

 <p style="text-align: center;">CDM: Proposed New Methodology Meth Panel recommendation to the Executive Board (version 04) <i>(To be used by the Meth Panel to make a recommendation to the Board regarding a proposed new methodology)</i></p>	
Date of Meth Panel meeting:	14 - 17 June 2005
Related F-CDM-NM document ID number (electronically available to EB members)	F-CDM-NM0099: “Energy Efficiency Improvement in a Cement Plant at Jaypee Associates (Cement), Madhya Pradesh, India”
Related F-CDM-NMex document ID number(s)(electronically available to EB members)	F-CDM-NMex0099: Sutter / Thorne
Related F-CDM-NMpu document ID number(s)(electronically available to EB members)	F-CDM-NMpu0099: Harthan / Kitahara
<p><i>Note to those completing this form, as applicable: Please provide recommendations on the proposed new baseline and monitoring methodologies based on an assessment of CDM-NMB and CDM-NMM and of their application in sections A to E of the draft CDM-PDD, desk reviews and public input. Please ensure that the form is entirely filled and that arguments and expert judgements are substantiated.</i></p>	
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:>> Energy efficiency improvement in process and manufacturing industries.	
<p>a. To approve this proposed methodology with minor changes</p> <p><input type="checkbox"/></p> <p>i. Conditions under which this proposed methodology is applicable to other potential CDM project activities (e.g. project type, region, data availability):</p> <p>>></p> <p>ii. Minor changes:</p> <p>>></p>	
<p>b. To reconsider this proposed methodology, subject to required changes</p> <p><input type="checkbox"/></p> <p>i. Conditions under which the proposed methodology is applicable to other potential projects (e.g. project type, region, data availability):</p> <p>>></p> <p>ii. Required changes:</p> <p>>></p> <p><i>(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.)</i></p>	

c. Not to approve the proposed methodology



i. Reasons for non-approval:

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- Prior to a full Meth Panel review of the methodology, the project proponent was given the opportunity to provide technical clarifications on certain issues, including on how baseline scenarios would be chosen. However, the clarifications provided did not answer the questions posed directly by the Meth Panel. For example, the clarifications outline 5 possible baseline scenarios. But then indicate that “scenarios 1, 5 are most likely scenarios in all cases”. This does not constitute a methodology by which a baseline scenario can be chosen.
- The methodology submitted does not look as if it is the final version. For example, section G recommends “that a 4% margin ... should be allowed for such projects. << basis for 4%??>>” (sic). Section G also indicates that “beta = 1 for steady businesses.... << justification>>” (sic). Such justification is needed. It would be helpful if project proponents/Designated Operational Entity (DOE) could check that the methodology is finished before forwarding it to the United Nations Framework Convention on Climate Change (UNFCCC) for an expensive and time-consuming public review process.
- The methodology is written in vague language in places. Methodologies should give sufficiently clear instructions so that DOEs can validate whether or not a proposed project follows a given methodology. Thus, for example, indications should be given on what the project boundary should include. The current text “Project boundary would normally include...” is not specific enough to be verifiable.
- The methodology is established for manufacturing industrial sites that produce one main product. The methodology indicates that “if product mix has changed substantially ... and if product mix has a substantial impact on energy consumption, the specific electrical energy consumption and specific thermal energy consumptions need to be adjusted...”. However, no indication is given on how to do this, or what would constitute a “substantial” change.
- The methodology outlines parameters ($iesE_t$ and $itsE_t$) (p13) that are not explained or defined.
- Clarification/corrections are needed in several of the formulae proposed in the methodology:
 - i) A key formula used in the proposed additionality assessment is not explained. [see formula p18 CDM-NMB]
 - ii) Formula 6 p14 seems to indicate that the “specific emission reduction” would always equal zero. Is this intentional?
 - iii) The emission factor used to calculate grid-electricity is based on the small-scale methodology for an “approximate operating margin”, i.e. it excludes build margin effects, and also excludes all hydro, wind, geothermal and nuclear production (however, unlike AMSI-D it does not exclude biomass). No criteria for project size (e.g. savings less than 15 GWh/y) or grid characteristics (e.g. not hydro-dominated) are given as a condition for using the SSC methodology, but should be. Alternatively, the methodology could specify that ACM0002 should be used if electricity savings are larger than 15 GWh/y.
 - iv) The financial analysis should cover the entire equipment lifetime for both the project activity and the baseline scenario.

Other requested changes – see body of recommendation form below.

(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: >> [Energy efficiency improvement in process and manufacturing industries.](#)

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):

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ii. Minor changes:

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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:

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(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

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i. Reasons for non-approval:

>> [The required changes in the baseline methodology, detailed above, would necessitate significant changes to the proposed monitoring methodology – e.g. to monitor outputs of products and other parameters to assess whether or not “if product mix has changed substantially ... and if product mix has a substantial impact on energy consumption” \(CDM-NMB\).](#)

(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):** >> Energy efficiency improvement in process and manufacturing industries.**(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 is designed to quantify emission reductions associated with multiple energy-efficiency improvements in several industrial sectors (manufacturing, chemical, mining/mineral production, metal production). There are four main steps:

- Define the baseline scenario: The technical clarifications to the methodology outline 5 possible baseline scenarios but then indicate that only two (“continuation of as is” and “improved energy efficiency”) are “the most likely scenarios in all cases”.
- Quantify the emissions baseline: Unless “there are new mandates for using technologies which set a minimum limit on plant performance” this is estimated in terms of historical levels of emissions/unit of “main product” produced.
- Assess the additionality of the proposed project: Additionality is assessed in a flow chart similar to the “Tool for the demonstration and assessment of additionality”, although with some significant differences. For example, the technical clarifications to the methodology indicate that if energy efficiency projects are undertaken, financed or managed by energy service companies “such activities should also be considered additional”. “Common practice” is assessed as “more than 50% of potential plants”. Further, the equation used for the financial analysis component of the additionality assessment is not explained.
- The impact of the project activity on the energy efficiency is recorded just after the project activity execution, and acts as a cap on total expected emission reductions due to the project activity.

b) State the approach selected:

>> The selected approach is as per paragraph 48 (a) of the CDM modalities and procedures: “Existing actual or historical emissions, as applicable”.

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:

>> This approach is not appropriate without assessing the age of equipment to be replaced in the project activity and its likely replacement schedule in the absence of the proposed project. In particular, this should be taken into account in sectors that the proposed methodology is designed for, i.e. to energy-intensive industrial manufacturing sectors (where energy costs represent a significant proportion of total costs). (Alternatively, the potential replacement of equipment should be included when assessing different plausible baseline scenarios).

(2) Basis for determining the baseline scenario:*a) State whether the documentation explains how the baseline scenario is to be chosen and identified:*

>> Yes, the technical clarifications identify 5 possible baseline scenarios which are then condensed to two in a second step. The proposed additionality assessment is used to select the most likely of these two scenarios.

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

>> Incremental improvements in efficiency with the existing equipment as the baseline - assuming constant or decreasing performance. The electricity baseline is based on the “approximate operating margin”. The equations used in the financial analysis component of the additionality assessment are not explained.

c) State whether the documentation explains how, through the use of the methodology, it can be

demonstrated that a project activity is additional and therefore not the baseline scenario. If so, what are the tools provided by the project participants?

>>Yes, the proposed methodology provides a procedure to assess additionality. The technical clarifications provided clarify the relationship between the different steps of this procedure. At first glance this looks very similar to the “Tool for the demonstration and assessment of additionality”. However, it is significantly different in places (see below) and should be modified.

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

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- Baseline scenario:
 - (a) Although the technical clarifications indicate that they provide for a “selection of plausible baseline scenarios”, they do not do this adequately. In particular, they indicate that the “continuation of as is scenario” and the “improved energy efficiency ... as a result of the project activity” are “most likely scenarios in all cases”. The methodology indicates that a scenario in which equipment performance deteriorates over time is a valid baseline scenario only when “performance deterioration over time can be established as a normal occurrence for technology in question and enough public data is available to establish the rate of deterioration” and is “likely to be valid only in very few cases”. However, the proposed methodology does not justify this assertion.
 - (b) The proposed methodology also indicates that if analysis of regulations shows that their implementation will lead to a change in energy efficiency “these effects will be superimposed” on the “continuation of as is” or “deterioration in performance” scenario – but does not say how this should be done. This lack of clarity in what should actually be done by the project participant makes the proposed methodology impossible to verify.
 - (c) Further, a baseline scenario where there would be improved energy efficiency and Green House Gases (GHG) emissions during the crediting period for a Clean Development Mechanisms (CDM) project as a result of normal capital stock turnover (rather than being mandated by national/sectoral policies) is not included as a plausible scenario, but should be.
- Additionality: While the procedure for assessing additionality and the relationship between different sub-steps is clear, some key aspects of the additionality assessment need to be changed. These include:
 - (a) Providing explanations for the equation used to calculate the operating cash flow (pre-tax) savings in a year;
 - (b) Changing the threshold for an assessment of common practice (“adopted in more than 50% of potential plants” is too high);
 - (c) Removing the assertion that any energy efficiency activity undertaken by an energy service company is additional.
- Calculating emission reductions: Some changes are also needed in this part of the proposed methodology:
 - (a) The proposed methodology indicates that if the product mix has changed “substantially” and if product mix has a “substantial impact on energy consumption” then there should be an adjustment for product mix changes. However, the methodology does not specify how to undertake such an adjustment, nor how to identify what a “substantial” change/impact is.
 - (b) The appropriateness of using an “approximate operating margin” to calculate emission reductions from potentially large-scale projects should be justified, or (preferably) the project proponent should use the “Consolidated methodology for grid-connected electricity generation from renewable sources” (ACM0002) to calculate the emission benefits of improvements in electricity efficiency.
 - (c) Equation 6 seems to indicate that the “specific emission reduction” would always = 0. Does this need changing?

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

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

>> No. Some areas need clarification (highlighted above), there are missing explanations/procedures (e.g. for product mixes), some formulae are wrong or inappropriate (see 2 above), the methodology is in places written in vague language such as “would normally include” (see 5 below), the methodology appears unfinished in places (section G).

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 CDM-NMB):

>> With changes incorporated as outlined above and below, the proposed methodology should be applicable to the referred proposed project activity.

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.

>> It could, but is unlikely to do so in many cases. Thus, the methodology needs to be revised.

Please explain:

>> The assessment of potential baseline scenarios is flawed, as outlined above.

(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):

>> Yes, the methodology includes generic formulae. However, some relevant formulae (e.g. to assess the impact of project mix changes) are missing, and others (e.g. financial analysis) are unexplained, and sections D6 and D7 are unclear.

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

>> The baseline is determined as the past performance of the project site. Grid-specific values are used for the electricity component of the baseline. This spatial scope is appropriate, but other changes in determining the baseline are needed, as outlined above.

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 appropriate vintage of data is not given, but should be. The period used to measure “current” emissions is also not defined. The methodology indicates that the grid emission factor “may not be of the same vintage as rest of the data”.

(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 does not give a clear definition of the project boundary. Rather, it indicates what the project boundary “would normally include”. This is not specific enough to allow any project using this methodology to be validated or verified.

CO₂ from fuel burning and for power generation is mentioned.

ii) Physical delineation

>> The project boundary “would normally include” the whole of the manufacturing unit where the project is to be implemented, and the electricity grid that this unit is connected to.

b) Indicate whether this project boundary is appropriate:

>>The boundary implied by the methodology description is appropriate in general - at least for projects in the cement sector. However, it should be clarified whether CO₂ emissions from electricity generated outside the project boundary but bought by the project proponents is inside or outside the boundary (the equations given imply that it is included in the project boundary).

(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:

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Implicit assumptions:

- i) That the specific thermal and electrical energy consumption per unit of “main product” can be calculated. (This could be problematic in some sectors/potential projects if there is not a “main product”).
- ii) CO₂ emissions from waste heat/ “recovered energy” consumption = 0
- iii) That transmission and distribution losses can be ignored for any electricity exported (but should be taken into account for electricity imported to the project). (This seems problematic as it is inconsistent and untransparent).

Explicit assumptions:

- i) That there is a “main product” produced by the plant and that this does not change during the crediting period; (problematic for some sectors, and particularly problematic if no procedure by which to determine the effect of product changes is given);
- ii) An “approximate operating margin” is appropriate to calculate emissions associated with electricity generation; (problematic if no size threshold given)
- iii) Efficiency of consumption of thermal energy = 1 (presumably they mean 100%) “where it is difficult to measure consumptions”. This is a conservative assumption when applied to the baseline, but not a conservative assumption when applied to the project scenario.

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

>> The 1st and 2nd assumptions (explicit and implicit) are not arrived at transparently.

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

>> The 1st and 2nd explicit assumptions need justification/explanations as outlined above.

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

>> Most data is project-specific, apart from the electricity grid emission factor and transmission/distribution losses data, which is assumed to be available from national or international sources.

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

>> Data sources appear to be adequate.

f) State possible data gaps:

>> Production mix (type of products produced) and how to deal with changes. The methodology implies that the emission factor for electricity is taken from a published source rather than calculated from raw data. The methodology should be extended to allow for calculation of a grid emissions factor by the project participant (as a published assessment may not always be available).

(7) Assessment of uncertainties:

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

i) The basis for determining the baseline scenario:

>> No.

ii) Algorithms/formulae:

>> No.

iii) Key assumptions:

>> The proposed methodology indicates that product mix changes would be a key uncertainty, but does not indicate how to address such an uncertainty.

iv) Data:

>> No.

b) State whether the uncertainties presented are reasonable:

>> No - improvements are needed as outlined in sections above.

(8) Leakage:

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

>> The methodology indicates that as its boundary is the whole manufacturing plant, leakage will be avoided. (The methodology also indicates that emission reductions due to fuel switch will not be accounted for).

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

>> This seems appropriate, although will need to be reassessed once a methodology for dealing with product mix changes is included in the methodology.

(9) Transparency and “conservativeness”:

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

>> Some parts of the methodology are not transparent (e.g. key equations not explained).

b) State whether the baseline methodology is conservative:

>> Some parts of the methodology are defined in a conservative manner (e.g. definition of specific carbon emissions attributable to the project, formula 5; sensitivity analysis in the financial analysis component of the additionality assessment). However, other key parts of the methodology, such as parts of the additionality assessment (outlined in sections above), assuming that there will be no equipment change under the business as usual scenario (BAU) during the crediting period, assuming no autonomous energy efficiency improvements and defining the baseline scenario are not done in a conservative manner.

<p>(10) Potential strengths and weaknesses of the proposed baseline methodology (please explain):</p> <p>>></p> <p><u>Strength:</u></p> <ul style="list-style-type: none"> It is generic, with a wide range of potential applications. <p><u>Weaknesses:</u></p> <ul style="list-style-type: none"> Include mistakes and inconsistencies (as outlined above), as well as Issues related to choosing an appropriate baseline scenario, calculating emission reductions and assessing additionality (outlined in section B 2).
<p>(11) Other considerations, such as a description of how national and/or sectoral policies and circumstances have been taken into account (please explain):</p> <p>>> Consideration of national circumstances is included in the additionality assessment.</p>
<p>(12) Applicability of the proposed methodology across project types and regions (please indicate):</p> <p>>> This will depend on the revisions made to the currently proposed methodology (e.g. whether its potential applicability is narrowed to certain industrial sub-sectors).</p>
<p>(13) Any other comments:</p> <p>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:</p> <p>>> Documentation related to NM0033 and its assessment.</p> <p>b) Indicate any further comments:</p> <ul style="list-style-type: none"> Clarify if this proposed methodology is designed to be applicable to sites with electricity-generating plants only, or whether it can be extended to CHP plants. If the latter, indications should be given as to how to calculate the parameter ee_{effy_t} Justify why it is appropriate when calculating project emissions to assume that efficiency of consumption of thermal energy ($teff_{y_t}$) = 1 “where it is difficult to measure consumptions” (p12). Clarify that the parameters TD_t and $teff_{y_t}$ should be measured as a ratio, not as a percentage. Please spell out all acronyms (e.g. EBITDA, FMCG) Justify why transmission and distribution losses are taken into account when assessing the emissions equivalent of electricity imported to the project site, but not when assessing the emissions equivalent of electricity exported from the project site. The labelling of parameters in equations is confusing: e.g. sometimes t = marginal tax rate, whereas sometimes it refers to thermal energy (e.g. in parameters $teff_{y_t}$, $tFEF$)
<p>II. Proposed new monitoring methodology (specify title here): >> Energy efficiency improvement in process and manufacturing industries.</p>
<p><i>In respect of the proposed new monitoring methodology, evaluate each section of CDM-NMM to the draft CDM-PDD. Please provide your comments section by section:</i></p>
<p>(1) Brief description of new methodology:</p> <p><i>Describe new methodology:</i></p> <p>>> The methodology monitors some project-specific emissions directly, as well as indicating that other factors should be monitored directly or indirectly (i.e. the emissions factor for grid electricity as estimated (by whom?) for “the relevant region”). Other data (e.g. transmission and distribution losses) are taken from official statistics.</p> <p>There appear to be several data gaps: i.e. parameters used to calculate the baseline emissions in the proposed baseline methodology are not monitored. These include eE (total electrical energy used in the</p>

plant – this can easily be calculated from parameters that will be monitored) and other parameters that are calculated from parameters that are measured.

Further:

- No parameter associated with product mix is monitored
- No parameter is monitored with regard to leakage

(2) Key assumptions/parameters:

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

>> Same assumptions as baseline methodology. Further, it is assumed that CH₄ and N₂O emissions do not need to be monitored.

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

>> See B I 6 above.

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

>> See B I 6 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):

>> See B I 6 above.

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

>> On-site data can be supplied adequately, consistently, accurately and reliably where QA/QC is applied.

c) State possible data gaps:

>> See B I 6 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 - it even refers to section E1 for product mix changes (as does the baseline methodology), but there is no such section.

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 CDM-NMM):

>> Not until the suggested changes have been incorporated.

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

>> Yes, but both need to be changed as outlined above.

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

>> No parameter to assess leakage is monitored.

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

>> The proposed CDM-NMM does not indicate whether QA/QC procedures are planned for specific parameters, nor does it outline what these are.

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

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Weaknesses:

- The methodology is poorly documented;
- Contains several serious mistakes;
- Wrong references and inconsistencies (see section B I above).

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

>> This will depend on changes made in a resubmitted version of the 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 web site) has been used by you in evaluating this methodology. If so, please provide specific references:

>> None.

b) Indicate any further comments:

>> The labelling of parameters is not the same in the baseline and monitoring methodology. This is very confusing. For example, total electrical energy generated within the plant is labelled as eEG_o in the baseline methodology, but EG in the monitoring methodology.



Signature of Meth Panel Chair

Date: 22/06/2005 *Jean -Jacques Becker*

Signature of Meth Panel Vice-Chair

Date: 22/06/2005 *(name)*

Information to be completed by the secretariat

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