

 <p style="text-align: center;">CDM: Proposed new methodology - public comment form (version 03) (Available electronically on the UNFCCC CDM web site. The layout may differ from this hardcopy form)</p>	
Name of person / organization responsible for completing and submitting this form	Barbara Haya, International Rivers Network
Contact information (address, phone, e-mail ...)	1847 Berkeley Way Berkeley, CA 94703 USA bhaya@socrates.berkeley.edu
Related F-CDM-NM document ID number	F-CDM-NM0020
Based on an assessment of the annexes 3 and 4 and their application in sections A to E of the draft CDM PDD, evaluate the proposed new baseline and /or monitoring methodologies.	
A. Comment on the proposed new methodologies:	
I. Comments on the new baseline methodology:	
Title of new baseline methodology:>>"Baseline methodology for displaced electricity generation in a centrally dispatched hydrothermal interconnected power system"	
<p>i. Conditions under which this methodology is applicable to other potential projects (e.g. project type, region, data availability, etc.): >></p> <p>ii. Strengths and weaknesses of the methodology: >></p> <p>iii. Any changes needed to improve the methodology: a. Minor changes:>> Some problems with the baseline calculations were found. b. Major changes: >></p> <p>- Application of the methodology - The methodology should only be applicable to relatively small projects. Only the smallest projects may be considered to displace marginal dispatched power. All other projects must be assumed to defer the building of new capacity on the grid.</p> <p>- Additionality - The methodology does not require adequate additionality testing.</p> <p>- Technical problems with the baseline calculations - The problems were related to the inconsistent use of ex-post and ex-ante data, so that the project could be held responsible for changes to the grid and hydrological variability for which it not responsible.</p> <p>- Monitoring of the Environmental Management Plan – The monitoring of the Environmental Management Plan by the operational entity is welcomed.</p>	
II. Comments on the new monitoring methodology:	
Title of new monitoring methodology: >>	
<p>i. Conditions under which this methodology is applicable to other potential projects (e.g. project type, region, data availability, etc.): >></p>	

- ii. Strengths and weaknesses of the methodology:
>>
- iii. Any changes needed to improve the methodology:
 - a. Minor changes:>>
 - b. Major changes: >>

B. Details of the comments on the proposed new methodology:

I. Proposed new baseline methodology (*specify title here*): >>"[Baseline methodology for displaced electricity generation in a centrally dispatched hydrothermal interconnected power system](#)"

(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:

>>

b) State the approach selected:

>>

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:

>>

(2) Basis for determining the baseline scenario:

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

>>

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

>>

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?

>>

Though the PDD paints a possibly plausible story for the additionality of the project, it's argument is not testable and therefore should not be a usable argument for the CDM. The additionality argument in the PDD rests on the intention of the developer – in the case of these two projects, the interest of EE.PP.M in low emitting technologies and in being an early player in the CDM market. Any project developer can make the same claims, whether or not they are true, and there is no way of verifying if they are true. Any argument of additionality needs to be reasonably verifiable for the CDM to be a functional mechanism of the Kyoto Protocol.

This project demonstrates the usefulness of simple tests of non-additionality, such as if the project has already begun construction and if a power purchasing agreement has already been signed. The largest challenge to the additionality of this specific project is that construction has already begun. The PDD arguments regarding risk-taking in the early stages of the CDM would be unconvincing in the majority of cases to which the methodology could be applied. It is very difficult to make a convincing argument that a project that has already entered the construction stage is additional. If the CDM really is a determining factor in project development decisions then the PDD should be submitted in good time to allow the project to go through the CDM review process before the final decision on the project is made. If the CDM really is a determining factor, project developers would wait to receive an answer from the CDM board well before reaching the construction stage or signing a power purchasing agreement.

Additionality is easier to defend for other renewable energy projects like wind because of their small capacities on most grids. Large hydroelectric plants (greater than 10 MW) make up the majority of capacity in many countries, including Colombia. They have often been funded even when they are not the least cost option. In Colombia more than half of new electricity under construction or planned up to 2007 is hydropower, according to the 2003 Hydropower and Dams World Atlas, and 10,000 MW are at various stages of planning for mid- and long-term development.

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

>>

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

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

>>

b) *State whether the proposed methodology is appropriate for the referred proposed project activity and the referred project context (described in Sections A-E of the draft CDM-PDD and submitted along with Annex 3):*

>>The methodology explicitly makes the following assumptions:

“ii) The project consist [sic] of a capacity addition to the interconnected system, through renewable energy... iii) The baseline corresponds to the scenario where the project activity is not carried out and no other project is implemented instead of the project under consideration, so that its corresponding availability to generate electricity is not usable by the interconnected system to satisfy party of the electricity demand, and no other project covers this energy shortfall.”

A project may displace marginal dispatched power, adding capacity to the grid without changing the timing of the building of new capacity, or it may defer the building of other new capacity (including other hydropower), or some combination. This methodology assumes that the projects to which it is applied displace marginal dispatched power only. The methodology must therefore include clear guidelines for testing if this assumption is appropriate for the proposed project.

Project size certainly plays a role in affecting the effects of a project on the grid. The Meth Panel recommendation to the Executive Board on NM0008 (Penas Blancas) states: “Except for very small-scale project activities, virtually all power generation project activities in developing countries with high demand growth will both displace generation in the short run and displace (or postpone) investment over the crediting period, particularly in capital scarce countries.” In general, projects that are a fraction of the size of the majority of plants on a grid may be assumed not to have a significant effect on the considerations of power plant developers regarding what plants they build and when. If a proposed CDM project is of comparable size to many other plants on the grid then in general it can be assumed to defer the building of other new power plants. La Vuelta and La Herradura together are of comparable size to many of the existing and planned hydropower and fossil fuel plants in Colombia. It could therefore be assumed that they will affect the timing of the building of new capacity rather than adding new capacity to the grid throughout their lifetimes. If the assumption is still made that these plants will add capacity throughout their lifetimes, the methodology must include the requirement of that this must be justified, along with criteria for periodically assessing if this assumption is still valid. The PDD does not make a real attempt to justify this assumption.

To note, many small CDM projects together should generally be assumed to affect the capacity of the grid similarly to a project equal to the sum of their capacities. A CDM project must therefore be assessed in light of the other CDM projects that came before it and their assumptions. This point should be made in the methodology.

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.*

>>See comments below in section 13b (for some reason my comments were cut off when I tried to paste them into this space).

Please explain:

>>

(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.):*

>>I found several possible small technical errors in the equations and text.

1. I believe that there is an error in the units in equation A3.5.

I believe the correct equation should be:

(the corrections are ****starred****; I left out the ~ symbols and the ± symbols)

<E> (tonne CO2e/****GWh****) = E(th) (tonne CO2e/****year****) / G(th) (GWh/year)

2. The sentence before this equation says “no ~ variables are now involved”. Equation A3.7 does include a “~” variable. It is <E> .

3. In equation A3.8 the term E+(th) is used. Where the “~” version of this term has already been defined, it is not clear at this point in the methodology how the ex-post (non ~) version of the term is calculated. It is defined in the monitoring methodology, but I would recommend putting a sentence or two somewhere before equation A3.8 in the baseline methodology section to prevent confusion.

4. This point and the next point address potential technical problems on the section right after equation A3.10 which may be worth looking into. The following sentence is written: “It is quite obvious that in general the second parenthesis is greater than the first one, since G+(th) is much greater than gp.” This is not true. The second parenthesis is the difference between projected and actual generation of electricity from fossil fuel plants. The first parenthesis is the difference between expected and actual generation of electricity from the CDM project. The second parenthesis can easily be negative while the first parenthesis can easily be positive. Does the writer mean that the magnitude of the second parenthesis is greater?

5. The entire paragraph mentioned above in point #4 does not seem correct. It seems to be saying that according to Decision 17/CP.7 that if the projected emissions avoided by the project ends up being larger than the ex-post estimates of emissions avoided that CERs can not be granted to the project. This is certainly not true.

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

>>

ii) Physical delineation

>>

b) Indicate whether this project boundary is 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:

>>Please see my comments above regarding the applicability of this methodology to different projects and the assumption that the project displaces marginal dispatched power rather than deferring the building of new capacity (see section 3b).

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:

>>

(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:

>>

b) State whether the uncertainties presented are reasonable:

>>

(8) Leakage:

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

>>

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

>>

(9) Transparency and “conservativeness”:

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

>>

b) State whether the baseline methodology is conservative:

>>

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

>>

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

>>

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

>>

(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:

>>A positive feature of this methodology is that it does not assume that all marginal dispatched electricity is generated by fossil fuel plants and takes into account the fact that hydropower is often dispatched at the margin. Another positive feature of this methodology is that it attempts to capture many of the complexities involved with power generation dispatching and annual variability, including annual variability in the hydrological system and transmission restrictions, and the effects they have on power dispatch. Another positive feature of this methodology is that it takes into account reservoir emissions and construction emissions.

However, despite these strengths, the particular way that the model results are used to calculate emissions reductions from the project is problematic. It is problematic in two ways.

I. The methodology calculates actual emissions ex-post and baseline emissions with a combination of ex-post and ex-ante data in a way that attributes all changes in the emissions intensity of the grid to the project, whether or not the project is responsible for those changes. Where actual emissions are calculated ex-post based on the actual dispatch of fossil fuel plants and their emissions factors, the baseline is calculated using a single emissions factor, <E~>-, that is determined ex-ante and applies this factor to the total fossil fuel portion of the baseline.

Over the 21-year lifetime of the project it is likely that the actual power grid will look different from the ex-ante projections regarding the plants on the grid and how they are dispatched. By using an ex-ante

figure for the baseline emissions factor, and an ex-post calculation of actual emissions, the project is essentially attributed with responsibility for all changes in the emissions intensity of the fossil fuel portion of the grid, including changes in what power plants are connected to the grid, hydrological variation, and transmission capacity.

Instead I would recommend that this emissions factor be calculated based on ex-ante conditions fed into the model, especially including data on the power plants that are connected to the grid, transmission capacity, and recent hydrological data.

Another sub-optimal solution to this problem would be to use only ex-ante emissions factors for both with and without project scenarios to give a more accurate sense of the magnitude of change caused by the project. The difference between the two emissions factors would then only be applied to the amount of electricity generated by the project (gp).

In sum, it is important for the calculations of emissions scenarios with and without the project to both be based on the same grid conditions and characteristics (such as the plants on the grid and hydrological and transmission conditions) except for those affected by the project, so that a realistic estimate of the effects of the project on the grid can be made. This can be done by either using ex-ante model data for both scenarios, or updating the model periodically to calculate the without-project scenario based on actual grid conditions.

II. This inaccuracy becomes very significant by the fact that the methodology multiplies an ex-ante emissions factor by the entire quantity of power generated by the fossil fuel portion of the grid, rather than by the quantity of power generated by the CDM project itself, gp. If there is even a small error in the ex-ante emissions factor (that the ex-ante figure does not really reflect the actual without project scenario, including effects not caused by the project itself), this difference is multiplied by the entire fossil fuel generated electricity from the grid. Therefore the project could be assumed to be held responsible for a quantity of emissions reductions that is unrealistic.

For example, if high-emissions power plants are added to the Columbian grid so that the total ex-post emissions (the with-project scenario) are greater than the without-project scenario (<E~>- multiplied by the total actual GWhs produced by fossil fuel plants including the portion displaced by the project) then the CDM project is seen as responsible for causing an *increase* in emissions. In the other direction, if new capacity is added to the grid so that emissions intensity of the fossil fuel portion of the grid is lower than projected, then the project is assumed to be responsible for the total emissions decrease compared to the without-project scenario, including some portion of the emissions reductions caused by the building of new efficient natural gas plants.

Instead of comparing the actual total emissions from the fossil fuel portion of the grid with the total emissions projected to be emitted in a non-project scenario using an ex-ante emissions factor, I would at least recommend multiplying only the amount of electricity generated by the CDM project itself, gp, with an emissions factor. This emissions factor could be calculated ex-ante in a similar way as <E~>- is currently calculated or ex-post as described above. In this case gp would be in the denominator and the emissions factor would express the amount of emissions reduced per GWh produced by the CDM project. Then if the ex-ante emissions factor is no longer very accurate, the amount of emissions reductions calculated by the methodology is less likely to produce a largely unrealistic figure.

II. Proposed new monitoring methodology (specify title here): >>

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:

>>
<p>(2) Key assumptions/parameters:</p> <p><i>a) List the implicit and explicit key assumptions. Identify those, if any, which are problematic and explain:</i></p> <p>>></p> <p><i>b) State whether the key assumptions are arrived at in a transparent manner:</i></p> <p>>></p> <p><i>c) Give your expert judgement on whether the assumptions/parameters are adequate:</i></p> <p>>></p>
<p>(3) Data sources and data quality:</p> <p><i>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:</i></p> <p>>></p> <p><i>b) Give your expert judgement on whether the data used are adequate, consistent, accurate and reliable:</i></p> <p>>></p>
<p>(4) Assessment of the description of the proposed methodology and its applicability:</p> <p><i>a) State whether the proposed methodology has been described in an adequate manner:</i></p> <p>>></p> <p><i>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):</i></p> <p>>></p> <p><i>c) State whether this proposed monitoring methodology is compatible with the proposed baseline methodology described in annex 3 of the draft CDM-PDD:</i></p> <p>>></p>
<p>(5) Leakage (please elaborate, if appropriate):</p> <p>>></p>
<p>(6) Quality assurance and control procedures (please explain):</p> <p>>></p>
<p>(7) Potential strengths and weaknesses of the methodology (please explain):</p> <p>>></p>
<p>(8) Applicability of the proposed methodology across project types and regions (please indicate):</p> <p>>></p>
<p>(9) Any other comments:</p> <p><i>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:</i></p> <p>>></p> <p><i>b) Indicate any further comments:</i></p> <p>>>In discussing environmental and social protections included in the project design the PDD states: “A</p>

detailed description of these issues... is left to be inspected by the operational entity in charge of the project verification.” (p.69) The monitoring methodology states that non-GHG related data will also be collected as a part of the monitoring plan: “The generation company should execute an Environmental Management Plan in order to deal with environmental, social and economic aspects of the region and their inhabitants” (p.104). IRN welcomes the specification that the operational entity verifies that basic agreements are met regarding environment protections and the prevention of harm to local residents as a part of the monitoring plan, in addition to verifying that emissions reductions were achieved. We recommend that the monitoring methodology specify that the monitoring plan be specific about the minimum aspects of the Environmental Management Plan that will be monitored.

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