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:	8-9 September, 2003
Related F-CDM-NM document ID number *(electronically available to EB members)*	NM 0005–rev Nova Gerar Landfill Gas to Energy Project
Related F-CDM-NMex document ID number(s) *(electronically available to EB members)*	F-CDM-NMex0005: Stephen Thorne/Axel Michaelowa
Related F-CDM-NMpu document ID number(s) *(electronically available to EB members)*	No public comments received

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 capture with no credits for electricity generation

a. To approve this proposed methodology with minor changes

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

>> Applicable to all landfill gas capture project activities that flare, produce electricity, and do not claim certified emission reductions (CERs) from avoiding other sources of electricity generation. This methodology must be used in conjunction with monitoring methodology below. It is applicable only where two alternative outcomes are plausible: the continued operation of the landfill using current practices (i.e. business-as-usual scenario- BAU) or the proposed project activity.

ii. Minor changes:

>>The project proponents re-submitted a draft CDM-PDD and annexes 3 and 4 following the first round of comments from the Methodology Panel and Executive Board. The only recommended further changes are to:

1. Specify the Effectiveness Adjustment Factor (EAF) and how it is determined. It is recommended that the 20% factor used for NovaGerar serve as a default value. Deviations from the value can be proposed and justified based on project-specific considerations, i.e. the prospect for new laws and regulation and/or increased

enforcement or effectiveness of existing laws and regulations applicable at the project location. (under sections 6 and 10 of annex 3)

2. Modify annex 3, section 2.2, step 4 to note that in addition to government bond rates, other appropriate cost-of-capital metrics can be used (e.g. commercial lending rates)

3. Include in section 6 of annex 3 a simplified algorithm for calculation of emission reductions, based on the steps and description shown in section 1 of annex 4, e.g.

$$ER_{electricity\ generation} = \frac{\text{Electricity Generated (MWh) x Heat Rate (GJ/MWh) x Methane GWP}}{\text{Methane Energy Content (GJ/tCH4)}}$$

$$ER_{methane\ flare} = \text{LFG flared (m3) x Methane Fraction of LFG x Flare Efficiency x Methane Density (tCH4/m3) x Methane GWP}$$

$$ER_{total} = (ER_{electricity\ generation} + ER_{methane\ flare}) \times (1 - EAF)$$

- specify in section 6 of annex 3 that ex ante estimates of ERs should be provided with the CDM-PDD.

4. In addition some minor edits will be required to remove repetitive paragraphs, improve syntax and incorporate "methodology-specific" information from Annex 5 of the draft CDM-PDD.

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

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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: >> Direct monitoring and calculation of emission reductions in landfill gas utilization or flaring projects

a. To approve this proposed methodology with minor changes

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

>>Applicable to all landfill gas capture project activities that flare, produce electricity, and do not claim certified emission reductions (CERs) from avoiding other sources of electricity generation. This monitoring methodology is applicable only to project activities eligible for using the baseline methodology above.

ii. Minor changes:

>>The project proponents re-submitted a draft CDM-PDD and annexes 3 and 4 following the first round of comments from the Methodology Panel and Executive Board. These documents incorporate the changes requested and no additional changes are needed.

Some minor edits will be required to remove repetitive paragraphs, improve syntax.

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

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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 capture with no credits for electricity generation

(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 uses a seven-step process to determine the most likely baseline scenario. It employs an investment analysis, using internal rate of return (IRR) without CER revenue). If the project IRR is below an economically attractive level to attract investment, the operation of the landfill using current practices (i.e. BAU) is likely to continue and becomes the project baseline. If there is another plausible

baseline scenario other than the project or the BAU scenario (or the BAU with minor changes and modifications), the methodology cannot be applied.

b) State the approach selected:

>> The approach selected is the emissions from a technology that represents an economically attractive course of action, taking into account barriers to investment (Para 48(b) of the CDM M&P). In this case, this is interpreted as no action, which is also consistent with para 48(a) of the CDM M&P (existing actual or historical emissions). In either case the approaches can be considered appropriate to the project category.

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 baseline methodology takes into account the financial implications of scenarios. However, the methodology cannot be used if the IRR does not, without doubt, indicate that the project activity is not an economically attractive course of action.

(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 explains that if the IRRs of alternative projects are below an economically attractive level to attract investment, the operation of the landfill using current practices is likely to continue and be the project baseline.

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

>>. The proposed methodology utilizes direct monitoring of the emission reductions from the project activity. The emission reductions due to the project activity are monitored and calculated as a differential to the baseline emissions estimated by calculating the amount of landfill gas that the landfill site can generate using the US EPA First Order Decay Model and deducting the amount that would have been flared in the absence of the project according to the effectiveness of the gas collection systems imposed by regulatory requirements an the time of inception of the project actvity.

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?

>>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 by proposing a simplified financial analysis for an investment project where business-as-usual (??) is the only other plausible alternative. It is essentially a quantitative test.

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

>>The baseline methodology determines the baseline scenario as an economically attractive course of action. The methodology identifies that only two alternative scenarios (the BAU and the proposed project activity) are plausible courses of action and then shows that one of them (the proposed project) is not an economically attractive course of action. This shows that the proposed project is not part of the baseline scenario and thus additional.

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

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

>> Yes, the descriptions and presentations are clear.

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):

>> Yes, the methodology is appropriate for the NovaGerar Landfill Gas to Energy Project.

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, the application of the methodology could result in a baseline scenario that reasonably represents the anthropogenic emissions by sources of GHG that would occur in the absence of the proposed project activity.

Please explain:

>> The methodology employs an investment analysis using internal rate of return without taking into account the possible revenue from CERs to determine which is the most likely baseline scenario using conservative assumptions and then compares alternatives.

(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):

>> The algorithms and generic formulae of the methodology can be applied to potential project activities that involve landfill gas project activities under conditions where there is no law governing landfill sites (or no application of the law), and when no credits are claimed for their electricity production.

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

>>Data are simple to obtain to the degree of accuracy required by the methodology and calculations can be easily checked by an auditor. Calculations are standard financial calculations.

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:

>>Due to its simplicity, the vintage of data used is appropriate for the crediting period under consideration.

(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

>> CO2 and CH4

ii) Physical delineation

>>Project boundary is simply defined as the landfill site and new equipment, including the electricity fed to the grid.

b) Indicate whether this project boundary is appropriate:

>> Project boundary seems to be adequate with respect to its physical delineation and gases covered.

(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:

>> A key assumption to estimating the baseline is that there is no reason to believe that a landfill gas system would be installed for safety or odour reasons at the time when the landfill is closed. A reduction of CERs is proposed to cover landfill management/policy changes in the first crediting period after which the baseline would have to be re-established. The value of this reduction is quite subjective and is said to be imposed in the interests of making a conservative claim and in anticipation of possible regulatory developments during

the period of the first crediting period. An other option would be to ex post monitor the local regulations.

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

>> Yes, key assumptions are arrived and stated in a transparent manner.

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

>> The assumptions/parameters are adequate.

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

>> Except for the use of the US EPA First Order Decay Model and other data are monitored or easy to obtain.

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

>> Data are adequate, consistent, accurate and reliable .

f) State possible data gaps:

>> No data gaps were perceived.

(7) Assessment of uncertainties:

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

i) The basis for determining the baseline scenario:

>> Uncertainties are relatively low and the methodology, if correctly applied, can deal with those.

ii) Algorithms/formulae:

>> No significant uncertainties detected.

iii) Key assumptions:

>> Same as above.

iv) Data:

>> Same as above .

b) State whether the uncertainties presented are reasonable:

>>Yes, uncertainties are reasonable

(8) Leakage:

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

>> There is no leakage addressed in the baseline. The small amount of leakage anticipated related to the manufacture of new equipment is recognized but, appropriately, considered negligible.

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

>>Treatment for leakage is appropriate and adequate.

(9) Transparency and "conservativeness":

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

>> Baseline methodology was developed in a transparent way.

b) State whether the baseline methodology is conservative:

>> There are two forms of "conservatisms": (a) one related to the use of a "conservative IRR", and (b) the other associated with the use of the "Effectiveness Adjustment Factor", which is a discount factor used to secure the conservativeness to account for the amount of LFG that would have been flared in the absence of the project according to the effectiveness of the gas collection systems imposed by regulatory

requirements, as the baseline is determined ex-ante. These two aspects make the baseline methodology conservative.

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

>> Strength is its simplicity. Weakness is that methodology does not apply to project activities claiming CERs for its electricity production.

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

>> National and/or sectoral policies and circumstances have been taken into account.

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

>>Applicable to all landfill gas project activities under conditions where there is no law governing landfill sites (or no application of the law), and when no credits are claimed for their electricity production.

(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):* >> Direct Monitoring and Calculation of ERs in Landfill Gas Utilization or Flaring Projects

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 utilizes direct monitoring of the emission reductions from the project activity. The emission reductions due to the project activity are monitored and calculated as a differential. It is a two-step methodology taking into account methane combustion in electricity generators and methane combustion in flares.

(2) Key assumptions/parameters:

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

>> Key parameters include generator heat rate and flare efficiency, which are monitored semi-annually, or every month if significant variation is noticed since last monitoring.

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

>>Key assumptions are arrived at in a transparent manner.

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

>>Assumptions/parameters are 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):

>>Proposed methodology utilizes direct monitoring of key parameters.

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

>>Data used is adequate, consistent, accurate and reliable.

c) *State possible data gaps:*

>>No relevant gaps perceived.

(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:

>> Methodology has been described in an adequate manner.

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):

>>Proposed methodology is appropriate.

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

>> Proposed methodology is compatible with the proposed baseline methodology described.

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

>>Only the construction of the LFG collection and utilization system could lead to some GHG emissions that would not have occurred in the absence of the project. These emissions are probably insignificant.

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

>>Procedures for quality control and quality assurance are said to be greatly dependent on the specifics of individual project categories and configurations. Monitoring methodology does not address this issue.

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

>> Potential strength is its simplicity. Methodology does not present any potential weakness.

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

>> Applicable to all landfill gas project activities globally not claming credits for their electricity production.

(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: 16/09/2003 *(Jean-Jacques Becker)*

Signature of Meth Panel Vice-Chair

Date: 16/09/2003 *(Franz Capra Tattenbach)*

Information to be completed by the secretariat	
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