



CDM: Proposed new methodology expert form
(version 03)
(To be used by methodology experts providing desk review for a proposed new methodology)

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Related F-CDM-NM document ID number	NM 0021
<i>Note to those completing this form, as applicable: Please provide recommendations on the proposed new baseline and monitoring methodologies based on an assessment of annexes 3 and 4 and of their application in sections A to E of the draft CDM PDD, desk reviews and public input. Please ensure that the form is entirely filled and that arguments and expert judgements are substantiated.</i>	
A. Evaluation of the proposed new methodologies by desk reviewers:	
I. Evaluation of the new baseline methodology:	
Title of new baseline methodology:>> CERUPT methodology for landfill gas recovery	
<div style="margin-left: 40px;"> <p>i. Conditions under which this methodology is applicable to other potential projects (e.g. project type, region, data availability, etc.):</p> <p style="margin-left: 20px;">>> Applicable to landfill methane recovery projects, however, what type of them is not certain (see below (I.iii.b.)).</p> </div> <div style="margin-left: 40px;"> <p>ii. Strengths and weaknesses of the methodology:</p> <p style="margin-left: 20px;">>></p> <ol style="list-style-type: none"> 1. The methodology tries to cover a wide range of landfill type project [strength] but fails to provide proper/complete methodologies (maybe separation into cases is needed) associated with each type [weakness]. 2. The methodology suggests using the <i>ex-post</i> captured amount of CH₄ as the emission reductions. This may be appropriate [strength] if the emissions from landfill are identical for both baseline and project cases. The methodology does not provide justification [weakness]. </div> <div style="margin-left: 40px;"> <p>iii. Any changes needed to improve the methodology:</p> <p style="margin-left: 20px;">a. Minor changes:>></p> <p style="margin-left: 40px;">Title of the methodologies should be changed to represent the applicable type(s) of the project.</p> <p style="margin-left: 40px;">Description of the “completeness” of the GHGs associated with both baseline case and project case is needed here or in Annex 4. For example, N₂O may be emitted in the project case by flaring the landfill gas. If it is judged to be negligible small, the reason should be described.</p> <p style="margin-left: 20px;">b. Major changes: >></p> <p style="margin-left: 40px;">The description should be the style of “methodology”, not the style of “guidelines”.</p> <p style="margin-left: 40px;">The proposed methodology tries to apply to most types of landfill projects (as shown in figure 2 on page 31). However, the baseline methodology is incomplete if it covers wide range of landfill type projects, such as “electricity to grid” case. In order to</p> </div>	

include such cases, the method how to determine the appropriate carbon emission factor of the grid should be provided. The applicable types should be clarified with appropriate description of how to determine the parameters (in the formula of the baseline and project emissions) needed for such types.

The reason why the emissions from the landfill are identical for both baseline case (released case) and project case (captured case) should be described or justified as conservative. The organic anaerobic fermentation condition may be different for these cases due to the existence of the equipments used in the project case.

II. Evaluation of the new monitoring methodology:

Title of new monitoring methodology: >> CERUPT monitoring methodology for landfill gas recovery

- i. Conditions under which this methodology is applicable to other potential projects (e.g. project type, region, data availability, etc.):
>> Same as I. (baseline methodology) above as two methodologies are judged to be inseparable by the EB 10. [Maybe covering all landfill gas projects with no landfill gas capture baseline scenarios.]
- ii. Strengths and weaknesses of the methodology:
>> The methodology tries to quantify the baseline emissions (without capture) by the real captured amount *ex-post*. The reviewer judges that such monitoring method is better than the method using some model to “calculate” such amount (without capture). However, the methodology does not justify the applicability of this method.
- iii. Any changes needed to improve the methodology:
 - a. Minor changes:>>
Title of the methodologies should be changed to represent the applicable type(s) of the project (same name for both methodologies)
 - b. Major changes: >>
In general, the monitoring methodology is incomplete, *e.g.*, lack of the monitoring of the (parameters of) project emissions. If the methodology tries to cover a wide range of landfill-type projects, the monitoring methodology should include, *e.g.*, carbon emission factor of the connected grid, *etc.* The description of QA/QC is incomplete as well.

B. Details of the evaluation of the proposed new methodology by the desk reviewer:

I. Proposed new baseline methodology (*specify title here*): >>

CERUPT methodology for landfill gas recovery

(1) Short description of the methodology, including an assessment of which approach from paragraph 48 of the CDM modalities and procedures was used:

a) Describe the methodology:

>> The baseline emissions (or emission reductions) are basically captured amount of CH₄ measured directly *ex-post*. The additionality is checked by financial economical test. The methodology tries to cover a wide range of projects such as the case to export electricity generated to the grids.

b) State the approach selected:

>> Emissions from a technology that represents an economically attractive course of action, taking into account barriers to invest.

c) Indicate (in summary form) why the approach selected is the most appropriate. Please provide your expert judgement on the appropriateness of the selected approach to the project category:

>> The reviewer judges that the approach (a) (Existing actual or historical emissions, as appropriate) is more appropriate for this methodology. The reason is that the financial investment test is used only for the additionality check and the emission reductions are measured *ex-post* as the actual captured amount.

(2) Basis for determining the baseline scenario:

a) State whether the documentation explains how the baseline scenario is to be chosen and identified:

>> Yes. The documentation describes that the baseline scenario is chosen as the identical amount of landfill gas (to the project scenario) emitted without captured.

b) State the basic underlying rationale for algorithms/formulae used (e.g. marginal vs. average basis (see also section 4 below):

>> Real measurement is a better method to quantify the emissions than using the model such as the first decay model. However, the reason/justification why the above “assumption” is applicable is not provided. The gas collecting equipments may change the organic anaerobic fermentation condition from no equipments baseline case. In some cases, the landfill gas is extracted by power-driven tools for project case. At least, the reason why such assumption is conservative should be provided as it is critical to quantify the emission reductions.

c) State whether the documentation explains how, through the use of the methodology, it can be demonstrated that a project activity is additional and therefore not the baseline scenario. If so, what are the tools provided by the project participants?

>> Yes. The methodology shows the flowchart of the additionality tests. Those are good “guidelines” related to the investment decisions economically, however, the tests described are examples and somewhat vague in the definitions (only suggestions are provided for each element of flow of tests). The reviewer understands that the CDM EB/Meth Panel request the methodology to be more unambiguous type (uniquely defined; the case separation is needed to include a variety of cases, forming *a set of* methodologies) and not the guidelines (with non-unique “instructions” to apply such a methodology).

d) State whether the basis for determining the baseline scenario and for assessing additionality is appropriate and adequate:

>> The flow chart (steps) to check the additionality is appropriate in general, but not well developed as a (set of) methodology(ies) as shown above. The baseline scenario may be adequate, but the eligibility to use it is not provided as shown above.

(3) Assessment of the description of the proposed methodology and its applicability

a) State whether the methodology has been described in an adequate manner:

>> The methodology is described as the guidelines covering most landfill type projects, while it is incomplete as the methodology. The reason is that

- The methodology does not fully provide the methods for all relevant types of landfill projects as it intends to cover,

- The methodology does not investigate the completeness of the GHGs,
- The methodology does not check the difference of anaerobic condition between the project scenario and the baseline scenario.

b) State whether the proposed methodology is appropriate for the referred proposed project activity and the referred project context (described in Sections A-E of the draft CDM-PDD and submitted along with Annex 3):

>> The reviewer recognizes that the applicability of the methodology to the project proposed is checked by the OE.

In any case, the Section B.3. tested two alternatives only. Other alternatives such as flaring only case should be investigated. As for the Alternative 2, the electricity used for evaporation is “assumed” to be greater than the electricity generated implicitly. Numerical estimation is needed to result in such a logic.

c) State whether the application of the methodology could result in a baseline scenario that reasonably represents the anthropogenic emissions by sources of greenhouse gases that would occur in the absence of the proposed project activity.

>> The reviewer judges “not enough”, although such judgement should be done by the OE.

Please explain:

>>

As mentioned above, not every possible alternative are checked. In section 6 of the Annex 3, nine alternatives are listed as examples, while only two are checked in the section B.

The section E should be based on the verified value of emissions, not anticipated value of emissions using the model calculations.

(4) Assessment of algorithms/formulae and type of data needed:

a) State whether the description of the methodology includes algorithms and generic formulae that can be applied to other potential project activities (If not, the proposed new methodology will be considered as a project-specific methodology.):

>> As shown above it tries to, but it is incomplete as a (set of) methodology(ies).

b) Explain the spatial scope of data used to determine the baseline and whether the scope is appropriate:

>> No data is used in the baseline methodology.

c) Explain the vintage of data used (in relation to the duration of the project crediting period) and whether the vintage of data is appropriate, indicating the period covered by data:

>> No data is used in the baseline methodology.

(5) Definition of the project boundary related to the baseline methodology:

Only the indicative steps are provided to determine *e.g.*, GHGs for project scenario (not baseline scenario). The reviewer believes that the methodology should include all relevant GHG direct and indirect sources associated with the Figure 2 on page 31. In addition, some numerical estimation is needed to identify negligible emissions (not necessary to monitor) among them.

a) State how the project boundary is defined in terms of:

i) Gases and sources

>> No concrete discussion on GHGs and sources is provided. The reviewer believes that the methodology should identify all sources in/outside the boundary and discuss whether they are negligible small or not.

ii) Physical delineation

>> The boundary is set for project site and the energy grid connected to it.

b) Indicate whether this project boundary is appropriate:

>> The project boundary seems appropriately defined. However, it may be somewhat inconsistent to set the fuel/heat/electricity input to the site to be outside of the boundary while setting electricity to grid to be inside (Figure 2, page 31).

(6) Key assumptions/parameters (including emission factors and activity levels) and data sources:

a) List the implicit and explicit key assumptions. Identify those, if any, which are problematic and explain:

>> Key assumptions are not mentioned in the methodology.

The reviewer recognizes that one of the key assumptions is the equality of landfill gas emissions for captured case (project scenario) and released case (baseline scenario).

b) State whether the key assumptions are arrived at in a transparent manner:

>> Key assumptions (and its rationality) are not mentioned in the methodology.

c) Give your expert judgement on whether the assumptions/parameters are adequate:

>> The reviewer judges such assumption above is adequate but the reason/justification should be provided. If the reason cannot be provided, it should be checked by some monitoring method.

d) Indicate which data sources are used and how the data are obtained (e.g. official statistics, expert judgement). Identify whether the data used are complete and state possible data gaps:

>> No data sources are provided for the rationality of the assumption above.

For the additionality test, the “anticipated” value of emissions is needed and the IPCC 1996 Revised Guidelines are mentioned to estimate the emissions *ex-ante*. However, the IPCC Good Practice Guidance on GHG Inventory should replace it as it provides newer/better guidance.

e) Give your expert judgement on whether the data used are adequate, consistent, accurate and reliable:

>> No data is used in the baseline methodology.

(7) Assessment of uncertainties:

a) *State whether the methodology includes an assessment of uncertainties regarding:*

i) *The basis for determining the baseline scenario:*

>> The methodology does not provide the uncertainty assessment properly. It says only the impossibility of future parameters such as emission level, *etc.*

The methodology states that the *ex-post* measurement of the captured CH₄ is identical to the emission reductions (without any uncertainties), while the reviewer believes that this should be demonstrated to be appropriate.

ii) *Algorithms/formulae:*

>> No uncertainties associated with the algorithm/formulae are provided.

iii) *Key assumptions:*

>> Key assumptions are not mentioned in the methodology. The reviewer recognizes that one of the key assumptions is the equality of landfill gas emissions for captured case (project scenario) and released case (baseline scenario). Others include non-methane GHG emissions are negligible for baseline and project scenarios.

iv) *Data:*

>> No data is used in the baseline methodology.

b) *State whether the uncertainties presented are reasonable:*

>> The uncertainties are thought to be absent in the methodology. As explained above, the reviewer judges that the reasons should be provided.

(8) Leakage:

a) *State how the baseline methodology addresses any potential leakage due to the project activity:*

>> The methodology judges the absence of the leakage.

b) *Indicate whether the treatment for leakage is appropriate and adequate?*

>> No. The indirect emissions associated with the electricity input to the boundary (Figure 2, page 31) should be treated as the leakage.

(9) Transparency and “conservativeness”:

a) *Indicate whether the baseline methodology was developed in a transparent way:*

>> Yes. The reviewer judges the methodology is developed in a transparent way.

b) *State whether the baseline methodology is conservative:*

>> The description of the conservativeness is not appropriately described as it is not mentioned in the selection in the algorithm/formula.

(10) Potential strengths and weaknesses of the baseline methodology (please explain):

- >> 1. The methodology tries to cover a wide range of landfill type project [strength] but fails to provide proper/complete methodologies (maybe separation into cases is needed) associated with each type [weakness].
2. The methodology suggests using the *ex-post* captured amount of CH₄ as the emission reductions. This may be appropriate [strength] if the emissions from landfill are identical for both baseline and project cases. The methodology does not provide the reason [weakness].

(11) Other considerations, such as a description of how national and/or sectoral policies and circumstances have been taken into account (please explain):

>> No concrete explanation is made.

(12) Applicability of the proposed methodology across project types and regions (please indicate):

>> The methodology is incomplete, but if it is developed in a complete fashion, it may be applicable for a wide range of landfill-type projects (applicability should be checked after completion).

(13) Any other comments:

a) State whether any other source of information (i.e. other than documentation on this proposed methodology available on the UNFCCC CDM website) has been used by you in evaluating this methodology. If so, please provide specific references:

>>The methodology is almost identical to “Operational Guidelines for Baseline Studies, Validation, Monitoring and Verification of Clean Development Mechanism Project Activities Volume 2b: Baseline studies for specific project categories—A guide for project developers Version 1.0” by Ministry of Housing, Spatial Planning and the Environment of the Netherlands. The reviewer believes that such guidelines cannot be the same as it is and should be rewritten as the form of methodology.

b) Indicate any further comments:

>> None.

II. Proposed new monitoring methodology (specify title here): >>

CERUPT monitoring methodology for landfill gas recovery

In respect of the proposed new monitoring methodology, evaluate each section of Annex 4. Please provide your comments section by section:

(1) Brief description of new methodology:

Describe new methodology:

>> The methodology proposed (CERUPT methodology) mentions that “It is acceptable to assume that the volume of LFG actually recovered is an indication of the volume of gas that would have emitted without the project. This will be monitored.”

The reviewer cannot find the reason why such monitoring methodology is “acceptable” (in the baseline methodology and monitoring methodology).

The monitoring methodology should include the monitoring (of the parameters) of project emissions as well. However, no description is provided for project emissions in Annex 4.

(2) Key assumptions/parameters:

a) *List the implicit and explicit key assumptions. Identify those, if any, which are problematic and explain:*

>> Assumptions are not described in section 4 of Annex 4 (section 4 is kept blank).

As mentioned above and in baseline methodology, the key implicit assumption is the actually recovered amount of identical to that of emission reduction (or baseline emissions).

Other assumptions may include the parameters in the project emissions, while those are not in Annex 4 at all.

b) *State whether the key assumptions are arrived at in a transparent manner:*

>> No. The reviewer believes that the methodology should justify this assumption.

c) *Give your expert judgement on whether the assumptions/parameters are adequate:*

>> If the scientific justification is provided *ex-ante* or *ex-post*, this assumption can be adequate.

(3) Data sources and data quality:

a) *Indicate which data sources are used and how the data are obtained (e.g. official statistics, expert judgement). Identify whether the data used are complete and state possible data gaps:*

>> No data is specified in Annex 4.

b) *Give your expert judgement on whether the data used are adequate, consistent, accurate and reliable:*

>> No judgement.

(4) Assessment of the description of the proposed methodology and its applicability:

a) State whether the proposed methodology has been described in an adequate manner:

>> The reviewer judges that the monitoring methodology is incomplete. The reasons are:

- Lack of monitoring of project emissions,
- Lack of description of the monitoring data table (data variable, reporting frequency, incomplete comments)
- The description is the form of “guidelines”, not “methodology”.
- Q_p in (A.2) is not defined.
- Monitoring point is not specified.

b) State whether the proposed methodology is appropriate for the referred proposed project activity and the referred project context (described in Sections A-E of the draft CDM-PDD and submitted along with Annex 4):

>> The reviewer believes that the appropriateness of the methodology to the concrete proposed project should be judged by the OE.

In any case, the section E of the PDD does not link to the monitoring methodology. The section D is not derived from Annex 4. The section D is incomplete (*e.g.*, lack of description of relationship between the monitored parameter and baseline and/or project emissions).

c) State whether this proposed monitoring methodology is compatible with the proposed baseline methodology described in annex 3 of the draft CDM-PDD:

>> Partially compatible, but both are incomplete.

(5) Leakage *(please elaborate, if appropriate):*

>> Only “guidelines” are provided, but no concrete parameters related to the leakage is discussed. Conceptual difference between leakage of project scenario and baseline scenario is not considered.

(6) Quality assurance and control procedures *(please explain):*

>> Only “guidelines” are provided, but no concrete reasons/methods related to the QA/QC are discussed.

(7) Potential strengths and weaknesses of the methodology *(please explain):*

>> The “low costs” monitoring is mentioned as the strength. No weakness is provided.

The reviewer believes that the methodology should describe the strength/weakness on the “uncertainties/completeness” related issue on monitoring here.

(8) Applicability of the proposed methodology across project types and regions *(please indicate):*

>> It has not been used before.

(9) Any other comments:

a) State whether any other source of information (i.e. other than documentation on this proposed methodology available on the UNFCCC CDM website) has been used by you in evaluating this methodology. If so, please provide specific references:

>> New methodologies proposed on the CDM Web site on land-fill methane projects and “Operational Guidelines for Baseline Studies, Validation, Monitoring and Verification of Clean Development Mechanism Project Activities Volume 2b: Baseline studies for specific project categories—A guide for project developers Version 1.0” by Ministry of Housing, Spatial Planning and the Environment of the Netherlands.

b) Indicate any further comments:

>> There are several land-fill type methodologies proposed (one is approved to date). The reviewer recommends the project participant to take a closer look at those methodologies and the comments associated with them to improve its own or use the most appropriate approved one for the project proposed. The CERUPT “guidelines” should be rewritten as the form of “methodology”, if it is incorporated in the Annex 3 and 4 as the methodologies.

Signature of desk reviewer

Date: 07/ 08/ 03



[Communication to the Methodology Panel]

The reviewer would like to ask the Methodology Panel to *integrate* the landfill-related methodologies (only approved ones) into “a *set* of methodologies” which clearly identifies the applicable types of landfill projects, as a typical standardization process from bottom-up methodologies in the near future (after accumulating several approved methodologies on this category type). In any case, some coordination may be necessary among the approved land-fill type methodologies.

The reviewer believes that the judgement related to the application of the methodology to the concrete proposed project should be left for the OE. So, related questions may not be needed. If the reviewer “must” check this, the evidences and other more precise information are needed.

The reviewer considers that the methodology “defines” some “conceptual” generalized project (or a set of projects). For example, additionality check in the “methodology” should be done for this “conceptual” project as the additionality is derived logically from the underlying (applicability) conditions.

Information to be completed by the secretariat	
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