



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:	22–25 August 2011, SSC WG 33
Title/Subject (give a small title or specify the subject of your submission, maximum 200 characters):	Clarification on monitoring of project methane emissions under AMS-III.K
Indicative methodology to which your submission relates (refer the items of Appendix B of the Simplified Modalities and Procedures), if applicable.	AMS-III.K “Avoidance of methane release from charcoal production by shifting from traditional open-ended methods to mechanized charcoaling process”
Name of the authors of the query:	Mischa Classen / Konstantin Drozd Institution: First Climate (Switzerland) AG Mischa.classen@firstclimate.com , konstantin.drozd@firstclimate.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.

Original text from PP

The Project Proponent develops CDM PoA “Shifting from traditional open pit charcoaling process to mechanized charcoal kilns in Egypt” and applies approved SSC baseline and monitoring methodology AMS-III.K v 4. In this request for clarification guidance is sought on how to interpret the provisions given to determine and monitor the fugitive project emissions $PE_{y,fugitive}$:

- 1) The paragraph 14 of AMS-III.K states: “To estimate fugitive emissions through **capture and flare inefficiencies** in the project charcoal manufacturing plant, the amount of methane generated, fuelled or flared shall be monitored ex-post, using continuous flow meters.

The Project Proponent requests clarification whether this requirement relates to ALL possible technologies that may replace the traditional open-ended charcoal production methods, where fugitive emissions are **captured** in any form, or ONLY to the technologies that constitute of **capturing and flaring** the methane contained in the captured gas?

The so far only registered CDM project applying AMS-III.K “Coconut shell charcoaling and power generation at Badalgama, Sri Lanka”, Ref. N 2364¹ the PDD¹ states on page 42 that: *The project activity involves capturing of methane generated during charcoal production process in a closed system which shall be combusted under controlled conditions and **not flared**. Hence, no fugitive methane emissions are expected due to capture and flare inefficiencies.* In that project: “The gases generated in the kilns are **combusted in combustion chamber situated downstream of the kiln**. The sensible heat of flue gases from combustion chamber is used in boilers to generate steam, which is further used to generate electricity through steam turbines” (page 8).

Is our interpretation correct, that only for projects where no flaring takes place but the gases are combusted internally (e.g. downstream combustion chamber, boiler, turbine or re-direction of gas into the burner of the kiln) fugitive emissions $PE_{y,fugitive}$ do not have to be accounted for in the project

¹ <http://cdm.unfccc.int/UserManagement/FileStorage/GKDI9U61RLN7TQEF02YCZPV3WJ45A8>

emissions?

- 2) Further, paragraph 9 prescribes how to determine $PE_{y,fugitive}$. There equation (5) of AMS-III.K states: Fugitive emissions due to capture and flare inefficiencies shall be **estimated** as follows:

$$PE_{y,fugitive} = (1 - CFE_{project}) \cdot ME_{y,project} \cdot GWP_{CH4}$$

$ME_{y,project}$ **Methane Emission Potential** of the project charcoal manufacturing process in the year y (tonnes)

Further, it is said:

$ME_{y,project}$ shall be estimated ex-ante and reported in the project design document. **Amount of methane generated** by the project activity in each year will be assessed ex post through direct measurements.

Ambiguity is introduced by the statement that the “amount of methane generated ... will be assessed ex post” in conjunction with paragraph 14 that requires the “amount of methane generated, fuelled or flared” be monitored ex post. It is unclear to the Project Proponent (i) if para 14 by “methane generated, fuelled or flared” refers to the monitoring of $ME_{y,project}$ or else to $PE_{y,fugitive}$, (ii) if the Methane Emission Potential $ME_{y,project}$ is the same as “(amount of) methane generated” and (iii) to which points in the process the terms “methane emission potential”, “methane generated”, “methane fuelled” and “methane flared” refer to and at what metering points these pertain to.

Project Proponent needs clarification from SSC WG on which of the two interpretation is correct:

- Where applicable, equation (5) relates ONLY to ex-ante estimation of project emissions due to capture and flare inefficiencies ($PE_{y,flaring}$), while in the project scenario the methane emissions $PE_{y,flaring}$ should be measured directly in the stack of the project charcoal kiln and reported in PDD
- Where applicable, the amount of methane generated ($ME_{y,project}$) inside of the charcoal kiln should be measured in the project scenario. and then equation (5) should be applied for calculation of project emissions $PE_{y,fugitive}$.

Further the Project Proponents would like to draw the attention of the SSC WG to the fact that the requirement for an online measurement system for methane according to paragraph 14 has the potential to be prohibitive to some of the projects, as the significant monitoring costs on top of the costs for the low-emission kiln may not be compensated by the commercialisation of the accruing CERs.

Specifically, in the case of a PoA, the Project Proponents would like to learn from the SSC WG about the possibilities of indirect ways to determine potential project fugitive emissions by means of the monitored parameters – $Q_{y,raw}$ and $Q_{y,prod}$ as well as the temperature – and the determination of an ex-ante determined parameter to calculate the $ME_{y,project}$ and, by applying equation (5) the $PE_{y,fugitive}$. Such a proposal could feature a future version of this methodology.

Recommendation by the SSC WG:

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

Please refer to paragraph 33 of the meeting report of the SSC WG 33
<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 clarify that two sources of fugitive emissions shall be considered in the mechanized charcoaling process:

1. The fugitive emissions from the mechanized charcoaling equipment (i.e. physical leakage); and
2. The fugitive emissions due to the inefficiency of the flare, if applicable.

However, equation 5 in particular and the methodology in general do not articulate the coverage of the two types of fugitive emissions and the SSCWG will revise the methodology at the next opportunity.

The SSC WG agreed to clarify that equation 5 of AMS-III.K (version 4) refers only to systems where the captured pyrolysis gases (which contains methane) is gainfully used, for example combusted to generate thermal energy. In this case, the methane destruction efficiency of the combustion equipment can be

considered as 100% and $CFE_{project}$ in such a case reflects the fugitive emissions from the charcoaling equipment (i.e. source 1 above). In case flare is used to burn the captured gas, in addition to source 1, the “Tool to determine project emissions from flaring gases containing methane” shall also be used to determine the efficiency of the flare and the residual methane emissions after flaring (i.e. source 2).

With respect to the determination of $ME_{y,project}$, $ME_{y,project}$ shall be estimated for *ex ante* purpose; and for *ex post*, $ME_{y,project}$ shall be determined by measuring all the captured methane and used to calculate the fugitive emissions (source 1) by applying equation 5.

With respect to alternative methods to the online measurement, please note that paragraph 14 also allows sampling method. For other possible monitoring methods, the PP is encouraged to submit a request for a revision of the methodology with more elaborated proposals.

Signed by the Chair, Ms. Fatou Gaye

Date: 25/08/2011

Signed by the Vice-Chair, Mr. Peer Stiansen

Date: 25/08/2011

Information to be completed by the secretariat

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