

 <p style="text-align: center;">CDM: Proposed new methodology expert form (version 04) (To be used by methodology experts providing desk review for a proposed new methodology)</p>	
Name of expert responsible for completing and submitting this form	Sivan Kartha
Related F-CDM-NM document ID number	NM0097
<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. Evaluation of the proposed new methodologies by desk reviewers:	
I. Evaluation of the proposed new baseline methodology:	
<p>Title of new baseline methodology:>> “Improvement in recovery of waste biomass from process streams and use of that biomass in energy generation”</p>	
<p>i. Conditions under which this methodology is applicable to other potential projects (e.g. project type, region, data availability):</p> <p>>> The project activity consists of (a) and (c) with or without (b) and (d):</p> <ul style="list-style-type: none"> a) Additional waste biomass recovery from process stream; b) Improvement in energy efficiency of waste biomass recovery from process stream; c) Utilization of biomass for energy generation with consequent displacement of fossil fuel d) Improvement in utilization of biomass for energy generation <p>This methodology is applicable to projects recovering additional waste biomass that was previously been discharged and use of that recovered biomass for energy generation with or without improved efficiency. Other applicability conditions include:</p> <ul style="list-style-type: none"> a) the local regulations / programs do not constrain the facility from using coal and other fossil fuels to generate energy; b) the project is not a common practice in the industry sector for industries of a similar nature and size; c) the proposed project activity generates additional waste biomass from process stream and use of which is not prohibited by the national regulations; d) energy would have otherwise been generated using fossil fuel under the control of the project operator; e) the process output(e.g., quantity of blown pulp)can be directly correlated to waste biomass(e.g., black liquor) concentration in process stream f) biomass is not stored in the plant and is directly fired; <p>NOTE: condition (d) (energy would have otherwise been generated using fossil fuel under the control of the project operator) is a condition on the baseline, not the project, and as such is not a legitimate applicability condition. Rather, it should be demonstrated. Also, (b) should be demonstrated, not assumed.</p> <p>ii. Strengths and weaknesses of the methodology:</p> <p>>> Weakness: There is not an adequate procedure to prove that the baseline situation would consist of exactly the same rate of BLS recovery, steam use for BLS recover, and steam generation</p>	

from BLS, despite a major capital investment corresponding to the considerable expansion in capacity (from 75 ktons to 105 ktons in the case of the project in question.)

The additionality procedure is considerably weaker than the Additionality Tool which it claims to use.

Strengths: It takes credit for reductions only up to the pre-project pulp capacity.

iii. Any changes needed to improve the methodology:

a. Minor changes:>>

b. Major changes:>> Add a demonstration that the baseline is indeed simply to operate at efficiencies corresponding to historic levels. (As it currently stands, the methodology simply assumes that the baseline scenario is historic performance.) This is especially necessary in the case of a project that occurs coincident with a capacity upgrade, which would in all likelihood necessitate an upgrade in the throughput of the delignification, BLS recovery, SRB, and steam generation stages. This methodology adopts the inappropriate assumption that these stages would not see performance changes. This methodology should include a procedure for determining what level of performance these stages could be expected to operate at in an updated, upgraded plant.

Also, the methodology should ensure that there is no possibility that the unutilized biomass could be used by another process (in the same plant or another plant).

II. Evaluation of the proposed new monitoring methodology:

Title of new monitoring methodology: >> “Monitoring improvement in recovery of waste biomass from process streams and use of that biomass in energy generation”

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

>> The project activity consists of (a) and (c) with or without (b) and (d):

a) Additional waste biomass recovery from process stream;

b) Improvement in energy efficiency of waste biomass recovery from process stream;

c) Utilization of biomass for energy generation with consequent displacement of fossil fuel

d) Improvement in utilization of biomass for energy generation

This methodology is applicable to projects recovering additional waste biomass that was previously been discharged and use of that recovered biomass for energy generation with or without improved efficiency. Other applicability conditions include:

a) the local regulations / programs do not constrain the facility from using coal and other fossil fuels to generate energy;

b) the project is not a common practice in the industry sector for industries of a similar nature and size;

c) the proposed project activity generates additional waste biomass from process stream and use of which is not prohibited by the national regulations;

d) energy would have otherwise been generated using fossil fuel under the control of the project operator;

e) the process output(e.g., quantity of blown pulp)can be directly correlated to waste biomass(e.g., black liquor) concentration in process stream

f) biomass is not stored in the plant and is directly fired;

NOTE: condition (d) (energy would have otherwise been generated using fossil fuel under the control of the project operator) is a condition on the baseline, not the project, and as such is not a legitimate applicability condition. Rather, it this should be demonstrated.

ii. Strengths and weaknesses of the methodology:

>> weakness: energy meters should be installed to measure efficiencies of new equipment (e.g.,

variable ENPi), but how are baseline efficiencies (two years prior performance) measured?

- iii. Any changes needed to improve the methodology:
 - a. Minor changes:>> See comments regarding equations in Baseline Methodology.
 - b. Major changes:>>

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

I. Proposed new baseline methodology (specify title here): >> "Improvement in recovery of waste biomass from process streams and use of that biomass in energy 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:

>> Step 0. Screening for timing.

Step 1. Legal screen.

Step 2. Investment analysis.

Step 3. Barrier analysis

Step 4. Common practice analysis

Step 5. Impact of CDM registration.

b) State the approach selected:

>> 48(c)

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:

>> There is no procedure for substantiating the use of historic performance as the baseline performance. Thus, my judgement is that the use of this approach has not been shown to be appropriate. It is not valid to claim that "it will be difficult to find interventions resulting in same or similar outputs". (If this were true, the project would almost by definition be non-additional.) Also, it is highly questionable to claim "project activities of this nature would not have occurred in the host countries, where biomass is abundant and biomass concentrations in waste streams are not strictly regulated." (For example, pulp and paper industry is widespread, and heat recover from black liquor is absolutely commonplace. Moreover, the methodology claims to be applicable to other industries that generate biomass waste streams that is routinely used for energy.) Also, it is questionable that identifying an economically attractive option would be "difficult and highly data intensive"

(2) Basis for determining the baseline scenario:

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

>> No. It simply states that the baseline is reflected by historic performance.

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

>> The rationale is given, and (assuming that the baseline could be justified) is reasonable.

However, I believe there may be mistakes in equations (3) and (5). I think it would make more sense not to separate these two equations, (because of the cross-interaction between greater biomass production and more efficient biomass usage) and the two equations should sum to:

$EP_{bio} + EP_{Util} =$

$[(SBIOP * Enth_SBIOP) / BIOP * BIOP / PP - (SBIOP * Enth_SBIOP) / BIOB * BIOB / PB]$
 $* (PB)$

Also, I believe the "S" in equation (7) should be a "S". Similarly in the line following equation (8).

c) *State whether the documentation explains how, through the use of the methodology, it can be demonstrated that a project activity is additional and therefore not the baseline scenario. If so, what are the tools provided by the project participants?*

>> The methodology for demonstrating additionality is a less clear and abridged version of the EB Additionality Tool. It would be better to simply adopt the same method. Specific weaknesses are:

(1) Step 1 doesn't explicitly require that the baseline be shown to be compliant with all applicable laws.

(2) Step 2 is inexplicably included, but not "suggested". (This is particularly problematic given the clear financial benefits of the proposed project, which are, quite likely, the main objective of activities:

"From the above, it can be seen that the objectives of the project are to: Increases paper brightness and improve yield selectivity" (p.2), "two-stage Oxygen Delignification (ODL) process introduced to enhance the quality of the pulp produced." (p. 5) "An added benefit of the ODL is reduction in chemical consumption in bleaching process by 63%." (p.6) "PSPD planned for process improvement in the year 2000 with the objective of increasing the energy generation from waste that would result in fossil fuel savings and increase the production of the facility.")

(3) Step 3 includes an unclear and possibly meaningless "Prevalence Barrier".

(4) Step 3 does not make explicit the requirements of a "barrier analysis" with respect to information, documentation, etc.

(5) Step 4 is not clear and does not provide an explicit procedure.

(6) Step 5 also is not clear (as its implementation in the accompanying project shows)

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

>> No, as explained above.

(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, as explained above.

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):

>> No, as explained above.

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 reliably.

Please explain:

>> As explained 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, conceivably.

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

>> Exclusively project-specific.

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 vintage is two years. It is not clear whether this is appropriate, particularly if the plant/sector shows volatile performance.

(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

>> CO₂ from fossil fuel combustion.

ii) Physical delineation

>> Project site.

b) Indicate whether this project boundary is appropriate:

>> Yes.

(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:

>> No specifically problematic quantitative assumptions. No explicit numerical parameters are given.

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

>> Yes.

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

>> Yes.

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

>> Site-specific measurements.

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

>> Whether they are accurate depends on whether historic performance is a valid reflection of the baseline, which is not established convincingly.

f) State possible data gaps:

>> None identified.

(7) Assessment of uncertainties:

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

i) The basis for determining the baseline scenario:

>> Not basis given.

ii) Algorithms/formulae:

>> Uncertainties not quantified.

iii) Key assumptions:

>> Uncertainties not quantified.

iv) Data:

>> Uncertainties not quantified.

b) State whether the uncertainties presented are reasonable:

>> Uncertainties not quantified.

(8) Leakage:

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

>> This methodology does not explicitly calculate any leakage terms. (It just has a generic term "Leakage if any")

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

>> The methodology should at least require the project proponent to list the potential sources of leakage and either account for them quantitatively or present an argument why it is conservative to neglect them.

(9) Transparency and "conservativeness":

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

>> Does this question mean "is the methodology transparent"? If so, yes, reasonably so, except for the unjustified assumption that the baseline is historic performance.

b) State whether the baseline methodology is conservative:

>> No, insofar as plants routinely implement performance improvements, especially in the context of capacity upgrades.

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

>> See above.

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

>> Legal requirements are considered for the project activity, but should be for the baseline activity.

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

>> The proposed applicability might well be too broad. It would be a particular concern where the biomass might otherwise be consumed (for example if the biomass waste might be used for another process or by another plant, or if the waste might be digested and the methane used for power.) The claim that the methodology "has built-in flexibility for being applied to industries like pulp, paper and paperboards,

brewery and distillery, starch, sugar, meat processing, dairy etc. " should be questioned very carefully.

(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:

>> No

b) Indicate any further comments:

>> None.

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

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 is fairly straightforward, and entails the on-site measurement of the variables stated in the baseline methodology.

(2) Key assumptions/parameters:

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

>> No particular quantitative assumptions.

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

>> No particular quantitative assumptions.

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

>> No particular quantitative assumptions.

(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):

>> On-site measurement.

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

>> Yes, with exceptions as noted.

c) State possible data gaps:

>> There is no procedure for ascertaining the baseline equipment efficiency.

(4) Assessment of the description of the proposed methodology and its applicability:

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

>> It is not clear whether baseline measurements, if the project (as this one) was already implemented.

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, except as noted.

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

>> Yes, except as noted.

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

>> No explicit accounting.

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

>> Methodology mentions that meters should be calibrated at least yearly.

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

>> As discussed above.

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

>> See comments on baseline methodology applicability.

(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:

>> No.

b) Indicate any further comments:

>> Since the additionality of the project hinges in part on the common practice test, the monitoring plan should include monitoring of the sector to determine whether and when the activity becomes a common practice.

Signature of desk reviewer Sivan Kartha

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Information to be completed by the secretariat

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