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Methodological tool: Fraction of non-renewable biomass

Methodological Expert Panel – 12th meeting
9 to 13 March 2026
Bonn, Germany

UNFCCC Secretariat

Mitigation Division

Procedural background

- MEP 011 considered the draft "Tool: Fraction of non-renewable biomass" and agreed to seek input from stakeholders on the draft version of the methodological tool.

- Call for public inputs was launched from 3-24 Feb 2026.

- 19 Stakeholders submitted their inputs-with a total of 80 comments

- Comments included:

  - Concern for perceived inconsistencies between f_{NRB} values and national data from BTRs on emissions from land use change

  - Concerns that other methods for determining f_{NRB} would better capture the GHG impacts of clean cooking

    - E.g. "marginal" f_{NRB} concept

    - Some mention that f_{NRB} is not static; project interventions change the harvesting balance, and this additional benefit should be recognised / credited- "Any reduction in biomass demand lowers f_{NRB} and should be counted as additional ER."

    - "Current methodologies ignore the system-wide impact of reduced harvesting" (i.e. for non-project fuelwood or charcoal users).

  - Request to allow use of MoFuSS-derived fNRB values based on user-defined inputs, with regular update (e.g. annual values)

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- Concern that f_{NRB} values should be developed nationally (e.g. by DNAs) or updated more regularly using new data measured at the national level on forest inventories, etc.

- Lack of default f_{NRB} values for Pacific island states

- Observation that the definition of f_{NRB} included in the tool does not reflect how it is defined and derived using MoFuSS

- Concerns that MoFuSS values are static or out-of-date and do not rely on reasonable assumptions about fuelwood demand and charcoal demand, forest cover

- Concerns that the next update will only take place in three years

- Concerns about lack of opportunity for stakeholder inputs, particularly DNAs

- Requests clarity on **how long a default value applies**, whether values remain fixed through a crediting period, and how changing defaults would be incorporated- "developers need stability and predictability in case of changes in f_{NRB} values"

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Other Key Issues

Uncertainty

- In the Tool that was published for public inputs, it was mentioned "Values for uncertainty will be included in the final version".

- It may be noted that principles of conservativeness were applied to determine the default values, considering the level of uncertainty of underlying data.

Uncertainty

- With regard to uncertainty estimates in MoFuSS, the model uses Monte Carlo simulations to assess uncertainty in its predictions for values like the fraction of non-renewable biomass (f_{NRB}).To estimate this variation, 30 scenarios were run by varying the value of Rmax (parameter that defines the shape of the biomass growth functions) using a randomly selected value of the parameter from a normal distribution of potential values. These Rmax values were derived from IPCC 2019 refinement information.

- MoFuSS reports the standard error (SE)—a measure of the uncertainty in the mean estimate. This choice aligns with statistical best practices, and is relevant for applications like carbon accounting, where confidence in the average prediction is more important than the variability of individual runs (reflected in the standard deviation (SD), which measures variability among individual simulation outputs). By reporting SE, MoFuSS provides a clearer indication of the precision and reliability of its mean outputs, which may be used for policy and baseline setting.

Uncertainty

- MoFuSS Uses Standard Error (SE) as it:

a) Focuses on Precision: SE shows how the mean is estimated—critical for policy and baseline decisions;

b) Suited for Monte Carlo Methods: SE appropriately reflects uncertainty in the mean outcome, which is the goal of Monte Carlo simulations;

c) Statistical Best Practice: Reporting SE aligns with expert guidelines when the mean is the primary result of interest;

d) Avoids Misinterpretation: SD could misleadingly suggest problematic variability, while SE rightly emphasizes the reliability of the average prediction.

- Prepare summary of public inputs for the cover note and incorporate any further changes

- Uncertainty for f_{NRB} values

- Finalize the Tool with aim to recommend it to the Supervisory Body