

 <p style="text-align: center;"><b>CDM: Proposed New Methodology</b>  <b>Meth Panel recommendation to the Executive Board</b>  <b>(version 04)</b>  <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-NM 0097: “Improvement in recovery of waste biomass from process streams and use of that biomass in energy generation”
Related F-CDM-NMex document ID number(s) (electronically available to EB members)	F-CDM-NMex0097: Füssler / Kartha
Related F-CDM-NMpu document ID number(s) (electronically available to EB members)	F-CDM-NMpu0097: Harthan
<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>	
<b>A. Final recommendations by the Meth Panel</b>	
<b>I. Recommendation on the proposed new baseline methodology: (checkmark the choice made)</b>	
Title of proposed new baseline methodology:>> Improvement in recovery of waste biomass from process streams and use of that biomass in energy 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>&gt;&gt;</p> <p>ii. Minor changes:</p> <p>&gt;&gt;</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>&gt;&gt;</p> <p>ii. Required changes:</p> <p>&gt;&gt;</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:

>> Specifically, the main reasons for rejection are:

- The methodology has not been described in an adequate and concise manner. It considers many different activities (energy efficiency of waste biomass recovery, utilization of biomass for energy generation, improvement in utilization of biomass, fossil fuel change) and thus lacking focus and articulation.
- Formulae and algorithms: the methodology has an unclear set of equations for emission reduction calculation that are erroneous and not easy to follow.
- No methodology is provided to select baseline or to demonstrate that continuation of current practice is the baseline. There is no clear link between baseline and project activities. It is not clear which of the mentioned project activities have been stimulated by Clean Development Mechanisms (CDM) and which of them would have been carried out in the absence of the CDM.
  - (a) An increased recovery of biomass from the effluents of a paper factory may be carried out using the same equipment as before without additional investment. This would not make the process additional, and thus the methodology needs to discuss why this would not happen.
  - (b) An improvement of efficiency may for example be due to usual improvements in industry (such as because old equipment has to be replaced or because operation and maintenance costs are high).
  - (c) Utilization of biomass may potentially be stimulated by the perspective of getting additional revenues by reducing Green House Gases (GHG) emissions or other incentives (such as the intent to cut down fuel costs).
- The methodology seems to be tailored to the proposed project activity only and difficult to apply to other projects

Other areas of weakness include:

- Lack of clear substantiation on additionality. Barrier analysis is mentioned in preference to an investment analysis, but project developers need to discuss barriers in relation to both the proposed project and project alternatives.
- Overall effect of project activities on the plant lifetime has not been clearly explained. Lifetime of plant in both the baseline and project case is pertinent.
- Project boundaries are not adequately selected and the emission reduction calculation needs to be heavily revised, corrected and clarified to provide reasonable results. In particular, the definition of parameters has to be made more clearly taking into account the project boundaries: It is indicated that CO<sub>2</sub> is the only GHG that is chosen. However, all relevant greenhouse gases have to be taken into account. If other emissions within the boundary are neglected it should have been clearly explained.
- Unclear formulae and algorithms: {E.g; Equation (5) calculation of energy saved due to efficiency improvements in biomass utilization for energy generation) seems to be taken into account already in equation (3); Equation (8) should read ...\*BIOP instead of ...\*(BIOP-BIOB), since the incremental energy will be needed for the whole biomass rather than for the additional biomass only} (See section BI(2)b) for more details).
- Leakage: Leakage is not sufficiently addressed. The project developers mention possible leakage due to increased chemicals usage in comparison to the baseline without being clear on the gases involved or areas of leakage.
- On monitoring, several confidence intervals for recording and monitoring are proposed to be checked for uncertainties. The methodology has not elaborated on how this should be done.
- The methodology title does not reflect the proposed project activity.

*(A new proposal should be submitted in accordance with the procedures for submission and*

consideration of proposed new methodologies of the Executive Board.)
<b>II. Recommendation on the proposed new monitoring methodology: (checkmark the choice made)</b>
Title of proposed new monitoring methodology: >> <a href="#">Monitoring Methodology for Improvement in recovery of waste biomass from process streams and use of that biomass in energy generation.</a>
<p>a. To approve this proposed methodology with minor changes</p> <p><input type="checkbox"/></p> <p>i. Conditions under which methodology is applicable to other potential projects (e.g. project type, region, data availability):</p> <p>&gt;&gt;</p> <p>ii. Minor changes:</p> <p>&gt;&gt;</p>
<p>b. To reconsider this proposed methodology, subjected to required changes</p> <p><input type="checkbox"/></p> <p>ii. Required changes:</p> <p>&gt;&gt;</p> <p><i>(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.)</i></p>
<p>c. Not to approve the proposed methodology</p> <p><input checked="" type="checkbox"/></p> <p>i. Reasons for non-approval:</p> <p>&gt;&gt; <a href="#">The required changes in the baseline methodology, detailed above, would necessitate significant changes to the proposed monitoring methodology.</a></p> <p><i>(A new proposal should be submitted in accordance with the procedures for submission and consideration of proposed new methodologies of the Executive Board.)</i></p>
<b>B. Details of the evaluation of the proposed new methodology by the Meth Panel:</b>
<b>I. Proposed new baseline methodology (specify title here):</b> >> <a href="#">Improvement in recovery of waste biomass from process streams and use of that biomass in energy generation.</a>
<p><b>(1) Short description of the methodology, including an assessment of which approach from paragraph 48 of the CDM modalities and procedures was used:</b></p> <p>a) Describe the methodology:</p> <p>&gt;&gt; <a href="#">The methodology calculates emission reductions from biomass replacing coal as fuel in boilers and from efficiency gains in biomass pre-processing and biomass use in an industrial context. The project activity consists of the following elements:</a></p> <ul style="list-style-type: none"> <li>• <a href="#">An increase of waste biomass from an existing industrial process stream (more tons of biomass per ton of product) and of the utilization of this additional biomass for energy generation which displaces fossil fuel(s);</a></li> <li>• <a href="#">Improvement in energy efficiency of waste biomass recovery from process stream;</a></li> <li>• <a href="#">Utilization of biomass for energy generation with consequent displacement of fossil fuel</a></li> <li>• <a href="#">Improvement in utilization of biomass for energy generation- improving the energy efficiency of</a></li> </ul>

waste biomass

The methodology defines the resulting emission reduction (ERy) as the difference between the savings in emissions by the project due to efficiency gains and increased use of biomass (i.e. "BEy") and the increase in emissions with the project due to the additional energy consumed by the new equipment as compared to the baseline equipment (i.e. "PEy"):  $ERy = BEy - PEy - \text{Leakage}$

*b) State the approach selected:*

>> The selected approach is as per paragraph 48 (a) of the CDM modalities and procedure: "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:*

>> Approach as per paragraph 48 (a) of the CDM modalities and procedures may be used in certain aspects of the project, e.g. fuel change. However, the methodology has to provide evidence that the continuation of the current practice in absence of the registration as a CDM project is the most probable scenario. This is challenged by the fact that the methodology is applicable to projects that foresee an increase in production capacity (e.g. an increase in the production level of blown pulp), which often leads to a renewal of production equipment and increased efficiencies anyway. Paragraph 48 (a) of the CDM modalities and procedures should only be used if the increased production level can be achieved with the old equipment. Therefore paragraph 48 (c) of the CDM modalities and procedures might be more appropriate in the present case: "The average emissions of similar project activities undertaken in the previous five years, in similar social, economic, environmental and technological circumstances, and whose performance is among the top 20 per cent of their category".

## **(2) Basis for determining the baseline scenario:**

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

>> Not adequately. It is not clear how project alternatives are identified and evaluated. No generic methodology for baseline selection is provided in the CDM-NMB, covering all aspects of project activity.

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

>>

- The project boundaries (as defined in CDM-NMB Section D.5) include energy (steam, electricity) consumers, but do not include any direct emission sources relevant for the project (see Section 5 below). The inadequate definition of boundaries may have contributed to the ambiguities and inconsistencies in the set of parameters and equations for the emission reduction calculation in CDM-NMB Sections D.6 to D.9. Many equations/definitions are not consistent with their verbal description. E.g. BEy is defined as "baseline emissions" (eq. (1)), but in fact it describes (inadequately) the emission reductions (i.e. the difference between baseline and project activity) due to efficiency improvements and biomass use.
- PEy is defined as "total project emissions" (eq. (6)), but it describes emissions from additional steam and electricity that is used in the project activity. There is also some ambiguity in the definitions of parameters and equations:
  - (a) The difference between "ENPi = energy of type i used in by the project by processes whose efficiencies have improved" (eq. (8f.)) and "EN\_P = steam consumed to process biomass in project (tonnes)" (eq. (4)) is not clear from the CDM-NMB, it is only in the CDM-PDD that it becomes clear that ENPi is related to electricity consumption for the biomass pre-processing (that increases with the project activity) and EN\_P is related to the steam consumption for biomass pre-processing (that decreases with the project activity). The methodology seems wrong in equation (3), which should describe "EP\_bio = Energy generated from additional biomass generated by the project (kcal)", but which only describes the impact of improved biomass boiler efficiency on emissions displaced by the additional biomass in the project activity, the emissions displaced by the additional biomass with the project (at baseline boiler efficiencies) seems to have been forgotten.

(b) Eq. (3) might read correctly:

"EP\_bio = ((SBIOP\* Enth\_SBIOP)/BIOP) \* ((BIOP/PP- BIOB/PB) \*(PB))". Similar, eq. (8) should describe PE\_ex-y, i.e. the "Incremental energy for other processes inside the project boundary", but it describes only the incremental energy (electricity) needed with the new equipment (e.g. evaporator, biomass boiler) for the increase in biomass produced, not for the baseline biomass.

(c) The definition of DELTA\_EN might read correctly:

"DELTA\_EN = (SENPI/BIOP- SENB/BIOB)\*(BIOP)"; or, assuming baseline levels of production (to be consistent with eq. (3)): "DELTA\_EN = (SENPI/BIOP- SENB/BIOB)\*(BIOP\*PB/PP)". It is not clear why the methodology claims that "project emissions" can be "shown to be zero". Some of the errors or/and ambiguities may have slipped in because in the CDM-NMB the set of equations sums up process by process the differences between project and baseline case (which is rather complicated and not very clearly laid out), rather than simply summing up the emissions for the processes for both the baseline and the project case and subtracting project from baseline emissions. To arrive at a consistent and clear set of equations, the following steps are recommended:

- Redefine project boundaries to include all relevant emission sources, including coal fired steam boilers (to the extent that they provide steam for the pre-processing of biomass or that their steam production is to be displaced by increased biomass use), other boilers or CHPs that produce steam or electricity that may be displaced by biomass, and all emissions related to the pre-processing of the biomass and the operation of the biomass boiler (for the generation of steam, hot water, electricity), be it onsite or offsite for both the baseline and the project scenario.
- Reformulate the set of equations and calculate the emission reductions with the project due to the increase in biomass available with the project (BIOP – BIOB). For this, use specific (different) emission factors for every source (for steam, hot water or power) that is displaced by the increased biomass use.
- Calculate the total emissions related to the biomass pre-processing and the operation of the biomass boiler in the baseline. For this, use specific (different) emission factors for every energy (steam or power) that is consumed.
- Calculate the total emissions related to the biomass pre-processing and the operation of the biomass boiler in the project case. For this, use specific (different) emission factors for every energy (steam or power) that is consumed.
- Calculate the total emission reductions. The project foresees the increase in production levels. However, baseline and project scenario should provide the same level of services: For this, it may be assumed that project emissions and emission reductions due to increased biomass use count only to the extent that the same product output as in the baseline is achieved (similar as in CDM-NMB equation (3)). Under this assumption, the total emission reduction of the project (ER) is calculated as follows:  $ER = (\text{total emissions related to the biomass pre-processing in the baseline}) - (\text{total emissions related to the biomass pre-processing in the project}) * PB/PP + (\text{emission reductions with the project due to the increase in biomass available}) * PB/PP$ . PB and PP are the product output (e.g. in tons of Blown Pulp) attributable to the waste biomass source in the baseline and the project, respectively (as in CDM-NMB eq. (3)).
- In emission calculations, use specific efficiencies and emissions factors for steam boilers, CHPs, hot water boilers etc.
- If the methodology should also be applicable to biomass replacing electricity from the grid, the following approach might be used: For changes in electricity consumption above 15 GWh per annum use the "Consolidated methodology for grid-connected electricity generation from renewable sources" (ACM0002) to derive the electricity emission factor. For smaller changes use the weighted average emission factor for displaced electricity as defined in the simplified modalities and procedures for small-scale CDM project activities.

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 refers to the "Tool for the demonstration and assessment of additionality". In CDM-

NMB Section D.3. the application of the “Tool for the demonstration and assessment of additionality” in the context of NM0097 is described. The use of barrier rather than investment analysis is recommended in the CDM-NMB in preference to an investment analysis. However, there is significant indication of economic incentive in the project activity. For that reason, the methodology should also envisage an investment analysis.

Rather than providing details on how to apply the “Tool for the demonstration and assessment of additionality” in the context of industrial biomass use, listing possible barriers etc., or defining specific cost indicators, CDM-NMB Section D.3. weakens the requirements for passing the additionality test.

Examples:

- Step 0 in the original tool says: “Provide evidence that the incentive from the CDM was seriously considered in the decision to proceed with the project activity.” This is changed to “evidence should be provided to the Designated Operational Entity (DOE) that CDM initiative was seriously considered in the decision to proceed with the project activity.” in CDM-NMB Section D.3.
- Step 3 in the original tool requires the discussion of barriers in relation to both the proposed project and project alternatives, whereas CDM-NMB Section D.3. seems to consider only barriers in relation to the proposed project.
- Step 4. Last sentence in Step 4 in CDM-NMB is not correct.
- Step 5. This step is very much watered down in the CDM-NMB compared to the original additionality tool, e.g. with the phrase “...demonstrated, *not necessarily* quantitative and *conclusive*, ...”

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

>> No. The CDM-NMB provides no basis for determining the baseline scenario. It merely claims the continuation of the current practice to be the baseline, but provides no method to substantiate this claim in a specific proposed project. This is neither appropriate nor adequate. The assessment of additionality is based on the “Tool for the demonstration and assessment of additionality”, which would be adequate and appropriate. However, CDM-NMB Section D.3. limits the use of the “Tool for the demonstration and assessment of additionality” (see (c) above). Therefore, it is neither appropriate nor 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:*

>> No. The selection of baseline is not described. The equations for emission reduction calculations are not very clear and in part erroneous, parameters (energies, efficiencies) are ambiguous. Project boundaries are not adequate.

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

>> Yes, under the condition that methodology and set of equations is revised as recommended elsewhere.

*c) State whether the application of the methodology could result in a baseline scenario that reasonably represents the anthropogenic emissions by sources of greenhouse gases that would occur in the absence of the proposed project activity.*

>> No.

*Please explain:*

>>

- No methodology provided to select baseline or to demonstrate that continuation of current practice is baseline.
- The “Tool for the demonstration and assessment of additionality” is not adequately applied in the NM0097 (see Section 2(c) above)
- Project boundaries and emission reduction calculation need to be revised/corrected to provide reasonable results (see Section 2 (b) 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. NM0097 would be generally applicable to other paper, pulp, cardboard or other industries that produce waste biomass that can be pre-processed and used as a fuel.

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

>> IPCC default data and local scope data are used.

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:*

>> Baseline data is monitored over two years. This is appropriate. Data needed for too for the demonstration and assessment of additionality is not specified in detail. Here, new data should be provided for every crediting period.

**(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*

>> CO<sub>2</sub>.

ii) *Physical delineation*

>> The project boundaries (as defined in CDM-NMB Section D.5) include only the net processes of biomass extraction and the biomass fuelled boiler, the supply of energy (steam boilers, CHP, generators) being outside the boundaries.

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

>>

- CO<sub>2</sub> is sufficient. No CH<sub>4</sub> is considered, because biomass is not stored.
- This selection of project boundaries is not appropriate, because no fossil-CO<sub>2</sub> emissions take place within these boundaries and all emissions relevant for the project are outside and therefore not covered. Redefine project boundaries to include all relevant emission sources, including coal fired steam boilers (to the extent that they provide steam for the pre-processing of biomass or that their steam production is to be displaced by increased biomass use), other boilers or CHPs that produce steam or electricity that may be displaced by biomass, and all emissions related to the pre-processing of the biomass and the operation of the biomass boiler (for the generation of steam, hot water, electricity), be it onsite or offsite for both the baseline and the project scenario.



**(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:*

>>

- All saved energies can be treated with the same emission factor (for coal-fired boilers).
- The process efficiencies and energy efficiencies in the waste biomass recovery, steam generation, heat rate of the boilers, steam use in the process would have remained the same in absence of the registration as a CDM project (CDM-NMB Section D.2).
- Increase in biomass use from the considered process replaces use of fossil fuel in boilers.

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

>> In (1), (2), (3) no arguments are provided to substantiate these assumptions.

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

>>

- This is not adequate. Emission factors (and efficiencies) should be specific to the fuels (coal, oil, NG, biomass), and sources/processes considered heat only boiler, CHP, and electricity etc.
- The project foresees an increase in the level of industrial production. If new equipment has to be installed, this may usually lead to an increase in efficiencies and biomass recovery rates. Therefore this assumption seems not adequate in many cases.
- Increase in biomass use from the considered process may also lead to a reduction of biomass use in another boiler onsite (or may lead to a reduction of electricity drawn from a grid, which might be 100% hydro). In this case, no net emission reduction would result.

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

>>

- Biomass, steam, power generated from project: measured
- Energy consumption for biomass extraction and pre-processing: fossil fuels, steam, electricity: measured
- Fossil fuel characteristics: from fuel supplier, analysed by operator, IPCC
- Efficiencies of boilers: not clear from CDM-NMB, may be estimated.
- All data (except IPCC) are collected locally by the project operator.

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

>> No. For efficiencies and emission factors, which are based on a coal fired steam boilers and should be specific for each energy source, be it coal/oil/NG boiler, or CHP (or electricity from the grid).

Yes for all other data.

f) *State possible data gaps:*

>> None seen.

**(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:*

>> Effect of capacity enhancement on uncertainties are mentioned (CDM-NMB Section F) but not discussed.

iii) *Key assumptions:*

>> No.



iv) *Data:*

>> Effects of “confidence intervals” on uncertainties are mentioned (CDM-NMB Section F) but not discussed.

b) *State whether the uncertainties presented are reasonable:*

>> No sufficient discussion of uncertainties is provided.

**(8) Leakage:**

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

>> Possible leakage might result from emissions due to the production of additional chemicals used for biomass extraction and reagent usage. This leakage may be neglected, if it can be shown that “leakage reductions on account of the project are significantly higher than any leakage caused by the project due to additional chemical or reagent use” (CDM-NMB Section D.8). This is not very clear. In any case NM0097 seems to require the demonstration of evidence that this leakage is negligible. Leakage due to the storage of biomass (CH<sub>4</sub>) may be neglected because storage of biomass is excluded by the applicability criteria of the methodology.

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

>> The demonstration of evidence that emissions related to the use of additional chemicals/reagents are negligible is appropriate and adequate. However, CDM-NMB Section D.8 should be made clearer: What is the threshold for leakage to be included?

**(9) Transparency and “conservativeness”:**

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

>> No.

- No methodology provided to select baseline or to demonstrate that continuation of current practice is baseline.
- The Tool for the demonstration and assessment of additionality is not adequately applied in the NM0097 (see Section 2(c) above)
- Project boundaries and emission reduction calculation need to be revised/corrected to provide reasonable results (see Section 2 (b) above)..

b) *State whether the baseline methodology is conservative:*

>> No. Points 1.-3. above tend to overestimate emission reductions.

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

>>

Strengths:

- Methodology for industrial process with large replication potential, potentially wide applicability in different processes, use of data that is readily available on site.

Weaknesses:

- Unclear baseline determination, inappropriate project boundary definition, ambiguous definition of data and unclear set of equations for emission reduction calculation.
- The methodology uses a model to calculate emission reductions. Models are generally known to have uncertainties

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

>> National and/or sectoral policies and circumstances would have been taken into account in the proper use of the “Tool for the demonstration and assessment of additionality”. The applicability criteria require that the use of fossil fuel and biomass for energy generation on site be not prohibited by local regulations.

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

>> The methodology developed is applicable to similar projects across different regions. Specific issues include:

- The project activity consists of an increase of waste biomass from an existing industrial process stream (more tons of biomass per ton of product) and of the utilization of this additional biomass for energy generation which displaces fossil fuel(s).
- The project activity may also include components improving the energy efficiency of waste biomass recovery from the process stream (less kWh of steam/power needed per tons of biomass recovered) as well as the improvement of the efficiency of the biomass utilization (generating more kWh of steam or power per ton of biomass).
- The process output (e.g., quantity of blown pulp in tons) can be directly correlated to the waste biomass recovered (e.g., black liquor) concentration in process stream
- The local regulations / programs do not constrain the facility from using coal and other fossil fuels to generate energy;
- The project is not a common practice in the industry sector for industries of a similar nature and size;
- Energy would have otherwise been generated using fossil fuel under the control of the project operator;
- Biomass is not stored in the plant and is directly fired.

**(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:

>> 1996 IPCC Guidelines for National Green House Gases (GHG) Inventories

b) Indicate any further comments:

>> Project proponents might take into account ongoing work on approved/consolidated biomass methodologies to assure consistency.

**II. Proposed new monitoring methodology (specify title here):** >> Monitoring improvement in recovery of waste biomass from process streams and use of that biomass in energy 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 following Data is monitored:

- Biomass, steam, power generated from project: measured
- Energy consumption for biomass extraction and pre-processing: fossil fuels, steam, electricity: measured
- Fossil fuel characteristics: from fuel supplier, analysed by operator, IPCC
- Efficiencies of boilers: not clear from CDM-NMB, may be estimated.

Set of equations aims at calculating emission reductions from these parameters due to efficiency gains and increased use of biomass.

**(2) Key assumptions/parameters:**

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

>> See discussion of new baseline methodology in Section B.I.(6) above.

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

>> As discussed in Section B.I.(6) above.

<p>c) Give your expert judgement on whether the assumptions/parameters are adequate:</p> <p>&gt;&gt; <a href="#">As discussed in Section B.I.(6) above.</a></p>
<p><b>(3) Data sources and data quality:</b></p> <p>a) Indicate which data sources are used and how the data are obtained (e.g. official statistics, expert judgement):</p> <p>&gt;&gt; <a href="#">As discussed in Section B.I.(6) above.</a></p> <p>b) Give your expert judgement on whether the data used are adequate, consistent, accurate and reliable:</p> <p>&gt;&gt; <a href="#">As discussed in Section B.I.(6) above.</a></p> <p>c) State possible data gaps:</p> <p>&gt; <a href="#">As discussed in Section B.I.(6) above.</a></p>
<p><b>(4) Assessment of the description of the proposed methodology and its applicability:</b></p> <p>a) State whether the proposed methodology has been described in an adequate manner:</p> <p>&gt;&gt; <a href="#">See discussion of new baseline methodology in Section B.I.(3) above.</a></p> <p>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):</p> <p>&gt;&gt; <a href="#">As discussed in Section B.I.(3) above Yes.</a></p> <p>c) State whether this proposed monitoring methodology is compatible with the proposed baseline methodology described in CDM-NMB of the draft CDM-PDD:</p> <p>&gt;&gt; <a href="#">The monitoring methodology is compatible.</a></p>
<p><b>(5) Leakage</b> (please elaborate, if appropriate):</p> <p>&gt;&gt; <a href="#">No data to be monitored for leakage is listed. See discussion of new baseline methodology in Section B.I.(8) above.</a></p>
<p><b>(6) Quality assurance and control procedures</b> (please explain):</p> <p>&gt;&gt; <a href="#">QC requires regular monitoring and recording of data as well as the regular calibration (at least once a year) of meters used for the measurement of “critical parameters”.</a></p>
<p><b>(7) Potential strengths and weaknesses of the proposed monitoring methodology</b> (please explain):</p> <p>&gt;&gt; <a href="#">See discussion of new baseline methodology in Section B.I.(10) above.</a></p>
<p><b>(8) Applicability of the proposed methodology across project types and regions</b> (please indicate):</p> <p>&gt;&gt; <a href="#">See discussion of new baseline methodology in Section B.I.(12) above.</a></p>
<p><b>(9) Any other comments:</b></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>&gt;&gt; <a href="#">None</a></p> <p>b) Indicate any further comments:</p> <p>&gt;&gt; <a href="#">No further comments.</a></p>



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-NM0097
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