of calibrating a single model across a large area, but it doesn't seem to be a valid reason to disable this function. Despite this annex we still don't understand the reason for turning off the model – the example of Ghana seems to prove that it is possible to integrate the parameters in the model.	Include the deforestation in the model or provide a more detailed explanation for exclusion. In particular, kindly elaborate on the "minimal" impact of heavy deforestation on NRB and fNRB in heavily deforested areas.	
46	**Appendix 2** **Figure 22**	**Figure 22**	**te**	**Simulated deforestation patterns** Here the authors acknowledge that *"MoFuSS pattens result unrealistic given the coarse resolution used in the study"* The implications of the difference between deforestation predicted by MoFuSS and those that are observed is not clear. Is the implication that MoFuSS's predictive capabilities are insufficient, or that the model needs to run at a higher resolution?	Please provide additional explanation of the causes and implications	
47	**Appendix 3** **Tool 30 Revisions**	**4**	**ge**	**Tool 30** \The document proposes changes to Tool30 in the Results section, yet the 4C CLEAR Methodology, which we understand will become the methodology for Article 6.4, scraps Tool30 altogether.	If the document is recommending use of Tool30, with MoFuSS used to calculate the inputs, state clearly that this is the case. If Tool30 is no longer recommended, state this clearlyBio	
48	**Appendix 3: para 6**	**6**	**ed**	Typo in the header: SOM instead of SOC		
49	**Appendix 3: para 46**	**46**	**ed**	Typo "As such, there are no "true""		