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 0074

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 new baseline methodology:

Title of new baseline methodology: NMB00XX: 'Baseline methodology for technological improvements in industry'

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

- According to section A.2, the methodology is supposed to be applicable to projects in the categories 4 (manufacturing industries), 5 (chemical industries), 6 (construction), 7 (transport), 8 (mining/mineral production), 9 (metal production) as well as 15 (agriculture). However, practically all other sections of the document refer only to either a cement plant or industrial processes (and sometimes to "manufacturing projects" or similar language). E.g. in section A.3 it is stated that the methodology "is applicable to project activities where technological improvements in industrial or manufacturing processes lead to the reduction in the level of GHG emissions per unit of industrial output". The scope of the methodology should be much more limited.
- The description of the monitoring methodology implies that the methodology refers to projects in which an *existing* technology *may be replaced* by a new one rather than to projects envisaging the construction of a new plant and the corresponding acquisition of technology (B.1., p. 3 of the monitoring methodology: "This methodology allows the monitoring and calculation of ERs from company activities that currently emit greenhouse gases (GHG) and are considering the adoption of new equipment or technology that would lead to the reduction in GHGs per unit of industrial or manufacturing output").
- Without substantial changes and more detailed guidance with respect to practically all sections, the methodology should not be applicable to any project. If modified, it may be applicable to cement production facilities.

ii. Strengths and weaknesses of the methodology:

Strengths:

- I could not find any real strengths.

Weaknesses:

- The main weakness of the methodology is that it is too vague, broad and general to provide project participants with unambiguous guidance to determine the baseline scenario and to calculate emission reductions. The application of the methodology is therefore likely to result in arbitrary quantities of emission reductions. This is mainly due to the broad applicability range. The methodology would cover many different processes where

different assumptions apply on key aspects such as the project boundary, leakage effects, underlying assumptions, data sources, conservativeness, uncertainty, etc. The different parts of the methodology are too vague, very often just describing what a baseline methodology *should* comprise. The actual substantial methodological input from the proposed baseline methodology is very small. In practice, project developers would need to develop their own sub-methodology for each project under this methodology. This is clearly unacceptable.

- Moreover, there are many references in the methodology stating that the DOE is supposed to give a confirmation of the validity of the analysis, data etc. However, the DOE needs to have a transparent and straightforward baseline methodology in order to judge whether the baseline as proposed by the project proponent is valid or not. As the baseline methodology does not give any clear and straightforward guidance for specific sectors or projects, the evaluation of the validity of the project baseline by the DOE would also become very arbitrary.

iii. Any changes needed to improve the methodology:

a. Minor changes:

- Revise the equations for calculating emission reductions and leakage.
- Reconsider the choice of emission factors and conversion factors.
- Make sure that production increases due to the project activity are not accounted as emission reductions.
- Reconsider the assumption that the EF in the baseline case remains always constant over time.

b. Major changes:

- Limit the scope of the methodology. If several sectors or activities are dealt with by this methodology, it has to be ensured that circumstances, project boundaries, assumptions, etc are actually comparable and that all cases are sufficiently covered by the methodology. Otherwise the scope must be further reduced. Considering the proposed PDD, the authors may wish to start with a methodology encompassing only cement production. In doing so, the authors should also consider previous methodologies submitted and any feedback from the Meth Panel (such as NM0045 in the case of cement production).
- Provide a transparent and straightforward methodology, which can unambiguously be applied by project developers and which provides clear guidance to the DOE on the validation criteria.
- Define a consistent and clear project boundary, by clearly illustrating which gases from which sources should be included.
- Consider and discuss other leakage effects that are currently not taken into account.
- Provide guidance on the principle of equivalent products. If the product quality differs in the baseline and the project scenario, provide guidance on how to take into account the market effects of changing the product.
- Provide clear guidance how to apply the additional tool adopted at EB16 to the specific project context.
- Provide a reasonable assessment of uncertainties.
- Provide concrete guidance how project participants should provide conservative estimates of emission reductions.

II. Evaluation of the new monitoring methodology:

Title of new monitoring methodology: NMM00XX 'Monitoring Emission Reductions from technological improvements in industry'

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

Same as under I.i above.

ii. Strengths and weaknesses of the methodology:

Strengths:

- A procedure is proposed to evaluate whether the project continues to be additional at the beginning of each crediting period.

Weaknesses:

- An actual monitoring methodology has yet to be provided. There are only examples on data collection referring to a case study for cement plant.
- The proposed monitoring methodology is inconsistent in many aspects (see further details below).
- The monitoring methodology contains many repetitions from the baseline methodology.
- See also comments under I. ii.

iii. Any changes needed to improve the methodology:

a. Minor changes:

b. Major changes:

- Provide an adequate monitoring methodology, including lists of data to be monitored.
- Take into account that baseline assumptions can not directly be monitored.
- Provide guidance how parameters should be calculated or estimated.
- Correct equations and key issues respectively to requirements to change the baseline methodology.
- Provide a real QA/QC plan.
- Further elaborate on the assessment of additionality after each crediting period.

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

I. Proposed new baseline methodology *(specify title here):* NMB00XX: 'Baseline methodology for technological improvements in industry'

IMPORTANT GENERAL NOTE: This methodology is rather general and vague and is proposed to have a very broad applicability range. For the proposed applicability range, practically none of the information provided is sufficient to provide project participants with clear guidance and to assess this methodology as a desk reviewer. In practice, this methodology may be applied to many different types of projects in different sectors (including e.g. HFC23 destruction, N2O reduction in adipic acid production, fuel switch in the transportation sector, …). Much more detailed provisions would be required to actually cover all this different project types, which however are not provided by the methodology. To provide any reasonable assessment of the methodology, I undertook the desk review, as far as I could, assuming that the scope would be limited to cement plants (the activity proposed in the PDD) or very similar industrial process improvements in existing plants.

(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:

This baseline methodology is supposed to determine emission reductions for projects, in which an existing industrial or manufacturing process is improved, resulting in less GHG emissions per unit of output. Project participants should use the additionality tool to assess additionality and to define the appropriate baseline scenario. Baseline and project emissions are calculated by multiplying a baseline / project emission factor per unit of output with the production quantity of the corresponding commodity. In addition, emissions from fuel use in the baseline and project scenario are calculated separately by multiplying the amount of fuel used with the corresponding GHG emission factor. Activity data (production of the commodity) must be the same in the baseline and project case. Leakage is supposed to be calculated by subtracting the amount of input material and energy used in the baseline scenario from the amount of input material and energy used in the project case, multiplied with the corresponding emission factor of the input material.

b) State the approach selected:

The selected approach is paragraph 48 (b) of the CDM modalities and procedures: "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 authors state that the chosen approach is appropriate because "project activities are usually prevented to occur due to financial reasons" and "investor decisions are usually affected by their assessment of risks and investment returns". This seems appropriate for the assessment of additionality and the determination of the baseline scenario in many cases. However, in terms of calculation of emission reductions, the historical emissions intensity should rather be used, which would correspond to the approach in paragraph 48 (a).

(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 in a very general manner how the baseline scenario is chosen. The authors refer to a previous draft of the additionality tool from the eleventh meeting of the Meth Panel, however not the final tool adopted at EB16. It is stated that option II of the additionality tool (investment analysis) shall be chosen. In addition, the authors establish three criteria for the development of the baseline methodology:

- Availability of information
- Reduction of transaction costs
- Realistic simulation of investment decisions.

However, it remains rather unclear how these supplementary criteria are linked with the additionality tool. For example, under "availability of information" it is stated that "the methodology permits the determination of a baseline scenario where financial information is only available for the proposed project." This is in contradiction to the additionality tool, where all plausible scenarios should be assessed in the investment analysis.

The selection of the appropriate baseline scenario gets more confusing with Table 1 on page 13. The table includes a "baseline IRR, a "project IRR without CER revenues", a "project IRR with CER revenues" and a "discount rate". Implicitly, project participants seem to intend to use an IRR analysis (and not NPV). However, in this case it remains unclear what should be the "baseline IRR", as the underlying baseline assumption is the continuation of the current situation, and as according to section D.2 only financial information needs to be available for the project case (and not the baseline case). In addition, it is unclear whether project participants refer with "discount rate" to a benchmark for the IRR or something different.

In summary, although there is reference to the additionality tool, the supplementary information in the methodology is confusing and partly contradictory to the additionality tool.

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

- The emissions intensity of a production or manufacturing process is reduced due to the implementation of a new technology. Implicitly it is assumed that the investment occurs in an existing plant. GHG emission intensities in the baseline and project case may be collected from different sources, including IPCC data.
- The underlying production level should be the same in the baseline and project scenario. However, the definition of the production level is not totally clear (see below).
- Differences in fuel consumption are taken into account, but not related to the output quantity of the commodity (see below).
- GHG emissions intensity of all input materials and energy streams are accounted as leakage emissions.

The authors do not provide any further explanation of the underlying rationale for the algorithms/formulae used in the context of an application to different sectors or activities, since they propose a very general method.

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, in principal additionality could be demonstrated with the additionality tool adopted by EB16, using the investment analysis. However, supplementary information in the methodology is confusing and contradictory to the additionality tool. In addition, the authors do not give any further guidance on how to apply the additionality tool in the context of the applicability range.

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

No, the basis for determining the baseline scenario and for assessing additionality is not appropriate and adequate for the following reasons:

- As mentioned above in the introductory note, the whole methodology remains general and vague and leaves room for interpretation and arbitrariness. To apply the methodology, project developers would need to make many arbitrary key assumptions that are not mentioned in the methodology and which may effect the emissions level significantly. The methodology is proposed to be applicable to a very broad range of project activities. However, the indicative formulae provided (which are not appropriate – see below), could only be applied to a much more limited type of projects.
- The methodology does not provide sufficient and unambiguous guidance on how to apply the additionality tool in the context of the proposed project types. The use of the additionality tool by project developers as well as the validation thereof by the DOE therefore remains arbitrary.
- The criteria used in developing the proposed baseline methodology are inadequate:
    - "Availability of information": As indicated above, in contradiction to the additionality tool.
    - "Reduction of transaction costs": The authors state that "no additional information must be produced". It is unclear, what is meant, as in many cases it may be necessary to gather plant specific emission factors (see also below on choice of emission factors).

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

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

As mentioned above, the description of the methodology is very general and vague. No detailed and applicable guidance is given, which makes the interpretation of the methodology and its application to specific sectors and project activities rather arbitrary. The description of the methodology is therefore not adequate.

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 methodology could, in a modified manner, in principle be applicable to the proposed project activity. However, the guidance provided is not sufficient to apply the methodology to the proposed project activity.

In the methodology, *as examples*, some information is given on how to apply the methodology to the proposed project activity. Still, no systematic guidance for the cement sector is given and a discussion of all relevant aspects is missing, e.g. regarding the different products of cement and different process implications, relevant emission factors, etc.

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.

No.

Please explain:

- As explained in the introductory note, the main reason is that the methodology is far too general. As project developers would practically need to develop their own guidance (or methodology), it can not be assured that emissions are reasonably estimated.
- The choice of emission factors is inappropriate and may lead to a significant overestimation of emission reductions (see below).
- Changing patterns in fuel consumption due to the project activity are not accounted appropriately and may lead to the accounting of emission reductions from differences in the production level (see below).
- The methodology does not establish that the output should be of the same quality in the baseline and project scenario. A change in product quality may lead to reductions at the project plant, but to

increases in other production plants, if market demand for different products does not change (see below).

- The application of the methodology to some project types (e.g. HFC23 destruction) may have negative effects on achieving the objectives of other Conventions. Further guidance on this issue still needs to be elaborated by SBSTA and the EB.

(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.):

Due to the general character of the methodology, the equations provided are also only of general character. There is no guidance how to apply the formulae to *any specific* project activity. Hence, the formulae given are neither project-specific, nor can they generally be applied to other potential project activities. Without more detailed guidance, they cannot be applied to *any* project activity. (In addition, the formulae are not adequate – see explanations below.)

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

Due to the general character of the methodology, data needs for specific sectors and activities were not identified in the methodology. Accordingly, the appropriateness thereof cannot be judged.

Concerning the spatial scope of the general data requirements as presented in table 2 on p. 14 of the baseline methodology, the following comments can be made:

- Item 1 (list of plausible scenarios): depending on the type of sector or project activity, the spatial level may be local (as given in table 2), but also national or even international, depending on the project type the methodology would be applied to.
- Items 2 – 4 (IRRs) actually are no data, since they are calculated from investment data as part of the methodology. Therefore, the spatial scope has not to be determined.
- Item 5 (discount rate): if a benchmark for the IRR is meant, a national (and exceptionally a local level) for the determination of the discount rate seems to be adequate.
- Items 7 and 8 (product emission factor in the baseline and project scenario, respectively): these items should refer to the plant-specific circumstances and thus have a local spatial scope, wherever possible. If project specific data is not available, national or international data may be taken. This is dependent on the sector and the project activity. A general technology-specific, location-independent spatial scope as proposed by the authors is not adequate and may result in rather wrong estimates of actual emission reductions.
- Items 9 – 10 (input material or energy demand for the baseline and project scenario, respectively): The proposed local spatial scope is adequate.
- Item 11 (input material or energy emission factor): This depends on the type of material or technology. Fuel-specific or technology-specific local data may be the best choice when there is a considerable variability (e.g. the quality of lignite may vary significantly between pits, local data is therefore recommended). However, if the variability is not very large, a larger spatial scope (national, global) may be chosen.

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:

The authors state that "the project should aim at using the most recent data sources available at the time of construction of the baseline". No further information is given. Therefore, the adequacy of the vintage of data used cannot be judged.

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

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

The definition of the project boundary with respect to gases and sources as well as to the physical delineation is not clear, but remains ambiguous. (E.g. the authors state that "monitoring boundaries should comprise all elements related to the production process".) No guidance is given on how to actually draw a project boundary for more specific sectors and project types.

i) Gases and sources

The methodology does not clearly specify which gases should be included from which sources. It implicitly appears that all greenhouse gases should be considered. It is unclear whether GHG emissions associated with raw materials and energy flows to the plant are included in the project boundary. According to the description in section D.5 and equations 2 and 3 these sources should be included, however, they are also included in the calculation of leakage effects in section D.6 (equation 4).

ii) Physical delineation

The physical delineation of the project boundary appears to encompass the project site and, where changes in electricity demand occur due to the project activity, also the plants from the electricity grid.

b) Indicate whether this project boundary is appropriate:

The current description of project boundary is not appropriate. Firstly it should be clearly described, which gases from which actual sources are included. Secondly, there may be considerable differences in the project boundary for different sectors within the applicability range. These should be addressed.

(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:

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

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

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:

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

Remark: Since there are several key assumptions / parameters which need consideration, the questions above are answered for simplicity jointly for each of the following assumptions and parameters.

- **Generally**, the underlying assumptions can only be assessed to a limited extent, as the methodology does NOT specify at all some key assumptions for the calculation of emission reductions.
- **Level of production activity**: The authors assume that "the level of production activity will be the same in the project and baseline scenarios". For the specific proposed project activity, this appears appropriate. However, it is not clearly defined, how this level is determined. From page 8, last paragraph, it appears that the authors intend to use the actual production level in each year. However, production increases due to retrofit of plants should not be accounted as emission reductions. As production increases may occur due to the project activity, an average level prior to project implementation or the actual production, whatever is lower, may be an appropriate choice

for the activity level.

- **Level of fuel consumption**. In equations 2 and 3 the fuel consumption associated with the production in the project / baseline case is not related to the activity level. This may lead to wrong calculations of emission reductions, as a reduction of the production level would indirectly result in emission reductions, which do not occur due to the project activity. The equation would need to be modified correspondingly.
- **Principle of "equivalent of service".** The methodology does not address appropriately the principle that the service provided as part of the project activity shall be the same in the baseline scenario. For instance, in the case of the proposed cement plant, the project and the baseline scenario could only be compared if in both scenarios same quality of cement is produced. In the case of a heat production plant an equivalence of service would mean that in both the baseline and project the same thermodynamic parameters (pressure, temperature) are provided. However, the cement example on page 9 indicates, that the methodology would allow to produce a product with different specifications (e.g. a different quality). However, in that case, emission reductions are only attributable to the project activity, if it can be shown that the consumers of cement will switch in the long-term to different cement types due to the proposed project activity. Otherwise – if the demand for different types of cement remains the same – the emission reductions in the project plant would be offset by emission increases in other cement plants that increase their production to satisfy the market demand of the cement type produced prior to project implementation.
- **Choice of emission factors and conversion factors**. According to the methodology, emission factors and conversion factors may be chosen from many different sources, but without indicating any priority. This is certainly not appropriate. As the methodology involves the introduction of new technology in an *existing* plant, the first choice for emission factors and conversion factors should, in accordance with IPCC GPG, be data from the actual plant or respective fuel suppliers. If such data can not be made available, IPCC default values or other peer-reviewed values (e.g. IPCC EFDB, US EPA) may be used. If no plant specific data is used, project participants should justify their choice of default data.
- **Constant emission factors**. The methodology assumes that the emission factor in the baseline scenario remains constant throughout the project lifetime. This may be appropriate in some specific cases, but inappropriate for plants where emissions may decrease e.g. due to necessary retrofit measures during the crediting period.

(7) Assessment of uncertainties:

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

i) The basis for determining the baseline scenario:

ii) Algorithms/formulae:

iii) Key assumptions:

iv) Data:

Remark: Information on the assessment of uncertainties is rather general. The issues above are therefore addressed jointly and rather briefly.

The authors state that the baseline scenario may be erroneous when "the set of plausible alternatives is incomplete" or if "the financial analysis is not conservative". Moreover, with respect to the quantification of emission reduction, uncertainties may exist "related to the quality of data used" and the "quality of emission factors collected from literature". Effectively, the use of default values for a specific plant improvement would involve a rather large uncertainty and is therefore not appropriate (see above), however the uncertainty is not so much related to the quality of the default values, but to the fact that default values are not very appropriate for estimates referring to specific plants.

No further comprehensive discussion of uncertainties is carried out. No guidance is given on potential

uncertainties in individual sectors and project activities. No guidance is provided to project participants how to deal with uncertainties.

b) State whether the uncertainties presented are reasonable:

The uncertainties presented are incomplete and too general and vague, in particular, as they may vary considerably between sectors proposed for applicability. The uncertainty assessment presented can therefore not be considered reasonable.

(8) Leakage:

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

Leakage is defined as „the difference in the consumption of input materials or energy used for the production lines of the project and baselines scenarios, multiplied by the emission factors associated with these materials, energy or fossil fuels". Other sources of leakage are not mentioned or discussed.

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

The treatment of leakage is not appropriate:

- The definition of leakage is in contradiction to the project boundary defined earlier. The "consumption of input material or energy used for the production lines", seems at least to be partly within the project boundary rather than leakage, as different input levels of clinker related to cement production would lead to an emission reduction within the project boundary.
- Leakage is limited to raw materials and energy used for the production process. This is not appropriate, as for many projects there may also be other leakage effects, including inter alia:
    - If the plant provides a different product to the market than in the baseline scenario, there will be market effects and shifts that may (partly) offset the emission reductions (see explanations above).
    - A large cost reduction of the product due to the CDM may lead to increased consumption patterns or production shifts from Annex I to non-Annex I countries (e.g. in the case of N2O or HFC23 destruction).
    - E.g. upstream emissions associated with the construction and/or transportation of the new technology may be considerable in some specific sectors (e.g. transportation sector).
- The expression of "emission factors associated with these materials, energy or fossil fuels" is ambiguous. This may refer to a complete life cycle analysis (LCA), or may only refer to specific emission sources (e.g. direct emissions during production, all direct upstream emissions due to production, direct emissions due to transportation, direct and indirect emissions due to transportation, etc). Such an arbitrary definition does not provide clear guidance to project participants.
- The equation provided would need to be modified Firstly, two sums would need to be included in the equation to reflect the different materials / energy streams and the different greenhouse gases. Secondly, the material and energy flows are not related to the production. Therefore, changes in production quantities after project implementation could lead to an increase of decrease of the leakage adjustment. The equation needs to be modified to link material flows with the output quantity.
- More concrete sector-specific and technology-specific assumptions would also need to be made, similar as in other parts of the methodology.

(9) Transparency and "conservativeness":

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

The methodology is not developed in a transparent way, mainly because it is too general and vague and

does not address some key assumptions necessary for application to any project activity. The development of adequate data and equations is largely left to project participants, which would lead to a rather arbitrary application of the methodology.

b) State whether the baseline methodology is conservative:

Conservativeness is not addressed by project participants (except by stating that the methodology is conservative). As the methodology involves considerable uncertainties and no guidance is provided how to choose conservative parameters in such cases, the methodology can not be considered to lead to a conservative estimates of emission reductions.

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

Strengths:

- See above (I.ii)

Weaknesses:

- See above (I.ii)

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

The methodology refers to national and/or sectoral policies, but the guidance is a bit vague (e.g. the behaviour of companies is supposed to be analysed). The authors state that the "comparative analysis between plausible scenarios should be evaluated in the context of sectors, and incorporating the effects of any legislation and government policies that may affect this trend". Therefore policies as well as the behaviour of companies involved in the same production sector in the region where the project is implemented shall be analysed.

I would suggest to adopt such guidance to the decision of the EB on E+ and E- types of policies and the forthcoming decision on L+ and L- type regulations.

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

See above.

(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:

b) Indicate any further comments:

II. Proposed new monitoring methodology ***(specify title here):*** **NMM00XX 'Monitoring Emission Reductions from technological improvements in industry'**

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 proposed monitoring methodology is even more general and vague as the baseline methodology. The authors indicate that "the precise list of data to be collected depends on the peculiarities of the project

type". They do not provide a list of data that needs to be collected. There is only, *as an example*, a set of data to be collected for projects in the cement industry. However, no guidance is given on how to apply this very general monitoring instructions to specific sectors and project activities. In summary, an actual monitoring methodology with data sets has not been provided by the authors.

It remains unclear, why monitoring is proposed to include "parameters to define the baseline scenario as the most plausible scenario in the absence of project activities and to prove additionality", as this is undertaken as part of the validation and not the certification. This may refer to the proposal of an additionality test at the beginning of each crediting period. Although such a test may be a good way forward, it would need to be elaborated more concretely.

(2) Key assumptions/parameters:

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

1. On page 4 the authors state that a so-called "proxy indicator" is the most important factor to be monitored together with the emission factor of this indicator. The "proxy indicator" seems to refer to the activity level, however emission factors are not actually monitored, but taken from literature sources (although listed as measured parameters in the example list for the cement plant).
2. Moreover they state that "as there is no expected variation in the other data involved in the emissions calculations, there is no need for monitoring these parameters". The latter assumption is clearly not valid, because the monitoring of data is excluded even before the data to be collected is known (this depends on the sector and the activity)! In addition, other data is included in the illustrative list for the cement plant.
3. On page 12 the authors state: "All the other variables included in the baseline definition, additionality test or emission reduction calculation not included in this monitoring plan are expected to be constant for the project duration." Same discussion as for the above point: it is strange to assume that some variables are constant before they are even defined on a sector- and activity-specific basis.
4. There are several more key assumptions on the example of the cement plant, which are mostly not adequate. This refers in particular to the choice of emission factors, the measurement of parameters that can physically not be measured, and the lack of guidance how some parameters should be estimated.

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

These assumptions are clearly not arrived at in a transparent manner.

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

Clearly not adequate. See above.

(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:

Data sources indicated in the example are either the project developer/proponent or "internationally recognised references". This choice is not appropriate, as described in the baseline methodology, as plant specific data should be used.

In addition, no guidance is given on which data is needed for a specific sector and a specific project types and on how it shall be monitored.

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

No. Actually, the data needs are not even specified. See above.

(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:

No, an actual complete monitoring methodology is not provided. The monitoring methodology is described in a very general and vague manner. It does not provide any guidance on how to apply the methodology to specific sectors and project categories.

In addition, there are several inconsistencies, with respect to information in the tables and in the test, e.g.

- ID numbers are not consistently used. Several parameters have the same ID numbers.
- Several parameters are stated to be measured, but they are actually calculated or estimated. For example, the discount rate in the baseline scenario is supposed to be estimated, but the value should be indicated by the project proponent. Actually, this value appears to be estimated. Similar considerations apply to practically all emission factors.
- Information on the duration of emission factors is inconsistent. On page 9 it is stated that an emission factor is expected to remain constant throughout the project lifetime, while in Table B.2.3 it is supposed to be estimate at the beginning of each crediting period.
- The consumption of fuel in the baseline scenario is supposed to be measured as part of the monitoring. This is physically impossible, as the baseline is a hypothetical assumption. This value can only be estimated or calculated. However, no guidance is provided how to estimate or calculate this value.

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 itself is not applicable to any project activity as no guidance is provided on which parameters should actually be monitored. However, in the methodology, *as examples*, some information is given on how to apply the methodology to the proposed project activity. Still, no systematic guidance for the cement sector is given and a discussion of all relevant aspects is missing (if this information were available, the methodology would certainly be specific for the cement industry only).

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

There is a general match between the monitoring and the baseline methodology.

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

Leakage effects are supposed to be monitored. However, the concept of leakage is questionable (see baseline methodology). In addition, there is no guidance at all how these key parameters should be estimated.

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

Only very general information on QA/QC is provided for the example of the cement plant. However, information in the respective table is not clear, as the same ID has been used for different parameters.

The guidance provided in the example table is also quite vague and unclear (e.g. what is a measurement "with rigor"?).

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

Strengths:

- See above (Section II)

Weaknesses:

- See above (Section II)

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

See comments to the baseline methodology.

(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:

b) Indicate any further comments:

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Signature of desk reviewer

…… Lambert Schneider ..

Date: 20/12/2004

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