

CDM-SSCWG48-EC01-A02

Questions for public inputs in relation to the top-down revision of AMS-II.G: Energy efficiency measures in thermal applications of non-renewable biomass

Version 01.0

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United Nations
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COVER NOTE

1. Procedural background

1. At its 47th meeting, the SSC WG, among others, recommended that the Board launches a call for public input on the draft revised methodology “AMS-II.G: Energy efficiency measures in thermal applications of non-renewable biomass” This information note contains questions on specific issues related to the draft revised methodology for the call for public input.

2. Purpose

2. This document serves to provide example issues on which the SSC WG is seeking comments from the public in order to further improve the approved methodology for recommendation.

3. Key issues and proposed solutions

3. The draft revision aims to address various issues including options for the determination of the quantity of purified water and standardization of approaches for compliance with other conditions of the methodology.

4. Impacts

4. Not applicable (call for public input).

5. Proposed work and timelines

5. The SSC WG, at its 47th meeting, prepared a list of questions for specific public input on approved methodology AMS-II.G. After receiving public input on the document, the SSC WG will continue working on the revision of the approved methodology at its 48th meeting for recommendation to the Board at EB 85.

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1. Introduction

1. The SSC WG is considering revising “AMS-II.G: Energy efficiency measures in thermal applications of non-renewable biomass” in view of further simplification of standards. The SSC WG is thus seeking public input on the issues presented below as well as input on other topics that commenters may wish to present.

1.1. Purpose

2. The purpose of this document is to describe the key issues and potential solutions on which feedback from the public is requested.

1.2. Key issues, potential solutions and questions

1.2.1. Determination of the Biomass savings

- (a) **Description of the issue** – Currently options to calculate the biomass savings do not include a possibility to use the useful thermal energy output of a device provided as a default value. A default thermal energy output of the device that is compared to the stove output (via a survey of utilisation of hours of the device and rates capacity of the device) could be a useful addition. Such an option might reduce transaction costs of undertaking stove projects.

(b) **Possible solution**

- (i) A new option to complement the existing options to calculation the biomass savings using a new variable, HR- thermal energy output has been proposed.

$$B_{y,savings,i,j} = \frac{HR_{y,i,j}}{NCV_{biomass}} \times \left(\frac{1}{\eta_{old,i,j}} - \frac{1}{\eta_{new,i,j}} \right) \quad \text{Equation (1)}$$

$HR_{y,i,j}$ Useful thermal energy output delivered per project device (i) in batch (j) in year y (TJ),

$\eta_{old,i,j}$ Efficiency of the old devices being replaced by project devices of type (i) and batch (j).

$\eta_{new,i,j}$ Efficiency of the project device (i) and batch (j).

- (ii) The useful thermal energy shall be calculated based on the rated capacity of the project device multiplied by the number of utilization hours:

$$HR_{y,i,j} = HC_{i,j} \times t_{y,i,j} \times 0.0000036 \quad \text{Equation (2)}$$

$HC_{i,j}$	Rated capacity for delivering useful heat as per manufacturer specification (kW).
$t_{y,i,j}$	Number of hours of utilization of the device during the year “y”
0.0000036	Factor to convert kWh to TJ

(iii) Default value: Amount of thermal energy required to be generated in the project device (i) and batch (j) in period y (TJ), a default value of 1 GJ/year may be used¹.

- (c) **Questions** – What would be an appropriate value for $HR_{y,i,j}$? Are there such values available in the published literature or that can be inferred from measurements? Would it be appropriate to use utilisation hours reported by the users and rated output capacity to cross check the assumed value of thermal energy output? Suggest any improvements to the method or propose alternative ones if necessary.

1.2.2. Determination of the loss of efficiency of project cook stoves over the project lifetime

- (a) **Description of the issue** – The efficiency of the devices may decrease over the operating lifetime of the project activity. The factor $\Delta B_{y,i,a}$ to consider the efficiency loss of the project device type i due to its aging at the year y in the previous version of the methodology has been reported to be cumbersome to monitor. In the below section additional simplified method for the determination of loss of efficiency of the project cook stoves have been proposed for inclusion
- (b) **Possible solution** – The loss in efficiency of the project devices (i) in each batch (j) due to aging shall be accounted during the monitoring period y. The Project participant may choose any option below to account for the loss in efficiency; the option should be identified and fixed ex-ante in the PDD or CPA-DD at the time of registration. The options are as follows:
- (i) A default schedule of linear decrease in efficiency up to the terminal efficiency assumed as 20% shall be applied through the life span of the project device²³. For example, if the life span of project device is five years and project device has an efficiency of 30 per cent at commissioning then a 2 % decrease in efficiency every year shall be applied.
- (ii) Manufacturer of project devices shall confirm with technical justification based on certification by a national standards body or an appropriate certifying agent recognized by that body that no decrease in efficiency of project device is envisaged during the crediting period.

¹ Please refer to: <http://iei-la.org/wp-content/uploads/2005/09/e-d-paper-no-2590105.pdf>. An analysis performed by International Energy Initiative, 2005

² Refer to: SOURCE: to be put next week...

³ If the efficiency of the project devices falls below 20%, it is no longer eligible to be considered a project device.

- (iii) Determine loss⁴. rate of efficiency of a representative sample of the first batch of project device *i* at each year *y* and assume the same loss rate in efficiency applies to all other batches. In other words, it may be assumed that the degradation of efficiency measured in a representative sample of the first batch of project devices *i* apply to all subsequent batches. The efficiency of this representative sample of the first batch has to be monitored annually and the loss rate adjusted accordingly for the subsequent years for all batches
 - (iv) Determine the loss in efficiency annually of a representative sample of each batch and use the actual loss rate that is applicable.
- (c) **Questions** - Provide your comments on the proposed solution suggestions on this issue

1.2.3. Use of different kinds of biomass

- (a) **Description of the issue** - The methodology currently is limited to energy efficiency and allows the use of the same type of non-renewable biomass resource in the baseline and the project activity;
- (b) **Possible solutions** –
 - (i) Use of non-renewable biomass in the project activity.
 - (ii) Using of processed biomass: If the project introduces new fuels (in addition to new appliances) and the condition of renewable biomass cannot be demonstrated, both measures jointly will affect the thermal efficiency. The combined effect may be accounted for when applying this methodology, however, the emissions associated with the production of the derived fuel will be considered as leakage. Further, the consumption of the derived fuel will be converted into primary biomass by means of a net-to-gross factor for mass loss during the biomass processing. *The introduction of new biomass derived fuels (briquettes, charcoal), when from renewable sources, shall apply a type I methodology;*
- (c) **Questions** - Provide your comments on the proposed solution or other suggestions on this issue.

1.2.4. Efficiency of oven/driers

- (a) **Description of the issue** – The applicability criteria for the methodology, states that it is applicable to single pot or multi pot portable or in-situ cook (project) stoves with rated efficiency of at least 20 per cent..

⁴ Example: For the representative sample of Batch 1, if the efficiency of a new project device is 30% and at the end of Year 1, the efficiency is monitored to be 29%; the loss rate is $(30\%-29\%)/1=1\%$. Then this 1% loss rate is to be assumed to be applicable for all the devices in the first batch and subsequent batches after its first year of operation.

- (b) **Possible solutions** -
 - (i) Modify the applicability condition to include oven and driers with minimum efficiency of 20%.
- (c) **Questions** - Provide your comments on the proposed solution or other suggestions on this issue.

1.2.5. Definition of batch

- (a) **Description of the issue** – The current version of the methodology defines Batch as “is defined as the population of the device of the same type installed at a certain calendar year. All the devices in the same batch will be considered as having the same date of commissioning as 1st January of the calendar year.
- (b) **Possible solutions** – This new definition does not limit date to 1st January of the calendar year and takes into consideration that project appliances may be distributed over a period of time.
 - (i) Batch is defined as the population of the device of the same type installed at a certain calendar year. To establish the date of commissioning, the Project Participant may opt to group the devices in “batches” and the latest date of commissioning of a device within the batch shall be used as the date of commissioning for the entire batch.;
- (c) **Questions** - Provide your comments on the proposed solution or other suggestions on this issue.

1.2.6. Shift to low emitting fuels and inclusion of methane emissions

- (a) **Description of the issue**- It has been suggested in the literature that CDM methodologies should include an option to switch from use of non-renewable biomass to use of low emitting fossil fuels like liquefied petroleum gas for cooking. Also it has been suggested that estimation methods should include methane emissions avoided.
- (b) **Questions** - Provide your comments on the issue.

Document information

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