



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:	01–03 September 2008, SSC WG 17
Title/Subject (give a small title or specify the subject of your submission, maximum 200 characters):	Request for clarification regarding use of Specific Emission Factor in AMS.I.C
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
Name of the authors of the query:	Lokesh Chandra Dube Institution: Emergent Ventures India lokesh@emergent-ventures.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 query is regarding the appropriateness of using specific energy consumption instead of specific fuel consumption in calculating emissions reduction with reference to the paragraphs 20, 21 and 23 of AMS-I.C version 13. The following two concerns were raised in this context:

Component-A: Requirement of *ex ante* determination of Specific Fuel Consumption

Component-B: Accounting for emissions from fossil fuel consumption in co-firing cases.

As regards component A, the author of the query argues that Specific fuel consumption is a quantitative parameter that may vary with change in the quality (e.g. NCV) of the fuel used at different times in the project activity and thus it is more appropriate to take Specific Energy Consumption (e.g. heat rate of the power generating unit, TJ/MWh) instead of taking Specific Fuel Consumption, which in turn is a measure of efficiency.

Regarding component B, it is argued that in cases of co-firing in the project activity, Specific Fuel Consumption for each type of fuel may not be possible to determine and co-firing may also result into change in thermal efficiency (or electrical efficiency as the case may be). Further, multiple fuel types can be used in the project activity (like different types of biomass), which may change efficiency. This may lead to varied fuel consumption per unit of heat or power generation. It would not be possible to pro-rate the contribution of different project activity fuels *ex ante*.

It needs to be clarified whether it is more appropriate to use Specific Energy Consumption of the plant in transparent and conservative manner instead of Specific Fuel Consumption.

Following is a sample equation on the proposed approach to use specific energy consumption (heat rate: kcal/kWh) instead of specific fuel consumption to determine baseline energy and baseline emissions.

The design heat rate (HR_{design}) from manufacturer's data and average heat rate (HR_{measured}) actually

measured are compared and minimum of the two is considered to determine baseline emissions.

$HR_{\text{measured}} = \text{Heat rate based on actual performance} = \frac{\text{Sum (Quantity of fuel type } j \times \text{NCV of fuel type } j)}{\text{total energy generated (kWh)}}$

Baseline heat rate (HR_{baseline}) = MIN (H_{design} , HR_{measured})

The baseline emissions for project activity using only biomass is calculated as follows:

Baseline emissions = HR_{baseline} [kcal/kWh] * actual power generated [kWh] * $EF_{\text{CO}_2, \text{FF}}$ (tCO₂/kCal)

Where $EF_{\text{CO}_2, \text{FF}}$ is the emission factor of fossil fuel that would have been used in the absence of the project activity.

Recommendation by the SSC WG:

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

Please refer to paragraph 30 of the meeting report of the SSC WG 17 (http://cdm.unfccc.int/Panels/ssc_wg).

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 would like to thank the author for the submission.

The SSC WG agreed to provide clarifications as below:

Query 1: Requirement of *ex ante* determination of Specific Fuel Consumption

The SSCWG agreed that it is appropriate to specify the specific fuel consumption used in the *ex ante* determination of Specific Fuel Consumption in fuel energy per unit energy generated (Kcal/KWh) rather than the current approach in the methodology which is in terms of fuel mass quantity per unit of energy generated (tonne of fuel/KWh). This is in line with the argument of the author of the submission that: Specific fuel consumption is a quantitative parameter that may vary with change in the quality (e.g. NCV) of the fuel used at different times in the project activity and thus it is more appropriate to take Specific Energy Consumption (e.g. heat rate of the power generating unit, KCal/KWh) instead of taking Specific Fuel Consumption (tonne/KWh), which in turn is a measure of efficiency.

Query 2: Accounting for emissions from fossil fuel consumption in co-firing cases.

The SSCWG also agreed with the suggestion of the proponent that for the case of co-firing in the project activity, it may be difficult in most cases to pro-rate the contribution of different project activity fuels *ex ante*. The suggested approach of considering specific energy consumption to determine baseline emissions in the case of co-firing is appropriate.

These two issues will be considered in the next revision of AMS-I.C.



Signature of SSC WG Chair

(Ulrika Raab)

Date: 03/09/2008



Signature of SSC WG Vice-Chair

(Kamel Djemouai)

Date: 03/09/2008

Information to be completed by the secretariat

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