

 <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-NM0071-rev: “Avoiding flaring of waste gases from steel manufacturing operations and its utilization for substituting GHG intensive fuel in power generating units and/or generating power to supply to grid”
Related F-CDM-NMex document ID number(s) (electronically available to EB members)	F-CDM-NMex0071-rev: Not applicable
Related F-CDM-NMpu document ID number(s) (electronically available to EB members)	F-CDM-NMpu0071-rev: Not applicable
<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:>> Baseline methodology for basic oxygen furnace (BOF) gas use for power generation.	
<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><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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- A proper justification for the use of weighted average of “worst performing” power plants for calculating the operating margin (OM) for the grid has not been provided. Not necessarily the ‘worst performing plants’, defined by project participants (PPs) as low performance ratio plants that contributed about 10% of the total power generated in the grid in the operating year, are the ones replaced by the new electricity to the grid. There may be electrical, or other, reasons to keep them running. Also, it is said that “OM emission factor will be dynamic, i.e., can change annually for every crediting year”. How will that be done if the project itself will now be providing electricity to the grid and, as such, replacing some electricity that, otherwise, would be part of the baseline?
- PPs have been asked before to, when performing the required changes, to indicate very clearly which, how and where, changes are being made and introduced, in order to facilitate future reviews by the Meth Panel. But in the last version received on several places it was not easy to identify the changes made. On other occasions, changes were made and text did not make sense anymore (see, for example, Section D1, Scenario I and Scenario II texts).
- Text under Section D.1, Scenario I and Scenario II, cannot be understood.
- Section D.2, “Criteria used in developing the proposed baseline methodology” does not explicit the criteria used.
- The “Consolidated baseline methodology for waste gas and/or heat for power generation”, once it is approved by the Board, shall apply to the same type of project activities. The consolidated methodology is contained in annex 2 to the report of the Meth Panel at its sixteenth meeting.
(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.)

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

Title of proposed new monitoring methodology: >> [Monitoring methodology for BOF gas use for power generation.](#)

a. To approve this proposed methodology with minor changes



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

>>

ii. Minor changes:

>>

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



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

>>

ii. Required changes:

>>

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

c. Not to approve the proposed methodology



i. Reasons for non-approval:

>> The required changes in the baseline methodology, detailed above, would necessitate significant changes to the proposed monitoring methodology.

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

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

I. Proposed new baseline methodology (specify title here): >> Baseline methodology for BOF gas use for power generation

(1) Short description of the methodology, including an assessment of which approach from paragraph 48 of the CDM modalities and procedures was used:

a) Describe the methodology:

>> The methodology considers the establishment and operation of a gas grid to enable collection of BOF waste gases in steel plants and enable uninterrupted supply of the excess waste gases to the electricity generators who could use the same for the purpose of electricity generation in an:

- Existing power plant, where use of waste gases can: substitute partially an existing fuel, or substitute partially an existing fuel plus supply of additional measure of electricity to grid using a fuel mix of existing fuel and waste gases
- Greenfield power plant, where use of waste gases can allow power generation and supply to grid using waste gases as one of the fuels

Proof of additionality is made using the “Tool for the demonstration and assessment of additionality”.

b) State the approach selected:

>> The approach selected 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 judgment on the appropriateness of the selected approach to the project category:

>> This is appropriate because the baseline scenario is the current fuel use and use of the gas at the production facility. This is appropriate for this project category, particularly given the conditions placed on the methodology.

(2) Basis for determining the baseline scenario:

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

>> Yes, although it should be further improved.

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

>> The underlying rationale is that, without the capture and use of excess gas for power generation, the process gas will be flared, the existing power plant will use more fossil fuels, and the more power generation will be needed by the mix of grid plants. This means that, for emissions from the existing power plant up to historical production levels, the average emissions rate can be used for the displacement of existing fuels. For production beyond historical levels, or for gas supplying a new power station, emissions should be determined by the combined margin of the relevant power grid. The combined margin is applied using an operating margin estimation that has been modified to make it dynamic, however, without sufficient justification. The performances of all operating plants have been evaluated on a 'least merit order scale' using actual annual dispatch data, to identify the 'worst performers' who contribute 10% of the grid generation. The 'worst performers' comprise the set of plants in the 'operating margin'. 'Worst performers' are determined according to their Performance Ratio (PR), which equals (Actual Generation - AG) divided by (Installed Capacity - IC times Plant Load Factor- PLF): $PR = AG / (IC * PFL)$

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?

>> PPs propose the use of the "Tool for the demonstration and assessment of additionality".

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

>> The determination of the baseline scenario has to be improved. The methodology should include a more robust process for assessment of all possible alternative baseline scenarios as well as procedure for evaluating these alternatives. The assessment of additionality is ok now with the use of the additionality tool.

(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. Even after the revision methodology is not clear yet. The use of proposed OM has to be better justified (or changed). Also, methodology should include a more robust process for assessment of all possible alternative baseline scenarios as well as procedure for evaluating these alternatives

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):

>> Yes, in its current revision, provided that all recommended changes are correctly implemented.

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.

>> Not clear for the reasons discussed above.

Please explain:

>> Inadequate methodological description: The methodology does not explain how the baseline scenario is identified, rather it states the baseline scenario.

Further, the proposed OM without proper justification is problematic.

(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 they can, but only after the recommended changes have been made.

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

>> Data required for the application of the proposed methodology have the following spatial levels:

- Local: all data from the project
- Regional and National: Plants synchronized to the grid
- Global: IPCC default values.

The scope seems to be 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:*

>> All historical data at local level will be 3 years old or of lesser vintage. All regional level data will be of 5 years vintage, except for power generation data for operating margin power plants. Vintage of data seems to be appropriate.

(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*

>> All direct on-site CO₂ emissions (including emissions from fuel combustion and steel manufacturing operations) and those due to combustion of excess waste gases to generate electricity

ii) *Physical delineation*

>> The project boundary covers points of generation of waste gases in the steel manufacturing operations (up-stream of project activity), collection and transportation of these gases to the power plant(s) through a gas handling network/grid, generation and delivery of electricity from power plant(s) to the grid (down-stream of project activity), and all associated equipment for such project activity under control of the project proponent(s).

b) *Indicate whether this project boundary is appropriate:*

>> Yes, in its revised version project boundary seems to be 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:*

>>

- Emission factor for all power plants using GHG intensive fuels will be calculated as per the IPCC recommended values.
- Project will not result in any additional GHG emissions other than those emitted from flaring of waste gas in the baseline.
- The project activity will not result in diversion of waste gases normally required for internal heating requirements to a power generator.
- Any additional waste gases available due to efficiency improvements in internal heat utilization process improvements in the steel plant during crediting period will be considered for accrual of CDM benefits.

- If additional waste gases are produced due to use of more of GHG intensive raw materials in steel production, such additional gas will not be considered for CDM benefits
- (6) Methodology calculates OM for situations where annual dispatch data for operating plants in the electricity grid to which the project activity is connected is available.

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

>> For the most part. But a proper justification for the use of the proposed OM margin is not provided.

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

>> No, because of the above.

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

>>

- Quantity of waste gas available/provided for power generation from proprietary data of steel operations/power plant(s);
- Gross calorific value of various waste gas streams from proprietary data of steel operations/power plant(s);
- Amount of existing GHG intensive fuel consumed by power plant from proprietary data of power generator(s) where fuel is replaced;
- Carbon emission factors and net calorific values for various GHG intensive fuels from IPCC guidelines;
- Electricity delivered to the grid from national/regional level publicly available data.

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

>> In this new version data used seem to be adequate.

f) State possible data gaps:

>> In this new version no gaps were identified.

(7) Assessment of uncertainties:

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

i) The basis for determining the baseline scenario:

>> No proper assessment of uncertainties is provided.

ii) Algorithms/formulae:

>> No, does not discuss this.

iii) Key assumptions:

>>

- The power generators having opted for using waste gases will continue to use the same as fuel during the entire crediting period. But power plants may decide not to use waste gases for power generation based on unfamiliarity with the new technology, under performance in power generation, etc. Or one or more of the Greenfield power generators could shift to more GHG intensive fuel thereby making it necessary to flare more of waste gases.
- The steel industry in the project activity continues with same production technology over the crediting period. But the steel industry may decide to improve its existing technology thereby producing more waste gases, or utilizing less waste gases for internal heating requirements.

iv) Data:

>> See comments on data in previous section.

b) State whether the uncertainties presented are reasonable:

>> Yes, but baseline scenario uncertainties should be monitored in monitoring plan.

(8) Leakage:

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

The methodology recognizes that leakages could occur due to the use of hydrocarbon fuel (if displaced by project activity and in turn used by other smaller power generators who currently use renewables like biomass). However it rules out this possibility by saying that that would require replacement and retrofitting of existing power generating equipment, which may not be feasible for a smaller generator.

The methodology also recognizes that leakage emissions can occur because of displaced fuels used by a larger generator. In this case, the methodology says that “any leakage emissions due to use of such displaced fuel needs to be directly attributable to the project. If such a situation is identified, then leakage emissions will be calculated as per equation (5)”.

The methodology further recognizes that potential leakages could also occur if the project participant creates a situation where the normal use of waste gases for internal requirements in the steel operations is minimised/reduced/avoided through use of any other substituting GHG intensive fuel(s), and the avoided waste gases due to such use of substituting GHG intensive fuel(s) are then diverted for additional electricity generation. But the methodology addresses such type of leakage potential by identifying and defining areas where waste gases are required for normal internal use, and if any alternate GHG intensive fuel/s is/are used in these areas.

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

>> Yes, treatment for leakage seems to be appropriate now.

(9) Transparency and “conservativeness”:

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

>> Yes, except for some points raised before.

b) State whether the baseline methodology is conservative:

>> Most of the methodology is conservative, but the use of operating margin as proposed may not be

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

>>

Strengths:

- Draws on ACM0002 “Consolidated methodology for grid-connected electricity generation from renewable sources” and CDM EB “Tool for the demonstration and assessment of additionality”;
- Relatively low cost;
- Incorporates assumptions on baseline use of waste gases.

Weaknesses:

- No proper justification of the proposed operating margin; and
- Lack of a more robust process for assessment of all possible alternative baseline scenarios as well as procedure for evaluating these alternatives

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

>> Methodology is applicable to national and/or sectoral policies wherein:

- Utilization of excess (after internal use) waste gases to generate power is not mandatory and flaring is permitted
- Utilization of such waste gases for power generation is permitted.

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

>>

- Applicable to steel production plants (existing, newly constructed or both) using basic oxygen furnace (BOF) route where part of the waste gases in facility is normally used (or would have been used) for internal heating requirements, and the remaining waste gases were being (would have been) flared;
- Project activity does not induce diversion of waste gases required for internal usage;
- Proposed project activity does not result in integrated process change, except for possible associated changes due to use of waste gases for electricity generators;
- There are neither local regulations to constrain use of GHG intensive fuels (like coal) nor restrict flaring of waste gases;
- Waste gas is supplied to partially replace existing/planned fuel use in an existing/new power plant or a new power plant facility solely based on use of waste gas or a combination of all the above;
- There are only two possible alternatives: continued flaring of excess waste gases over and above the internal consumption, or its use for power generation.

(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:

>> ACM0002 “Consolidated methodology for grid-connected electricity generation from renewable sources” and the CDM EB “Tool for the demonstration and assessment of additionality”.

b) Indicate any further comments:

>> No further comments.

II. Proposed new monitoring methodology (specify title here): >> Monitoring methodology for BOF gas use for power generation

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:

(1) Brief description of new methodology:

Describe new methodology:

>> The methodology describes how to monitor gas consumption and characteristics (for gas that replaces other fuels for power generation), the characteristics of the grid (for additional power generated), and project gas use, and relevant regional steel industry characteristics.

(2) Key assumptions/parameters:

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

>>

- Data for “fuel replacement” component for Baseline Emission calculation;
- Data for “electricity supplied to grid” component of Baseline Emission calculation;
- Data for Project Emission calculation.

In its modified version, assumptions seem to be ok.

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

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

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

>> Assumptions/parameters are adequate now.

(3) Data sources and data quality:

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

>> Gas consumption is measured at project site. Regional industry characteristics are estimated from last 3 years public data. Gas characteristics and heat rate/efficiency are estimated from historical plant data. Grid plant generation data are sourced from published data.

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

>> Data used seem to adequate, consistent accurate and reliable now.

c) State possible data gaps:

>> No possible data gaps perceived now.

(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 well described.

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):

>> Yes, proposed methodology is appropriate now.

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

>> Yes, proposed methodology is compatible with the proposed baseline methodology.

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

>> Treatment of leakage in the monitoring plan seems appropriate. Also, see baseline methodology.

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

>> Quality assurance and control procedures seem appropriate now.

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

>>

Strengths:

- Availability of data from project based on the methodology adopted seems to be high;
- Cost effective;
- Potential to demonstrate conservativeness seems high

Weaknesses:

- Possible lack of data for calculating Combined Margin;
- Cannot calculate leakage emissions due to use of fuel displaced by the project activity, if the use of the same is not directly attributable to the project activity.

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

>>

- Applicable to steel production plants (existing, newly constructed or both) using basic oxygen furnace (BOF) route where part of the waste gases in facility is normally used (or would have been used) for internal heating requirements, and the remaining waste gases were being (would have been) flared
- Project activity does not induce diversion of waste gases required for internal usage;
- Proposed project activity does not result in integrated process change, except for possible associated changes due to use of waste gases for electricity generators;
- There are neither local regulations to constrain use of GHG intensive fuels (like coal) nor restrict flaring of waste gases
- Waste gas is supplied to partially replace existing/planned fuel use in an existing/new power plant or a new power plant facility solely based on use of waste gas or a combination of all the above;
- There are only two possible alternatives: continued flaring of excess waste gases over and above the internal consumption, or its use for power generation.

(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:

>> ACM0002 "Consolidated methodology for grid-connected electricity generation from renewable sources".

b) Indicate any further comments:

>> No further comments.



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

F-CDM-NMmp doc id number	F-CDM-NMmp - NM0071-rev
Date when the form was received at UNFCCC secretariat	22 June 2005
Date of transmission to the EB	22 June 2005
Date of posting in the UNFCCC CDM web site	22 June 2005