CDM: Proposed new methodology expert form (version 03)

(To be used by methodology experts providing desk review for a proposed new methodology)

Name of expert responsible for completing and submitting this form	Christoph Sutter
Related F-CDM-NM document ID number	NM0067

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. Evaluation of the proposed new methodologies by desk reviewers:

I. Evaluation of the porposed new baseline methodology:

Title of new baseline methodology:>>GHG Destruction in Industrial Processes Baseline Methodology

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

>>The project claims to be applicable to SEVEN different project categories (namely manufacturing industries, chemical industries, mining/mineral production, fugitive emissions from fuels, fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride, waste handling and disposal, and agriculture), in which GHG emissions are captured and destroyed, through combustion or other means.
However, this seems to be a too general claim. If the methodology is redrafted in a more specific manner and modified as indicated below, it will be applicable for project activities that reduce methane from small-scale charcoal manufacturing.

ii. Strengths and weaknesses of the methodology:

>>Strengths:
- Clearly structured, well described methodology;
- Transparent and comprehensive additionality test, which follows the steps suggested by the CDM Meth Panel (draft) consolidated tools for demonstration of additionality;
- Well chosen and justified baseline approach (48.b, economical attractive course of action).

Weaknesses:
- The methodology is too generic, claiming to be applicable to a wide range of SEVEN different project types;
- The methodology can be interpreted in way that allows for crediting of emission reductions that are not related to the project activity, or not project driven at all;
- GHG emission factors and GHG destruction factors rely on literature data and project specific measurements are not foreseen. While this might be applicable for the example given (reducing methane emissions of small-scale charcoal manufacturing), it is not adequate for large-scale industrial processes, which the methodology also tries to cover.

iii. Any changes needed to improve the methodology:

a. Minor changes:>>

- Update the reference to the CDM Meth Panel's DRAFT consolidated tools for demonstration of additionality, as these tools have been approved by the CDM Executive Board in the meanwhile.
- Specify in section D.3 how the project's additionality is to be established. A general reference to the EB's consolidated tools for demonstration of additionality is not sufficient. Indicate that the additionality is to be established through an investment analysis.

- Differentiate and indicate in a transparent way which parameters of the emission calculation i) remain fixed during the crediting time, ii) are dynamic and defined ex-ante, and iii) are monitored and defined ex-post;

b. Major changes: >>
Application of methodology
- Focus the methodology on a clearly defined project category, avoid too general and imprecise formulations.

Calculation of emission reductions
- Avoid crediting of emission reductions which are not project-driven, revise the formula for calculating emission reductions (see B.I.4).
- Give instructions how to validate the applicability of GHG emission factors and GHG destruction factors.
- Provide a safety margin when applying emission and destruction factors that depend on parameters influenced by equipment maintenance and operation mode.

Leakage
- Account for leakage related to market impacts (e.g. increased profitability and hence an increased market share of end product due to additional revenues from sales of CERs);
- Account for secondary GHGs that are a product of GHGs destroyed by the project activity
- Give instructions for determining the emission factor of power purchased from the grid.

II. Evaluation of the proposed new monitoring methodology:

Title of new monitoring methodology: >>GHG Destruction in Industrial Processes Monitoring Methodology

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

>>The project claims to be applicable to SEVEN different project categories (namely manufacturing industries, chemical industries, mining/mineral production, fugitive emissions from fuels, fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride, waste handling and disposal, and agriculture), in which GHG emissions are captured and destroyed, through combustion or other means.
Unfortunately, the proposed methodology is not applicable at all.

ii. Strengths and weaknesses of the methodology:

>>

Strength:

- The methodology is very simple, monitoring a few parameters that need no additional monitoring effort.

Weaknesses:
- The methodology completely fails to monitor whether the project reduces GHG emissions or not. Illustrative example: Even if 100% of the GHG destruction devices stopped operating (resulting in zero GHG emission reductions), the proposed methodology would still report and therefore generate the full amount of emission reductions as long as the underlying production continues.
- The methodology is too general, claiming to be applicable to a wide range of SEVEN different project types. It provides an "example", but does not define clear parameters to be monitored and is therefore highly non-specific.
- GHG emission factors and GHG destruction factors rely on literature data and project specific measurements are not foreseen. While this might be applicable for the example given (reducing methane emissions of a small-scale charcoal manufacturing), it is not adequate for large-scale

industrial processes, which the methodology also covers.

iii. Any changes needed to improve the methodology:

a. Minor changes:>>-

b. Major changes: >>The methodology needs to be completely redrafted.
- Focus the methodology on a clearly defined project category, and define concrete parameters to be monitored.
- Define parameters that monitor whether the project activity is implemented and under operation.
- Define parameters that monitor whether the GHG destruction devices implemented in the project field are performing according to the literature data used for the emission reduction calculation.
- Provide evidence that the raw material used in the production process is from renewable sources throughout the crediting period.
- Define monitoring parameters for the main sources of leakage as identified under B.I.8.

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

I. Proposed new baseline methodology *(specify title here):* >>GHG Destruction in Industrial Processes Baseline Methodology

(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 SCENARIO and ADDITIONALITY are determined in a step-wise process with the help of an investement analysis, following the CDM Meth Panel's (draft) consolidated tools for demonstration of additionality.

The EMISSION CALCULATION computes absolute emissions of the process in the baseline as well as in the CDM project case. Then, project emissions and an unspecified leakage term are subtracted from baseline emissions. Baseline as well as project emissions are not measured but estimated by multiplying production output with an estimated GHG emission factor and an estimated GHG destruction factor.
The methodology does not specify whether absolute emissions of the baseline are calculated ex-ante or ex-post.

b) State the approach selected:

>>§48 b) Emissions from a technology that represents an economically attractive course of action.

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 approach selected is the most appropriate. After considering national and sectoral policies, investor decisions are based on risk adjusted financial analyses of possible investments option, which is accounted for by approach 48.b).

(2) Basis for determining the baseline scenario:

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

>>The methodology gives reference to the CDM Meth Panel's (draft) consolidated tools for demonstration of additionality. No further explicit guidance, e.g. how to define alternatives to the project activity or whether an investment analysis or a barrier analysis should be conducted is explicitly given.

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

>>Absolute emissions of the process in the baseline as well as in the CDM project case are computed. Then, project emissions and an unspecified leakage term are subtracted from baseline emissions. Baseline as well as project emissions are not measured but estimated by multiplying production output with an estimated GHG emission factor and an estimated GHG destruction factor. The methodology does not explicitly clarify whether the emissions of the baseline case are calculated ex-ante or ex-post and whether parameters are considered dynamic or static over the crediting period.

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 methodology follows the CDM Meth Panel's (draft) consolidated tools for demonstration of additionality. No further guidance how to apply this tool (e.g. whether an investment or a barrier analysis has to be conducted) is given.

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

>>Following the CDM Meth Panel's (draft) consolidated tools for demonstration of additionality for determining the baseline scenario and for assessing additionality is appropriate and adequate. However, the methodology should give explicit guidance whether an investment or a barrier analysis has to be conducted.

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

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

>>In general, the methodology is described in a clear and well structured way. However, the methodology is far to generic claiming at covering SEVEN very different project categories. The project needs to be redrafted in a more specific manner, focusing on a clearly defined project category. Example: While the proposed estimation of GHG emissions using emission and destructionn factors from literature might be adequate for the example used (reduction of methane emissions from small-scale charcoal manufacturing), it is clearly not for large-scale industrial processes. Other areas that need elaboration, include:
- The formulae for emission calculation do not clearly differentiate between parameters that i) remain fixed during the crediting time, ii) are dynamic and defined ex-ante, and iii) are monitored and defined ex-post. The methodology uses vague terms like "in most situations" or "are expected to be constant". which is not considered adequate. The methodology should be redrafted using more precise and unambiguous language.
- Instructions for determining the emission factor of power purchased from the grid are missing.

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):

>>If the methodology is modified as suggested, it is appropriatefor the "Gerdau Carboninsation Improvement 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, if modified as suggested.

Please explain:

>>
1) The methodology uses the CDM Meth Panel's (draft) consolidated tools for demonstration of additionality, which ensures a robust additionality check.
2) The proposed project comprises hundreds of small-scale carbonisation kilns, hence measuring GHG emissions at the kiln level would not be feasible. The methodology suggest a pragmatic way to estimate GHG emission reductions for such a project structure.

(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 instructions and formulae are, in principle, applicable to other project activities. However, the formulae used are not precise enough and could be used to account for emission reductions that are not attributed to the project activity. Therefore, the formulae should be considered to changed. To calculate the total emission reductions (ER) the formula below is suggested. It is both simpler and more accuarate than the one suggested in the methodology. Note that the same abbreviations as in the methodology are used:

Assumptions:
$QP_{,B} = QP_{,P}$
$EF_{,B} = EF_{,P}$

$ER = QP_{,P} * EF_{,P} * (\%\ Destroyed_{,P} - \%\ Destroyed_{,B}) - L$ - GHG emissions from additional electricity consumption in project case

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

>>Most data is required at the local level or is technology related, which seems appropriate.

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 methodology does not specify the vintage of data to be used but indicates that most recent data sources available should be used. The DOE shall judge whether the "most recent data sources available" are appropriate on a case-to-case basis.

(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

>>The methodology is too generic and does not specify concrete project boundaries. It reiterates general thoughts on project boundaries and refers to AM003.

ii) Physical delineation

>>The methodology is too generic and does not specify concrete project boundaries. It reiterates general thoughts on project boundaries and refers to AM003.

b) Indicate whether this project boundary is appropriate:

>>Not appropriate.

(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:

>>Problematic key assumptions:
1) Assumption: Hundreds of small-scale installations are in continuous use, are optimally maintained, and

perform as during a scientific test setting during their whole project lifetime.
Explanation: This assumption is highly speculative and does often not reflect reality. It needs to be verified by the monitoring methodology.

2) Assumption: Accurate and adequate literature data is available for all relevant emission factors and GHG destruction rates.
Explanation: Emission factors and GHG destruction rates may vary considerably, depending on, inter alia, technology used, specification of raw material, and operating practices. This assumption needs to be verified by the monitoring methodology.

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

>>The above mentioned key assumptions are not arrrived at in a transparent manner.

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

>>No, assumptions are not adequat, see above.

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

>>
Data sources indicated include:
- project developer;
- business statistics;
- expert judgements;
- host country policies;
- unspecified "scientific publications, specialized institutions and consultants";
- IPCC defaults.

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

>>No judgement possible as methodology is very general and does not concretely specify data.

f) State possible data gaps:

>>No judgement possible as methodology is very general and does not concretely specify data.

(7) Assessment of uncertainties:

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

i) The basis for determining the baseline scenario:

>>No sufficient assessment is provide. The methodology mentions this uncertainty without assessing it, and stresses the need that it should be analysed by a DOE.

ii) Algorithms/formulae:

>>No sufficient assessment is provide.

iii) Key assumptions:

>>No sufficient assessment is provide.

iv) Data:

>>No sufficient assessment is provide. The methodology mentiones uncertainties regarding the financial analysis and emission factors from literature without assessing them, and stresses the need that they should be analysed by a DOE.

b) State whether the uncertainties presented are reasonable:

>>While some reasonable uncertainties are presented, most relevant uncertainties related to key assumptions are not reported (see 6.a).

(8) Leakage:

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

>>

1) The methodology identifies one source of leakage that should to be addressed: emissions from additional input material or energy used in the project case, and suggests a generic and unspecific formula to compute leakage from this source in section D.9.

2) A second source of leakage (collected GHG is transferred into another GHG) is identified, but is, based on non-justified and most likely wrong assumptions, not accountant for.

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

>>

ad 1) The methodology to address emissions from additional input material or energy used in the project case is too generic and needs further specification. For example, give instructions for determining the emission factor of power purchased from the grid.

ad 2) The unjustified, general statement "as this is most likely the case of all applications of this methodology, this subject will not be dealt in further detail in this document" is not a sufficient rationale. Demonstrate and give specific evidence why the project activity does not need to consider this source of leakage. Otherwise, account for secondary GHGs that are a product of GHGs destroyed by the project activity.

Furthermore, an important source of leakage is not mentioned:

Account for leakage related to market impacts (e.g. increased profitability and hence an increased market share of end product due to additional revenues from sales of CERs)

(9) Transparency and "conservativeness":

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

>>In general, yes. But the methodology does not ensure transparent project design documents, as it is written in a too general manner.

b) State whether the baseline methodology is conservative:

>>The general approach for establishing ADDITIONALITY, which follows the CDM Meth Panel's (draft) consolidated tools for demonstration of additionality, is considered conservative.

The CALCULATION of emission reduction is NOT considered conservative. First, the methodology is too general to ensure a conservative calculation of emission reductions, e.g. data needs are not specified. Second, GHG destruction factors based on scientific literature or equipment manufacturer's data are applied without being verified and without applying a safety margin.

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

>>Strengths:

- Clearly structured, well described methodology;
- Transparent and comprehensive additionality test, which follows the steps suggested by the CDM Meth Panel (draft) consolidated tools for demonstration of additionality;
- Well chosen and justified baseline approach (48.b, economical attractive course of action).

Weaknesses:

- The methodology is too generic, claiming to be applicable to a wide range of SEVEN different project types;
- The methodology can be interpreted in way that allows for crediting of emission reductions that are not related to the project activity, or not project driven at all;
- GHG emission factors and GHG destruction factors rely on literature data and project specific measurements are not foreseen. While this might be applicable for the example given (reducing methane emissions of small-scale charcoal manufacturing), it is not adequate for large-scale industrial processes, which the methodology also tries to cover.

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

>>The identification of alternatives to the project activity is done by taking into account sector trends incorporating the effects of any legislation and government policies that may affect this trend.

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

>>The proposed methodology is drafted in a too general manner and fails in its attempt to cover seven project categories in parallel.

(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:

>>-

b) Indicate any further comments:

>>-

II. Proposed new monitoring methodology ***(specify title here):*** **>>**GHG Destruction in Industrial Processes Monitoring Methodology

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:

>>

Two monitoring options

The methodology provides two monitoring options: option 1 monitors GHG emissions with the help of a unspecified proxy indicator, while option 2 is a direct monitoring of emission reductions following AM0003. The proposed methodology does not elaborate on option 2 and remains very general when describing option 1. It does not define parameters to be monitored, but gives "examples" of such parameters. In the following, this review is referring to option 1, as option 2 is not elaborated in the proposed methodology.

Option 1

During the crediting period, the monitoring of the project activity and the baseline is done by monitoring ONE single parameter, namely the quantity of the produced product.

Leakage

The methodology describes the leakage monitoring in an unspecific manner and suggests to monitor, inter alia, continuously the "demand of input material or energy used in the baseline scenario", which is by definition impossible once the project has been implemented.

(2) Key assumptions/parameters:

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

>>

Explicit problematic key assumption:

- The raw material used in the production process is from renewable sources.

Implicit problematic key assumptions include:

- 100% of the installed GHG destruction devices are in operation throughout the crediting period. (Remark: The underlying project comprises up to 1'700 decentralized devices);
- All GHG destruction devices are always well maintained and operated in an optimal manner;
- GHG destruction factors of the GHG destruction devices operating in the field are the same as those derived in scientific laboratories / manufacturers' test installations.

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

>> Only one of the key assumptions listed above is explicitly mentioned by the methodology.

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

>>The assumptions are completely inadequate, especially for decentralized projects including hundreds or thousands of decentralized devices.

(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):

>>The methodology provides NO explicit data sources other than "the quantity of product produce", which implicitly refers to the project operator as the data source. The methodology remains very general, indicating only "examples".

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

>>No expert judgement possible, as methodology does not specify data to be used.

c) S*tate possible data gaps:*

>> Important data for emission calculations that are not covered by the proposed monitoring methodology include:
- Percentage of installed GHG destruction devices that are in operation;
- Percentage of installed GHG destruction devices that are well maintained and operated in an optimal manner;
- GHG destruction factors of GHG destruction devices in the field operating under real-life conditions.

(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:

>>It is not described in a adequate manner. The methodology should be redrafted, focusing on a clearly defined project category. It should not be limited to providing "examples" but has to define clear parameters to be monitored.

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 methodology is not appropriate for the Gerdau Carbonisation Improvement Project. The data gaps mentioned in 3 c) above are not acceptable.

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

>>In order to be compatible with the proposed baseline methodology, the monitoring methodology has to be expanded and has to incorporate information regarding the issues identified under 3 c).

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

>>The leakage mentioned in the baseline methodology is covered in a general manner and should be specified (For example, give instructions for determining the emission factor of power purchased from the grid.)
Other sources of leakage (as mentioned in B I.8) should be considered.

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

>>QA/QC procedures are reported to be required, but not substantiated.

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

>>
Strength:
- The methodology is very simple, monitoring a few parameters that need no additional monitoring effort.

Weaknesses:
- The methodology completely fails to monitor whether the project reduces GHG emissions or not. Illustrative example: Even if 100% of the GHG destruction devices stopped operating (resulting in zero GHG emission reductions), the proposed methodology would still report and therefore generate the full amount of emission reductions as long as the underlying production continues.
- The methodology is too general, claiming to be applicable to a wide range of SEVEN different project types. It provides an "example", but does not define clear parameters to be monitored and is therefore highly non-specific.
- GHG emission factors and GHG destruction factors rely on literature data and project specific measurements are not foreseen. While this might be applicable for the example given (reducing methane emissions of a small-scale charcoal manufacturing), it is not adequate for large-scale industrial processes, which the methodology also covers.

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

>>The proposed methodology is not applicable at all.

(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:

>>--

b) Indicate any further comments:

>>The methodology contains mistakes that could mislead the reader. For example, in table B.2.1. the parameters with the ID numbers 2 and 3 are reported to be MEASURED parameters. Although there might be some measurement involved for producing the literature data that is referred to, theses factors are ESTIMATES for the emission and destruction factors related to the proejct activity.

Signature of desk reviewer ……..

Date: / /

Information to be completed by the secretariat	
F-CDM-NMex doc id number	
Date when the form was received at UNFCCC secretariat	
Date of transmission to the Meth Panel and EB	

Date of posting in the UNFCCC CDM web site	