CDM: Recommendation Form for Small Scale Methodologies (version 01)

(To be used for presenting questions/proposals/amendments to the simplified methodologies for small-scale CDM project activity categories)

Date of SSC WG meeting:	As per procedures for fast track clarifications
Title/Subject (give a small title or specify the subject of your submission, maximum 200 characters):	Clarification regarding metering the energy produced by a sample of the systems
Indicative methodology to which your submission relates (refer the items of Appendix B of the Simplified Modalities and Procedures), if applicable.	AMS I.C. (version 13) – Thermal energy for the user with or without electricity
Name of the authors of the query:	Seleha Lockwood Institution: Sindicatum Carbon Capital Ltd. Gareth.Phillips@carbon-capital.com Seleha.Lockwood@carbon-capital.com

Summary of the query:

Please use the space below to summarize the query related to SSC methodologies/categories SSC Modalities and Procedures provide recommendation/analysis of the SSC WG.

The project involves the replacement of coal-based stoves/heaters/water heaters by renewable biomass-fired stoves/heaters/water-heaters.

Paragraph 6 of AMS I.C version 13 states, "For renewable energy technologies that displace technologies using fossil fuels, the simplified baseline is the fuel consumption of the technologies that would have been used in the absence of the project activity times an emission coefficient for the fossil fuel displaced. IPCC default values for emission coefficients may be used."

Paragraph 10 of the AMS I.C states, "For steam/heat produced using fossil fuels the baseline emissions are calculated as follows:

$BEy = HGy * EF_{CO2} / \eta th$ (1)

Where:

BEy: the baseline emissions from steam/heat displaced by the project activity during the year y in tCO_2e.

HGy: the net quantity of steam/heat supplied by the project activity during the year y in TJ.

EF_{CO2} the CO_2 emission factor per unit of energy of the fuel that would have been used in the baseline plant in (tCO_2 / TJ), obtained from reliable local or national data if available, otherwise, IPCC default emission factors are used.

ηth the efficiency of the plant using fossil fuel that would have been used in the absence of the project activity."

Paragraph 18 (a) of the AMS I.C states, "Monitoring shall consist of metering the energy produced by a sample of the systems where the simplified baseline is based on the energy produced multiplied by an

emission coefficient."

The project participants have sought the following clarifications based on paragraph 6 in conjunction with paragraphs 10 and 18 stated above:

1. Whether baseline is the energy consumption derived from metering of the project multiplied by the emissions factor of coal used by the coal stoves before the project starts divided by the efficiency of the typical coal stove used before the project starts? Is it acceptable to sample coal stoves to derive the efficiency using the same sampling methodology as used for monitoring?
2. Whether "Metering" of the "energy produced" or heat generated can be the regular measure of the energy from burning biomass fuel in the project case (i.e., net calorific value per unit of biomass times amount of biomass used)?

Recommendation by the SSC WG:

Please use the space below to provide amendments/change (in your expert view, if necessary).

This recommendation is as per the procedures for fast track clarifications as specified in paragraph 8 of the 'procedures for the submission and consideration of request for clarification of approved small-scale methodologies' found at http://cdm.unfccc.int/Reference/Procedures/MethSSC_proc01_EB34a06.pdf.

Answer to authors of query by the SSC WG:

Please use the space below to provide answer to the authors of the above query

The small-scale working group of the CDM Executive Board (SSC WG) would like to thank the author for the submission.

The SSC WG assumed that the project activity in question corresponds to emissions reduction per system greater than 5 tons of CO_2e per year and agreed to clarify as follows:

As regards clarification (1), it is agreed to clarify that the baseline emissions can be determined as per paragraph 18 (a) of the AMS I.C version 13 by measuring the energy produced of the project multiplied by the emissions factor of coal used by the coal stoves in the baseline divided by the representative efficiency of the coal stove used in the baseline. The efficiency of the coal stoves being replaced can be either measured using representative sampling methods or based on referenced literature values. The sampling procedure may follow Paragraph 12 (e) of General guidance to small scale methodologies (available at http://cdm.unfccc.int/methodologies/SSCmethodologies/methSSC_guid06_v11.pdf) which states "Wherever a statistical sample is proposed for monitoring, the sample should be representative of the population and should have a minimum level of confidence of one times the standard deviation (one sigma), unless detailed specifications are provided as part of the indicated methodology."

Regarding clarification (2), monitoring shall include the amount of thermal energy generated by biomass in the project in year y, where applicable. In the cases where it is justified that the direct measurement of the heat output is not plausible, the heat output shall be estimated based on consumption of the biomass multiplied by the efficiency of the biomass stove. The formula below illustrates the baseline emission calculations (tCO_2e)

$$BE_y = [HG_{biomass,\,y} / \eta_{coal\ stove}] * EF_{CO2}$$

$$= \{[B_{biomass,\,y} * NCV_{biomass} * \eta_{biomass\ stove}] / \eta_{coal\ stove}\} * EF_{CO2}$$

Where:

BEy: the baseline emissions from steam/heat displaced by the project activity using renewable biomass during the year y in tCO_2e

$HG_{biomass,\,y}$: the net quantity of steam/heat supplied by the project activity using renewable biomass during the year y in TJ

$\eta_{coal\ stove}$: the efficiency of coal stoves being replaced

$\eta_{biomass\ stove}$: the efficiency of project biomass stoves

EF_{CO2}: the CO_2 emission factor of the coal that would have been used in the baseline in tCO2 / TJ

$B_{biomass\ ,\ y}$: the net quantity of the biomass consumed in year y in tons

$NCV_{biomass}$: the net calorific value of the biomass in TJ/tons

Biomass consumption as well as the efficiency of the biomass stoves in the project shall be determined from samples following the general guidance cited above.

Signature of SSC WG Chair ……..

(Ulrika Raab)

Date: 03/04/2008

Signature of SSC WG Vice-Chair ……..

(Kamel Djemouai)

Date: 03/04/2008

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