Proceedings of the Practitioners Workshop on AMS-I.E, AMS-II.G and AMS-I.C: CDM methodologies for household cooking energy supply

Summary

As requested by the CDM Executive Board at its forty seventh meeting, the secretariat organised a full day workshop titled "Practitioners Workshop on AMS-I.E, AMS-II.G and AMS-I.C: CDM methodologies for household cooking energy supply" on 26th October 2009"[1]. The objective of the workshop was to take stock of early project implementation experience to arrive at potential methodological solutions for the improved usability of CDM methodologies for household cooking energy supply. Household cooking energy supply projects, beyond the emission reduction and sustainable development benefits, are seen as one opportunity for addressing regional distribution of CDM activities (Annex 54, EB50). Well over 50 people attended the workshop. Attendees included project proponents from Annex I and non-Annex I countries, NGO sponsors, cook stove experts, government representatives, research organisations, UN organisations and all of the SCC WG members. The workshop provided valuable input for the work of the SSC WG, particularly for the tasks mandated by the Board (e.g., broadening the applicability of the methodologies, facilitating increased usability of methodologies including default operating parameters where possible without jeopardizing the environmental integrity of the methodologies).

I. Introduction

A. Mandate:

The CDM Executive Board at its forty-seventh meeting, requested the secretariat to organize a one day workshop aimed at better understanding of the methodological constrains for the application of small-scale end use energy efficiency methodologies and methodologies for saving of non-renewable biomass (paragraph 68, EB 47).

The workshop took place in Bonn, Germany on 26th October 2009 and was attended by project proponents from Annex I and non-Annex I countries, NGO's, cook stove experts, government representatives, research organisations, UN organisations and the members of small scale working group of the CDM Executive Board (SCC WG). Over 50 attendees, 33 % of which were women and 20% from LDCs took part[2].

II. Opening of the workshop

Mr. John Kilani, the Director of the SDM Programme of the UNFCCC Secretariat and Mr. Hugh Sealy, the Chair of the SSC WG welcomed the participants and highlighted the mandate provided by CMP and CDM EB in the context of sustainable development benefits and the opportunity for addressing regional distribution of CDM activities. It was also stressed that unsustainable harvest of forest and inefficient energy conversion technologies currently deployed are among the main threats to the health, environment and economic development.

The opening of the workshop was followed by six thematic panels titled as following:

[1] See agenda and list of attendees (excluding SSC WG and Secretariat representatives) and input documentation at http://cdm.unfccc.int/Panels/ssc_wg/workshop/091026/index.html.

[2] Full list of participants is attached as an Annex to this document.

- Implementing NRB substitution projects - lessons learned and challenges;

- Determining By (quantity of biomass) and fNRB, y (fraction of biomass that is non-renewable) in AMS-I.E and AMS-II.G;

- Eligible technologies and GHGs under NRB methodologies, Biogas projects - Determining the SSC thresholds, Monitoring energy output;

- NRB methodologies: Calculation of leakage, Monitoring issues including sampling and survey;

- Implementing Gold Standard Methodologies: Lessons learned.

Each thematic panel opened with a series of presentations followed by a question and answer session. Summaries of the proceedings of the thematic panels are presented below as per the order in which they feature in the workshop agenda.

III. Implementing NRB substitution projects - lessons learned and challenges

The session was chaired by Ms. Ulrika Raab, Swedish Energy Agency.

There were six presentations in the session as per the table below[3]:

Speaker	Organization	Title of presentation
Ms. Marlis Kees	GTZ-HERA	Scaling-up dissemination of cook stoves and the role of carbon funding
Ms. Brenda Doroski	Partnership for Clean Indoor Air (PCIA), U.S. EPA	Improving usability of Cookstove Methodologies to accomplish Clean Indoor air for All
Ms. Sudha Padmanabhan	Fair Climate Net work	SEDS and Bagepalli Coolie Sangha Projects
Ms. Anandi Sharan	Women for sustainable Development, India	The need for global baseline for cookstove projects
Ms. Habiba Ali	Developmental Association for Renewable Energies,Nigeria	Implementing the efficient woodstoves project in the Guinea Savannah Zone of Nigeria
Ms. Kayje Booker	Lawrence Berkley National Lab	Ethiopia cookstove project

PCIA and GTZ presentations outlined the insights gained from several decades of stove dissemination work highlighting the technology options that have evolved over time together with the advantages, opportunities as well as challenges that carbon finance could bring to the sector.

[3] All the presentations are available at: https://cdm.unfccc.int/Panels/ssc_wg/workshop/091026/index.html.

Key methodological issues discussed in the session included the below:

- Many participants agreed that rigorous monitoring methods and tools to determine fuel consumption, stove efficiency, non-renewable biomass fraction, and stove usage, are currently available for creating real, measurable and verifiable CERs. Particular mention was made of portable stove use monitors (SUM) capable of logging data over several months in stand alone mode. Some concerns were also expressed that very precise monitoring requirement such as stove use monitoring may be expensive and will create further need to provide capacity building and training.
- Flexibility in monitoring approaches was suggested by many practitioners. Sometimes monitoring in users homes is very difficult, and thus conservative lab testing of stove efficiency can be helpful. The choice between default factors, lab monitoring, and field monitoring was discussed several times as a logical suite of options, similar to the current option of using IPCC default emission factors or project specific emission factors derived through monitoring.
- A proposal on amendment of paragraph 12 of AMS-II.G was made in order that destruction of baseline cooking technologies is not required. It was substantiated that it is not possible to force households to completely discontinue use of the old technology, nor is it necessary to achieve emission reductions. Fieldwork shows that many households already have multiple cooking technologies and will undoubtedly continue to use multiple cooking technologies, regardless of incentivising destruction. The aggregate change in NRB or fossil fuel consumption between the baseline and project scenario determines ERs, not the lack of technology mixing. Furthermore, one cannot destroy a three-stone fire.
- Some participants demanded a global baseline or set of global baseline values for emission reductions in tCO_2e/stove-year that could be used in all projects. 3 tCO_2e/stove-year was specifically recommended. Many participants felt there is too much variance between projects for global ER values, but that default NRB by country or region would be a useful intermediate. Applying 100% NRB to all projects was also recommended, but not widely accepted as concerns on reduced flexibility and on disadvantages for some cook stove programmes were pointed out.
- Scalability was discussed as a significant issue for implementation. SSC project size limits of 45 MWth and 180 GWh were cited as impediments by some project developers and implementing partners. PoA was discussed as the best opportunity to circumvent the scale issue and in this regard the methodologies should be amended to allow for PoAs, but there were still significant concerns from many participants that DOEs are reticent to contract for PoAs due to liability issues. The SSC WG requested participants to notify the Secretariat if there are still barriers to contracting DOEs for PoAs.
- Many participants stressed the need for additional guidelines on how to conduct various surveys required by the methodology. Simplifications of the boundary setting in order to delineate clearly boundaries of different projects and to distinguish between origin and use of renewable biomass were also suggested.

IV. Determining By (quantity of biomass) and fNRB,y (fraction of By that is non-renewable) in I.E and II.G

The session was chaired by Mr. Hugh Sealy, SSC WG Chair.

Project implementation experience from Senegal, Bangladesh, Nepal, Nigeria and Uganda were presented as listed in the table below.

Speaker	Organization	Title of presentation
Mr. Olivier Tivoly	GTZ-PERACOD/Senegal	NRB cookstove programme in Senegal
Mr. Adam Harvey	JP Morgan Climate Care	Assessing NRB fraction
Mr. Samir Thapa	Alternative Energy Promotion Center	NRB fraction in Alternative Energy Promotion Center Nepal Projects
Mr. Florian Zerzawy	Atmosfair	Assessing NRB fraction in Nigeria
Mr. David Mukisa	KEAN Development	Quantifying By and fNRB,y in a dynamic baseline

Key methodological issues discussed included the below:

- Methodologies refer to monitoring of 'biomass' which has led DOEs to expect monitoring of leaves, brush and other biomass that is not being claimed as NRB for crediting. It was suggested to reword the reference to 'biomass (By)' to 'woody biomass'.
- DOEs prefer referenced literature values for NRB, however, current NRB values derived from Food and Agriculture Organization (FAO) aren't specific for fuelwood (wood and charcoal), and in some instances published values aren't available from FAO, local, or other sources. Thus, survey methods are also valuable and sometimes necessary or more accurate than published values.
- Many participants reported difficulties with the quantification of biomass due to the intense resources needed for determination of different type of biomass and in that regard further simplification was proposed. National or regional NRB default values were cited by many participants as a valuable tool to streamline the project development process and give clarity to project developers and DOEs. It was suggested that conservative NRB default values could be developed using available tools such as WISDOM[4], but it will require resources to develop this database of values. It was suggested that the Secretariat could fund development of a database of default NRB values. Default values for wood consumption per device and efficiency of equipment were also suggested for development with expert inputs. Furthermore,

[4] Woodfuels Integrated Supply/Demand Overview Mapping (WISDOM) is used by the Food and Agriculture Organization to map national or community level woodfuel renewability. WISDOM is specific to woodfuel, whereas current FAO values referenced by project developers in calculating NRB frequently include timber and other forest products. WISDOM uses GIS, satellite mapping, loval reports and survey information.

developing a database of default values may take time and thus immediately developing interim conservative values would be beneficial

- Some participants requested all biomass to be considered 100% non-renewable unless it is proven to be from renewable sources. This would alter the burden of proof to demonstrate renewability rather than non-renewability.
- Methodologies should allow consideration of suppressed demand[5]. For example use of dung as a cooking energy source could be considered as suppressed demand for wood as end users tend to move up in the ladder as the income grows: dung to solid biomass to liquid fuel to gaseous fuel to electricity. Where wood fuel is unavailable users tend to resort to utilising dung as a last resort.

V. Combined session on Eligible technologies and GHGs under NRB methodologies and Biogas projects: Determining the SSC thresholds, Monitoring energy output

The combined session was chaired by Mr**.** Peer Stiansen, SSC WG Vice Chair.

The session included four presentations as below:

Speaker	Organization	Title of presentation
Mr. Jari Hiltunen	Gaia Consulting Oy	Challenges to monitor energy output of household biogas projects
Mr. Saroj Rai	BSP Nepal	Experience from BSP-Nepal Project
Mr. Samuel Shiroff	Bosch-Siemens	Protos Plant-Oil Cooker: An Appropriate Solution to Complex Challenges
Mr. Samuel Bryan	GERES	NRB methodologies- eligible technologies

Methodological issues discussed include:

- Certain applicability conditions in AMS-I.E such as 'end user technologies', 'small appliances' result in some viable technologies such as passive solar homes, ceramic water filters, charcoal briquettes etc being bypassed for project implementation. Therefore methodology should be reworded to decouple from 'end user technologies'
- It was suggested that non-CO_2 gases such as methane avoidance should also be considered in the baseline using default values. For charcoal, CO_2 and CH_4 emissions from consumption and charcoal production should be accounted for.

[5] In many cases, owing to condition of suppressed demand, energy efficiency gains do not result in measurable reduced energy consumption The suppressed demand concept is applicable in cases where the 'level and/or type of energy service is not sufficient to meet human development needs due to lack of financial means and/or access to modern energy infrastructure'. Where energy services are insufficient, emissions that would result from an increase in energy use to satisfy basic human development needs can be included in the baseline. Some participants felt that this approach reflects paragraph 46 of the CDM Modalities and Procedures, that states *"the baseline may include a scenario where future anthropogenic emissions by sources are projected to rise above current levels, due to the specific circumstances of the host Part."* following the precedence of the Kuyasa project http://cdm.unfccc.int/Projects/DB/DNV-CUK1121165382.34.

- Sustainably harvested and processed plant oils have a big potential for emission reduction in domestic energy supply. However efforts to develop a methodology to cater to the needs in this area has been futile, partly because the issue is caught in the 'food v/s fuel' debate.
- Blanket additionality for improved renewable energy technologies was favourably supported by participants. Financial and barrier analyses seem unnecessary for technologies that currently have no adoption or very low adoption rates
- Challenges related to monitoring and massive capacity building efforts required across the sectors were highlighted. Options based on 'low cost low return' and 'high risk high return' principle i.e., options to use either conservative default values or a rigorous monitoring to fetch potentially higher returns were advocated.

VI. NRB methodologies: Calculation of Leakage, Monitoring issues including sampling and survey

The session was chaired by Mr. Massamba Thioye, Manager, Methodologies Unit, UNFCCC Secretariat.

The session included the below presentations:

Speaker	Organization	Title of presentation
Mr. Ramachandra Reddy	World Bank	Balancing the use of monitoring and default value approaches
Mr. Matt Spannagle	UNDP	Designing monitoring plan and sampling
Mr. Axel Michaelowa	Perspectives	Monitoring challenges - whether to choose the water boiling, controlled cooking or kitchen performance test
Mr. Jonathan Rouse	HED Consulting	The emissions reduction - indoor air pollution paradox

Methodological issues discussed included the below:

- The session reiterated the importance of optional conservative default values (10% efficiency for baseline stoves was recommended). Further clarity on the project boundary and leakage is needed, some of the leakage calculations required are impossible to meet and hence should be eliminated from the methodologies, where they are required default values should be built in as options.
- CDM NRB methodologies based on reference approach result in 30-40% discounting of emission reductions as compared to calculations based on carbon content of the wood.
- Participants agreed on the need for balanced monitoring as way of strengthening and scaling up project. Suggestions ranged from a radical

simplification of the methodology to incremental improvements including certain default factors.

- Water boiling test, controlled cooking test and kitchen performance test to determine the efficiency of the stoves was discussed and the advantages of kitchen performance test over other methods were highlighted.
- Further elaboration of sampling guidelines would be helpful.
- It was also noted that the lack of specific guidance in some areas is a strength of the methodology. For example, the gold standard methodology is very specific about monitoring meaning developers cannot adapt to new techniques, for example Stove Use Monitors (SUMs) and mobile phone technology would have the potential to simplify monitoring activities.
- Not all improved stove designs result in reduced indoor air pollution compared to the baseline. Switching from cooking outdoors to more efficient stove indoor may have adverse effects if this issues related to particulate emissions from the stoves is not taken into account. It was suggested that methodologies should account for best-practices to consider relative indoor pollution characteristics of project versus baseline cook stoves.

VII. Implementing Gold Standard Methodologies: Lessons learnt

The session was chaired by Mr**.** Peer Stiansen, SSC WG Vice Chair.

The session included four presentations as below:

Speaker	Organization	Title of presentation
Mr. Baptiste Flipo/ Mr. Nitin Pagare	Action Carbone	Gold Standard Methodologies-lessons learnt
Mr. Narendra Paruchuri	Member, Meth Panel	Gold Standard: Experience in Development and implementation of Methodologies
Mr. Evan Haigler	Impact Carbon	Implementing the First Gold Standard Cookstove Project in Tandem with Development of the Methodology
Mr. Martin Stadelmann	Myclimate	Experience with Gold Standard Methodologies for household energy

Key methodological issues discussed include:

- Some project developers choose to develop Voluntary Gold Standard projects because it allows large scale projects and it does not use the reference fossil emission factor approach (ERs reduce by between 36% and 44% for kerosene and LPG, respectively). While GS methodology offers many advantages it also has certain challenges e.g., NRB study which may be difficult to overcome for some of the NGO participants.
- It was also pointed out that different results accrue when a regional approach is taken as opposed to community based approach when using WISDOM model and community based model is more accurate.

- A large scale CDM methodology for improved cookstoves was suggested. It was recommended that the Secretariat support a similar workshop with the Large Scale WG to coordinate development of a large scale methodology applicable to these project types. Several participants recommended focusing resources on developing PoAs with the SSC methodologies instead of developing a large scale methodology.

Final Remarks

Those in attendance were supportive of the participatory workshop approach to gathering methodological inputs, and thanked the Secretariat for organizing. Many participants are optimistic that significant barriers to project develop will be removed through the simplification of the methodologies.

Annex I - List of participants

	Name	**Organization**
1	Mr. Adam Harvey	JPMorganClimateCare
2	Mr. Axel Michaelowa	Perspectives
3	Ms. Anandi Sharan	Women for sustainable development India
4	Mr. Bernd Blaschke	LHL Lernen-Helfen-Leben e.V.
5	Ms. Brenda Doroski	U.S. Environmental Protection Agency Partnership for Clean Indoor Air
6	Mr. Baptiste Flipo	Action Cabon
7	Ms. Claudia Doets	Ecofys Energy and Environment
8	Ms. Carola Griebenow	GTZ
9	Ms. Carole Tornay	South Pole Carbon
10	Ms. Dana Charrron	Berkeley Air Monitoring Group
11	Mr. David Mukisa	KEAN Development Enterprises LTD
12	Mr. Edwin Dalenoord	Ecofys
13	Mr. Evan Haigler	Impact Carbon/Center for Entrepreneurship in International Health and Development
14	Ms. Erika Schutze	Programme for Basic Energy and Conservation
15	Mr. Frankson Kumwenda	Presbyterian Church of Africa in Zambia
16	Mr. Francis Songela	Camco
17	Mr. Florian Zerzawy	ATMOSFAIR, Germany
18	Ms. Habiba Ali	DARE -Development Association for Renewable Energy Nigeria
19	Mr. Juan Alfonso Cardenal Gistau	Soter AG
20	Mr. Jari Hiltunen	Gaia Consulting Oy
21	Mr. Jonathan Rouse	Household energy Consultant
22	Ms. Kayje Booker	LBLL- Lawrence Berkeley Lab
23	Mr. Kawesa Mukasa	Solar Connect Association
24	Mr. Klaus Trifellner	Climate Inter Change
25	Ms. Mariana Butron Oporto	GTZ Energia Bolivia
26	Mr. Michael Blunck	GTZ

	Name	Organization
27	Ms. Marlis Kees	GTZ-HERA
28	Mr. Matt Spannagle	UNDP
29	Mr. Martin Stadelmann	Myclimate
30	Ms. Nazma Akter	Asho Jati Gore
31	Mr. Narendra Paruchuri	Meth Panel Member
32	Mr. Nitin Pagare	Action Carbon
33	Mr. Paul Kramer	LHL Lernen-Helfen-Leben e.V.
34	Mr. Philip Mann	Environmental Change Institute, University of Oxford
35	Mr. Prudence Ndolimana	CARE Rwanda
36	Mr. Ramachandra Reddy	World Bank
37	Ms.Sabine Bock	Women in Europe for common future
38	Mr. Samuel Bryan	GERES Cambodia
39	Mr. Subarna Kapali	CRT Nepal
40	Mr. Saroj Rai	BSP Nepal
41	Ms. Sudha Padmanabha	Fair Climate Network
42	Mr. Samuel Shiroff	Bosch - Siemens
43	Mr. Samir Thapa	AEPC Alternative Energy Promotion Center
44	Ms. Ulrika Raab	Swedish Energy Agency
45	Mr. Volker Jaensch	One Crabon
46	Mr. Yoro Olivier Tivoly	GTZ Senegal