



CDM: Proposed New Methodology
Meth Panel recommendation to the Executive Board
(version 03)
(To be used by the Meth Panel to make a recommendation to the Board regarding a proposed new methodology)

Date of Meth Panel meeting:	3-5 November, 2003
Related F-CDM-NM document ID number (electronically available to EB members)	NM0021 CERUPT Methodology for Landfill Gas Recovery
Related F-CDM-NMex document ID number(s) (electronically available to EB members)	F-CDM-NMex0021: Naoki Matsuo / Steve Thorne
Related F-CDM-NMpu document ID number(s) (electronically available to EB members)	F-CDM-NMpu0021: Thomas Martinsen/Lambert Schneider - Oeko Institut

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.

A. Final recommendations by the Meth Panel

I. Recommendation on the proposed new baseline methodology: *(checkmark the choice made)*

Title of proposed new baseline methodology:>> [Baseline methodology for landfill gas recovery with electricity generation and no capture or destruction of methane in the baseline scenario](#)

a. To approve this proposed methodology with minor changes



- i. Conditions under which this proposed methodology is applicable to other potential CDM project activities (e.g. project type, region, data availability):

>> [Methodology applies to landfill gas extraction projects flaring the LFG and/or generating electricity, and where emission reduction credits from electricity generation are not considered. The Methodology applies to landfill projects with full atmospheric release as a baseline only.](#)

- ii. Minor changes:

>> [IRR calculation has to be done over the lifetime of the project and should include sensitive analysis. The title of the additionality chart should be changed to "additionality check for landfill gas".](#)

[It is not clear from the steps in additionality test if both barrier analysis and common practice need to be done. It is suggested that both must be conducted. Common practice test needs to be elaborated upon as to define it more clearly.](#)

[Leakage from potential additional electricity consumption from any pumping of methane must be considered. This component may be negligible, but in principle it should at least be considered at the methodological level.](#)

[Given that this methodology applies to similar project types as for the approved methodologies for case NM0005, as stated in the report of the Meth Panel at its seventh meeting, if the Board approves this methodology it will require consolidation with the approved methodology for NM005.](#)

b. To reconsider this proposed methodology, subject to required changes

i. Conditions under which the proposed methodology is applicable to other potential projects (e.g. project type, region, data availability):

>>

ii. Required changes:

>>

(Project participants shall make required changes to the proposed new methodology and send it back to the Meth Panel. The proposed new methodology will be reconsidered by the Meth Panel if changes required are made by the project participants. The Executive Board will only consider this proposed new methodology after the revised proposed methodology has been reconsidered by the Meth Panel.)

c. Not to approve the proposed methodology



i. Reasons for non-approval:

>>

(A new proposal should be submitted in accordance with the procedures for submission and consideration of proposed new methodologies of the Executive Board.)

II. Recommendation on the proposed new monitoring methodology: (checkmark the choice made)

Title of proposed new monitoring methodology: >> [Monitoring methodology for landfill gas recovery without partial capture or recovery of methane](#)

a. To approve this proposed methodology with minor changes



i. Conditions under which methodology is applicable to other potential projects (e.g. project type, region, data availability):

>> [Methodology applies to landfill gas extraction projects flaring the LFG and/or generating electricity. The methodology applies to landfill projects with full atmospheric release as a baseline only.](#)

ii. Minor changes:

>> [Monitoring methodology presented in Annex 4 should include complete information on recording frequency of monitored data, as required by the appropriate tables in Annex 4.](#)

[Given that this methodology applies to similar project types as for the approved methodologies for case NM0005, as stated in the report of the Meth Panel at its seventh meeting, if the Board approves this methodology it will require consolidation with the approved methodology for NM0005.](#)

b. To reconsider this proposed methodology, subjected to required changes



i. Conditions under which the proposed methodology is applicable to other potential projects (e.g. project type, region, data availability.):

>>

ii. Required changes:

>>

(Project participants shall make required changes in the proposed new methodology and send it back to the Meth Panel. The proposed new methodology will be reconsidered by the Meth Panel if changes required are correctly made by the project participants. The Executive Board will only consider this proposed new methodology after required changes proposed have been made and the revised proposed methodology has been reconsidered by the Meth Panel.)

c. Not to approve the proposed methodology

i. Reasons for non-approval:

>>

(A new proposal should be submitted in accordance with the procedures for submission and consideration of proposed new methodologies of the Executive Board.)

B. Details of the evaluation of the proposed new methodology by the Meth Panel:

I. Proposed new baseline methodology (*specify title here*): >> [Baseline methodology for landfill gas recovery without partial capture or destruction of methane](#)

(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 methodology emphasises the use of economic and financial criteria to determine whether the proposed project activity is additional followed by a key factor analysis to establish the baseline scenario and calculate baseline emissions.

The sequence in the analysis is:

1. Determination of project additionality,
2. Determination of baseline scenario.

For the determination of project additionality, the methodology includes 4 steps:

1. Assessment of legal requirements,
2. Assessment of economic attractive courses of action,
3. Assessment of barriers and common practices,
4. Additional checks on credibility of baseline. Methodology describes each of the steps included for the additionality determination.

The selection of the baseline scenario is determined either by: the scenario with the lowest cost / higher IRR, or the scenario that would occur after considering common practice or the barriers to investment.

The methodology allows for the use of models for the ex ante estimation of baseline emissions, providing some guidance on the issue (presenting a suggested model for the estimation), but stating that the project participant may use other proven estimation methods (according to the experience and technical capacities of the project participant)

b) State the approach selected:

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

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 methodology emphasises the use of economic and financial criteria to determine whether the proposed project activity is additional and next a key factor analysis to establish the baseline scenario and calculate baseline emissions. The methodology is appropriate for the type of project activity.

(2) Basis for determining the baseline scenario:

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

>> The documentation defines the baseline scenario that is most likely to occur in the absence of the proposed project as either the scenario with the lowest cost/highest IRR or the scenario that would occur after considering common practice or barriers to investment. Project developer must show that the situation without the project would have implied full atmospheric release of LFG.

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

>> Comparison of scenarios based on long term cost calculations / IRR determination.

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?

>> Methodology includes general guidelines on three steps to be followed in testing for additionality: through assessment of legal requirements, assessment of economic course of action and assessment of barriers and common practice.

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

>> Baseline scenario selection is a result of the application of a flow chart process to determine additionality. Basis for assessing additionality is the application of the same flow chart that looks at a sequence of legal/economic/financial/barrier analysis to be conducted on scenarios to be defined by the project proponent.

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

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

>> Methodology description is adequate in providing guidelines and steps to be followed by project participants. The methodology relies heavily on the capacity of the project participant in detailing models for calculations, definitions of scenarios that may be applicable to the project, etc.

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):

>> Methodology is appropriate to the context of the project category.

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.

>> Yes if applied appropriately.

Please explain:

>> Following at least the suggested steps in assessing at least some of the possible scenarios could result in a reasonable baseline scenario

(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):

>> Methodology states that baseline emissions are determined ex-post by monitoring the amount of LFG extracted. The methodology gives guidance for estimating emissions reductions by presenting a simple first-order decay model for the estimation of methane emitted through time (at the same time, the methodology states that the user of the methodology should feel free to use other proven and substantiated estimation methods), which is in fact the case of the example PDD where the project participant uses its own developed model for the ex-ante estimation of emission reductions.

The methodology is not clear on the criteria to be used in selecting values for certain coefficients to be used in applying the formulae (for example the coefficient k for landfill gas generation rate).

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

>> Methodology does not address in an explicit way the treatment of spatial scope of data to be used.

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 the data:

>> The vintage of data is not addressed directly by the methodology.

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

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

i) Gases and sources

>> Indicative steps are presented only for the project scenario and not the baseline scenario. Methodology indicates that all GHG's should be separately listed, and emissions contributing less than 1 percent to the total baseline emission should not be discounted for, suggesting that, in practice, often only methane and CO₂ apply to landfills.

ii) Physical delineation

>> Methodology provides a flow chart as well as steps to be considered in doing the physical delineation of the project boundary. It includes the related technologies that affect the project activity emissions, by providing for the need to draw a chart that should distinguish three major areas: upstream, utilization and downstream.

b) Indicate whether this project boundary is appropriate:

>> Yes, since it reflects gases and sources likely to be encountered in this kind of project activity.

(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:

>> The most important assumption is that the amount of captured methane is considered to be the best estimate of the additional amount of methane released in the absence of the project.

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

>> Generally transparent, with a few exceptions, such as the assumption that the actual volume of methane captured with the project is a conservative estimate of what would have been emitted extra without the project.

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

>> Assumptions/parameters seem to be appropriate.

d) Indicate which data sources are used and how the data are obtained (e.g. official statistics, expert judgement):

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

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

>> Data to be used for calculation of emissions reductions is to be based on measurements on site.

f) State possible data gaps:

>> Flare efficiency.

(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 considers uncertainties coming from:

- Incomplete definition of a set of plausible scenarios,
- No conservative selection of parameters for estimation of IRR
- Non enforceability of legal obligations to recover LFG.

ii) Algorithms/formulae:

>> No.

iii) Key assumptions:

>> No.

iv) Data:

>> No.

b) State whether the uncertainties presented are reasonable:

>> Seem reasonable

(8) Leakage:

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

>> Methodology states that, for landfill gas recovery projects, no leakage risk is identified since the emissions from sources outside the boundaries tend to be negligible compared to methane emissions.

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

>> Considerations are appropriate based on practice expected in landfill projects.

(9) Transparency and “conservativeness”:

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

>> Baseline methodology is transparent.

b) State whether the baseline methodology is conservative:

>> Baseline is made conservative by the procedures of acceptance of parameters based on appropriate confidence intervals as well as by recommending that plausible scenarios have to be selected on the basis of lowest emission reductions .

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

>> **Strength:**

Methodology is simple in its guidelines.

Methodology suggests using ex-post monitoring of captured amount of methane as the base for estimating emissions reductions, while providing a simple approach for ex-ante estimation of the certified emissions reductions.

Additionality determination is easy, once the baseline scenario and related carbon emissions factors have been set in conjunction with a robust model to simulate emissions from landfills.

Weakness:

Construction of cases for the determination of additionality is not clearly indicated.

Methodology does not provide enough reasons to assert that biogas generation and oxidation in the landfill are identical for both the baseline and project cases.

Criteria for defining factors and data to be used are not clearly defined, the equations for the ex-ante estimation depend on a model to be selected by the project participant.

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

>> Methodology indicates that national landfill operation legislation has to be taken into account when addressing the first assessment to test additionality through the use of the legal obligations of project operation. In case national and/or sectorial policies and circumstances require partial capture of methane, baseline methodology cannot be used.

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

>> Methodology is intended for use in different types of landfill gas recovery projects, as long as there are no obligations for partial capture of methane, and no consideration of electricity exports to claimed emission reductions.

(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 web site) has been used by you in evaluating this methodology. If so, please provide specific references:

>> None.

b) Indicate any further comments:

>> No further comments.

II. Proposed new monitoring methodology (specify title here): >> CERUPT Methodology for landfill gas recovery

In respect of the proposed new monitoring methodology, evaluate each section of annex 4 to the draft CDM PDD. Please provide your comments section by section:

(1) Brief description of new methodology:

Describe new methodology:

>> Methodology is designed primarily to be used in relation with the CERUPT methodology for landfill gas recovery. The methodology considers monitoring of LFG actually recovered, as an indication of the additional volume of gas that would have been emitted without the project.

(2) Key assumptions/parameters:

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

>> Monitoring methodology does not include a description of all the assumptions used in elaborating the new methodology. The key implicit assumptions relate to the consideration of monitored LFG actually recovered as an indication of the volume of gas that would have been emitted without the project.

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

>> The monitoring methodology does not provide information on the implicit assumptions, except from stating a fact on the matter.

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

>> Assumptions need to include better justifications.

(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):

>> Methodology submitted in Annex 4 of the draft CDM-PDD includes the following data to be collected: landfill gas recovered, landfill gas composition, LFG flared, LFG vented. The methodology indicates that a monitoring plan should indicate frequency, responsibility, authority, as well as suggesting that internationally recognized methods should be used for monitoring, measurement and calibration. Methodology also indicates that, in case other methods are to be used, correlation should be established with respect to internationally accepted ones.

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

>> The omission of certain variables and, in some cases, where they should be measured, as well as the non- inclusion of recording frequency of measurements, is an indication that monitoring methodology has to be revised.

c) State possible data gaps:

>> Flare efficiency.

(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:

>> Proposed monitoring methodology is not described in an adequate manner. There is no inclusion on aspects such as recording frequency, methods to be used, and some variables are not defined.

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):

>> Section D of the draft CDM-PDD is more detailed and clear than the proposed monitoring methodology.

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

>> Compatible.

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

>> Methodology indicates that leakage indicators are not likely to be available for all purposes, indicating that the nature of the project will determine the need and possibility to estimate project leakage. Guidelines are provided but no concrete parameters related to leakage are discussed.

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

>> Only very general guidelines are presented with respect to the need to describe quality assurance of monitoring and measurement activities.

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

>> Monitoring methodology is simple in concept.

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

>> Methodology cannot be applied to LFG projects where there is partial capture or destruction of methane in the baseline scenario.

(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 web site) has been used by you in evaluating this methodology. If so, please provide specific references:

>> None.

b) Indicate any further comments:

>> No further comments.

Signature of Meth Panel Chair

Date: 12/11/2003



(Jean-Jacques Becker)

Signature of Meth Panel Vice-Chair

Date: 12/11/2003



(Franz Capra Tattenbach)

Information to be completed by the secretariat

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