



**Approved baseline and monitoring methodology/
methodological tool clarification response form
(Version 02.0)**

INFORMATION TO BE COMPLETED BY THE SECRETARIAT OR PANEL/WG

Date and number of Panel/WG meeting:	26–29 August 2013, SSC WG 41
Title/Subject of the request for clarification:	Clarification on the measurement of accumulated biogas under AMS-I.I
Reference number of the request for clarification:	SSC_685
Exact reference (number, title and version) of the methodology or methodological tool to which the request for clarification applies:	AMS-I.I – version 04 “Biogas/biomass thermal applications for households/small users”
Fast track or Regular track:	<input type="checkbox"/> Fast track <input checked="" type="checkbox"/> Regular track

Summary of the request for clarification

Original text from PP:

According to No.6 of Table 1 of AMS-I.I. (Ver. 03.0), In the case of biogas project activities opting for Option 2 (para 13), gas meters are used to monitor accumulated biogas supplied to thermal energy equipment;

Measurement campaigns shall be undertaken at selected sites. At least five campaigns per digester type (e.g. 6 cubic metre or 8 cubic metre capacity, fixed dome or floating dome, region with high average ambient temperature or low average annual temperature) shall be carried out in each year of the crediting period. Continuous measurement made for at least one month at a single digester is considered as a campaign.

Monthly average value is annualised taking into account seasonal variation in gas production which is mainly a function of ambient temperature;

Query 1

In case of a gas meter is installed in a selected site to continuously measure the accumulated biogas supplied to thermal energy equipment for each digester type a whole year (i.e. continuous measuring for 12 months) and the monitoring data will be monthly read and recorded, could it be considered as 12 campaigns and therefore meet the requirement, at least five campaigns, of AMS-I.I.? It is hard to afford more monitoring equipments for such household biogas project with low revenues. The question is raised because it could significantly reduce the monitoring equipment cost and the implementation cost for the household biogas project.

Enquiry 2

Dose it means that the selected sites can be selected by PP at will?

Enquiry 3

If only one digester type is used in many CPAs, is it accepted that only five campaigns are implemented for those CPAs but not for each CPA?

Enquiry 4

According to AMS-I.I., gas meters can be used to monitor accumulated biogas. We also notice that there is no monitoring requirement for biogas temperature and pressure at all in AMS-I.I. Dose it means for household biogas, the measured accumulated biogas volume is unnecessary to correct based on its temperature and pressure and can be directly used to calculate emission reduction?

In case where the temperature and pressure will also be measured and then used to determine normalized volume, it is too expensive and hard to implement for households. Also, the biogas used in households is

nearly in room temperature and atmosphere pressure. The deviation between the accumulated volume and normalized value is extremely small for household biogas. Therefore, the measure accumulated biogas volume approximately equal to volume in normal condition.

Additional information sought from PP:

Regarding your query 1 on measurement of accumulated biogas, it is understood that your proposal is to conduct continuous measurements for 12 months in a single digester per each digester type, instead of conducting the measurement at 5 digesters per each digester type. The current methodology requirement of measurement in five campaigns per type was considered a simplification over the typical requirement of 90/10 precision specified in SSC methodologies, your proposal makes further simplification.

In that context you are requested to provide justification as to how your proposal can address uncertainties related to the measurement (e.g. a single digester per type may not well represent the biogas volume expected from all the digesters under the program).

Response from PP:

According to AMS-I.I., Continuous measurement made for at least one month at a single digester is considered as a campaign. Continuous measurement made for one whole year at a single digester can be considered as below:

1. continuous measurement made for Jan. at the single digester can be considered as the First campaign.
2. continuous measurement made for Feb. at the single digester can be considered as the Second campaign.
3. continuous measurement made for Mar. at the single digester can be considered as the Third campaign.

And the like. Therefore, Continuous measurement made for one whole year at a single digester can be considered as 12 campaigns.

The demonstration above is my understanding to AMS-I.I. For a type of biogas digester, different biogas digester will produce similar quantity of biogas because the applied technology is the same and the volume of biogas digester is the same and the annual average temperature is the same. Therefore, one can represent others with the same type.

Clarification by the secretariat or Panel/WG

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

Query 1:

The SSC WG would like to clarify that the current methodology requirement of measurement in five campaigns per type was considered a simplification over the typical requirement of 90/10 precision specified in SSC methodologies.

There are two possible uncertainties related to the measurement:

- (a) Statistical variation of the biogas generation at a single digester. This source of bias is accounted for in a simplified approach by requiring at least one month duration of any campaign at a monitoring site;
- (b) Statistical variability among the different digesters of the same type introduced by the project. This is accounted for by the simplified approach of at least five different digesters being assessed every year with the measuring campaign.

Therefore, the SSC WG would like to clarify that at least five different digesters of the same type shall be subject to measurement campaigns.

If project proponents wish to reduce the transaction costs by reducing the number of meters required, the SSC WG clarified that, for example, a single meter may be used during one year for five different campaigns (each campaign shall be for at least one month at five randomly selected digesters of the same type).

Query 2:

As per the guidance indicated in "Standard for sampling and surveys for CDM project activities and programme of activities" and "Guidelines for sampling and surveys for CDM project activities and programme

of activities”, the project implementer should ensure that the sample is drawn at random from the sampling frame, for example, using random number tables or using the random number generator of appropriate software.

Query 3:

The SSC WG agreed that for monitoring of accumulated biogas using the simplified measurements, at least five campaigns should be conducted for each CPA.

Query 4:

The SSC WG agreed that the temperature and pressure of biogas do not need to be monitored and that no correction for normalization is required.

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Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
02.0	18 July 2013	Revised to remove the row “Date and signature of the chair and vice chair of Panel/WG”
01.0	4 July 2013	Initial publication. This document supersedes and replaces the following documents: <ul style="list-style-type: none"> • Recommendation Form for Small Scale Methodologies (F-CDM-SSCwg) (Version 01.1); • Recommendation Form for Small Scale A/R Methodologies and Procedures (F-CDM-SSC-AR) (Version 01.1).
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